

## PLUS Legacy Report:

Name: J Raul Gutierrez

Legacy report: Please also provide me with PPTs/papers/articles etc...

This will be attached to your bio on the PLUS website.

- a) Title: Gender Variant Children: Awareness and clinical significance in the primary care setting
- b) Key words: gender variant, gender spectrum, transgender, lesbian, gay, bisexual, mental health, gender transition, gender development,
- c) Learning objectives:
  - a. Develop a vision and plan that is clear to stakeholders and invites interest and further communication
  - b. Develop strategies to navigate and network within a special interest community and become an active, contributing member
  - c. Effectively communicate with community leaders to establish rapport and credibility to collaborate in a shared vision
  - d. Explore a variety of options to advocate on behalf of gender variant children (review papers, policy, education and awareness, etc)
  - e. Explore challenges among controversial pediatric topics, particularly therapies for transgender children
- d) Project objectives
  - a. To understand gender as it pertains to development, identity, and expression and its significance on wellness in the LGBT community
  - b. Identify health and mental health concerns in gender-variant children\
  - c. Explore and understand existing recommendations and guidelines for gender variant youth
  - d. Identify challenges for clinicians and families when dealing with gender variant children
  - e. Collaborate with community leaders to develop an intervention of awareness and education for clinicians
  - f. Provide, or at least stimulate conversation around, guidelines for counseling and clinical decision making pertaining to families and their gender variant or transgender children
- e) Activities (Partly using objectives listed..) what did you do to reach your objectives?
  - a. Extensive literature search on gender variant youth and transgender youth
  - b. Visit to Dimensions Clinic
  - c. Attended various presentations (education focused) by Gender Spectrum
  - d. Met with Family Acceptance Project social workers to inquire about interventions for families available
  - e. Met with mental health leaders in the gender variant youth arena

## PLUS Legacy Report:

- f. Provided a proposal for UCSF leaders interested in starting a clinic addressing gender variant youth, particularly addressing the primary care physician's role and the importance of awareness, education, and a multidisciplinary approach to care
  - g. Continued to revise and edit project goals and objectives to better align with stakeholders and the residency timeline
  - h. Works in progress sessions at the CARE conference to elicit constructive criticism on project
- f) Outcome:
- should include as addendums any presentations, lit review searches, handouts/tools....
  - a. UCSF Pediatric Gender Variant Youth Services Working Group Member
  - b. Collaborating with Gender Spectrum's school based education sessions in East Bay
  - c. "Improving Primary Care Medical Homes for Gender Variant Children." Workshop. Gay and Lesbian Medical Association's 28th Annual Conference, 8/2010
  - d. "Gender Variant Children: Challenging Gender in Pediatrics" San Francisco General Hospital Pediatric Grand Rounds, UCSF Department of Pediatrics Noon Conference, 6/2010
  - e. "Coordinated and Comprehensive Care for Gender Variant Youth." Works in Progress. Academic Pediatric Association Region IX & X CARE Conference, 2/2010
  - f. "Gender and Sexuality in Pediatrics." Department of Pediatrics. Morning Report, 6/2008
  - g. "Transgendered Youth: Making the Transition." Department of Pediatrics. Morning Report, 11/2007
- g) Lessons in Implementation (what did you learn in the process of your work?)
- a. Be patient. Keep the passion and commitment to your project alive. When the window of opportunity opens up, you'll be ready!
  - b. Agendas. Everyone and every organization have one. It's a delicate process getting your agenda to align (or convince them that it's important) with their agenda.
  - c. Trust and credibility. Absolutely necessary to get your foot in the door, but you must maintain it to foster a meaningful and collaborative relationship with your partners.
  - d. Change is necessary. Your project trajectory with change constantly as you better define and refine it based on your timeline and the connections you are able to make with your community organizations. Do not be disappointed or let the frustration overwhelm you.
  - e. Establish your mentors. They will be very helpful as you navigate through this process during residency and can be invaluable tools in the structure, development, networking, and refinement of your project.

## PLUS Legacy Report:

- f. You may be one of very few who know anything about your topic. While overwhelming, embrace it and share what you know. That alone is a powerful project that can promote change.
- g. Advocating for change in the medical arena can be very difficult, particularly if the subject is politically and socially charged. Research and data is essential and one must advocate for that data as well when it is lacking.
- h) Potential future projects:
  - a. School acceptance of gender variant and LGBT youth and it's health outcomes
  - b. Difference in attitudes and clinical behavior/counseling of residents pre and post integrated LGBT (or gender variance) curriculum
- i) Resources (include local individuals/contacts; key organizations - local and national; potential funding sources/grants)
  - a. Community Organizations
    - i. Dimensions Clinic (San Francisco)
    - ii. Joel Baum, Director of Education & Training, Gender Spectrum (Oakland)
    - iii. Jae Sevelius, PhD and James Green, UCSF Center of Excellence in Transgender Health
    - iv. Family Acceptance Project (San Francisco)
    - v. GEMS clinic (Boston)
  - b. UCSF
    - i. Steve Rosenthal, MD, Pediatrics Endocrinology
    - ii. Shane Snowdon, Director, LGBT Resource Center
    - iii. Peter Ferren, MD, Psychiatry faculty
    - iv. Ilana Sherer, MD, Pediatrics PLUS resident
    - v. Stanley Vance, MD, Pediatrics resident
    - vi. Ari Zadel, MD, Pediatrics resident
  - c. Community Individuals
    - i. Herb Schreier, MD, Dept. of Psychiatry, Oakland Children's Hospital Research Center
    - ii. Michael Baxter, MSW, SFDPH Primary Care Administrator for Youth Programs
    - iii. Diane Ehrensaft, PhD, Clinical Psychologist and Researcher (Oakland)

# Gender-Variant Children: Challenging Gender in Pediatrics

SFGH  
Department of Pediatrics  
PLUS Grand Rounds  
J Raul Gutierrez, MD, MPH

# Why this topic?

- ▶ Original Subject of Interest: violence and mental health for lesbian, gay and bisexual youth in school
  - ▶ Gender expression vs. gender identity
  - ▶ Explosion of media attention on transgender children
  - ▶ Almost complete dearth of information pertaining to gender-variant youth
- 

# Objectives

- ▶ To understand gender as it pertains to development, identity, and expression
  - ▶ Identify health and mental health concerns in gender-variant children
  - ▶ Explore challenges among controversial pediatric topics, particularly therapies for transgender children
- 

# Gender Terms

- ▶ Gender-variant (or gender nonconforming):
    - gender presentation OR identity is not consistent with assigned gender
  - ▶ Assigned Gender:
    - gender assigned to a child at birth based on physical anatomy
  - ▶ Affirmed Gender:
    - individual's asserted gender identity, regardless of anatomy
- 

# Gender Development

## ▶ 2 years

- use gender stereotypes in their play
  - girls play with “female toys,” boys play with “male toys.”
  - Parents may treat their children differently

## ▶ 2–3 years

- developing “gender identity”
- label themselves and others as male or female

# Gender Development

## ▶ 3–4 years

- use “gender typing”
- categorize by gender
- e.g. trucks are male toys, because boys usually play with trucks

## ▶ 4–6 years

- understand and use “gender scripts.”
- put events or activities in groups related to gender
- e.g. a person putting on make-up is female

# Gender Development

- ▶ **6–7 years**
  - ▶ believe that a person's gender is constant – it will not change throughout life
  - ▶ children know that a man is still a man, even if he dresses like a woman

# Gender Identity vs. Gender Expression

- ▶ All of these stages are affected by social and cultural cues that usually works under a binary construct of gender – male vs female
  - ▶ imitate same-sex behaviors: rewarded
  - ▶ imitate the other sex: potential punishment.
    - ▶ Tomboys and sissy boys
    - ▶ more true for boys than for girls: society appears to be more tolerant gender-variant girls than boys

## Gender Spectrum:

- non-binary understanding of gender
- range of possibilities that takes into account the interplay of physical anatomy, gender expression, and gender identity



# Gender Identity vs. Gender Expression: More Terms

## ▶ Gender Fluid:

- complex expression of gender encompassing both gender identity and/or their gender presentation
- dress as a girl one day and as a boy the next or
- feel they are a boy one day and a girl the next regardless of what they are wearing

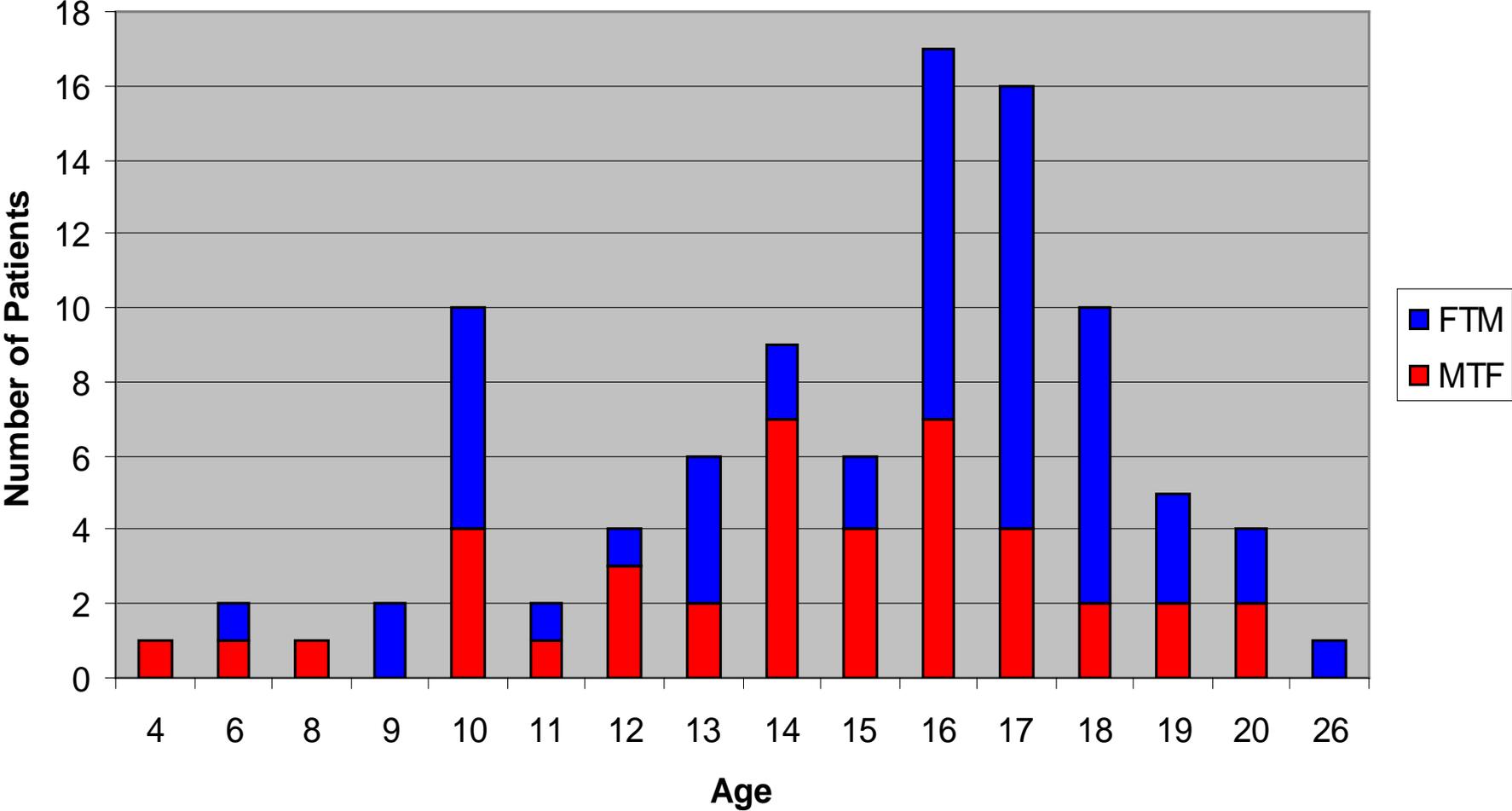
## ▶ Gender Queer:

- older youth (usually high school age)
  - reject standard notions of gender
  - may choose to dress in ways that are a blend of genders
- 

# Transgender Children

- ▶ Many children are gender–nonconforming in behavior or expression but still have a gender identity that is congruous with their anatomy.
  - gender–nonconforming, but still feel that they are in the right–gendered body
  - Do not require medical attention
- ▶ Transgender
  - describe those who take on a gender role to match their gender identity, when it is at odds with their anatomic sex

# Patient Affirmed Gender by Age



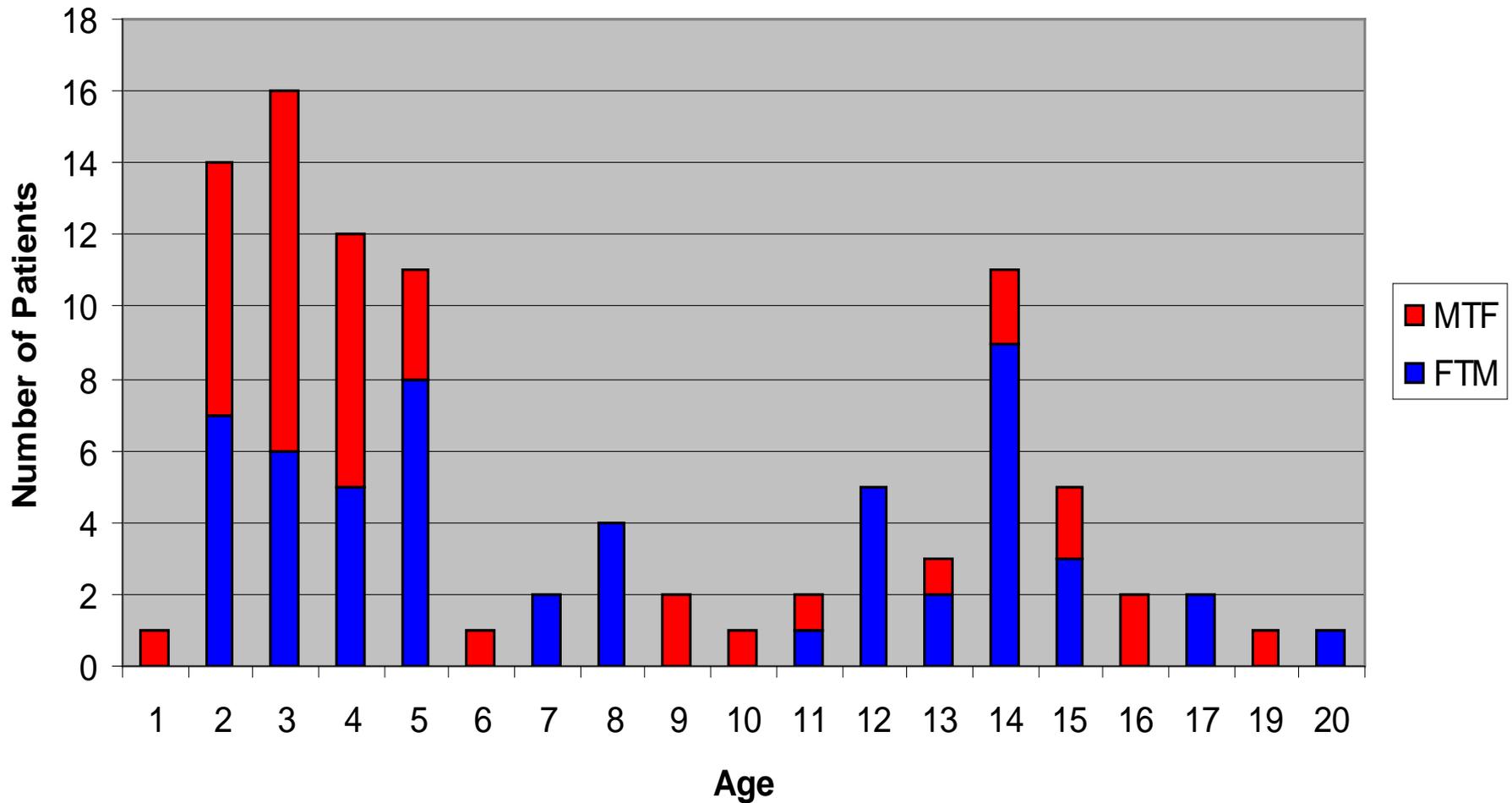
# DSM-IV

- A. A strong persistent cross-gender identification (not merely a desire for any perceived cultural advantages of being the other sex). In children, the disturbance is manifested by four (or more) of the following:
- Repeatedly stated desire to be, or insistence that he or she is, the other sex.
  - In boys, preference for cross-dressing or simulating female attire; In girls, insistence on wearing only stereotypical masculine clothing.
  - Strong and persistent preferences for cross-sex roles in make believe play or persistent fantasies of being the other sex.
  - Intense desire to participate in the stereotypical games and pastimes of the other sex.
  - Strong preference for playmates of the other sex.
- ▶ In adolescents and adults, the disturbance is manifested by symptoms such as a stated desire to be the other sex, frequent passing as the other sex, desire to live or be treated as the other sex, or the conviction that he or she has the typical feelings and reactions of the other sex.

# DSM-IV

- B. Persistent discomfort with his or her sex or sense of inappropriateness in the gender role of that sex. In children, the disturbance is manifested by any of the following:
  - In boys, assertion that his penis or testes are disgusting or will disappear or assertion that it would be better not to have a penis, or aversion toward rough-and-tumble play and rejection of male stereotypical toys, games, and activities.
  - In girls, rejection of urinating in a sitting position, assertion that she has or will grow a penis, or assertion that she does not want to grow breasts or menstruate, or marked aversion toward normative feminine clothing.
- ▶ In adolescents and adults, the disturbance is manifested by symptoms such as preoccupation with getting rid of primary and secondary sex characteristics (e.g., request for hormones, surgery, or other procedures to physically alter sexual characteristics to simulate the other sex) or belief that he or she was born the wrong sex.
- ▶ C. The disturbance is not concurrent with physical intersex condition.
- ▶ D. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

## Age of Patient Declaring Gender Dysphoria



# Barbara Walters Clip



# What is the Problem?

## ▶ School Blues

- 89.5% feel unsafe in schools.
- 55% report being physically harassed
- 81% report being sexually harassed
- 82% report faculty/staff never or only sometimes intervened
- adults actually make the remarks in many cases
- 33.2% have attempted suicide



Suspended in Dallas High School for Appearance

**Gay Hate crime Murder in school, openly gay student, 15 year-old dies**



Suspended from Mississippi School for appearance. The same school cancelled prom because a same-sex couple wanted to attend in a tuxedo

# More Violence

- ▶ Targeting LGBT people most socially acceptable form of hate crime, especially among adolescents
  - LGBT youth were almost
    - 3x more likely to be injured in a fight requiring medical attention
    - 4.5x as likely to have missed school because of fearing for their safety.
  - Four out of five victims of antigay violence are actually heterosexual
  - Straight victims of antigay violence report levels of risk behavior similar to LGBT victims of violence

# What is the Problem?

- ▶ Family Acceptance
  - Recent study by the Family Acceptance Project at San Francisco State University
- ▶ Higher rates of family rejection significantly associated with poorer health outcomes
  - 8.4x more likely to have attempted suicide
  - 5.9x more likely to suffer depression
  - 3.4x more likely to use illegal drugs
  - 3.4x more likely to engage in unprotected sex

# What is the Problem?

- ▶ Highlighting Social Issues
  - This American Life
    - Story of two 8yo transgender girls (Lilly and Thomasina) meeting at a conference in Seattle

# A Delicate Issue

- ▶ Many believe transgender issues are a adolescent or adult issue
  - ▶ There is a lack of training, research, and consensus in counseling and treatment among health professionals
  - ▶ The subject invokes ethics, religion, and politics in our homes, practice and schools
- 

# Many Questions

- ▶ Insurance
  - who will cover mental health costs?
  - What about hormone therapy?
- ▶ Ethical considerations
  - When can a child decide their gender if at all?
  - When can they consent to hormone treatment?
  - Do we do more harm by acting or not acting?
- ▶ Research
  - Who will fund this research?
  - What treatments are safe?
  - What professional body will develop guidelines and protocols?

# Treatment Controversies

- ▶ “Suppose you were a clinician and a 4-year-old black kid came into your office and said he wanted to be white. Would you go with that? ... I don't think we would.” *Dr. Ken Zucker*
- ▶ “If we allow people to unfold and give them the freedom to be who they really are, we engender health. And if we try and constrict it, or bend the twig, we engender poor mental health.” *Dr. Diane Ehrensaft*

# Models

- ▶ GEMS Clinic in Boston
  - ▶ UCLA clinic
  - ▶ Toronto clinic
  - ▶ Children's National Hospital program
  - ▶ Other International Clinics in London and the Netherlands
    - There is no consensus even among these groups
- 

# Policy Window

- ▶ An opportunity for advocates to push attention to their special problems.
  - A problem is recognized
  - A solution is developed and available in the policy community
  - A political change makes it the right time for policy change
  - Potential constraints are not severe.

# Stakeholders

## ▶ AAP

- No official policy at this time
- Few articles on transgender youth and much less on Gender-variance and how it pertains to mental health and social fabric/dynamic of family, school, etc

## ▶ Endocrine society

- New recommendations on treatment for the use of Lupron and cross-sex hormones.
- Guidelines: are these right? Does anyone refute them? What is the evidence and who is producing it?

# Stakeholders

- ▶ American College of Pediatrics
  - Recently released a statement to schools promoting “change therapy” for LGBT youth
  - Are schools the new battleground for LGBT issues?
  - Where is the evidence for these recommendations?
- ▶ Mental Health Societies
  - Working hard towards revisions of the DSM–V
    - Major change: Gender Incongruence
    - No statement on which therapy approach is best.  
Note: Dr. Zucker play a big part in the DSM revisions

# Stakeholders

## ▶ Advocacy Groups

- Family Acceptance Project
- Gay Straight Alliance
- Gay Lesbian and Straight Education Network
- Gender Spectrum

## ▶ Government

- Will government sponsored insurance pay for such therapy and treatments under “universal health care?”

# Media Attention

## Transgendered youth



Barbara Walters on transgender children

*'Born in the Wrong Body'  
Transgender youth share their  
stories in an MSNBC documentary  
"I knew I was different, probably when I  
was like 5"*

**The Oprah Winfrey Show**

**The 11-Year-Old Who  
Wants a Sex Change**

Movies/Documentaries

Boys Don't Cry

Transamerica

Southern Comfort

Ma vie en rose

Transgeneration

NPR: Two Families Grapple with Sons'  
Gender Preferences

# Policy Window

- ▶ An opportunity for advocates to push attention to their special problems.
    - A problem is recognized
    - A solution is developed and available in the policy community
    - A political change makes it the right time for policy change
    - Potential constraints are not severe.
- 

# Next Steps

- ▶ Specialty Clinic at UCSF
  - ▶ Advocate for position statement from the AAP
  - ▶ Review Paper
- 

# THANK YOU

- ▶ Ilana Sherer: Partner in Crime
  - ▶ Anda Kuo and the PLUS family
  - ▶ Tonya Chaffee and Naomi Bardach: Pod Leaders Extraordinaire
  - ▶ UCSF supporters
    - Shane Snowdon: Director UCSF LGBTI Resources
    - Steve Rosenthal, Pediatric Endocrinology
  - ▶ Community Leaders
    - Family Acceptance Project
    - Dimensions Clinic
    - Diane Ehrensaft
- 

# Clinical management of gender identity disorder in adolescents: a protocol on psychological and paediatric endocrinology aspects

Henriette A Delemarre-van de Waal and Peggy T Cohen-Kettenis

*Amsterdam Gender Clinic, Departments of Pediatrics and Medical Psychology, Institute for Clinical and Experimental Neuroscience, VU University Medical Center, PO Box 7057, 1007 MB Amsterdam, The Netherlands*

*(Correspondence should be addressed to H A Delemarre-van de Waal; Email: h.delemarre@vumc.nl)*

## Abstract

Treatment outcome in transsexuals is expected to be more favourable when puberty is suppressed than when treatment is started after Tanner stage 4 or 5. In the Dutch protocol for the treatment of transsexual adolescents, candidates are considered eligible for the suppression of endogenous puberty when they fulfil the Diagnostic and Statistical Manual of Mental Disorders-IV-RT criteria for gender disorder, have suffered from lifelong extreme gender dysphoria, are psychologically stable and live in a supportive environment. Suppression of puberty should be considered as supporting the diagnostic procedure, but not as the ultimate treatment. If the patient, after extensive exploring of his/her sex reassignment (SR) wish, no longer pursues SR, pubertal suppression can be discontinued. Otherwise, cross-sex hormone treatment can be given at 16 years, if there are no contraindications. Treatment consists of a GnRH analogue (GnRHa) to suppress endogenous gonadal stimulation from B2-3 and G3-4, and prevents development of irreversible sex characteristics of the unwanted sex. From the age of 16 years, cross-sex steroid hormones are added to the GnRHa medication.

Preliminary findings suggest that a decrease in height velocity and bone maturation occurs. Body proportions, as measured by sitting height and sitting-height/height ratio, remains in the normal range. Total bone density remains in the same range during the years of puberty suppression, whereas it significantly increases on cross-sex steroid hormone treatment. GnRHa treatment appears to be an important contribution to the clinical management of gender identity disorder in transsexual adolescents.

*European Journal of Endocrinology* 155 S131–S137

## Introduction

Transsexuals are applying for sex reassignment (SR) surgery at increasingly younger ages. Yet clinicians are usually reluctant to start the SR procedure before adulthood. They assume that adolescents are not able to make a sensible decision about something as drastic as SR. They fear that the risk of postoperative regrets will be high and the treatment will have unfavourable physical, psychological or social consequences. Post-operative regret or any other unfavourable result of SR naturally is of serious concern to clinicians. However, the decision of what age to start SR should be a balanced one. There are two main reasons to consider early treatment as appropriate.

One reason for early treatment is that an eventual delay or arrest in emotional, social or intellectual development can be warded off more successfully when the ultimate cause of this arrest has been taken care of. Suffering from gender dysphoria without being able to present socially in the desired social role, and/or to stop the development of secondary sex characteristics usually leads to problems in these areas. Adolescents find it hard to live with a secret. Often have difficulties in connecting socially and romantically with peers while still in the undesired gender role, or the physical developments create an anxiety that limits their capacities to concentrate on other issues.

A second reason to start SR early is that the physical treatment outcome following interventions in adulthood is far less satisfactory than when treatment is started at an age at which secondary sex characteristics have not yet been (fully) developed. Looking like a man (woman) when living as a woman (man) creates barriers that are not easy to overcome. This is obviously an enormous and lifelong disadvantage. Indeed, Ross

---

This paper was presented at the 4th Ferring Pharmaceuticals International Paediatric Endocrinology Symposium, Paris (2006). Ferring Pharmaceuticals has supported the publication of these proceedings.

and Need (1) found that postoperative psychopathology was primarily associated with factors that made it difficult for postoperative transsexuals to pass successfully to their new gender or that continued to remind them of their transsexualism. Furthermore, follow-up studies show that unfavourable postoperative outcome seems to be related to a late rather than an early start of the SR procedure (for a review, see (2)). Age at the time of assessment also emerged as a factor differentiating two groups of male-to-female transsexuals (MFs), one with and one without post-operative regrets (3).

The psychological problems of untreated adolescents and the impact of an unfavourable physical appearance significantly contributed to the decision of the Amsterdam Gender Clinic for Adolescents and Children to prescribe hormones before the age of 18 (legal adulthood). First, patients were considered eligible for a staged hormone treatment if they were (i) between 16 and 18 years, (ii) suffering from life-long gender dysphoria that had increased around puberty, (iii) functioning psychologically stable, and (iv) supported by their environment. For females, the staged approach consisted of treatment with progestagens to suppress menses for at least 3 months, followed by androgen treatment. For males, antiandrogens were given first, followed by oestrogens. The first retrospective and prospective studies among these transsexual adolescents, who were found eligible for treatment between 16 and 18 years, showed a significant postsurgery decrease in gender dysphoria, and an increase in body satisfaction. They were also functioning psychologically in the normal range, and did socially quite well (4, 5). They functioned psychologically better than transsexuals, who were treated in adulthood, and evaluated with partly the same instruments (6, 7). The policy implied that younger adolescents (between 12 and 16 years), who were referred for SR, had no other option than to wait for several years before they could be treated medically.

Since the experience of a full biological puberty may seriously interfere with healthy psychological functioning and well being, we have changed our protocol after the first follow-up studies on the 16–18-year olds (4, 5). Adolescents are now allowed to start puberty suppressing treatment with gonadotrophin-releasing hormone analogues (GnRHa) if they were older than 12 years of age and fulfil the same criteria as were used for the 16–18-year olds. They should also have reached Tanner stage 2 or 3 in combination with pubertal levels of sex hormones. The suppression of puberty using GnRHa is a reversible phase of treatment. This treatment is a very helpful diagnostic aid, as it allows the psychologist and the patient to discuss problems that possibly underlie the cross-gender identity or clarify potential gender confusion under less time pressure. It can be considered as 'buying time' to allow for an open exploration of the SR wish (8).

It is conceivable that lowering the age limit increases the incidence of 'false positives'. However, it most certainly results in high percentages of individuals who more easily

pass into the opposite gender role than when treatment commenced well after the development of secondary characteristics. This implies an improvement in the quality of life in these individuals, but may also result in a lower incidence of transsexuals with postoperative regrets or poor postoperative functioning. Clinically, it is known that some patients who were treated in adulthood regret SR because they have never been able to function inconspicuously in the opposite gender role. This holds especially for MFs, because beard growth and voice breaking give so many of them a never disappearing masculine appearance. But, since the number of 'false positives' should be kept as small as possible, the diagnostic procedure should be carried out with great care. Until now, no patients who started treatment before 18 years have regretted their choice for SR.

The Amsterdam Gender Clinic has developed the following protocol for the management of young applicants for SR and is currently evaluating this protocol in several studies.

## Diagnostic procedure

The recommended procedure in the Standards of Care of the Harry Benjamin International Gender Dysphoria Association (HBI-GDA; now called World Professional Association of Transgender Health or WPATH) – a professional organization in the field – is to come to the SR decision in various steps (9). In the first phase, it is investigated whether an applicant fulfils Diagnostic and Statistic Manual of Mental Disorders-IV-RT criteria for gender identity disorder (GID). The next phase has three elements: a real-life experience (RLE) in the desired role, hormonal interventions (in order to suppress puberty and cross-sex hormone treatment) and finally, surgery to correct the genitals.

In the first diagnostic phase, information must be obtained from both the adolescent and the parents on various aspects of general and psychosexual development of the adolescent, the adolescent's current functioning and functioning of the family. Standardized psychological assessment is a part of the procedure. The patient is always seen by two members of the gender team. If a child and adolescent psychologist makes the diagnosis, the child is also seen by a child and adolescent psychiatrist and *vice versa*. In order to prevent unrealistically high expectations with regard to their future lives, the adolescent has to be clearly informed about the possibilities and limitations of SR and other kinds of treatment. The way a patient responds to the reality of SR can be diagnostically informative. The decision to start medical intervention is always taken by the whole team (for a more detailed description of the diagnostic procedure, see (10)).

During the RLE phase, applicants have to live permanently in the role of the desired sex, if they were not already doing so. Before this is done, significant persons in the adolescents' life have to be informed about

the impending changes. The underlying idea of these requirements is that applicants should have had ample opportunity to appreciate *in vivo* the familial, inter-personal, educational, and legal consequences of the gender role change. In adolescents, who are referred at very young ages (around 12 years), the RLE usually starts when they are on GnRHa treatment only. However, at this stage the RLE is not a requirement. When, after the age of 16 years, the cross-sex hormone treatment is started, the RLE is required for obvious reasons.

**Medical interventions**

For adolescents, the guidelines of the Royal College of Psychiatrists (11), as well as the HBIGDA (or WPATH) Standards of Care, make a distinction between two stages of endocrine intervention: fully reversible interventions and partially reversible interventions. A fully reversible treatment can be achieved using GnRHa, while a partially reversible treatment consists of cross-sex hormone treatment (in addition to the GnRHa treatment, for adolescents (Fig. 1)).

**Fully reversible interventions**

When the development of secondary sex characteristics has begun, adolescents with extreme forms of GID and fulfilling the earlier mentioned additional criteria are eligible for GnRHa treatment in order to suppress the production of sex steroids. Psychological or psychiatric involvement, for a minimum period of six months before GnRHa treatment and continuing until surgery, is another requirement for endocrine intervention of adolescents. The objective of this involvement is that the treatment is thoughtfully and recurrently considered over time.

The GnRHa will discontinue progression of puberty by blocking the activity of the GnRH receptor at the pituitary level, which results in a decrease of gonadotrophin release. In turn, a decrease in the stimulation of gonads will lead to

low, prepubertal, levels of oestrogens in girls and androgens in boys. GnRHa treatment will lead to regression of the first stages of the already developed sex characteristics. In girls, the present breast tissue will become weak and may disappear completely. In boys, testicular volume will regress to a lower volume.

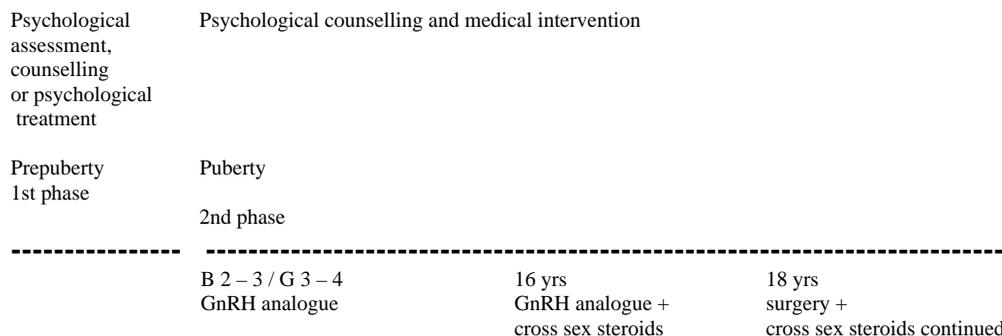
This protocol can also be applied to adolescents in later phases of pubertal development. In contrast to patients in early puberty, the various physical changes of pubertal development, such as a late stage of breast development in girls and lowering of the voice and facial hair in boys, will not regress completely, although any further progression will be stopped.

**Partially reversible interventions**

Adolescents eligible for cross-sex hormone therapy are 16 years of age or older. As in many European countries, in The Netherlands, 16-year olds are considered legal adults for medical decision-making. Although parental consent is not required, it is preferred, as adolescents need the support of their parents in this complex phase of their lives.

In addition to the GnRHa treatment, which makes the patient hypogonadotrophic, an ‘opposite sex puberty’ is induced by adding cross-sex hormones to the treatment. To induce female sex characteristics in MFs, oestrogens are prescribed in an increasing dose according to the schedule as presented in Table 1. Breast development and a female-appearing body shape will be initiated. When the patient is on an adult dose, this will be prescribed for the rest of their lives.

In female-to-male transsexuals (FMs), androgens are used in order to achieve virilization, including male body features, such as a low voice, facial and body hair growth, and a more masculine body shape. Androgen treatment will also result in clitoral enlargement, although the final size will never reach the size of a normal male penis. If still present, mild breast development will become more atrophic and may even disappear.



**Figure 1** During the first phase, prepubertal children, who are referred for SR, will undergo a psychodiagnostic procedure to assess the gender identity disorder. If the gender identity problem persists into puberty, a second diagnostic protocol is followed. For eligible adolescents, the diagnostic phase can be extended (second phase) by suppressing puberty for several years. From the age of 16 years, cross-sex hormones can be added, and at an adult age of 18 years, the final step can be taken by correction of the genitals.

**Table 1** Treatment schedules to initiate pubertal development.

Induction of female puberty with 17-beta oestradiol, increasing the dose every 6 months:
5 µg/kg per day
10 µg/kg per day
15 µg/kg per day
20 µg/kg per day
Adult dose = 2 mg per day
Induction of male puberty with testosterone esters increasing the dose every 6 months:
25 mg/m <sup>2</sup> per 2 weeks i.m.
50 mg/m <sup>2</sup> per 2 weeks i.m.
75 mg/m <sup>2</sup> per 2 weeks i.m.
100 mg/m <sup>2</sup> per 2 weeks i.m.
Adult dose 250 mg per 3–4 weeks

### **Side effects of medical intervention with GnRH analogues and cross-sex hormones**

In both girls and boys, after a short activation of the gonadal axes, GnRHs will bring the patients into a hypogonadotrophic state. In girls, withdrawal of oestrogens may induce a withdrawal bleeding. Cycling is disrupted. In early pubertal boys, the hypogonadotrophic state will block the development of fertility. In older-staged boys, fertility will regress. Therefore, in older boys, cryopreservation of semen should be discussed prior to the start of the treatment. As a result of the hypogonadal state, MFs can have complaints of fatigue and a decrease of body strength.

With respect to growth, the growth spurt will be hampered and fusion of the growth plates delayed. This phenomenon may give the opportunity to manipulate growth. Since females are about 12 cm shorter than males, we may intervene with growth-stimulating treatment in order to adjust the female height to an acceptable male height. In contrast, the blocking of the pubertal growth spurt in males is not a problem. During the treatment with oestrogens, the epiphyses will close progressively resulting in what would be a compromised final height for a non-transsexual male, but a quite acceptable height for MF.

During puberty, bone density shows a progressive accretion of bone, which is related to the exposure to sex hormones (12). Peak bone mass will be achieved at the age of 25–30 years. The question arises whether patients participating in this protocol may achieve a normal development of bone density, or will end with a decreased bone density, which is associated with a high risk of osteoporosis.

During physiologic puberty, carbohydrate and fat metabolisms change. Temporary insulin resistance occurs and an increase in fat mass is seen in pubertal girls. We do not know what the effects of GnRH treatment alone, or in combination with cross-sex hormones, are on these metabolic aspects.

### **Surgery (irreversible interventions)**

Surgery is not carried out prior to adulthood (18 years of age). The Standards of Care emphasize that the 'threshold of 18 should be seen as an eligibility criterion and not an indication in itself for active intervention'. If the RLE supported by the cross-sex hormones has not resulted in a satisfactory social role change, if the patient is not satisfied with, or is ambivalent about, the hormonal effects or surgery, the applicant is not referred for surgery.

In MFs, female-looking external genitals are created by means of vaginoplasty, clitoroplasty and labiaplasty. In cases of insufficient responsiveness of breast tissue to oestrogen therapy administered for long enough, breast enlargement may also be performed. After surgery, intercourse is possible. Arousal and orgasm are also reported postsurgically, though the percentages differ between studies (13, 14).

In FMs, a mastectomy is often performed as the first surgery to successfully pass into the desired role. When skin needs to be removed, this will result in fairly visible scar tissue. Considering the still continuing improvements in the field of phalloplasty, some FMs do not want to undergo genital surgery until they have a clear reason for it. They may then choose to have a neoscrotum with a testis prosthesis with or without a metoidioplasty (this technique transforms the hypertrophic clitoris into a microphallus) or a phalloplasty. Other genital procedures include the removal of the uterus and ovaries. Whether FMs can have sexual intercourse using their neopenis depends on the technique and quality of the phalloplasty. Although some patients, who had a metoidioplasty, report that they are able to have intercourse, the hypertrophic clitoris usually is too small for coitus. In most cases, the capacity of sexual arousal and orgasm remains intact.

When the gonads of the patient are surgically removed, the patient can discontinue the GnRH treatment, but will continue the cross-sex hormone treatment.

### **Legal consequences**

In many countries that derive their law from Napoleon's Civil Code of 1804, the birth certificate is the source for all other personal documents. Therefore, it is essential to change the sex in this document to endow a person with the full rights of his/her new gender. Since the ruling of the European Court of Human Rights (ECHR), in 2002, in the case of *Goodwin vs The United Kingdom*, all 46-member states of the ECHR do now fully accept a legal sex change. In the Netherlands, a change of birth certificate is only possible after the patient has been gonadectomized.

### Follow-up protocol

In order to investigate the efficacy and safety of GnRHa treatment in adolescents with gender dysphoria, a follow-up protocol has been designed.

During the protocol the following aspects are investigated:

The patients are seen every 3 months by their psychologist or psychiatrist.

Laboratory measurements include levels of gonadotrophins and sex hormones, metabolic parameters such as fasting glucose, insulin, cholesterol, high-density lipoprotein and low-density lipoprotein levels. In addition, safety parameters, such as renal and liver functions, are estimated.

**Growth** Anthropometric measurements are performed including height, weight, sitting height, hip and waist circumferences and Tanner pubertal stages. Yearly, a skeletal age is estimated using an X-ray of the left hand.

**Bone density** Just prior to start of the treatment with either GnRHa or the addition of cross-sex hormones a bone density measurement using dual-energy X-ray absorptiometry is performed. The locations of measurement are the non-dominant hip and the lumbar spine as well as the whole body.

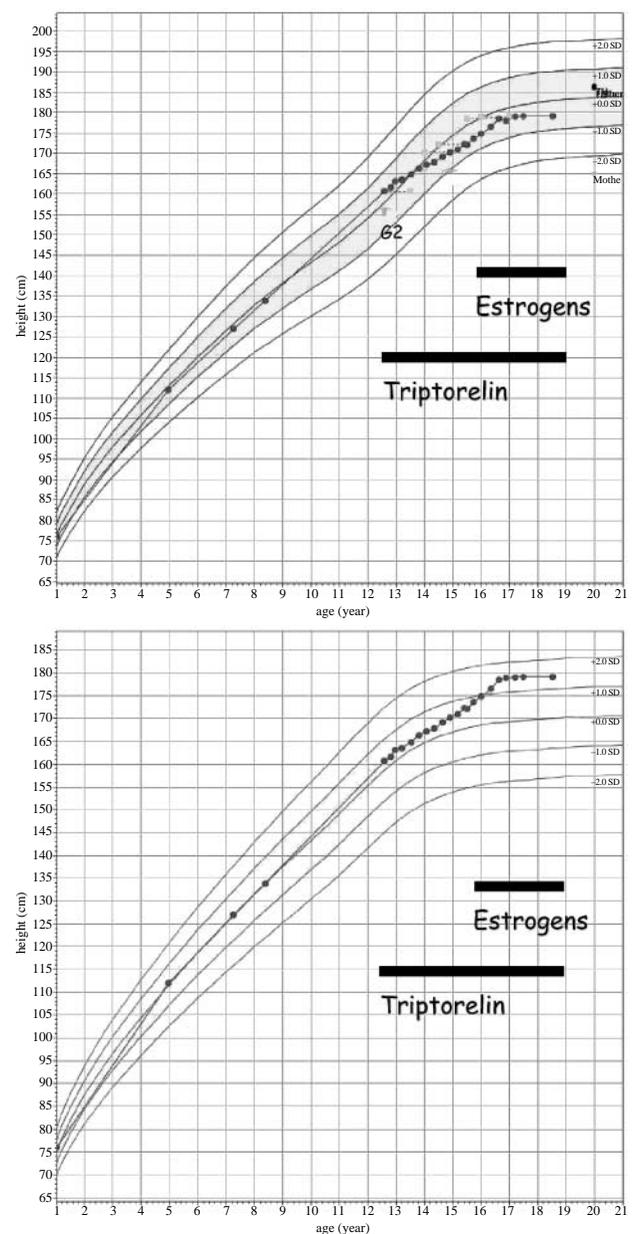
### First experiences with the protocol

At present, 54 patients are being treated according to this protocol, 30 of whom are FMs. The GnRHa triptorelin (TRP) is administered in a dose of 3.75 mg every 4 weeks intramuscularly or subcutaneously. At the introduction of the treatment, an extra dose is given at 2 weeks.

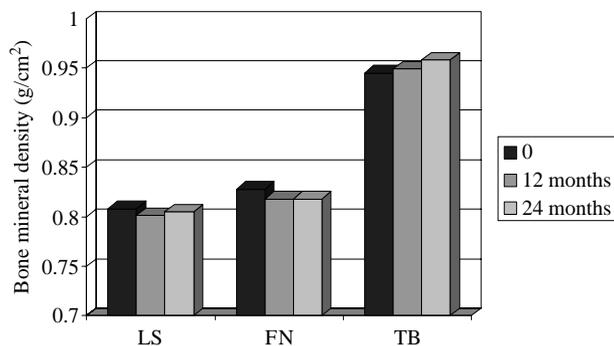
Preliminary results of the first 21 patients (11 FMs, 10 MFs), treated for 2 years or longer, are as follows:

**With respect to the gonadal axis** TRP treatment resulted in an adequate suppression of the pituitary gonadal axis, with low gonadotrophin levels and suppressed prepubertal values for oestradiol in FMs and testosterone in MFs. There was no progression of the pubertal stage. In boys, testicular volume decreased. In girls, when treatment was started in the late pubertal stages B4 and B5, frequent hot flushes occurred, which decreased in frequency with time. When cross-sex hormones were added, FMs started to virilize with lowering of the voice, clitoral enlargement and growth of facial and body hair. In MFs, oestrogen treatment induced breast development.

**With respect to growth** Height SDS in patients with still-growth potential (bone age in girls < 13 years and in boys < 15 years) showed a significant decrease, while sitting-height:height ratio did not change. Figure 2 shows the growth curve in an MF patient. In general, during TRP, slowing down of height velocity is observed. Oestrogens did not elicit a clear growth spurt, while substitution with androgen did (Fig. 3).



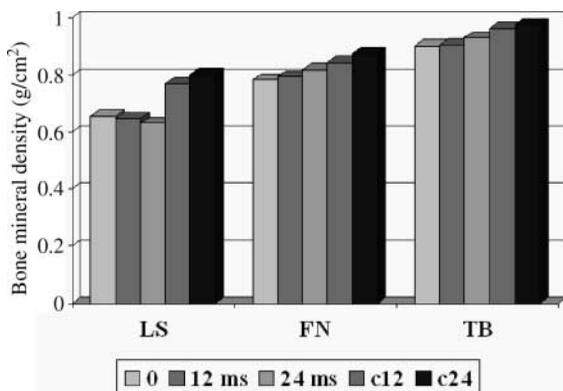
**Figure 2** Growth curve (depicted on a male and female curve respectively) of MF during treatment with GnRH analogue (GnRHa) and combination treatment of GnRHa with cross-sex hormones from the age of 16 years. Patient was in stage G2 at the start of the treatment. Since testicular volume decreased to below 4 ml, pubertal stage regressed to G1.



**Figure 3** Bone mineral density of the lumbar spine (LS), femoral neck (FS) and total body (TB) in nine transsexual adolescents during a period of 24 months of treatment with a GnRH analogue (GnRHa), measured just prior to the start of the GnRHa treatment (0) and after 12 and 24 months. There were no significant differences.

**With respect to bone density** During GnRHa treatment, bone density remained in the same range. There were no significant changes in bone densities at three locations: lumbar spine, non-dominant hip and total body, during TRP treatment. However, when calculated as a Z-score, there appears to be a significant decrease during this period. During cross-sex hormone treatment, bone density increased significantly in both MFs and FMs, which is associated with an increase in the bone density Z-score. Figure 4 shows the data of bone density in an MF patient during 2 years of TRP treatment, followed by 2 years of combination therapy with cross-sex hormones.

**With respect to body composition** During the first year of TRP treatment, the percentage of fat mass increased significantly, but remained at the same level



**Figure 4** Bone mineral density in a FM individual at the lumbar spine (LS), femoral neck (FN) and total body (TB). The left most bar indicates bone density at the start of treatment with the GnRH analogue (GnRHa). The following two bars to the right indicate bone density at 12 and 24 months on the GnRHa. Oestrogen therapy to induce female puberty starts at 24 months. The two bars on the right side show bone densities in combination treatment of the GnRHa and oestrogens.

thereafter. Lean body mass showed a contrary effect, i.e. a significant decrease during the first year of treatment followed by stabilization at the same level.

Carbohydrate and lipid metabolism did not show any change during treatment either with TRP alone or in combination with cross-sex hormones.

In general, patients repeatedly reported that they are satisfied with the suppression of their pubertal development. This is confirmed in the reports of their parents.

### Discussion

The present protocol, developed to ameliorate treatment outcome in adolescent patients with an early onset of GID, appears to be a suitable way to treat such patients. It seems possible to select patients who will profit from early interventions, starting at 12 years with GnRHa and followed at 16 years by cross-sex hormone treatment, provided that the diagnostic procedure is carried out with great care and by an experienced team.

Careful diagnosis should focus on the assessment of the GID as well as potential risk factors (e.g. severe co-morbidity). If any risk factors are present, these should be addressed first, before any medical intervention takes place. Since the diagnostic procedure is lengthy, there is ample time for patient, the family and the psychologist or psychiatrist to make the final decision. Making a balanced decision on SR is far more difficult for adolescents, who are denied medical treatment (GnRHa included), because much of their energy will be absorbed by obtaining treatment rather than exploring in an open way whether SR actually is the treatment of choice for their gender problem. By starting with GnRHa their motivation for such exploration enhances and no irreversible changes have taken place if, as a result of the psychotherapeutic interventions, they would decide that SR is not what they need. However, until now, none of the patients who were selected for pubertal suppression has decided to stop taking GnRHa. On the contrary, they are usually very satisfied with the fact that the secondary sex characteristics of their biological sex did not develop further.

Side effects of pubertal suppression result from the physiological developments occurring during this period. The normal pubertal growth spurt will not continue, resulting in a delay of growth. In girls, we should therefore try to overcome the 12 cm difference that exists between non-patient boys and girls. In the period of suppression, growth-stimulating medication can be offered in order to increase the height velocity. Androgens, which will be introduced in increasing doses from the age of 16 years, may elicit a 'puberty growth spurt' when skeletal maturation is retarded. Boys, who are taller than girls, will also experience growth retardation during GnRHa treatment. Since oestrogen treatment has a growth-inhibiting effect

shortly after the start of treatment (15), oestrogen medication to initiate female puberty may not be associated with a pubertal growth spurt and therefore may result in a more appropriate 'female' final height.

Since puberty is an important phase for the increase of bone density, which lasts until peak bone mass, suppression of puberty may interfere with a normal bone mass increase. The first clinical data suggest that bone mineral density remains at the same level during treatment, which indicates a decrease in Z-score when compared with reference values. However, when, at the age of 16 years, suppression of puberty is combined with cross-sex hormone treatment, a catch-up for bone accretion is observed, resulting in a decrease and normalization of the bone mineral density Z-score. This medical intervention, therefore, does not seem to harm bone development in the short term, but long-term data on peak bone mass should be assessed before a final conclusion can be drawn.

With respect to metabolic parameters, the only significant changes are an increase in fat mass accompanied by a decrease of lean body mass. These changes occurred only during the first year of suppression of puberty. Thereafter, body composition remained at the same level. During treatment with cross-sex hormones, the percentages return to the pretreatment values. The ultimate effect of this manipulation on pubertal development should be investigated in a long-term follow-up.

During puberty, developmental processes also take place in the brain. In the adult brain, a number of sex differences have been reported. For example, the amount of grey matter is higher in adult females than males in the gyrus cingulatus, the median frontal area and the lobus paracentralis in particular (16). It is not clear yet how pubertal suppression will influence brain development. From our experience with adolescents, who have been taking GnRH $\alpha$  and are now adults, no gross effects on their functioning are detectable. However, a study on brain development of adolescent transsexuals, who have used GnRH $\alpha$ , will be carried out to detect eventual subtle functional and structural effects.

## Acknowledgements

The authors are very grateful to Ferring Pharmaceuticals for the financial support of studies on the treatment of adolescents with gender identity disorders.

## References

- Ross MW & Need JA. Effects of adequacy of gender reassignment surgery on psychological adjustment: a follow-up of fourteen male-to-female patients. *Archives of Sexual Behavior* 1989 **18** 145–153.
- Cohen-Kettenis PT & Gooren LJ. Transsexualism: a review of etiology, diagnosis and treatment. *Journal of Psychosomatic Research* 1999 **46** 315–333.
- Lindemalm G, Korlin D & Uddenberg N. Prognostic factors vs outcome in male-to-female transsexualism. A follow-up study of 13 cases. *Acta Psychiatrica Scandinavica* 1987 **75** 268–274.
- Cohen-Kettenis PT & van Goozen SH. Sex reassignment of adolescent transsexuals: a follow-up study. *Journal of the American Academy of Child and Adolescent Psychiatry* 1997 **36** 263–271.
- Smith YL, van Goozen SH & Cohen-Kettenis PT. Adolescents with gender identity disorder who were accepted or rejected for sex reassignment surgery: a prospective follow-up study. *Journal of the American Academy of Child and Adolescent Psychiatry* 2001 **40** 472–481.
- Kuiper B & Cohen-Kettenis P. Sex reassignment surgery: a study of 141 Dutch transsexuals. *Archives of Sexual Behavior* 1988 **17** 439–457.
- Smith YL, van Goozen SH, Kuiper AJ & Cohen-Kettenis PT. Sex reassignment: outcomes and predictors of treatment for adolescent and adult transsexuals. *Psychological Medicine* 2005 **35** 89–99.
- Cohen-Kettenis PT & van Goozen SH. Pubertal delay as an aid in diagnosis and treatment of a transsexual adolescent. *European Child and Adolescent Psychiatry* 1998 **7** 246–248.
- Meyer W, Bockting W, Cohen-Kettenis P, Coleman E, DiCeglie D, Devor H, Gooren LJG, Hage JJ, Kirk S, Kuiper AJ, Laub D, Lawrence A, Menard Y, Patton J, Schaefer L, Webb A & Wheeler CC. The standards of care of the Harry Benjamin International Gender Dysphoria Association, 6th version. *International Journal of Transgenderism* 2006 **5** (<http://www.symposium.com/ijt>).
- Cohen-Kettenis P & Pöfflin F. *Transgenderism and intersexuality in childhood and adolescence; making choices*. Sage: Thousand Oaks, 2003.
- DiCeglie D, Sturge C & Sutton A. *Gender identity disorders in children and adolescents: guidelines for management*. 1998. London Royal college of Psychiatrists. Council Report CR63.
- Van Coeverden SC, De Ridder CM, Roos JC, Van't Hof MA, Netelenbos JC & Delemarre-Van de Waal HA. Pubertal maturation characteristics and the rate of bone mass development longitudinally toward menarche. *Journal of Bone and Mineral Research* 2001 **16** 774–781.
- Lawrence AA. Sexuality before and after male-to-female sex reassignment surgery. *Archives of Sexual Behavior* 2005 **34** 147–166.
- De Cuyper G, T'Sjoen G, Beerten R, Selvaggi G, De Sutter P, Hoebeke P, Monstrey S, Vansteenwege A & Rubens R. Sexual and physical health after sex reassignment surgery. *Archives of Sexual Behavior* 2005 **34** 679–690.
- Juul A. The effects of oestrogens on linear bone growth. *Human Reproduction Update* 2001 **7** 303–313.
- Luders E, Narr KL, Thompson PM, Rex DE, Woods RP, Deluca H, Jancke L & Toga AW. Gender effects on cortical thickness and the influence of scaling. *Human Brain Mapping* 2006 **27** 314–324.

Received 12 May 2006

Accepted 20 June 2006

# JCEM

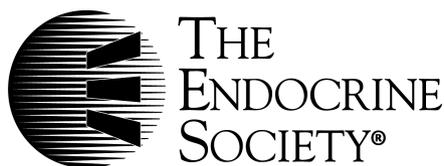
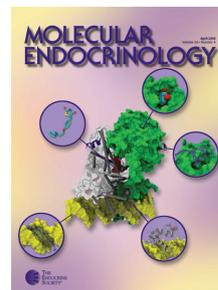
THE JOURNAL  
OF CLINICAL  
ENDOCRINOLOGY  
& METABOLISM

## Endocrine Treatment of Transsexual Persons: An Endocrine Society Clinical Practice Guideline

Wylie C. Hembree, Peggy Cohen-Kettenis, Henriette A. Delemarre-van de Waal, Louis J. Gooren, Walter J. Meyer, III, Norman P. Spack, Vin Tangpricha and Victor M. Montori

J. Clin. Endocrinol. Metab. 2009 94:3132-3154 originally published online Jun 9, 2009; , doi: 10.1210/jc.2009-0345

To subscribe to *Journal of Clinical Endocrinology & Metabolism* or any of the other journals published by The Endocrine Society please go to: <http://jcem.endojournals.org/subscriptions/>



## Endocrine Treatment of Transsexual Persons: An Endocrine Society Clinical Practice Guideline

Wylie C. Hembree, Peggy Cohen-Kettenis, Henriette A. Delemarre-van de Waal, Louis J. Gooren, Walter J. Meyer III, Norman P. Spack, Vin Tangpricha, and Victor M. Montori\*

Columbia University and New York Presbyterian Hospital (W.C.H.), New York, New York 10032; VU Medical Center (P.C.-K., H.A.D.-v.d.W.), 1007 MB Amsterdam, The Netherlands; Leiden University Medical Center (H.A.D.-v.d.W.), 2300 RC Leiden, The Netherlands; Andro-consult (L.J.G.) ChaingMai 50220, Thailand; University of Texas Medical Branch (W.J.M.), Galveston, Texas 77555; Harvard Medical School (N.P.S.), Boston, Massachusetts 02115; Emory University School of Medicine (V.T.), Atlanta, Georgia 30322; and Mayo Clinic (V.M.M.), Rochester, Minnesota 55905

**Objective:** The aim was to formulate practice guidelines for endocrine treatment of transsexual persons.

**Evidence:** This evidence-based guideline was developed using the Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) system to describe the strength of recommendations and the quality of evidence, which was low or very low.

**Consensus Process:** Committees and members of The Endocrine Society, European Society of Endocrinology, European Society for Paediatric Endocrinology, Lawson Wilkins Pediatric Endocrine Society, and World Professional Association for Transgender Health commented on preliminary drafts of these guidelines.

**Conclusions:** Transsexual persons seeking to develop the physical characteristics of the desired gender require a safe, effective hormone regimen that will 1) suppress endogenous hormone secretion determined by the person's genetic/biologic sex and 2) maintain sex hormone levels within the normal range for the person's desired gender. A mental health professional (MHP) must recommend endocrine treatment and participate in ongoing care throughout the endocrine transition and decision for surgical sex reassignment. The endocrinologist must confirm the diagnostic criteria the MHP used to make these recommendations. Because a diagnosis of transsexualism in a prepubertal child cannot be made with certainty, we do not recommend endocrine treatment of prepubertal children. We recommend treating transsexual adolescents (Tanner stage 2) by suppressing puberty with GnRH analogues until age 16 years old, after which cross-sex hormones may be given. We suggest suppressing endogenous sex hormones, maintaining physiologic levels of gender-appropriate sex hormones and monitoring for known risks in adult transsexual persons. (*J Clin Endocrinol Metab* 94: 3132–3154, 2009)

### Summary of Recommendations

#### 1.0 Diagnostic procedure

1.1 We recommend that the diagnosis of gender identity disorder (GID) be made by a mental health profes-

sional (MHP). For children and adolescents, the MHP should also have training in child and adolescent developmental psychopathology. (1 ⊕ ⊕ ⊕ ⊕)

1.2 Given the high rate of remission of GID after the onset of puberty, we recommend against a complete social

role change and hormone treatment in prepubertal children with GID. (1 ⊕⊕○○)

1.3 We recommend that physicians evaluate and ensure that applicants understand the reversible and irreversible effects of hormone suppression (*e.g.* GnRH analog treatment) and cross-sex hormone treatment before they start hormone treatment.

1.4 We recommend that all transsexual individuals be informed and counseled regarding options for fertility prior to initiation of puberty suppression in adolescents and prior to treatment with sex hormones of the desired sex in both adolescents and adults.

## 2.0 Treatment of adolescents

2.1. We recommend that adolescents who fulfill eligibility and readiness criteria for gender reassignment initially undergo treatment to suppress pubertal development. (1 ⊕○○○)

2.2. We recommend that suppression of pubertal hormones start when girls and boys first exhibit physical changes of puberty (confirmed by pubertal levels of estradiol and testosterone, respectively), but no earlier than Tanner stages 2–3. (1 ⊕⊕○○)

2.3. We recommend that GnRH analogs be used to achieve suppression of pubertal hormones. (1 ⊕⊕○○)

2.4. We suggest that pubertal development of the desired opposite sex be initiated at about the age of 16 yr, using a gradually increasing dose schedule of cross-sex steroids. (2 ⊕○○○)

2.5. We recommend referring hormone-treated adolescents for surgery when 1) the real-life experience (RLE) has resulted in a satisfactory social role change; 2) the individual is satisfied about the hormonal effects; and 3) the individual desires definitive surgical changes. (1 ⊕○○○)

2.6 We suggest deferring surgery until the individual is at least 18 yr old. (2 ⊕○○○)

## 3.0 Hormonal therapy for transsexual adults

3.1 We recommend that treating endocrinologists confirm the diagnostic criteria of GID or transsexualism and the eligibility and readiness criteria for the endocrine phase of gender transition. (1 ⊕⊕⊕○)

3.2 We recommend that medical conditions that can be exacerbated by hormone depletion and cross-sex hormone treatment be evaluated and addressed prior to initiation of treatment (see Table 11: Medical conditions that can be exacerbated by cross-sex hormone therapy). (1 ⊕⊕⊕○)

3.3 We suggest that cross-sex hormone levels be maintained in the normal physiological range for the desired gender. (2 ⊕⊕○○)

3.4 We suggest that endocrinologists review the onset and time course of physical changes induced by cross-sex hormone treatment. (2 ⊕⊕○○)

## 4.0 Adverse outcome prevention and long-term care

4.1 We suggest regular clinical and laboratory monitoring every 3 months during the first year and then once or twice yearly. (2 ⊕⊕○○)

4.2 We suggest monitoring prolactin levels in male-to-female (MTF) transsexual persons treated with estrogens. (2 ⊕⊕○○)

4.3 We suggest that transsexual persons treated with hormones be evaluated for cardiovascular risk factors. (2 ⊕⊕○○)

4.4 We suggest that bone mineral density (BMD) measurements be obtained if risk factors for osteoporosis exist, specifically in those who stop hormone therapy after gonadectomy. (2 ⊕⊕⊕○)

4.5 We suggest that MTF transsexual persons who have no known increased risk of breast cancer follow breast screening guidelines recommended for biological women. (2 ⊕⊕○○)

4.6 We suggest that MTF transsexual persons treated with estrogens follow screening guidelines for prostatic disease and prostate cancer recommended for biological men. (2 ⊕○○○)

4.7 We suggest that female-to-male (FTM) transsexual persons evaluate the risks and benefits of including total hysterectomy and oophorectomy as part of sex reassignment surgery. (2 ⊕○○○)

## 5.0 Surgery for sex reassignment

5.1 We recommend that transsexual persons consider genital sex reassignment surgery only after both the physician responsible for endocrine transition therapy and the MHP find surgery advisable. (1 ⊕○○○)

5.2 We recommend that genital sex reassignment surgery be recommended only after completion of at least 1 yr of consistent and compliant hormone treatment. (1 ⊕○○○)

5.3 We recommend that the physician responsible for endocrine treatment medically clear transsexual individuals for sex reassignment surgery and collaborate with the surgeon regarding hormone use during and after surgery. (1 ⊕○○○)

## Introduction

**M**en and women have experienced the confusion and anguish resulting from rigid, forced conformity to sexual dimorphism throughout recorded history. Aspects

of gender variance have been part of biological, psychological, and sociological debates among humans in modern history. The 20th century marked the beginning of a social awakening for men and women “trapped” in the wrong body (1). Harry Benjamin and Magnus Hirschfeld, who met in 1907, pioneered the medical responses to those who sought relief from and resolution of their profound discomfort, enabling the “transsexual,” a term coined by Hirschfeld in 1923, to live a gender-appropriate life, occasionally facilitated by surgery (2).

Endocrine treatment of transsexual persons [note: In the current psychiatric classification system, the Diagnostic and Statistical Manual of Mental Disorders-IV-TR (DSM-IV-TR), the term “gender identity disorder” is used instead of “transsexualism” (3)], previously limited to ineffective elixirs, creams, and implants, became reasonable with the availability of diethylstilbestrol in 1938 and after the isolation of testosterone in 1935. Personal stories of role models, treated with hormones and sex reassignment surgery, appeared in the press during the second half of the 20th century. The Harry Benjamin International Gender Dysphoria Association (HBIGDA) was founded in September 1979; it is now known as the World Professional Association of Transgender Health (WPATH). The Association’s “Standards of Care” (SOC) was first published by HBIGDA in 1979, and its sixth edition is currently being revised. These carefully prepared documents have provided mental health and medical professionals with general guidelines for the evaluation and treatment of transsexual persons.

Before 1975, few peer-reviewed articles were published concerning endocrine treatment of transsexual persons. Since that time, more than 800 articles about various aspects of transsexual care have appeared. It is the purpose of this guideline to make detailed recommendations and suggestions, based on existing medical literature and clinical experience, that will enable endocrinologists to provide safe and effective endocrine treatment for individuals diagnosed with GID or transsexualism by MHPs. In the future, rigorous evaluation of the effectiveness and safety of endocrine protocols is needed. What will be required is the careful assessment of: 1) the effects of prolonged delay of puberty on bone growth and development among adolescents; 2) in adults, the effects on outcome of both endogenous and cross-sex hormone levels during treatment; 3) the requirement for and the effects of antiandrogens and progestins during treatment; and 4) long-term medical and psychological risks of sex reassignment. These needs can be met only by a commitment of mental health and endocrine investigators to collaborate in long-term, large-scale studies across countries that employ the same diagnostic

and inclusion criteria, medications, assay methods, and response assessment tools.

Terminology and its use vary and continue to evolve. Table 1 contains definitions of terms as they are used throughout the Guideline.

**TABLE 1.** Definitions of terms used in this guideline

*Sex* refers to attributes that characterize biological maleness or femaleness; the best known attributes include the sex-determining genes, the sex chromosomes, the H-Y antigen, the gonads, sex hormones, internal and external genitalia, and secondary sex characteristics

*Gender identity* is used to describe a person’s fundamental sense of being a man, a woman, or of indeterminate sex.

*Gender identity disorder* (GID) is a DSM-IV-TR diagnosis. This psychiatric diagnosis is given when a strong and persistent cross-gender identification, combined with a persistent discomfort with one’s sex or sense of inappropriateness in the gender role of that sex, causes clinically significant distress.

*Gender role* is used to refer to behaviors, attitudes, and personality traits that a society, in a given culture and historical period, designates as masculine or feminine, that is, more “appropriate” to, or typical of, the social role as men or as women.

*Gender dysphoria* is the distress and unease experienced if gender identity and sex are not completely congruent.

*Sexual orientation* can be defined by a person’s relative responsiveness to sexual stimuli. The most salient dimension of sexual orientation is the sex of the person to whom one is attracted sexually; sexual orientation is not entirely similar to *sexual identity*; a person may, for example, be predominantly aroused by homoerotic stimuli, yet not regard himself or herself to be gay or lesbian.

*Sex reassignment* refers to the complete treatment procedure for those who want to adapt their bodies to the desired sex.

*Sex reassignment surgery* refers only to the surgical part of this treatment.

*Transsexual* people identify as, or desire to live and be accepted as, a member of the gender opposite to that assigned at birth; the term *male-to-female* (MTF) *transsexual person* refers to a biological male who identifies as, or desires to be, a member of the female gender; *female-to-male* (FTM) *transsexual person* refers to a biological female who identifies as, or desires to be, a member of the male gender.

*Transition* refers to the period of time during which transsexual persons change their physical, social, and legal characteristics to the gender opposite that of their biological sex. Transition may also be regarded as an ongoing process of physical change and psychological adaptation.

Note: In this Guideline, we have chosen to use the term “transsexual” throughout as defined by the ICD-10 Diagnostic Code (see Table 3). We recognize that “transsexual” and “transgender” are terms often used interchangeably. However, because “transgender” may also be used to identify individuals whose gender identity does not conform to the conventional gender roles of either male or female and who may not seek endocrine treatment as described herein, we prefer to use “transsexual” as an adjective (e.g. when referring to persons, individuals, men, or women and, when appropriate, referring to subjects in research studies).

## Etiology of Gender Identity Disorders

One's self-awareness as male or female evolves gradually during infant life and childhood. This process of cognitive and affective learning happens in interaction with parents, peers, and environment, and a fairly accurate timetable exists for the steps in this process (4). Normative psychological literature, however, does not address when gender identity becomes crystallized and what factors contribute to the development of an atypical gender identity. Factors that have been reported in clinical studies may well enhance or perpetuate rather than originate a GID (for an overview, see Ref. 5). Behavioral genetic studies suggest that, in children, atypical gender identity and role development has a heritable component (6, 7). Because, in most cases, GID does not persist into adolescence or adulthood, findings in children with GID cannot be extrapolated to adults.

In adults, psychological studies investigating etiology hardly exist. Studies that have investigated potential causal factors are retrospective and rely on self-report, making the results intrinsically unreliable.

Most attempts to identify biological underpinnings of gender identity in humans have investigated effects of sex steroids on the brain (functions) (for a review, see Ref. 8). Prenatal androgenization may predispose to development of a male gender identity. However, most 46,XY female-raised children with disorders of sex development and a history of prenatal androgen exposure do not develop a male gender identity (9, 10), whereas 46,XX subjects exposed to prenatal androgens show marked behavioral masculinization, but this does not necessarily lead to gender dysphoria (11–13). MTF transsexual individuals, with a male androgen exposure prenatally, develop a female gender identity through unknown mechanisms, apparently overriding the effects of prenatal androgens. There is no comprehensive understanding of hormonal imprinting on gender identity formation. It is of note that, in addition to hormonal factors, genetic mechanisms may bear on psychosexual differentiation (14).

Maternal immunization against the H-Y antigen has been proposed (15, 16). This hypothesis states that the repeatedly reported fraternal birth order effect reflects the progressive immunization of some mothers to Y-linked minor histocompatibility antigens (H-Y antigens) by each succeeding male fetus and the increasing effects of such immunization on the future sexual orientation of each succeeding male fetus. Sibling sex ratio studies have not been experimentally supported (17).

Studies have also failed to find differences in circulating levels of sex steroids between transsexual and nontranssexual individuals (18).

In summary, neither biological nor psychological studies provide a satisfactory explanation for the intriguing phenomenon of GIDs. In both disciplines, studies have been able to correlate certain findings to GIDs, but the findings are not robust and cannot be generalized to the whole population.

## Method of Development of Evidence-based Clinical Practice Guidelines

The Clinical Guidelines Subcommittee of The Endocrine Society deemed the diagnosis and treatment of transsexual individuals a priority area in need of practice guidelines and appointed a Task Force to formulate evidence-based recommendations. The Task Force followed the approach recommended by the Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) group, an international group with expertise in development and implementation of evidence-based guidelines (19). A detailed description of the grading scheme has been published elsewhere (20). The Task Force used the best available research evidence that Task Force members identified and two commissioned systematic reviews (21, 22) to develop some of the recommendations. The Task Force also used consistent language and graphical descriptions of both the strength of a recommendation and the quality of evidence. In terms of the strength of the recommendation, strong recommendations use the phrase “we recommend” and the number 1, and weak recommendations use the phrase “we suggest” and the number 2. Cross-filled circles indicate the quality of the evidence, such that ⊕○○○ denotes very low quality evidence, ⊕⊕○○ denotes low quality, ⊕⊕⊕○ denotes moderate quality, and ⊕⊕⊕⊕ denotes high quality. The Task Force has confidence that persons who receive care according to the strong recommendations will derive, on average, more good than harm. Weak recommendations require more careful consideration of the person's circumstances, values, and preferences to determine the best course of action. Linked to each “recommendation” is a description of the “evidence” and the “values” that panelists considered in making the recommendation; in some instances, there are “remarks,” a section in which panelists offer technical suggestions for testing conditions, dosing, and monitoring. These technical comments reflect the best available evidence applied to a typical person being treated. Often this evidence comes from the unsystematic observations of the panelists and their values and preferences; therefore, these remarks should be considered suggestions. Some statements in this guideline (1.3 and 1.4) are not graded. These are statements the task force felt it was necessary to make, and it considers them matters about which no sensible health-

care professional could possibly consider advocating the contrary (e.g. clinicians should conduct an adequate history taking and physical examination, clinicians should educate patients about their condition). These statements have not been subject to structured review of the evidence and are thus not graded.

**1.0 Diagnostic procedure**

Sex reassignment is a multidisciplinary treatment. It requires five processes: diagnostic assessment, psychotherapy or counseling, RLE, hormone therapy, and surgical therapy. The focus of this Guideline is hormone therapy, although collaboration with appropriate professionals responsible for each process maximizes a successful outcome. It would be ideal if care could be given by a multidisciplinary team at one treatment center, but this is not always possible. It is essential that all caregivers be aware of and understand the contributions of each discipline and that they communicate throughout the process.

**Diagnostic assessment and psychotherapy**

Because GID may be accompanied with psychological or psychiatric problems (see Refs. 23–27), it is necessary that the clinician making the GID diagnosis be able 1) to make a distinction between GID and conditions that have similar features; 2) to diagnose accurately psychiatric conditions; and 3) to undertake appropriate treatment thereof. Therefore, the SOC guidelines of the WPATH recommend that the diagnosis be made by a MHP (28). For children and adolescents, the MHP should also have training in child and adolescent developmental psychopathology.

MHPs usually follow the WPATH’s SOC. The main aspects of the diagnostic and psychosocial counseling are described below, and evidence supporting the SOC guidelines is given, whenever available.

During the diagnostic procedure, the MHP obtains information from the applicants for sex reassignment and, in the case of adolescents, the parents or guardians regarding various aspects of their general and psychosexual development and current functioning. On the basis of this information the MHP:

- decides whether the applicant fulfills DSM-IV-TR or ICD-10 criteria (see Tables 2 and 3) for GID;
- informs the applicant about the possibilities and limitations of sex reassignment and other kinds of treatment to prevent unrealistically high expectations; and
- assesses potential psychological and social risk factors for unfavorable outcomes of medical interventions.

In cases in which severe psychopathology or circumstances, or both, seriously interfere with the diagnostic work or make

**TABLE 2.** DSM-IV-TR diagnostic criteria for GID (3)

<p>A. A strong and persistent cross-gender identification (not merely a desire for any perceived cultural advantages of being the other sex). In children, the disturbance is manifested by four (or more) of the following:</p> <ol style="list-style-type: none"> <li>1. Repeatedly stated desire to be, or insistence that he or she is, the other sex.</li> <li>2. In boys, preference for cross-dressing or simulating female attire; in girls, insistence on wearing only stereotypical masculine clothing.</li> <li>3. Strong and persistent preferences for cross-sex roles in make-believe play or persistent fantasies of being the other sex.</li> <li>4. Intense desire to participate in the stereotypical games and pastimes of the other sex.</li> <li>5. Strong preference for playmates of the other sex.</li> </ol> <p>In adolescents and adults, the disturbance is manifested by symptoms such as a stated desire to be the other sex, frequent passing as the other sex, desire to live or be treated as the other sex, or the conviction that he or she has the typical feelings and reactions of the other sex.</p> <p>B. Persistent discomfort with his or her sex or sense of inappropriateness in the gender role of that sex. In children, the disturbance is manifested by any of the following:</p> <ol style="list-style-type: none"> <li>1. In boys, assertion that his penis or testes is disgusting or will disappear, or assertion that it would be better not to have a penis, or aversion toward rough-and-tumble play and rejection of male stereotypical toys, games, and activities.</li> <li>2. In girls, rejection of urinating in a sitting position, assertion that she has or will grow a penis, assertion that she does not want to grow breasts or menstruate, or marked aversion toward normative feminine clothing.</li> </ol> <p>In adolescents and adults, the disturbance is manifested by symptoms such as preoccupation with getting rid of primary and secondary sex characteristics (e.g. request for hormones, surgery, or other procedures to physically alter sexual characteristics to simulate the other sex) or belief that he or she was born the wrong sex.</p> <p>C. The disturbance is not concurrent with a physical intersex condition.</p> <p>D. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.</p> <p>Codes based on current age: 302.6 GID in children 302.85 GID in adolescents or adults</p> <p>Specify whether (for sexually mature individuals): Sexually attracted to males Sexually attracted to females Sexually attracted to both Sexually attracted to neither</p>
---

satisfactory treatment unlikely, management of the other issues should be addressed first. Literature on postoperative regret suggests that severe psychiatric comorbidity and lack of support may interfere with good outcome (30–33).

For adolescents, the diagnostic procedure usually includes a complete psychodiagnostic assessment (34) and,

**TABLE 3.** ICD-10 criteria for transsexualism and GID of childhood (29)

## Transsexualism (F64.0) criteria:

1. The desire to live and be accepted as a member of the opposite sex, usually accompanied by the wish to make his or her body as congruent as possible with the preferred sex through surgery and hormone treatments.
2. The transsexual identity has been present persistently for at least 2 yr.
3. The disorder is not a symptom of another mental disorder or a genetic, intersex, or chromosomal abnormality.

## GID of childhood (F64.2) has separate criteria for girls and for boys.

## Criteria for girls:

1. The individual shows persistent and intense distress about being a girl and has a stated desire to be a boy (not merely a desire for any perceived cultural advantages of being a boy) or insists that she is a boy.
2. Either of the following must be present:
  - a. Persistent marked aversion to normative feminine clothing and insistence on wearing stereotypical masculine clothing.
  - b. Persistent repudiation of female anatomical structures, as evidenced by at least one of the following:
    - i. An assertion that she has, or will grow, a penis.
    - ii. Rejection of urination in a sitting position.
    - iii. Assertion that she does not want to grow breasts or menstruate.
3. The girl has not yet reached puberty.
4. The disorder must have been present for at least 6 months.

## Criteria for boys:

1. The individual shows persistent and intense distress about being a boy and has a desire to be a girl or, more rarely, insists that he is a girl.
2. Either of the following must be present:
  - a. Preoccupation with stereotypic female activities, as shown by a preference for either cross-dressing or simulating female attire or by an intense desire to participate in the games and pastimes of girls and rejection of stereotypical male toys, games, and activities.
  - b. Persistent repudiation of male anatomical structures, as evidenced by at least one of the following repeated assertions:
    - i. That he will grow up to become a woman (not merely in the role).
    - ii. That his penis or testes are disgusting or will disappear.
    - iii. That it would be better not to have a penis or testes.
3. The boy has not reached puberty.
4. The disorder must have been present for at least 6 months.

preferably, a child psychiatric evaluation (by a clinician other than the diagnostician). Di Ceglie *et al.* (35) showed that 75% of the adolescents referred to their Gender Identity clinic in the United Kingdom reported relationship problems with parents. Therefore, a family evaluation to assess the family's ability to endure stress, give support, and deal with the complexities of the adolescent's situation should be part of the diagnostic procedure.

**The real-life experience**

WPATH's SOC states that "the act of fully adopting a new or evolving gender role or gender presentation in everyday life is known as the real-life experience. The real-life experience is essential to the transition to the gender role that is congruent with the patient's gender identity. The real-life experience tests the person's resolve, the capacity to function in the preferred gender, and the adequacy of social, economic, and psychological supports. It assists both the patient and the MHP in their judgments about how to proceed" (28). During the RLE, the person should fully experience life in the desired gender role before irreversible physical treatment is undertaken. Living 12 months full-time in the desired gender role is recommended (28). Testing an applicant's ability to function in the desired gender assists the applicant, the MHP and the endocrinologist in their judgments about how to proceed. During the RLE, the person's feeling about the social transformation, including coping with the responses of others, is a major

focus of the counseling. Applicants increasingly start the RLE long before they are referred for hormone treatment.

**Eligibility and readiness criteria**

The WPATH SOC document requires that both adolescents and adults applying for hormone treatment and surgery satisfy two sets of criteria—eligibility and readiness—before proceeding (28). There are eligibility and readiness criteria for hormone therapy for adults (Table 4) and eligibility cri-

**TABLE 4.** Hormone therapy for adults

Adults are **eligible** for cross-sex hormone treatment if they (28):

1. Fulfill DSM IV-TR or ICD-10 criteria for GID or transsexualism (see Tables 2 and 3).
2. Do not suffer from psychiatric comorbidity that interferes with the diagnostic work-up or treatment.
3. Demonstrate knowledge and understanding of the expected outcomes of hormone treatment, as well as the medical and social risks and benefits; AND
4. Have experienced a documented RLE of at least 3-month duration OR had a period of psychotherapy (duration specified by the MHP after the initial evaluation, usually a minimum of 3 months).

Adults should fulfill the following **readiness criteria** before the cross-sex hormone treatment. The applicant:

1. Has had further consolidation of gender identity during a RLE or psychotherapy.
2. Has made some progress in mastering other identified problems leading to improvement or continuing stable mental health.
3. Is likely to take hormones in a responsible manner.

**TABLE 5.** Hormone therapy for adolescents

Adolescents are **eligible** and ready for GnRH treatment if they:

1. Fulfill DSM IV-TR or ICD-10 criteria for GID or transsexualism.
2. Have experienced puberty to at least Tanner stage 2.
3. Have (early) pubertal changes that have resulted in an increase of their gender dysphoria.
4. Do not suffer from psychiatric comorbidity that interferes with the diagnostic work-up or treatment.
5. Have adequate psychological and social support during treatment, AND
6. Demonstrate knowledge and understanding of the expected outcomes of GnRH analog treatment, cross-sex hormone treatment, and sex reassignment surgery, as well as the medical and the social risks and benefits of sex reassignment.

Adolescents are **eligible** for cross-sex hormone treatment if they:

1. Fulfill the criteria for GnRH treatment, AND
2. Are 16 yr or older.

Readiness criteria for adolescents eligible for cross-sex hormone treatment are the same as those for adults.

teria for adolescents (Table 5). Eligibility and readiness criteria for sex reassignment surgery in adults and adolescents are the same (see *Section 5.0*). Although the eligibility criteria have not been evaluated in formal studies, a few follow-up studies on adolescents who fulfilled these criteria and had started cross-sex hormone treatment from the age of 16 indicate good postoperative results (36–38).

One study on MTF transsexual subjects reports that outcome was not associated with minimum eligibility requirements of the WPATH's SOC. However, this study was performed among a group of individuals with a relatively high socioeconomic background (39). One study investigating the need for psychotherapy for sex-reassignment applicants, based on questionnaire scores, suggests that "classical" forms of psychotherapy before medical interventions are not needed in about two thirds of the applicants (40).

## Recommendations for those involved in the hormone treatment of applicants for sex reassignment

### 1.1 Recommendation

We recommend that the diagnosis of GID be made by a MHP. For children and adolescents, the MHP must also have training in child and adolescent developmental psychopathology. (1 ⊕⊕○○)

### 1.1 Evidence

GID may be accompanied with psychological or psychiatric problems (see Refs. 23–27). It is therefore necessary that the clinician making the GID diagnosis be able to make a distinction between GID and conditions that have similar features, to accurately diagnose psychiatric con-

ditions, and to ensure that any such conditions are treated appropriately. One condition with similar features is body dysmorphic disorder or Skoptic syndrome, a condition in which a person is preoccupied with or engages in genital self-mutilation, such as castration, penectomy, or clitoridectomy (41).

### 1.1 Values and Preferences

The Task Force placed a very high value on avoiding harm from hormone treatment to individuals who have conditions other than GID and who may not be ready for the physical changes associated with this treatment, and it placed a low value on any potential benefit these persons believe they may derive from hormone treatment. This justifies the strong recommendation in the face of low-quality evidence.

### 1.2 Recommendation

Given the high rate of remission of GID after the onset of puberty, we recommend against a complete social role change and hormone treatment in prepubertal children with GID. (1 ⊕⊕○○)

### 1.2 Evidence

In most children with GID, the GID does not persist into adolescence. The percentages differ between studies, probably dependent upon which version of the DSM was used in childhood, ages of children, and perhaps culture factors. However, the large majority (75–80%) of prepubertal children with a diagnosis of GID in childhood do not turn out to be transsexual in adolescence (42–44); for a review of seven older studies see Ref. 45. Clinical experience suggests that GID can be reliably assessed only after the first signs of puberty.

This recommendation, however, does not imply that children should be entirely denied to show cross-gender behaviors or should be punished for exhibiting such behaviors.

### 1.2 Values and Preferences

This recommendation places a high value on avoiding harm with hormone therapy in prepubertal children who may have GID that will remit after the onset of puberty and places a relatively lower value on foregoing the potential benefits of early physical sex change induced by hormone therapy in prepubertal children with GID. This justifies the strong recommendation in the face of very low quality evidence.

### 1.3 Recommendation

We recommend that physicians evaluate and ensure that applicants understand the reversible and irreversible effects of hormone suppression (*e.g.* GnRH analog treat-

ment) and of cross-sex hormone treatment before they start hormone treatment.

### 1.3 Remarks

In all treatment protocols, compliance and outcome are enhanced by clear expectations concerning the effects of the treatment. The lengthy diagnostic procedure (GnRH analog treatment included, because this reversible treatment is considered to be a diagnostic aid) and long duration of the period between the start of the hormone treatment and sex reassignment surgery give the applicant ample opportunity to make balanced decisions about the various medical interventions. Clinical evidence shows that applicants react in a variety of ways to this treatment phase. The consequences of the social role change are sometimes difficult to handle, increasing understanding of treatment aspects may be frightening, and a change in gender dysphoric feelings may lead to confusion. Significant adverse effects on mental health can be prevented by a clear understanding of the changes that will occur and the time course of these changes.

### 1.4 Recommendation

We recommend that all transsexual individuals be informed and counseled regarding options for fertility before initiation of puberty suppression in adolescents and before treatment with sex hormones of the desired sex in both adolescents and adults.

### 1.4 Remarks

Persons considering hormone use for sex reassignment need adequate information about sex reassignment in general and about fertility effects of hormone treatment in particular to make an informed and balanced decision about this treatment. Because early adolescents may not feel qualified to make decisions about fertility and may not fully understand the potential effects of hormones, consent and protocol education should include parents, the referring MHP(s), and other members of the adolescent's support group. To our knowledge, there are no formally evaluated decision aids available to assist in the discussion and decision regarding future fertility of adolescents or adults beginning sex reassignment treatment.

Prolonged pubertal suppression using GnRH analogs is reversible and should not prevent resumption of pubertal development upon cessation of treatment. Although sperm production and development of the reproductive tract in early adolescent biological males with *GID* are insufficient for cryopreservation of sperm, they should be counseled that sperm production can be initiated after prolonged gonadotropin suppression, before estrogen treatment. This sperm production can be accomplished by

spontaneous gonadotropin (both LH and FSH) recovery after cessation of GnRH analogs or by gonadotropin treatment and will probably be associated with physical manifestations of testosterone production. It should be noted that there are no data in this population concerning the time required for sufficient spermatogenesis to collect enough sperm for later fertility. In adult men with gonadotropin deficiency, sperm are noted in seminal fluid by 6–12 months of gonadotropin treatment, although sperm numbers at the time of pregnancy in these patients are far below the normal range (46, 47).

Girls can expect no adverse effects when treated with pubertal suppression. They should be informed that no data are available regarding timing of spontaneous ovulation or response to ovulation induction after prolonged gonadotropin suppression.

All referred subjects who satisfy eligibility and readiness criteria for endocrine treatment, at age 16 or as adults, should be counseled regarding the effects of hormone treatment on fertility and available options that may enhance the chances of future fertility, if desired (48, 49). The occurrence and timing of potentially irreversible effects should be emphasized. Cryopreservation of sperm is readily available, and techniques for cryopreservation of oocytes, embryos, and ovarian tissue are being improved (50).

In biological males, when medical treatment is started in a later phase of puberty or in adulthood, spermatogenesis is sufficient for cryopreservation and storage of sperm. Prolonged exposure of the testes to estrogen has been associated with testicular damage (51–53). Restoration of spermatogenesis after prolonged estrogen treatment has not been studied.

In biological females, the effect of prolonged treatment with exogenous testosterone upon ovarian function is uncertain. Reports of an increased incidence of polycystic ovaries in FTM transsexual persons, both before and as a result of androgen treatment, should be acknowledged (54, 55). Pregnancy has been reported in FTM transsexual persons who have had prolonged androgen treatment, but no genital surgery (56). Counsel from a gynecologist before hormone treatment regarding potential fertility preservation after oophorectomy will clarify available and future options (57).

## 2.0 Treatment of adolescents

Over the past decade, clinicians have progressively acknowledged the suffering of young transsexual adolescents that is caused by their pubertal development. Indeed, an adolescent with *GID* often considers the pubertal physical changes to be unbearable. Because early medical intervention may prevent this psychological harm, various clinics have decided to start treating young adolescents

with GID with puberty-suppressing medication (a GnRH analog). As compared with starting sex reassignment long after the first phases of puberty, a benefit of pubertal suppression is relief of gender dysphoria and a better psychological and physical outcome.

The physical changes of pubertal development are the result of maturation of the hypothalamo-pituitary-gonadal axis and development of the secondary sex characteristics. Gonadotropin secretion increases with a day-night rhythm with higher levels of LH during the night. The nighttime LH increase in boys is associated with a parallel testosterone increase. Girls do not show a day-night rhythm, although in early puberty, the highest estrogen levels are observed during the morning as a result of a delayed response by the ovaries (58).

In girls the first physical sign of the beginning of puberty is the start of budding of the breasts, followed by an increase in breast and fat tissue. Breast development is also associated with the pubertal growth spurt, with menarche occurring approximately 2 yr later. In boys the first physical change is testicular growth. A testicular volume equal to or above 4 ml is seen as the first pubertal increase. From a testicular volume of 10 ml, daytime testosterone levels increase, leading to virilization (59).

### 2.1–2.2 Recommendations

2.1 We recommend that adolescents who fulfill eligibility and readiness criteria for gender reassignment initially undergo treatment to suppress pubertal development. (1 ⊕○○○)

2.2 We recommend that suppression of pubertal hormones start when girls and boys first exhibit physical changes of puberty (confirmed by pubertal levels of estradiol and testosterone, respectively), but no earlier than Tanner stages 2–3. (1 ⊕⊕○○)

### 2.1–2.2 Evidence

Pubertal suppression aids in the diagnostic and therapeutic phase, in a manner similar to the RLE (60, 61). Management of gender dysphoria usually improves. In addition, the hormonal changes are fully reversible, enabling full pubertal development in the biological gender if appropriate. Therefore, we advise starting suppression of puberty before irreversible development of sex characteristics.

The experience of full biological puberty, an undesirable condition, may seriously interfere with healthy psychological functioning and well-being. Suffering from gender dysphoria without being able to present socially in the desired social role or to stop the development of secondary sex characteristics may result in an arrest in emotional, social, or intellectual development.

Another reason to start sex reassignment early is that the physical outcome after intervention in adulthood is far

less satisfactory than intervention at age 16 (36, 38). Looking like a man (woman) when living as a woman (man) creates difficult barriers with enormous lifelong disadvantages.

Pubertal suppression maintains end-organ sensitivity to sex steroids observed during early puberty, enabling satisfactory cross-sex body changes with low doses and avoiding irreversible characteristics that occur by midpuberty.

The protocol of suppression of pubertal development can also be applied to adolescents in later pubertal stages. In contrast to effects in early pubertal adolescents, physical sex characteristics, such as breast development in girls and lowering of the voice and outgrowth of the jaw and brow in boys, will not regress completely.

Unlike the developmental problems observed with delayed puberty, this protocol requires a MHP skilled in child and adolescent psychology to evaluate the response of the adolescent with GID after pubertal suppression. Adolescents with GID should experience the first changes of their biological, spontaneous puberty because their emotional reaction to these first physical changes has diagnostic value. Treatment in early puberty risks limited growth of the penis and scrotum that may make the surgical creation of a vagina from scrotal tissue more difficult.

### 2.1–2.2 Values and Preferences

These recommendations place a high value on avoiding the increasing likelihood of an unsatisfactory physical change when secondary sexual characteristics have become manifest and irreversible, as well as a high value on offering the adolescent the experience of the desired gender. These recommendations place a lower value on avoiding potential harm from early hormone therapy.

### 2.1–2.2 Remarks

Tanner stages of breast and male genital development are given in Table 6. Blood levels of sex steroids during Tanner stages of pubertal development are given in Table 7. Careful documentation of hallmarks of pubertal development will ensure precise timing of initiation of pubertal suppression.

Irreversible and, for transsexual adolescents, undesirable sex characteristics in female puberty are large breasts and short stature and in male puberty are Adam's apple; low voice; male bone configuration such as large jaws, big feet, and hands; tall stature; and male hair pattern on the face and extremities.

### 2.3 Recommendation

We recommend that GnRH analogs be used to achieve suppression of pubertal hormones. (1 ⊕⊕○○)

**TABLE 6.** Description of tanner stages of breast development and male external genitalia

For breast development:	
1.	Preadolescent.
2.	Breast and papilla elevated as small mound; areolar diameter increased.
3.	Breast and areola enlarged, no contour separation.
4.	Areola and papilla form secondary mound.
5.	Mature; nipple projects, areola part of general breast contour.
For penis and testes:	
1.	Preadolescent.
2.	Slight enlargement of penis; enlarged scrotum, pink texture altered.
3.	Penis longer, testes larger.
4.	Penis larger, glans and breadth increase in size; testes larger, scrotum dark.
5.	Penis and testes adult size.

Adapted from Ref. 62.

### 2.3 Evidence

Suppression of pubertal development and gonadal function is accomplished most effectively by gonadotropin suppression with GnRH analogs and antagonists. Analogs suppress gonadotropins after a short period of stimulation, whereas antagonists immediately suppress pituitary secretion (64, 65). Because no long-acting antagonists are available for use as pharmacotherapy, long-acting analogs are the currently preferred treatment option.

During treatment with the GnRH analogs, slight development of sex characteristics will regress and, in a later phase of pubertal development, will be halted. In girls, breast development will become atrophic, and menses will stop; in boys, virilization will stop, and testicular volume will decrease (61).

An advantage of using GnRH analogs is the reversibility of the intervention. If, after extensive exploring of his/

her reassignment wish, the applicant no longer desires sex reassignment, pubertal suppression can be discontinued. Spontaneous pubertal development will resume immediately (66).

Men with delayed puberty have decreased BMD. Treatment of adults with GnRH analogs results in loss of BMD (67). In children with central precocious puberty, bone density is relatively high for age. Suppressing puberty in these children using GnRH analogs will result in a further increase in BMD and stabilization of BMD SD scores (68). Initial data in transsexual subjects demonstrate no change of bone density during GnRH analog therapy (61). With cross-hormone treatment, bone density increases. The long-term effects on bone density and peak bone mass are being evaluated.

GnRH analogs are expensive and not always reimbursed by insurance companies. Although there is no clinical experience in this population, financial considerations may require treatment with progestins as a less effective alternative. They suppress gonadotropin secretion and exert a mild peripheral antiandrogen effect in boys. Depo-medroxyprogesterone will suppress ovulation and progesterone production for long periods of time, although residual estrogen levels vary. In high doses, progestins are relatively effective in suppression of menstrual cycling in girls and women and androgen levels in boys and men. However, at these doses, side effects such as suppression of adrenal function and suppression of bone growth may occur (69). Antiestrogens in girls and antiandrogens in boys can be used to delay the progression of puberty (70, 71). Their efficacy, however, is far less than that of the GnRH analogs.

### 2.3 Values and Preferences

For persons who can afford the therapy, our recommendation of GnRH analogs places a higher value on the superior efficacy, safety, and reversibility of the pubertal hormone suppression achieved, as compared with the alternatives, and a relatively lower value on limiting the cost of therapy. Of the available alternatives, a depot progestin preparation may be partially effective, but it is not as safe (69, 72); its lower cost may make it an acceptable treatment for persons who cannot afford GnRH.

### 2.3 Remarks

Measurements of gonadotropin and sex steroid levels give precise information about suppression of the gonadal axis. If the gonadal axis is not completely suppressed, the interval of GnRH analog injections should be shortened. During treatment, adolescents should be monitored for negative effects of delaying puberty, including a halted growth spurt and impaired bone accretion. The clinical protocol to be used is shown in Table 8.

**TABLE 7.** Estradiol levels in female puberty and testosterone levels in male puberty during night and day

Tanner stage	Nocturnal	Diurnal
Estradiol (pmol/liter) <sup>a</sup>		
B1	<37	<37
B2	38.5	56.3
B3	81.7	107.3
B4	162.9	132.3
B5	201.6	196.7
Testosterone (nmol/liter) <sup>b</sup>		
G1	<0.25	<0.25
G2	1.16	0.54
G3	3.76	0.62
G4	9.83	1.99
G5	13.2	7.80
Adult	18.8	17.0

Data represent median of hourly measurements from 2400–0600 h (nocturnal) and 1200–1800 h (diurnal).

<sup>a</sup> Adapted from Ref. 63.

<sup>b</sup> Adapted from Ref. 59.

**TABLE 8.** Follow-up protocol during suppression of puberty

Every 3 months
Anthropometry: height, weight, sitting height, Tanner stages
Laboratory: LH, FSH, estradiol/testosterone
Every year
Laboratory: renal and liver function, lipids, glucose, insulin, glycosylated hemoglobin
Bone density using dual-energy x-ray absorptiometry
Bone age on x-ray of the left hand

Glucose and lipid metabolism, complete blood counts, and liver and renal function should be monitored during suppression and cross-sex hormone substitution. For the evaluation of growth, anthropometric measurements are informative. To assess bone density, dual energy x-ray absorptiometry scans can be performed.

**2.4 Recommendation**

We suggest that pubertal development of the desired, opposite sex be initiated at the age of 16 yr, using a gradually increasing dose schedule of cross-sex steroids. (2 ⊕○○○)

**2.4 Evidence**

In many countries, 16-yr-olds are legal adults with regard to medical decision making. This is probably because, at this age, most adolescents are able to make complex cognitive decisions. Although parental consent may not be required, obtaining it is preferred because the support of parents should improve the outcome during this complex phase of the adolescent’s life (61).

For the induction of puberty, we use a similar dose scheme of induction of puberty in these hypogonadal transsexual adolescents as in other hypogonadal individuals (Table 9). We do not advise the use of sex steroid creams or patches because there is little experience for induction of puberty. The transsexual adolescent is hypogonadal and may be sensitive to high doses of cross-sex steroids, causing adverse effects of striae and abnormal breast shape in girls and cystic acne in boys.

In FTM transsexual adolescents, suppression of puberty may halt the growth spurt. To achieve maximum height, slow introduction of androgens will mimic a “pubertal” growth spurt. If the patient is relatively short, one may treat with oxandrolone, a growth-stimulating anabolic steroid also successfully applied in women with Turner syndrome (73–75).

In MTF transsexual adolescents, extreme tall stature is often a genetic probability. The estrogen dose may be increased by more rapid increments in the schedule. Estrogens may be started before the age of 16 (in exceptional cases), or estrogens can be prescribed in growth-inhibiting doses (61).

**TABLE 9.** Protocol induction of puberty

Induction of female puberty with oral 17-β estradiol, increasing the dose every 6 months:
5 μg/kg/d
10 μg/kg/d
15 μg/kg/d
20 μg/kg/d
Adult dose = 2 mg/d
Induction of male puberty with intramuscular testosterone esters, increasing the dose every 6 months:
25 mg/m <sup>2</sup> per 2 wk im
50 mg/m <sup>2</sup> per 2 wk im
75 mg/m <sup>2</sup> per 2 wk im
100 mg/m <sup>2</sup> per 2 wk im

We suggest that treatment with GnRH analogs be continued during treatment with cross-sex steroids to maintain full suppression of pituitary gonadotropin levels and, thereby, gonadal steroids. When puberty is initiated with a gradually increasing schedule of sex steroid doses, the initial levels will not be high enough to suppress endogenous sex steroid secretion (Table 7). The estrogen doses used may result in reactivation of gonadotropin secretion and endogenous production of testosterone that can interfere with the effectiveness of the treatment. GnRH analog treatment is advised until gonadectomy.

**2.4 Values and Preferences**

Identifying an age at which pubertal development is initiated will be by necessity arbitrary, but the goal is to start this process at a time when the individual will be able to make informed mature decisions and engage in the therapy, while at the same time developing along with his or her peers. Growth targets reflect personal preferences, often shaped by societal expectations. Individual preferences should be the key determinant, rather than the professional’s deciding *a priori* that MTF transsexuals should be shorter than FTM transsexuals.

**2.4 Remarks**

Protocols for induction of puberty can be found in Table 9. We recommend monitoring clinical pubertal development as well as laboratory parameters (Table 10). Sex

**TABLE 10.** Follow-up protocol during induction of puberty

Every 3 months
Anthropometry: height, weight, sitting height, Tanner stages
Laboratory: endocrinology, LH, FSH, estradiol/testosterone
Every year
Laboratory: renal and liver function, lipids, glucose, insulin, glycosylated hemoglobin
Bone density using dual-energy x-ray absorptiometry
Bone age on x-ray of the left hand

These parameters should also be measured at long term. For bone development, they should be measured until the age of 25–30 yr or until peak bone mass has been reached.

steroids of the desired sex will initiate pubertal development, which can be (partially) monitored using Tanner stages. In addition, the sex steroids will affect growth and bone development, as well as insulin sensitivity and lipid metabolism, as in normal puberty (76, 77).

### 2.5–2.6 Recommendations

2.5 We recommend referring hormone-treated adolescents for surgery when 1) the RLE has resulted in a satisfactory social role change, 2) the individual is satisfied about the hormonal effects, and 3) the individual desires definitive surgical changes. (1 ⊕○○○)

2.6 We suggest deferring for surgery until the individual is at least 18 yr old. (2 ⊕○○○)

### 2.5–2.6 Evidence

Surgery is an irreversible intervention. The WPATH SOC (28) emphasizes that the “threshold of 18 should be seen as an eligibility criterion and not an indication in itself for active intervention.” If the RLE supported by sex hormones of the desired sex has not resulted in a satisfactory social role change, if the person is not satisfied with or is ambivalent about the hormonal effects, or if the person is ambivalent about surgery, then the applicant should not be referred for surgery (78, 79).

### 3.0 Hormonal therapy for transsexual adults

The two major goals of hormonal therapy are: 1) to reduce endogenous hormone levels and, thereby, the secondary sex characteristics of the individual’s biological (genetic) sex and assigned gender; and 2) to replace endogenous sex hormone levels with those of the reassigned sex by using the principles of hormone replacement treatment of hypogonadal patients. The timing of these two goals and the age at which to begin treatment with cross-sex hormones is codetermined in collaboration with both the person pursuing sex change and the MHP who made the diagnosis, performed psychological evaluation, and recommended sex reassignment. The physical changes induced by this sex hormone transition are usually accompanied by an improvement in mental well-being.

### 3.1–3.3 Recommendations

3.1 We recommend that treating endocrinologists confirm the diagnostic criteria of GID or transsexualism and the eligibility and readiness criteria for the endocrine phase of gender transition. (1 ⊕⊕⊕○)

3.2 We recommend that medical conditions that can be exacerbated by hormone depletion and cross-sex hormone treatment be evaluated and addressed before initiation of treatment (Table 11). (1 ⊕⊕⊕○)

**TABLE 11.** Medical conditions that can be exacerbated by cross-sex hormone therapy

Transsexual female (MTF): estrogen
Very high risk of serious adverse outcomes
Thromboembolic disease
Moderate to high risk of adverse outcomes
Macroprolactinoma
Severe liver dysfunction (transaminases >3 × upper limit of normal)
Breast cancer
Coronary artery disease
Cerebrovascular disease
Severe migraine headaches
Transsexual male (FTM): testosterone
Very high risk of serious adverse outcomes
Breast or uterine cancer
Erythrocytosis (hematocrit >50%)
Moderate to high risk of adverse outcomes
Severe liver dysfunction (transaminases >3 × upper limit of normal)

3.3 We suggest that cross-sex hormone levels be maintained in the normal physiological range for the desired gender. (2 ⊕⊕○○)

### 3.1–3.3 Evidence

Although the diagnosis of GID or transsexualism is made by an MHP, the referral for endocrine treatment implies fulfillment of the eligibility and readiness criteria (see *Section 1*) (28). It is the responsibility of the physician to whom the transsexual person has been referred to confirm that the person fulfills these criteria for treatment. This task can be accomplished by the physician’s becoming familiar with the terms and criteria presented in Tables 1–5, taking a thorough history from the person recommended for treatment, and discussing these criteria with the MHP. Continued evaluation of the transsexual person by the MHP, in collaboration with the treating endocrinologist, will ensure that the desire for sex change is appropriate, that the consequences, risks, and benefits of treatment are well understood, and that the desire for sex change persists.

### FTM transsexual persons

Clinical studies have demonstrated the efficacy of several different androgen preparations to induce masculinization in FTM transsexual persons (80–84). Regimens to change secondary sex characteristics follow the general principle of hormone replacement treatment of male hypogonadism (85). Either parenteral or transdermal preparations can be used to achieve testosterone values in the normal male range (320–1000 ng/dl) (Table 12). Sustained suprphysiological levels of testosterone increase the risk of adverse reactions (see *Section 4.0*).

Similar to androgen therapy in hypogonadal men, testosterone treatment in the FTM individual results in increased

**TABLE 12.** Hormone regimens in the transsexual persons

	Dosage
MTF transsexual persons <sup>a</sup>	
Estrogen	
Oral: estradiol	2.0–6.0 mg/d
Transdermal: estradiol patch	0.1–0.4 mg twice weekly
Parenteral: estradiol valerate or cypionate	5–20 mg im every 2 wk 2–10 mg im every week
Antiandrogens	
Spironolactone	100–200 mg/d
Cyproterone acetate <sup>b</sup>	50–100 mg/d
GnRH agonist	3.75 mg sc monthly
FTM transsexual persons	
Testosterone	
Oral: testosterone undecanoate <sup>b</sup>	160–240 mg/d
Parenteral	
Testosterone enanthate or cypionate	100–200 mg im every 2 wk or 50% weekly
Testosterone undecanoate <sup>b,c</sup>	1000 mg every 12 wk
Transdermal	
Testosterone gel 1%	2.5–10 g/d
Testosterone patch	2.5–7.5 mg/d

<sup>a</sup> Estrogens used with or without antiandrogens or GnRH agonist.

<sup>b</sup> Not available in the United States.

<sup>c</sup> 1000 mg initially, followed by an injection at 6 wk, then at 12-wk intervals.

muscle mass and decreased fat mass, increased facial hair and acne, male pattern baldness, and increased libido (86). Specific to the FTM transsexual person, testosterone will result in clitoromegaly, temporary or permanent decreased fertility, deepening of the voice, and, usually, cessation of menses. Cessation of menses may occur within a few months with testosterone treatment alone, although high doses of testosterone may be required. If uterine bleeding continues, addition of a progestational agent or endometrial ablation may be considered (87, 88). GnRH analogs or depot medroxyprogesterone may also be used to stop menses before testosterone treatment and to reduce estrogens to levels found in biological males.

### MTF transsexual persons

The hormone regimen for MTF transsexual individuals is more complex than the FTM regimen. Most published clinical studies report the use of an antiandrogen in conjunction with an estrogen (80, 82–84, 89).

The antiandrogens shown to be effective reduce endogenous testosterone levels, ideally to levels found in adult biological women, to enable estrogen therapy to have its fullest effect. Two categories of these medications are progestins with antiandrogen activity and GnRH agonists (90). Spironolactone has antiandrogen properties by di-

rectly inhibiting testosterone secretion and by inhibiting androgen binding to the androgen receptor (83, 84). It may also have estrogenic activity (91). Cyproterone acetate, a progestational compound with antiandrogenic properties (80, 82), is widely used in Europe. Flutamide blocks binding of androgens to the androgen receptor, but it does not lower serum testosterone levels; it has liver toxicity, and its efficacy has not been demonstrated.

Dittrich (90), reporting on a series of 60 MTF transsexual persons who used monthly the GnRH agonist goserelin acetate in combination with estrogen, found this regimen to be effective in reducing testosterone levels with low incidence of adverse reactions.

Estrogen can be given orally as conjugated estrogens, or 17 $\beta$ -estradiol, as transdermal estrogen, or parenteral estrogen esters (Table 12).

Measurement of serum estradiol levels can be used to monitor oral, transdermal, and im estradiol or its esters. Use of conjugated estrogens or synthetic estrogens cannot be monitored by blood tests. Serum estradiol should be maintained at the mean daily level for premenopausal women (<200 pg/ml), and the serum testosterone level should be in the female range (<55 ng/dl). The transdermal preparations may confer an advantage in the older transsexual women who may be at higher risk for thromboembolic disease (92).

Venous thromboembolism may be a serious complication. A 20-fold increase in venous thromboembolic disease was reported in a large cohort of Dutch transsexual subjects (93). This increase may have been associated with the use of ethinyl estradiol (92). The incidence decreased upon cessation of the administration of ethinyl estradiol (93). Thus, the use of synthetic estrogens, especially ethinyl estradiol, is undesirable because of the inability to regulate dose by measurement of serum levels and the risk of thromboembolic disease. Deep vein thrombosis occurred in 1 of 60 MTF transsexual persons treated with a GnRH analog and oral estradiol (90). The patient was found to have a homozygous C677 T mutation. Administration of cross-sex hormones to 162 MTF and 89 FTM transsexual persons was not associated with venous thromboembolism despite an 8.0 and 5.6% incidence of thrombophilia, respectively (94). Thrombophilia screening of transsexual persons initiating hormone treatment should be restricted to those with a personal or family history of venous thromboembolism (94). Monitoring D-dimer levels during treatment is not recommended (95).

### 3.1–3.3 Values and Preferences

Our recommendation to maintain levels of cross-sex hormones in the normal adult range places a high value on the avoidance of the long-term complications of pharma-

cological doses. Those receiving endocrine treatment who have relative contraindications to hormones (*e.g.* persons who smoke, have diabetes, have liver disease, *etc.*) should have an in-depth discussion with their physician to balance the risks and benefits of therapy.

**3.1–3.3 Remarks**

All endocrine-treated individuals should be informed of all risks and benefits of cross-sex hormones before initiation of therapy. Cessation of tobacco use should be strongly encouraged in MTF transsexual persons to avoid increased risk of thromboembolism and cardiovascular complications.

**3.4 Recommendation**

We suggest that endocrinologists review with persons treated the onset and time course of physical changes induced by cross-sex hormone treatment. (2 ⊕⊕○○)

**3.4 Evidence**

**FTM transsexual persons**

Physical changes that are expected to occur during the first 3 months of initiation of testosterone therapy include cessation of menses, increased libido, increased facial and body hair, increased oiliness of skin, increased muscle, and redistribution of fat mass. Changes that occur within the first year of testosterone therapy include deepening of the voice, clitoromegaly, and, in some individuals, male pattern hair loss (83, 96, 97) (Table 13).

**MTF transsexual persons**

Physical changes that may occur in the first 3–6 months of estrogen and antiandrogen therapy include decreased libido, decreased facial and body hair, decreased oiliness of skin, breast tissue growth, and redistribution of fat mass (82, 83, 84, 96, 97) (Table 14). Breast development is

**TABLE 13.** Masculinizing effects in FTM transsexual persons

Effect	Onset (months) <sup>a</sup>	Maximum (yr) <sup>a</sup>
Skin oiliness/acne	1–6	1–2
Facial/body hair growth	6–12	4–5
Scalp hair loss	6–12	<sup>b</sup>
Increased muscle mass/strength	6–12	2–5
Fat redistribution	1–6	2–5
Cessation of menses	2–6	<sup>c</sup>
Clitoral enlargement	3–6	1–2
Vaginal atrophy	3–6	1–2
Deepening of voice	6–12	1–2

<sup>a</sup> Estimates represent clinical observations. See Refs. 81, 92, and 93.  
<sup>b</sup> Prevention and treatment as recommended for biological men.  
<sup>c</sup> Menorrhagia requires diagnosis and treatment by a gynecologist.

**TABLE 14.** Feminizing effects in MTF transsexual persons

Effect	Onset <sup>a</sup>	Maximum <sup>a</sup>
Redistribution of body fat	3–6 months	2–3 yr
Decrease in muscle mass and strength	3–6 months	1–2 yr
Softening of skin/decreased oiliness	3–6 months	Unknown
Decreased libido	1–3 months	3–6 months
Decreased spontaneous erections	1–3 months	3–6 months
Male sexual dysfunction	Variable	Variable
Breast growth	3–6 months	2–3 yr
Decreased testicular volume	3–6 months	2–3 yr
Decreased sperm production	Unknown	>3 yr
Decreased terminal hair growth	6–12 months	>3 yr <sup>b</sup>
Scalp hair	No regrowth	<sup>c</sup>
Voice changes	None	<sup>d</sup>

<sup>a</sup> Estimates represent clinical observations. See Refs. 81, 92, and 93.  
<sup>b</sup> Complete removal of male sexual hair requires electrolysis, or laser treatment, or both.  
<sup>c</sup> Familial scalp hair loss may occur if estrogens are stopped.  
<sup>d</sup> Treatment by speech pathologists for voice training is most effective.

generally maximal at 2 yr after initiation of hormones (82, 83, 84). Over a long period of time, the prostate gland and testicles will undergo atrophy.

Although the time course of breast development in MTF transsexual persons has been studied (97), precise information about other changes induced by sex hormones is lacking. There is a great deal of variability between individuals, as evidenced during pubertal development.

**3.4 Values and Preferences**

Transsexual persons have very high expectations regarding the physical changes of hormone treatment and are aware that body changes can be enhanced by surgical procedures (*e.g.* breast, face, and body habitus). Clear expectations for the extent and timing of sex hormone-induced changes may prevent the potential harm and expense of unnecessary procedures.

**4.0 Adverse outcome prevention and long-term care**

Cross-sex hormone therapy confers the same risks associated with sex hormone replacement therapy in biological males and females. The risk of cross-sex hormone therapy arises from and is worsened by inadvertent or intentional use of suprphysiological doses of sex hormones or inadequate doses of sex hormones to maintain normal physiology (81, 89).

**4.1 Recommendation**

We suggest regular clinical and laboratory monitoring every 3 months during the first year and then once or twice yearly. (2 ⊕⊕○○)

**4.1 Evidence**

Pretreatment screening and appropriate regular medical monitoring is recommended for both FTM and MTF transsexual persons during the endocrine transition and periodically thereafter (13, 97). Monitoring of weight and blood pressure, directed physical exams, routine health questions focused on risk factors and medications, complete blood counts, renal and liver function, lipid and glucose metabolism should be carried out.

**FTM transsexual persons**

A standard monitoring plan for individuals on testosterone therapy is found in Table 15. Key issues include maintaining testosterone levels in the physiological normal male range and avoidance of adverse events resulting from chronic testosterone therapy, particularly erythrocytosis, liver dysfunction, hypertension, excessive weight gain, salt retention, lipid changes, excessive or cystic acne, and adverse psychological changes (85).

Because oral 17-alkylated testosterone is not recommended, serious hepatic toxicity is not anticipated with the use parenteral or transdermal testosterone (98, 99). Still, periodic monitoring is recommended given that up to 15% of FTM persons treated with testosterone have transient elevations in liver enzymes (93).

**MTF transsexual persons**

A standard monitoring plan for individuals on estrogens, gonadotropin suppression, or antiandrogens is found in Table 16. Key issues include avoiding supraphysiological doses or blood levels of estrogen, which may lead to increased risk for thromboembolic disease, liver dysfunction, and development of hypertension.

**4.2 Recommendation**

We suggest monitoring prolactin levels in MTF transsexual persons treated with estrogens. (2 ⊕⊕○○)

**4.2 Evidence**

Estrogen therapy can increase the growth of pituitary lactotroph cells. There have been several reports of prolactino-

mas occurring after long-term estrogen therapy (100–102). Up to 20% of transsexual women treated with estrogens may have elevations in prolactin levels associated with enlargement of the pituitary gland (103). In most cases, the serum prolactin levels will return to the normal range with a reduction or discontinuation of the estrogen therapy (104).

The onset and time course of hyperprolactinemia during estrogen treatment are not known. Prolactin levels should be obtained at baseline and then at least annually during the transition period and biannually thereafter. Given that prolactinomas have been reported only in a few case reports and were not reported in large cohorts of estrogen-treated transsexual persons, the risk of prolactinoma is likely to be very low. Because the major presenting findings of microprolactinomas (hypogonadism and sometimes gynecomastia) are not apparent in MTF transsexual persons, radiological examination of the pituitary may be carried out in those whose prolactin levels persistently increase despite stable or reduced estrogen levels.

Because transsexual persons are diagnosed and followed throughout sex reassignment by an MHP, it is likely that some will receive psychotropic medications that can increase prolactin levels.

**4.3 Recommendation**

We suggest that transsexual persons treated with hormones be evaluated for cardiovascular risk factors. (2 ⊕⊕○○)

**4.3 Evidence**

**FTM transsexual persons**

Testosterone administration to FTM transsexual persons will result in a more atherogenic lipid profile with lowered high-density lipoprotein cholesterol and higher triglyceride values (21, 105–107). Studies of the effect of testosterone on insulin sensitivity have mixed results (106, 108). A recent randomized, open-label uncontrolled safety study of FTM transsexual persons treated with testosterone undecanoate demonstrated no insulin resistance after 1 yr (109). Numerous studies have demonstrated

**TABLE 15.** Monitoring of MTF transsexual persons on cross-hormone therapy

1. Evaluate patient every 2–3 months in the first year and then 1–2 times per year afterward to monitor for appropriate signs of feminization and for development of adverse reactions.
2. Measure serum testosterone and estradiol every 3 months.
  - a. Serum testosterone levels should be <55 ng/dl.
  - b. Serum estradiol should not exceed the peak physiological range for young healthy females, with ideal levels <200 pg/ml.
  - c. Doses of estrogen should be adjusted according to the serum levels of estradiol.
3. For individuals on spironolactone, serum electrolytes (particularly potassium) should be monitored every 2–3 months initially in the first year.
4. Routine cancer screening is recommended in nontranssexual individuals (breasts, colon, prostate).
5. Consider BMD testing at baseline if risk factors for osteoporotic fracture are present (e.g. previous fracture, family history, glucocorticoid use, prolonged hypogonadism). In individuals at low risk, screening for osteoporosis should be conducted at age 60 and in those who are not compliant with hormone therapy.

**TABLE 16.** Monitoring of FTM transsexual persons on cross-hormone therapy

1. Evaluate patient every 2–3 months in the first year and then 1–2 times per year to monitor for appropriate signs of virilization and for development of adverse reactions.
2. Measure serum testosterone every 2–3 months until levels are in the normal physiological male range:<sup>a</sup>
  - a. For testosterone enanthate/cypionate injections, the testosterone level should be measured midway between injections. If the level is >700 ng/dl or <350 ng/dl, adjust dose accordingly.
  - b. For parenteral testosterone undecanoate, testosterone should be measured just before the next injection.
  - c. For transdermal testosterone, the testosterone level can be measured at any time after 1 wk.
  - d. For oral testosterone undecanoate, the testosterone level should be measured 3–5 h after ingestion.
  - e. Note: During the first 3–9 months of testosterone treatment, total testosterone levels may be high, although free testosterone levels are normal, due to high SHBG levels in some biological women.
3. Measure estradiol levels during the first 6 months of testosterone treatment or until there has been no uterine bleeding for 6 months. Estradiol levels should be <50 pg/ml.
4. Measure complete blood count and liver function tests at baseline and every 3 months for the first year and then 1–2 times a year. Monitor weight, blood pressure, lipids, fasting blood sugar (if family history of diabetes), and hemoglobin A1c (if diabetic) at regular visits.
5. Consider BMD testing at baseline if risk factors for osteoporotic fracture are present (e.g. previous fracture, family history, glucocorticoid use, prolonged hypogonadism). In individuals at low risk, screening for osteoporosis should be conducted at age 60 and in those who are not compliant with hormone therapy.
6. If cervical tissue is present, an annual pap smear is recommended by the American College of Obstetricians and Gynecologists.
7. If mastectomy is not performed, then consider mammograms as recommended by the American Cancer Society.

<sup>a</sup> Adapted from Refs. 83 and 85.

effects of cross-sex hormone treatment on the cardiovascular system (107, 110–112). Long-term studies from The Netherlands found no increased risk for cardiovascular mortality (93). Likewise, a meta-analysis of 19 randomized trials examining testosterone replacement in men showed no increased incidence of cardiovascular events (113). A systematic review of the literature found that data were insufficient, due to very low quality evidence, to allow meaningful assessment of important patient outcomes such as death, stroke, myocardial infarction, or venous thromboembolism in FTM transsexual persons (21). Future research is needed to ascertain harms of hormonal therapies (21). Cardiovascular risk factors should be managed as they emerge according to established guidelines (114).

#### **MTF transsexual persons**

A prospective study of MTF subjects found favorable changes in lipid parameters with increased high-density lipoprotein and decreased low-density lipoprotein concentrations (106). However, these favorable lipid changes were attenuated by increased weight, blood pressure, and markers of insulin resistance. The largest cohort of MTF subjects (with a mean age of 41 yr) followed for a mean of 10 yr showed no increase in cardiovascular mortality despite a 32% rate of tobacco use (93). Thus, there is limited evidence to determine whether estrogen is protective or detrimental in MTF transsexual persons (21). With aging there is usually an increase of body weight, and therefore, as with nontranssexual individuals, glucose and lipid metabolism and blood pressure should be monitored regularly and managed according to established guidelines (114).

#### **4.4 Recommendation**

We suggest that BMD measurements be obtained if risk factors for osteoporosis exist, specifically in those who stop sex hormone therapy after gonadectomy. (2 ⊕⊕⊕○)

#### **4.4 Evidence**

##### **FTM transsexual persons**

Adequate dosing of testosterone is important to maintain bone mass in FTM transsexual persons (115, 116). In one study (116), serum LH levels were inversely related to BMD, suggesting that low levels of sex hormones were associated with bone loss. Thus, LH levels may serve as an indicator of the adequacy of sex steroid administration to preserve bone mass. The protective effect of testosterone may be mediated by peripheral conversion to estradiol both systemically and locally in the bone.

##### **MTF transsexual persons**

Studies in aging genetic males suggest that serum estradiol more positively correlates with BMD than does testosterone (117–119) and is more important for peak bone mass (120). Estrogen preserves BMD in MTF transsexuals who continue on estrogen and antiandrogen therapies (116, 121, 122).

Fracture data in transsexual men and women are not available. Transsexual persons who have undergone gonadectomy may not continue consistent cross-sex steroid treatment after hormonal and surgical sex reassignment, thereby becoming at risk for bone loss.

#### **4.5–4.6 Recommendations**

4.5 We suggest that MTF transsexual persons who have no known increased risk of breast cancer follow breast

screening guidelines recommended for biological women. (2 ⊕⊕○○)

4.6 We suggest that MTF transsexual persons treated with estrogens follow screening guidelines for prostatic disease and prostate cancer recommended for biological men. (2 ⊕○○○)

#### 4.5–4.6 Evidence

Breast cancer is a concern in transsexual women. A few cases of breast cancer in MTF transsexual persons have been reported in the literature (123–125). In the Dutch cohort of 1800 transsexual women followed for a mean of 15 yr (range, 1 to 30 yr), only one case of breast cancer was found. The Women's Health Initiative study reported that women taking conjugated equine estrogen without progesterone for 7 yr did not have an increased risk of breast cancer as compared with women taking placebo (126). Women with primary hypogonadism (XO) treated with estrogen replacement exhibited a significantly decreased incidence of breast cancer as compared with national standardized incidence ratios (127, 128). These studies suggest that estrogen therapy does not increase the risk of breast cancer in the short-term (<20–30 yr). Long-term studies are required to determine the actual risk and the role of screening mammograms. Regular exams and gynecological advice should determine monitoring for breast cancer.

Prostate cancer is very rare, especially with androgen deprivation therapy, before the age of 40 (129). Childhood or pubertal castration results in regression of the prostate, and adult castration reverses benign prostate hypertrophy (130). Although van Kesteren (131) reported that estrogen therapy does not induce hypertrophy or pre-malignant changes in the prostate of MTF transsexual persons, cases of benign prostate hypertrophy have been reported in MTF transsexual persons treated with estrogens for 20–25 yr (132, 133). Three cases of prostate carcinoma have been reported in MTF transsexual persons (134–136). However, these individuals initiated cross-hormone therapy after age 50, and whether these cancers were present before the initiation of therapy is unknown.

MTF transsexual persons may feel uncomfortable scheduling regular prostate examinations. Gynecologists are not trained to screen for prostate cancer or to monitor prostate growth. Thus, it may be reasonable for MTF transsexual persons who transitioned after age 20 to have annual screening digital rectal exams after age 50 and PSA tests consistent with the U.S. Preventive Services Task Force Guidelines (137).

#### 4.7 Recommendation

We suggest that FTM transsexual persons evaluate the risks and benefits of including a total hysterectomy

and oophorectomy as part of sex reassignment surgery. (2 ⊕○○○)

#### 4.7 Evidence

Although aromatization of testosterone to estradiol in FTM transsexual persons has been suggested as a risk factor for endometrial cancer (138), no cases have been reported. When FTM transsexual persons undergo hysterectomy, the uterus is small and there is endometrial atrophy (139, 140). The androgen receptor has been reported to increase in the ovaries after long-term administration of testosterone, which may be an indication of increased risk of ovarian cancer (141). Cases of ovarian cancer have been reported (142, 143). The relative safety of laparoscopic total hysterectomy argues for preventing the risks of reproductive tract cancers and other diseases through surgery (144).

#### 4.7 Values and Preferences

Given the discomfort that FTM transsexual persons experience accessing gynecological care, our recommendation for total hysterectomy and oophorectomy places a high value on eliminating the risks of female reproductive tract disease and cancer and a lower value on avoiding the risks of these surgical procedures (related to the surgery and to the potential undesirable health consequences of oophorectomy) and their associated costs.

#### 4.7 Remarks

The sexual orientation and type of sexual practices will determine the need and types of gynecological care required after transition. In addition, approval of birth certificate change of sex for FTM transsexual persons may be dependent upon having a complete hysterectomy; each patient should be assisted in researching and counseled concerning such nonmedical administrative criteria.

#### 5.0 Surgery for sex reassignment

For many transsexual adults, genital sex reassignment surgery may be the necessary step toward achieving their ultimate goal of living successfully in their desired gender role. Although surgery on several different body structures is considered during sex reassignment, the most important issue is the genital surgery and removal of the gonads. The surgical techniques have improved markedly during the past 10 yr. Cosmetic genital surgery with preservation of neurological sensation is now the standard. The satisfaction rate with surgical reassignment of sex is now very high (22). In addition, the mental health of the individual seems to be improved by participating in a treatment program that defines a pathway of gender identity treatment that

**TABLE 17.** Sex reassignment surgery eligibility and readiness criteria

---

Individuals treated with cross-sex hormones are considered eligible for sex reassignment surgery if they:

1. Are of the legal age of majority in their nation.
2. Have used cross-sex hormones continuously and responsibly during 12 months (if they have no medical contraindication).
3. Had a successful continuous full-time RLE during 12 months.
4. Have (if required by the MHP) regularly participated in psychotherapy throughout the RLE at a frequency determined jointly by the patient and the MHP.
5. Have shown demonstrable knowledge of all practical aspects of surgery (e.g. cost, required lengths of hospitalizations, likely complications, postsurgical rehabilitation, etc.).

Individuals treated with cross-sex hormones should fulfill the following readiness criteria prior to sex reassignment surgery:

1. Demonstrable progress in consolidating one's gender identity.
2. Demonstrable progress in dealing with work, family, and interpersonal issues, resulting in a significantly better state of mental health.

---

includes hormones and surgery (24). The person must be both eligible and ready for such a procedure (Table 17).

Sex reassignment surgeries available to the MTF transsexual persons consist of gonadectomy, penectomy, and creation of a vagina (145, 146). The skin of the penis is often inverted to form the wall of the vagina. The scrotum becomes the labia majora. Cosmetic surgery is used to fashion the clitoris and its hood, preserving the neurovascular bundle at the tip of the penis as the neurosensory supply to the clitoris. Most recently, plastic surgeons have developed techniques to fashion labia minora. Endocrinologists should encourage the transsexual person to use their tampon dilators to maintain the depth and width of the vagina throughout the postoperative period until the neovagina is being used frequently in intercourse. Genital sexual responsiveness and other aspects of sexual function should be preserved after genital sex reassignment surgery (147).

Ancillary surgeries for more feminine or masculine appearance are not within the scope of this guideline. When possible, less surgery is desirable. For instance, voice therapy by a speech language pathologist is preferred to current surgical methods designed to change the pitch of the voice (148).

Breast size in genetic females exhibits a very broad spectrum. For the transsexual person to make the best-informed decision, breast augmentation surgery should be delayed until at least 2 yr of estrogen therapy has been completed, given that the breasts continue to grow during that time with estrogen stimulation (90, 97).

Another major effort is the removal of facial and masculine-appearing body hair using either electrolysis or laser treatments. Other feminizing surgery, such as that to feminize the face, is now becoming more popular (149–151).

Sex reassignment surgeries available to the FTM transsexual persons have been less satisfactory. The cosmetic appearance of a neopenis is now very good, but the surgery is multistage and very expensive (152, 153). Neopenile erection can be achieved only if some mechanical device is imbedded in the penis, e.g. a rod or some inflatable apparatus (154). Many choose a metoidioplasty that exteriorizes or brings forward the clitoris and allows for voiding while standing. The scrotum is created from the labia majora with a good cosmetic effect, and testicular prostheses can be implanted. These procedures, as well as oophorectomy, vaginectomy, and complete hysterectomy, are undertaken after a few years of androgen therapy and can be safely performed vaginally with laparoscopy.

The ancillary surgery for the FTM transition that is extremely important is the mastectomy. Breast size only partially regresses with androgen therapy. In adults, discussion about mastectomy usually takes place after androgen therapy is begun. Because some FTM transsexual adolescents present after significant breast development has occurred, mastectomy may be considered before age 18.

### 5.1–5.3 Recommendations

5.1 We recommend that transsexual persons consider genital sex reassignment surgery only after both the physician responsible for endocrine transition therapy and the MHP find surgery advisable. (1 ⊕○○○)

5.2 We recommend that genital sex reassignment surgery be recommended only after completion of at least 1 yr of consistent and compliant hormone treatment. (1 ⊕○○○)

5.3 We recommend that the physician responsible for endocrine treatment medically clear transsexual individuals for sex reassignment surgery and collaborate with the surgeon regarding hormone use during and after surgery. (1 ⊕○○○)

### 5.1–5.3 Evidence

When a transsexual individual decides to have sex reassignment surgery, both the endocrinologist and the MHP must certify that he or she satisfies the eligibility and readiness criteria of the SOC (28) (Table 17).

There is some concern that estrogen therapy may cause an increased risk for venous thrombosis during or after surgery (21). For this reason, the surgeon and the endocrinologist should collaborate in making a decision about the use of hormones during the month before surgery.

Although one study suggests that preoperative factors such as compliance are less important for patient satisfaction than are the physical postoperative results (39), other studies and clinical experience dictate that individuals who do not follow medical instructions and work with their physicians toward a common goal do not achieve treatment goals (155) and experience higher rates of postoperative infections and other complications (156, 157). It is also important that the person requesting surgery feel comfortable with the anatomical changes that have occurred during hormone therapy. Dissatisfaction with social and physical outcomes during the hormone transition may be a contraindication to surgery (78).

Transsexual individuals should be monitored by an endocrinologist after surgery. Those who undergo gonadectomy will require hormone replacement therapy or surveillance or both to prevent adverse effects of chronic hormone deficiency.

## Acknowledgments

Address all correspondences and requests for reprints to: The Endocrine Society, 8401 Connecticut Avenue, Suite 900, Chevy Chase, Maryland. E-mail: govprof@endo.society.org. Telephone: 301-941-0200.

Address all reprint requests for orders of 101 and more to: Reprint Sales Specialist, Cadmus Professional Communications, Telephone: 410-691-6214, Fax: 410-684-2789 or by E-mail: reprints2@cadmus.com.

Address all reprint requests for orders of 100 or less to Society Services, Telephone: 301-941-0210 or by E-mail: societyservices@endo-society.org.

Co-sponsoring Associations: European Society of Endocrinology (ESE), European Society of Pediatric Endocrinology (ESPE), Lawson Wilkins Pediatric Endocrine Society (LWPES), and World Professional Association for Transgender Health (WPATH).

Financial Disclosures of Task Force members: Wylie C. Hembree, M.D. (chair)—Financial or Business/Organizational Interests: Columbia University, New York Presbyterian Hospital; Significant Financial Interest or Leadership Position: Sperm Bank of New York. Peggy Cohen-Kettenis, Ph.D.—Financial or Business/Organizational Interests: none declared; Significant Financial Interest or Leadership Position: WPATH. Henriette A. Delemarre-van de Waal, M.D., Ph.D.—Financial or Business/Organizational Interests: none declared; Significant Financial Interest or Leadership Position: none declared. Louis J. Gooren, M.D., Ph.D.—Financial or Business/Organizational Interests: none declared; Significant Financial Interest or Leadership Position: none declared. Walter J. Meyer III, M.D.—Financial or Business/Organizational Interests: WPATH; Significant Financial Interest or Leadership Position: University of Texas Medical Branch, WPATH. Norman P. Spack, M.D.—Financial or Business/Organizational Interests: LWPES, American Diabetes Association; Significant Financial Interest or Leadership Position: none declared. Vin Tangpricha, M.D., Ph.D.—Financial or Business/Organizational Interests: Auxilium, Novartis, National In-

stitutes of Health; Significant Financial Interest or Leadership Position: none declared.\* Victor M. Montori, M.D.—Financial or Business/Organizational Interests: KER Unit (Mayo Clinic); Significant Financial Interest or Leadership Position: none declared.

\*Evidence-based reviews for this guideline were prepared under contract with The Endocrine Society.

## References

1. Bullough VL 1975 Transsexualism in history. *Arch Sex Behav* 4:561–571
2. Meyerowitz J 2002 How sex changed: a history of transsexuality in the United States. Cambridge, MA: Harvard University Press
3. American Psychiatric Association 2000 Diagnostic and Statistical Manual of Mental Disorders, 4th ed. Text Revision (DSM-IV-TR). Washington, DC: American Psychiatric Publishing, Inc.
4. Ruble DN, Martin CL, Berenbaum SA 2006 Gender development. In: Damon W, Lerner RM, Eisenberg N, eds. Handbook of child psychology, 6th ed. Vol. 3. New York: John Wiley & Sons; 858–932
5. Zucker KJ 2004 Gender identity development and issues. *Child Adolesc Psychiatr Clin N Am* 13:551–568, vii
6. Coolidge FL, Thede LL, Young SE 2002 The heritability of gender identity disorder in a child and adolescent twin sample. *Behav Genet* 32:251–257
7. Knafo A, Iervolino AC, Plomin R 2005 Masculine girls and feminine boys: genetic and environmental contributions to atypical gender development in early childhood. *J Pers Soc Psychol* 88:400–412
8. Gooren L 2006 The biology of human psychosexual differentiation. *Horm Behav* 50:589–601
9. Meyer-Bahlburg HF 2005 Gender identity outcome in female-raised 46,XY persons with penile agenesis, cloacal exstrophy of the bladder, or penile ablation. *Arch Sex Behav* 34:423–438
10. Reiner WG 2005 Gender identity and sex-of-rearing in children with disorders of sexual differentiation. *J Pediatr Endocrinol Metab* 18:549–553
11. Dessens AB, Slijper FM, Drop SL 2005 Gender dysphoria and gender change in chromosomal females with congenital adrenal hyperplasia. *Arch Sex Behav* 34:389–397
12. Meyer-Bahlburg HF, Dolezal C, Baker SW, Carlson AD, Obeid JS, New MI 2004 Prenatal androgenization affects gender-related behavior but not gender identity in 5–12-year-old girls with congenital adrenal hyperplasia. *Arch Sex Behav* 33:97–104
13. Meyer-Bahlburg HF, Dolezal C, Baker SW, Ehrhardt AA, New MI 2006 Gender development in women with congenital adrenal hyperplasia as a function of disorder severity. *Arch Sex Behav* 35: 667–684
14. Bocklandt S, Vilain E 2007 Sex differences in brain and behavior: hormones versus genes. *Adv Genet* 59:245–266
15. Blanchard R 1997 Birth order and sibling sex ratio in homosexual versus heterosexual males and females. *Annu Rev Sex Res* 8:27–67
16. Blanchard R 2001 Fraternal birth order and the maternal immune hypothesis of male homosexuality. *Horm Behav* 40:105–114
17. Whitehead NE 2007 An antibody to antibody? Re-examination of the maternal immune hypothesis. *J Biosoc Sci* 39:905–921
18. Gooren L 1990 The endocrinology of transsexualism: a review and commentary. *Psychoneuroendocrinology* 15:3–14
19. Atkins D, Best D, Briss PA, Eccles M, Falck-Ytter Y, Flottorp S, Guyatt GH, Harbour RT, Haugh MC, Henry D, Hill S, Jaeschke R, Leng G, Liberati A, Magrini N, Mason J, Middleton P, Mrukowicz J, O'Connell D, Oxman AD, Phillips B, Schünemann HJ, Edejer TT, Varonen H, Vist GE, Williams Jr JW, Zaza S 2004 Grading quality of evidence and strength of recommendations. *BMJ* 328:1490

20. Swiglo BA, Murad MH, Schünemann HJ, Kunz R, Vigersky RA, Guyatt GH, Montori VM 2008 A case for clarity, consistency, and helpfulness: state-of-the-art clinical practice guidelines in endocrinology using the grading of recommendations, assessment, development, and evaluation system. *J Clin Endocrinol Metab* 93:666–673
21. Elamin MB, Garcia MZ, Murad MH, Erwin PJ, Montori VM 16 May 2009 Effect of sex steroid use on cardiovascular risk in transsexual individuals: a systematic review and meta-analysis. *Clin Endocrinol (Oxf)* 10.1111/j.1365–2265.2009.03632.x
22. Murad MH, Elamin MB, Garcia MZ, Mullan RJ, Murad A, Erwin PJ, Montori VM 16 May 2009 Hormonal therapy and sex reassignment: a systematic review and meta-analysis of quality of life and psychosocial outcomes. *Clin Endocrinol (Oxf)* 10.1111/j.1365–2265.2009.03625.x
23. Cohen-Kettenis PT, Owen A, Kaijser VG, Bradley SJ, Zucker KJ 2003 Demographic characteristics, social competence, and behavior problems in children with gender identity disorder: a cross-national, cross-clinic comparative analysis. *J Abnorm Child Psychol* 31:41–53
24. Cole CM, O’Boyle M, Emory LE, Meyer 3rd WJ 1997 Comorbidity of gender dysphoria and other major psychiatric diagnoses. *Arch Sex Behav* 26:13–26
25. Hepp U, Kraemer B, Schnyder U, Miller N, Delsignore A 2005 Psychiatric comorbidity in gender identity disorder. *J Psychosom Res* 58:259–261
26. Kersting A, Reutemann M, Gast U, Ohrmann P, Suslow T, Michael N, Arolt V 2003 Dissociative disorders and traumatic childhood experiences in transsexuals. *J Nerv Ment Dis* 191:182–189
27. Wallien MS, Swaab H, Cohen-Kettenis PT 2007 Psychiatric comorbidity among children with gender identity disorder. *J Am Acad Child Adolesc Psychiatry* 46:1307–1314
28. Meyer 3rd WJ, Bockting W, Cohen-Kettenis P, Coleman E, DiCeglie D, Devor H, Gooren L, Hage JJ, Kirk S, Kuiper B, Laub D, Lawrence A, Menard Y, Monstrey S, Patton J, Schaefer L, Webb A, Wheeler CC 2001 Harry Benjamin International Gender Dysphoria Association’s The Standards of Care for Gender Identity Disorders, 6th version. *Int J Transgenderism*, vol. 5, no. 1. Available at: [http://www.symposion.com/ijt/soc\\_2001/index.htm](http://www.symposion.com/ijt/soc_2001/index.htm)
29. 1992 The ICD-10 classification of mental and behavioural disorders: clinical descriptions and diagnostic guidelines. Geneva: World Health Organization
30. Kuiper AJ, Cohen-Kettenis PT 1998 Gender role reversal among postoperative transsexuals. *Int J Transgenderism*, vol. 2, no. 3. Available at: <http://www.symposion.com/ijt/ijtc0502.htm>
31. Landén M, Wälinder J, Hambert G, Lundström B 1998 Factors predictive of regret in sex reassignment. *Acta Psychiatr Scand* 97:284–289
32. Olsson SE, Möller A 2006 Regret after sex reassignment surgery in a male-to-female transsexual: a long-term follow-up. *Arch Sex Behav* 35:501–506
33. Pfäfflin F, Junge A 1992 *Geschlechtsumwandlung: Abhandlungen zur Transsexualität [Sex change: treatises on transsexualism]*. Stuttgart, Germany: Schattauer
34. Cohen-Kettenis PT, Pfäfflin F 2003 *Transgenderism and intersexuality in childhood and adolescence: making choices*. Thousand Oaks, CA: Sage Publications
35. Di Ceglie D, Freedman D, McPherson S, Richardson P 2002 Children and adolescents referred to a specialist gender identity development service: clinical features and demographic characteristics. *Int J Transgenderism*, vol. 6, no. 1. Available at: [http://www.symposion.com/ijt/ijtvo06no01\\_01.htm](http://www.symposion.com/ijt/ijtvo06no01_01.htm)
36. Cohen-Kettenis PT, van Goozen SH 1997 Sex reassignment of adolescent transsexuals: a follow-up study. *J Am Acad Child Adolesc Psychiatry* 36:263–271
37. Smith YL, van Goozen SH, Cohen-Kettenis PT 2001 Adolescents with gender identity disorder who were accepted or rejected for sex reassignment surgery: a prospective follow-up study. *J Am Acad Child Adolesc Psychiatry* 40:472–481
38. Smith YL, Van Goozen SH, Kuiper AJ, Cohen-Kettenis PT 2005 Sex reassignment: outcomes and predictors of treatment for adolescent and adult transsexuals. *Psychol Med* 35:89–99
39. Lawrence AA 2003 Factors associated with satisfaction or regret following male-to-female sex reassignment surgery. *Arch Sex Behav* 32:299–315
40. Seikowski K 2007 Psychotherapy and transsexualism. *Andrologia* 39:248–252
41. Coleman E, Cesnik J 1990 Skoptic syndrome: the treatment of an obsessional gender dysphoria with lithium carbonate and psychotherapy. *Am J Psychother* 44:204–217
42. Cohen-Kettenis PT 2001 Gender identity disorder in DSM? *J Am Acad Child Adolesc Psychiatry* 40:391
43. Drummond KD, Bradley SJ, Peterson-Badali M, Zucker KJ 2008 A follow-up study of girls with gender identity disorder. *Dev Psychol* 44:34–45
44. Wallien MS, Cohen-Kettenis PT 2008 Psychosexual outcome of gender-dysphoric children. *J Am Acad Child Adolesc Psychiatry* 47:1413–1423
45. Zucker KJ, Bradley SJ 1995 *Gender identity disorder and psychosexual problems in children and adolescents*. New York: Guilford Press
46. Büchter D, Behre HM, Kliesch S, Nieschlag E 1998 Pulsatile GnRH or human chorionic gonadotropin/human menopausal gonadotropin as effective treatment for men with hypogonadotropic hypogonadism: a review of 42 cases. *Eur J Endocrinol* 139:298–303
47. Liu PY, Turner L, Rushford D, McDonald J, Baker HW, Conway AJ, Handelsman DJ 1999 Efficacy and safety of recombinant human follicle stimulating hormone (Gonal-F) with urinary human chorionic gonadotrophin for induction of spermatogenesis and fertility in gonadotrophin-deficient men. *Hum Reprod* 14:1540–1545
48. De Sutter P 2001 Gender reassignment and assisted reproduction: present and future reproductive options for transsexual people. *Hum Reprod* 16:612–614
49. De Sutter P 2007 Reproduction and fertility issues for transpeople. In: Ettner R, Monstrey S, Eyler AE, eds. *Principles of transgender medicine and surgery*. New York: Haworth Press; 209–221
50. Seli E, Tangir J 2005 Fertility preservation options for female patients with malignancies. *Curr Opin Obstet Gynecol* 17:299–308
51. Lübbert H, Leo-Rossberg I, Hammerstein J 1992 Effects of ethinyl estradiol on semen quality and various hormonal parameters in a eugonadal male. *Fertil Steril* 58:603–608
52. Schulze C 1988 Response of the human testis to long-term estrogen treatment: morphology of Sertoli cells, Leydig cells and spermatogonial stem cells. *Cell Tissue Res* 251:31–43
53. Thiagaraj D, Gunasegaram R, Loganath A, Peh KL, Kottegoda SR, Ratnam SS 1987 Histopathology of the testes from male transsexuals on oestrogen therapy. *Ann Acad Med Singapore* 16:347–348
54. Baba T, Endo T, Honnma H, Kitajima Y, Hayashi T, Ikeda H, Masumori N, Kamiya H, Moriwake O, Saito T 2007 Association between polycystic ovary syndrome and female-to-male transsexuality. *Hum Reprod* 22:1011–1016
55. Spinder T, Spijkstra JJ, van den Tweel JG, Burger CW, van Kessel H, Hompes PG, Gooren LJ 1989 The effects of long-term testosterone administration on pulsatile luteinizing hormone secretion and on ovarian histology in eugonadal female to male transsexual subjects. *J Clin Endocrinol Metab* 69:151–157
56. Trebay G 2008 He’s pregnant, you’re speechless. *New York Times*, June 28, 2008; 18
57. De Sutter P 2003 Donor inseminations in partners of female-to-male transsexuals: should the question be asked? *Reprod Biomed Online* 6:382; author reply 282–283
58. Boyar RM, Wu RH, Roffwarg H, Kapen S, Weitzman ED, Hellman L, Finkelstein JW 1976 Human puberty: 24-hour estradiol in pubertal girls. *J Clin Endocrinol Metab* 43:1418–1421

59. Wennink JM, Delemarre-van de Waal HA, Schoemaker R, Schoemaker H, Schoemaker J 1989 Luteinizing hormone and follicle stimulating hormone secretion patterns in boys throughout puberty measured using highly sensitive immunoradiometric assays. *Clin Endocrinol (Oxf)* 31:551–564
60. Cohen-Kettenis PT, Delemarre-van de Waal HA, Gooren LJ 2008 The treatment of adolescent transsexuals: changing insights. *J Sex Med* 5:1892–1897
61. Delemarre-Van de Waal HA, Cohen-Kettenis PT 2006 Clinical management of gender identity disorder in adolescents: a protocol on psychological and paediatric endocrinology aspects. *Eur J Endocrinol* 155(Suppl 1):S131–S137
62. Tanner JM 1962 *Growth at adolescence*. 2nd ed. Oxford, UK: Blackwell Scientific Publications
63. Wennink JM, Delemarre-van de Waal HA, Schoemaker R, Schoemaker H, Schoemaker J 1990 Luteinizing hormone and follicle stimulating hormone secretion patterns in girls throughout puberty measured using highly sensitive immunoradiometric assays. *Clin Endocrinol (Oxf)* 33:333–344
64. Roth C 2002 Therapeutic potential of GnRH antagonists in the treatment of precocious puberty. *Expert Opin Investig Drugs* 11:1253–1259
65. Tuvemo T 2006 Treatment of central precocious puberty. *Expert Opin Investig Drugs* 15:495–505
66. Manasco PK, Pescovitz OH, Feuillan PP, Hench KD, Barnes KM, Jones J, Hill SC, Loriaux DL, Cutler Jr GB 1988 Resumption of puberty after long term luteinizing hormone-releasing hormone agonist treatment of central precocious puberty. *J Clin Endocrinol Metab* 67:368–372
67. Mittan D, Lee S, Miller E, Perez RC, Basler JW, Bruder JM 2002 Bone loss following hypogonadism in men with prostate cancer treated with GnRH analogs. *J Clin Endocrinol Metab* 87:3656–3661
68. Neely EK, Bachrach LK, Hintz RL, Habiby RL, Slemenda CW, Feezle L, Pescovitz OH 1995 Bone mineral density during treatment of central precocious puberty. *J Pediatr* 127:819–822
69. Raudrant D, Rabe T 2003 Progestogens with antiandrogenic properties. *Drugs* 63:463–492
70. Jain J, Dutton C, Nicosia A, Wajszczuk C, Bode FR, Mishell Jr DR 2004 Pharmacokinetics, ovulation suppression and return to ovulation following a lower dose subcutaneous formulation of Depo-Provera. *Contraception* 70:11–18
71. Mieszczyk J, Eugster EA 2007 Treatment of precocious puberty in McCune-Albright syndrome. *Pediatr Endocrinol Rev* 4(Suppl 4):419–422
72. Richman RA, Underwood LE, French FS, Van Wyk JJ 1971 Adverse effects of large doses of medroxyprogesterone (MPA) in idiopathic isosexual precocity. *J Pediatr* 79:963–971
73. Albanese A, Kewley GD, Long A, Pearl KN, Robins DG, Stanhope R 1994 Oral treatment for constitutional delay of growth and puberty in boys: a randomised trial of an anabolic steroid or testosterone undecanoate. *Arch Dis Child* 71:315–317
74. Nilsson KO, Albertsson-Wikland K, Alm J, Aronson S, Gustafsson J, Hagenäs L, Häger A, Ivarsson SA, Karlberg J, Kriström B, Marcus C, Moell C, Ritzen M, Tuvemo T, Wattsgård C, Westgren U, Westphal O, Aman J 1996 Improved final height in girls with Turner's syndrome treated with growth hormone and oxandrolone. *J Clin Endocrinol Metab* 81:635–640
75. Schroor EJ, van Weissenbruch MM, Knibbe P, Delemarre-van de Waal HA 1995 The effect of prolonged administration of an anabolic steroid (oxandrolone) on growth in boys with constitutionally delayed growth and puberty. *Eur J Pediatr* 154:953–957
76. Ball GD, Huang TT, Gower BA, Cruz ML, Shaibi GQ, Weigensberg MJ, Goran MI 2006 Longitudinal changes in insulin sensitivity, insulin secretion, and  $\beta$ -cell function during puberty. *J Pediatr* 148:16–22
77. Reinehr T, Kiess W, Andler W 2005 Insulin sensitivity indices of glucose and free fatty acid metabolism in obese children and adolescents in relation to serum lipids. *Metabolism* 54:397–402
78. Monstrey S, De Cuypere G, Ettner R 2007 Surgery: general principles. In: Ettner SR, Monstrey S, Eyley AE, eds. *Principles of transgender medicine and surgery*. New York: Haworth Press; 89–104
79. Monstrey S, Hoebeke P, Dhont M, De Cuypere G, Rubens R, Moerman M, Hamdi M, Van Landuyt K, Blondeel P 2001 Surgical therapy in transsexual patients: a multi-disciplinary approach. *Acta Chir Belg* 101:200–209
80. Gooren L 2005 Hormone treatment of the adult transsexual patient. *Horm Res* 64(Suppl 2):31–36
81. Gooren LJ, Giltay EJ 2008 Review of studies of androgen treatment of female-to-male transsexuals: effects and risks of administration of androgens to females. *J Sex Med* 5:765–776
82. Levy A, Crown A, Reid R 2003 Endocrine intervention for transsexuals. *Clin Endocrinol (Oxf)* 59:409–418
83. Moore E, Wisniewski A, Dobs A 2003 Endocrine treatment of transsexual people: a review of treatment regimens, outcomes, and adverse effects. *J Clin Endocrinol Metab* 88:3467–3473
84. Tangpricha V, Ducharme SH, Barber TW, Chipkin SR 2003 Endocrinologic treatment of gender identity disorders. *Endocr Pract* 9:12–21
85. Bhasin S, Cunningham GR, Hayes FJ, Matsumoto AM, Snyder PJ, Swerdloff RS, Montori VM 2006 Testosterone therapy in adult men with androgen deficiency syndromes: an Endocrine Society Clinical Practice Guideline. *J Clin Endocrinol Metab* 91:1995–2010
86. Bolaña ER, Uruga MV, Haddad RM, Tracz MJ, Sideras K, Kennedy CC, Caples SM, Erwin PJ, Montori VM 2007 Testosterone use in men with sexual dysfunction: a systematic review and meta-analysis of randomized placebo-controlled trials. *Mayo Clin Proc* 82:20–28
87. Dickersin K, Munro MG, Clark M, Langenberg P, Scherer R, Frick K, Zhu Q, Hallock L, Nichols J, Yalcinkaya TM 2007 Hysterectomy compared with endometrial ablation for dysfunctional uterine bleeding: a randomized controlled trial. *Obstet Gynecol* 110:1279–1289
88. Prasad P, Powell MC 2008 Prospective observational study of Thermablate Endometrial Ablation System as an outpatient procedure. *J Minim Invasive Gynecol* 15:476–479
89. Gooren LJ, Giltay EJ, Bunck MC 2008 Long-term treatment of transsexuals with cross-sex hormones: extensive personal experience. *J Clin Endocrinol Metab* 93:19–25
90. Dittrich R, Binder H, Cupisti S, Hoffmann I, Beckmann MW, Mueller A 2005 Endocrine treatment of male-to-female transsexuals using gonadotropin-releasing hormone agonist. *Exp Clin Endocrinol Diabetes* 113:586–592
91. Levy J, Burshell A, Marbach M, Afflalo L, Glick SM 1980 Interaction of spironolactone with oestradiol receptors in cytosol. *J Endocrinol* 84:371–379
92. Toorians AW, Thomassen MC, Zweegman S, Magdeleyns EJ, Tans G, Gooren LJ, Rosing J 2003 Venous thrombosis and changes of hemostatic variables during cross-sex hormone treatment in transsexual people. *J Clin Endocrinol Metab* 88:5723–5729
93. van Kesteren PJ, Asscheman H, Megens JA, Gooren LJ 1997 Mortality and morbidity in transsexual subjects treated with cross-sex hormones. *Clin Endocrinol (Oxf)* 47:337–342
94. Ott J, Kaufmann U, Bentz EK, Huber JC, Tempfer CB 5 February 2009 Incidence of thrombophilia and venous thrombosis in transsexuals under cross-sex hormone therapy. *Fertil Steril* 10.1016/j.fertnstert.2008.12.017
95. Righini M, Perrier A, De Moerloose P, Bounameaux H 2008 D-Dimer for venous thromboembolism diagnosis: 20 years later. *J Thromb Haemost* 6:1059–1071
96. Lapauw B, Taes Y, Simoens S, Van Caenegem E, Weyers S, Goemaere S, Tuye K, Kaufman JM, T'Sjoen GG 2008 Body composition, volumetric and areal bone parameters in male-to-female transsexual persons. *Bone* 43:1016–1021

97. Meyer 3rd WJ, Webb A, Stuart CA, Finkelstein JW, Lawrence B, Walker PA 1986 Physical and hormonal evaluation of transsexual patients: a longitudinal study. *Arch Sex Behav* 15:121–138
98. Bird D, Vowles K, Anthony PP 1979 Spontaneous rupture of a liver cell adenoma after long term methyltestosterone: report of a case successfully treated by emergency right hepatic lobectomy. *Br J Surg* 66:212–213
99. Westaby D, Ogle SJ, Paradinas FJ, Randell JB, Murray-Lyon IM 1977 Liver damage from long-term methyltestosterone. *Lancet* 2:262–263
100. Gooren LJ, Assies J, Asscheman H, de Slegte R, van Kessel H 1988 Estrogen-induced prolactinoma in a man. *J Clin Endocrinol Metab* 66:444–446
101. Kovacs K, Stefaneanu L, Ezzat S, Smyth HS 1994 Prolactin-producing pituitary adenoma in a male-to-female transsexual patient with protracted estrogen administration: a morphologic study. *Arch Pathol Lab Med* 118:562–565
102. Serri O, Noiseux D, Robert F, Hardy J 1996 Lactotroph hyperplasia in an estrogen treated male-to-female transsexual patient. *J Clin Endocrinol Metab* 81:3177–3179
103. Asscheman H, Gooren LJ, Assies J, Smits JP, de Slegte R 1988 Prolactin levels and pituitary enlargement in hormone-treated male-to-female transsexuals. *Clin Endocrinol (Oxf)* 28:583–588
104. Gooren LJ, Harmsen-Louman W, van Kessel H 1985 Follow-up of prolactin levels in long-term oestrogen-treated male-to-female transsexuals with regard to prolactinoma induction. *Clin Endocrinol (Oxf)* 22:201–207
105. Berra M, Armillotta F, D'Emidio L, Costantino A, Martorana G, Pelusi G, Meriggiola MC 2006 Testosterone decreases adiponectin levels in female to male transsexuals. *Asian J Androl* 8:725–729
106. Elbers JM, Giltay EJ, Teerlink T, Scheffer PG, Asscheman H, Seidell JC, Gooren LJ 2003 Effects of sex steroids on components of the insulin resistance syndrome in transsexual subjects. *Clin Endocrinol (Oxf)* 58:562–571
107. Giltay EJ, Lambert J, Gooren LJ, Elbers JM, Steyn M, Stehouwer CD 1999 Sex steroids, insulin, and arterial stiffness in women and men. *Hypertension* 34:590–597
108. Polderman KH, Gooren LJ, Asscheman H, Bakker A, Heine RJ 1994 Induction of insulin resistance by androgens and estrogens. *J Clin Endocrinol Metab* 79:265–271
109. Meriggiola MC, Armillotta F, Costantino A, Altieri P, Saad F, Kalthorn T, Perrone AM, Ghi T, Pelusi C, Pelusi G 2008 Effects of testosterone undecanoate administered alone or in combination with letrozole or dutasteride in female to male transsexuals. *J Sex Med* 5:2442–2453
110. Giltay EJ, Hoogeveen EK, Elbers JM, Gooren LJ, Asscheman H, Stehouwer CD 1998 Effects of sex steroids on plasma total homocysteine levels: a study in transsexual males and females. *J Clin Endocrinol Metab* 83:550–553
111. Giltay EJ, Toorians AW, Sarabdjitsingh AR, de Vries NA, Gooren LJ 2004 Established risk factors for coronary heart disease are unrelated to androgen-induced baldness in female-to-male transsexuals. *J Endocrinol* 180:107–112
112. Giltay EJ, Verhoef P, Gooren LJ, Geleijnse JM, Schouten EG, Stehouwer CD 2003 Oral and transdermal estrogens both lower plasma total homocysteine in male-to-female transsexuals. *Atherosclerosis* 168:139–146
113. Calof OM, Singh AB, Lee ML, Kenny AM, Urban RJ, Tenover JL, Bhasin S 2005 Adverse events associated with testosterone replacement in middle-aged and older men: a meta-analysis of randomized, placebo-controlled trials. *J Gerontol A Biol Sci Med Sci* 60:1451–1457
114. NCEP 2002 Third Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III) final report. *Circulation* 106:3143–3421
115. Turner A, Chen TC, Barber TW, Malabanan AO, Holick MF, Tangpricha V 2004 Testosterone increases bone mineral density in female-to-male transsexuals: a case series of 15 subjects. *Clin Endocrinol (Oxf)* 61:560–566
116. van Kesteren P, Lips P, Gooren LJ, Asscheman H, Megens J 1998 Long-term follow-up of bone mineral density and bone metabolism in transsexuals treated with cross-sex hormones. *Clin Endocrinol (Oxf)* 48:347–354
117. Amin S, Zhang Y, Sawin CT, Evans SR, Hannan MT, Kiel DP, Wilson PW, Felson DT 2000 Association of hypogonadism and estradiol levels with bone mineral density in elderly men from the Framingham study. *Ann Intern Med* 133:951–963
118. Gennari L, Khosla S, Bilezikian JP 2008 Estrogen and fracture risk in men. *J Bone Miner Res* 23:1548–1551
119. Gennari L, Khosla S, Bilezikian JP 2008 Estrogen effects on bone in the male skeleton. In: Bilezikian JP, Martin TJ, Raisz LG, eds. *Principles of bone biology*. 3rd ed. San Diego: Academic Press; 1801–1818
120. Khosla S, Melton 3rd LJ, Atkinson EJ, O'Fallon WM, Klee GG, Riggs BL 1998 Relationship of serum sex steroid levels and bone turnover markers with bone mineral density in men and women: a key role for bioavailable estrogen. *J Clin Endocrinol Metab* 83:2266–2274
121. Mueller A, Dittrich R, Binder H, Kuehnel W, Maltaris T, Hoffmann I, Beckmann MW 2005 High dose estrogen treatment increases bone mineral density in male-to-female transsexuals receiving gonadotropin-releasing hormone agonist in the absence of testosterone. *Eur J Endocrinol* 153:107–113
122. Ruetsche AG, Kneubuehl R, Birkhaeuser MH, Lippuner K 2005 Cortical and trabecular bone mineral density in transsexuals after long-term cross-sex hormonal treatment: a cross-sectional study. *Osteoporos Int* 16:791–798
123. Ganly I, Taylor EW 1995 Breast cancer in a trans-sexual man receiving hormone replacement therapy. *Br J Surg* 82:341
124. Pritchard TJ, Pankowsky DA, Crowe JP, Abdul-Karim FW 1988 Breast cancer in a male-to-female transsexual. A case report. *JAMA* 259:2278–2280
125. Symmers WS 1968 Carcinoma of breast in trans-sexual individuals after surgical and hormonal interference with the primary and secondary sex characteristics. *Br Med J* 2:83–85
126. Anderson GL, Limacher M, Assaf AR, Bassford T, Beresford SA, Black H, Bonds D, Brunner R, Brzyski R, Caan B, Chlebowski R, Curb D, Gass M, Hays J, Heiss G, Hendrix S, Howard BV, Hsia J, Hubbell A, Jackson R, Johnson KC, Judd H, Kotchen JM, Kuller L, LaCroix AZ, Lane D, Langer RD, Lasser N, Lewis CE, Manson J, Margolis K, Ockene J, O'Sullivan MJ, Phillips L, Prentice RL, Ritenbaugh C, Robbins J, Rossouw JE, Sarto G, Stefanick ML, Van Horn L, Wactawski-Wende J, Wallace R, Wassertheil-Smolter S 2004 Effects of conjugated equine estrogen in postmenopausal women with hysterectomy: the Women's Health Initiative randomized controlled trial. *JAMA* 291:1701–1712
127. Bösze P, Tóth A, Török M 2006 Hormone replacement and the risk of breast cancer in Turner's syndrome. *N Engl J Med* 355:2599–2600
128. Schoemaker MJ, Swerdlow AJ, Higgins CD, Wright AF, Jacobs PA 2008 Cancer incidence in women with Turner syndrome in Great Britain: a national cohort study. *Lancet Oncol* 9:239–246
129. Smith RA, Cokkinides V, Eyre HJ 2006 American Cancer Society guidelines for the early detection of cancer, 2006. *CA Cancer J Clin* 56:11–25; quiz 49–50
130. Wilson JD, Roehrborn C 1999 Long-term consequences of castration in men: lessons from the Skoptzy and the eunuchs of the Chinese and Ottoman courts. *J Clin Endocrinol Metab* 84:4324–4331
131. van Kesteren P, Meinhardt W, van der Valk P, Geldof A, Megens J, Gooren L 1996 Effects of estrogens only on the prostates of aging men. *J Urol* 156:1349–1353
132. Brown JA, Wilson TM 1997 Benign prostatic hyperplasia requiring transurethral resection of the prostate in a 60-year-old male-to-female transsexual. *Br J Urol* 80:956–957
133. Casella R, Bubendorf L, Schaefer DJ, Bachmann A, Gasser TC,

- Sulser T 2005 Does the prostate really need androgens to grow? Transurethral resection of the prostate in a male-to-female transsexual 25 years after sex-changing operation. *Urol Int* 75:288–290
134. Dorff TB, Shazer RL, Nepomuceno EM, Tucker SJ 2007 Successful treatment of metastatic androgen-independent prostate carcinoma in a transsexual patient. *Clin Genitourin Cancer* 5:344–346
  135. Thurston AV 1994 Carcinoma of the prostate in a transsexual. *Br J Urol* 73:217
  136. van Haarst EP, Newling DW, Gooren LJ, Asscheman H, Prenger DM 1998 Metastatic prostatic carcinoma in a male-to-female transsexual. *Br J Urol* 81:776
  137. 2008 Screening for prostate cancer: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med* 149:185–191
  138. Futterweit W 1998 Endocrine therapy of transsexualism and potential complications of long-term treatment. *Arch Sex Behav* 27:209–226
  139. Miller N, Bédard YC, Cooter NB, Shaul DL 1986 Histological changes in the genital tract in transsexual women following androgen therapy. *Histopathology* 10:661–669
  140. O'Hanlan KA, Dibble SL, Young-Spint M 2007 Total laparoscopic hysterectomy for female-to-male transsexuals. *Obstet Gynecol* 110:1096–1101
  141. Chadha S, Pache TD, Huikeshoven JM, Brinkmann AO, van der Kwast TH 1994 Androgen receptor expression in human ovarian and uterine tissue of long-term androgen-treated transsexual women. *Hum Pathol* 25:1198–1204
  142. Dizon DS, Tejada-Berges T, Koelliker S, Steinhoff M, Granai CO 2006 Ovarian cancer associated with testosterone supplementation in a female-to-male transsexual patient. *Gynecol Obstet Invest* 62:226–228
  143. Hage JJ, Dekker JJ, Karim RB, Verheijen RH, Bloemena E 2000 Ovarian cancer in female-to-male transsexuals: report of two cases. *Gynecol Oncol* 76:413–415
  144. Mueller A, Gooren L 2008 Hormone-related tumors in transsexuals receiving treatment with cross-sex hormones. *Eur J Endocrinol* 159:197–202
  145. Selvaggi G, Ceulemans P, De Cuypere G, Van Landuyt K, Blondeel P, Hamdi M, Bowman C, Monstrey S 2005 Gender identity disorder: general overview and surgical treatment for vaginoplasty in male-to-female transsexuals. *Plast Reconstr Surg* 116:135e–145e
  146. Tugnet N, Goddard JC, Vickery RM, Khoosal D, Terry TR 2007 Current management of male-to-female gender identity disorder in the UK. *Postgrad Med J* 83:638–642
  147. Green R 1998 Sexual functioning in post-operative transsexuals: male-to-female and female-to-male. *Int J Impot Res* 10 Suppl 1:S22–S24
  148. McNeill EJ 2006 Management of the transgender voice. *J Laryngol Otol* 120:521–523
  149. Becking AG, Tuinzing DB, Hage JJ, Gooren LJ 2007 Transgender feminization of the facial skeleton. *Clin Plast Surg* 34:557–564
  150. Giraldo F, Esteva I, Bergero T, Cano G, González C, Salinas P, Rivada E, Lara JS, Soriguer F 2004 Corona glans clitoroplasty and urethropreputal vestibuloplasty in male-to-female transsexuals: the vulvar aesthetic refinement by the Andalusia Gender Team. *Plast Reconstr Surg* 114:1543–1550
  151. Goddard JC, Vickery RM, Terry TR 2007 Development of feminizing genitoplasty for gender dysphoria. *J Sex Med* 4:981–989
  152. Hage JJ, de Graaf FH, Bouman FG, Bloem JJ 1993 Sculpturing the glans in phalloplasty. *Plast Reconstr Surg* 92:157–161; discussion 162
  153. Monstrey S, De Cuypere G, Ettner R 2007 Surgery: female-to-male patient. In: Ettner SR, Monstrey S, Eyley AE, eds. *Principles of transgender medicine and surgery*. New York: The Haworth Press; 135–168
  154. Chen HC, Gedebou TM, Yazar S, Tang YB 2007 Prefabrication of the free fibula osteocutaneous flap to create a functional human penis using a controlled fistula method. *J Reconstr Microsurg* 23:151–154
  155. Liberopoulos EN, Florentin M, Mikhailidis DP, Elisaf MS 2008 Compliance with lipid-lowering therapy and its impact on cardiovascular morbidity and mortality. *Expert Opin Drug Saf* 7:717–725
  156. Davis PJ, Spady D, de Gara C, Forgie SE 2008 Practices and attitudes of surgeons toward the prevention of surgical site infections: a provincial survey in Alberta, Canada. *Infect Control Hosp Epidemiol* 29:1164–1166
  157. Forbes SS, Stephen WJ, Harper WL, Loeb M, Smith R, Christoffersen EP, McLean RF 2008 Implementation of evidence-based practices for surgical site infection prophylaxis: results of a pre- and postintervention study. *J Am Coll Surg* 207:336–341



# Harsh Realities

**The Experiences of Transgender  
Youth in Our Nation's Schools**



**A Report from the Gay, Lesbian and Straight Education Network**  
[www.glsen.org](http://www.glsen.org)





# Harsh Realities

**The Experiences of Transgender  
Youth in Our Nation's Schools**

by Emily A. Greytak, M.S.Ed.  
Joseph G. Kosciw, Ph.D.  
Elizabeth M. Diaz

**National Headquarters**

90 Broad Street, 2nd floor  
New York, NY 10004  
Ph: 212-727-0135 Fax: 212-727-0254

**DC Policy Office**

1012 14th Street, NW, Suite 1105  
Washington, DC 20005  
Ph: 202-347-7780 Fax: 202-347-7781

[glsen@glsen.org](mailto:glsen@glsen.org)

[www.glsen.org](http://www.glsen.org)

© 2009 Gay, Lesbian and Straight Education Network

ISBN 1-934092-06-4

When referencing this document, we recommend the following citation: Greytak, E. A., Kosciw, J. G., and Diaz, E. M. (2009). *Harsh Realities: The Experiences of Transgender Youth in Our Nation's Schools*. New York: GLSEN.

The **Gay, Lesbian and Straight Education Network** is the leading national education organization focused on ensuring safe schools for all lesbian, gay, bisexual and transgender students. Established nationally in 1995, GLSEN envisions a world in which every child learns to respect and accept all people, regardless of sexual orientation or gender identity/expression.

Cover photography: Kevin Dooley under Creative Commons license  
[www.flickr.com/photos/pagedooley/2418019609/](http://www.flickr.com/photos/pagedooley/2418019609/)

Inside photography: Ilene Perlman

Inside photographs are of past and present members of GLSEN's National Student Leadership Team. The Team is comprised of a diverse group students across the United States; students in the photographs may or may not identify as transgender.

Graphic design: Adam Fredericks

Electronic versions of this report and all other GLSEN research reports are available at [www.glsen.org/research](http://www.glsen.org/research).

# TABLE OF CONTENTS

PREFACE .....	v
ACKNOWLEDGEMENTS .....	vii
EXECUTIVE SUMMARY .....	ix
INTRODUCTION .....	1
METHODS.....	5
RESULTS .....	9
Biased Language in School.....	9
Overall Safety in School .....	14
Experiences of Harassment and Assault in School.....	18
Impact of Victimization on Educational Outcomes .....	25
Engagement with the School Community .....	29
In-School Resources and Supports .....	39
CONCLUSIONS AND RECOMMENDATIONS.....	43
Limitations .....	43
Discussion .....	43
Future Directions for Research .....	45
Recommendations for Policy and Practice .....	47

# LIST OF TABLES AND FIGURES

Table 1	Demographics of Transgender Survey Respondents.....	7
Table 2	School Characteristics of Transgender Survey Respondents.....	8
Table 3	Feeling Unsafe at School Based on Sexual Orientation, Gender Expression, and/or Gender.....	16
Table 4	Students' Reports Regarding School Policies for Reporting Harassment and Assault.....	42
Figure 1	Hearing Biased Remarks in School.....	12
Figure 2	Intervention When Biased Remarks Were Made in School.....	12
Figure 3	Feeling Unsafe at School by Gender Identity.....	15
Figure 4	Percentage of Transgender Students Who Felt Unsafe at School.....	15
Figure 5	Frequency of Missing School and Classes in Past Month Because of Feeling Unsafe or Uncomfortable.....	16
Figure 6	Missing School Because of Safety Concerns by Gender Identity.....	17
Figure 7	Frequency of Verbal Harassment in the Past School Year.....	19
Figure 8	Frequency of Physical Harassment in the Past School Year.....	20
Figure 9	Frequency of Physical Assault in the Past School Year.....	20
Figure 10	Experiences of Victimization by Gender Identity.....	21
Figure 11	Frequency of Other Types of Harassment in the Past School Year.....	23
Figure 12	Frequency of Reporting Incidents of Harassment and Assault.....	23
Figure 13	Effectiveness of Reporting Incidents of Victimization to a School Staff Person.....	23
Figure 14	Severity of Verbal Harassment and Absenteeism Due to Safety Reasons.....	26
Figure 15	Academic Achievement and Severity of Verbal Harassment.....	27
Figure 16	Severity of Verbal Harassment and Educational Aspirations.....	27
Figure 17	Sense of School Belonging by Gender Identity.....	29
Figure 18	Degree of Being Out to Other Students and School Staff.....	31
Figure 19	Outness to School Staff and Parents by Gender Identity.....	31
Figure 20	Experiences of Victimization Based on Gender Expression and Sexual Orientation and Degree of Outness to Students at School.....	32
Figure 21	Reporting of Harassment and Assault to School Staff and Degree of Outness at School.....	32
Figure 22	Sense of Belonging by Degree of Outness at School.....	32
Figure 23	Comfort Level Raising LGBT Issues in Class.....	34
Figure 24	Frequency of Students Raising LGBT Issues in Class.....	34
Figure 25	Comfort Talking with School Staff about LGBT Issues.....	35
Figure 26	Frequency of Students Speaking to School Staff about LGBT Issues.....	35
Figure 27	Sense of Belonging and Talking about LGBT Issues in School.....	36
Figure 28	Raising LGBT Issues in Class by Gender Identity.....	36
Figure 29	Talking to School Staff about LGBT Issues by Gender.....	37
Figure 30	LGBT-Related Resources in School.....	40
Figure 31	Frequency of Attending Gay-Straight Alliance (GSA) Meetings by Gender Identity.....	40
Figure 32	Number of School Staff Supportive of LGBT Students.....	42



## PREFACE

Societal norms of gender expression—masculinity or femininity—pervade American culture, on television, in advertising, at sporting events and in school hallways nationwide. Children hear words like “sissy” or “tomboy” or expressions like “you throw like a girl!” from their first days on the playground. Name-calling and bullying based on gender expression are among the first forms of harassment that young people learn and experience. And as transgender and gender non-conforming students enter middle and high school, they can face far harsher realities than name-calling, including harassment and physical violence. *Harsh Realities: The Experiences of Transgender Youth in Our Nation’s Schools* provides an in-depth account of the experiences of transgender students.

Over the past decade, GLSEN has documented the experiences of lesbian, gay, bisexual and transgender (LGBT) students with the biennial National School Climate Survey (NSCS). These reports repeatedly underscore the fact that LGBT students face high-levels of victimization based on both sexual orientation and gender expression, providing an overview of school climate for the LGBT student population in general. GLSEN’s Research Department has also undertaken in-depth examinations of the school experiences of specific segments of the LGBT student community. *Harsh Realities* is the newest addition to this important body of research, and is our first report focused on the school experiences of transgender students. This study illuminates the unique challenges faced by transgender students, who often challenge societal norms of gender and can face additional unique obstacles in school.

Transgender students face much higher levels of harassment and violence than LGB students. And these high levels of victimization result in these students missing more school, receiving lower grades and feeling isolated and not part of the school community. The report also reveals that many of these students lack the school supports and resources that have been shown to improve school climate for LGBT students. Most of these students, for example, do not have access to a Gay-Straight Alliance in school and most reported not having a school or district anti-bullying or anti-harassment policy that specifically includes protections based on sexual orientation and gender identity/ expression.

Amidst this dispiriting information, however, there are some encouraging findings. In the face of such hostile climates, transgender students can be resilient, as they more often talk to teachers about LGBT issues and raise these issues in their classes than their non-transgender LGB peers. Educators need to listen to and support these students when they speak up.

*Harsh Realities* truly demonstrates the urgent need for educators, policymakers and all who care about safe schools to address the disproportionate victimization of transgender students in school and to improve the knowledge and understanding of all members of the school community about issues related to gender and gender expression. This report also highlights the continued need for focused research so that all of us committed to creating safer schools for all students can more clearly understand the realities for specific student populations. Such understanding is critical as we work toward the development and implementation of effective policies, programs and resources.

A handwritten signature in black ink, appearing to read 'Eliza Byard'. The signature is fluid and cursive, with the first name 'Eliza' and the last name 'Byard' clearly distinguishable.

Eliza Byard, PhD  
Executive Director  
GLSEN



## **ACKNOWLEDGEMENTS**

Funding for the *2007 National School Climate Survey* was generously provided by IBM. The authors wish to thank the youth who participated in the survey and the LGBT youth services and programs that had their constituents participate in the survey, as well as those organizations that assisted with disseminating information about the survey. We would also like to thank Kate Jerman, former GLSEN Research Assistant, for her work on the literature review for this report. We are grateful to Sam Klugman and Anne Jonas from GLSEN's Research Department for their keen proofreading and editing.





## EXECUTIVE SUMMARY

GLSEN (the Gay, Lesbian and Straight Education Network) envisions a world where schools are safe places for all students, regardless of their sexual orientation, gender identity, or gender expression. Yet lesbian, gay, bisexual, and transgender (LGBT) youth may face particularly hostile school climates, as they often report experiencing harassment, discrimination, and other negative experiences in school. LGBT youth, regardless of their gender identity, often face victimization and stigmatization based on both sexual orientation and gender expression. However, our findings from the biennial National School Climate Surveys indicate that transgender youth are harassed and assaulted at higher levels than their non-transgender peers. In addition, transgender students may also face other unique challenges at school, such as difficulty accessing gender-segregated areas, including bathrooms and locker rooms. Thus, in order to ensure schools are safe environments for all students, it is important to understand the specific experiences of transgender youth in school.

Our *2007 National School Climate Survey* report provided information about transgender students' experiences of in-school victimization. The purpose of this report is to expand upon these findings by providing a broader picture of transgender students' school experiences nationwide, both in comparison to and independent of their non-transgender lesbian, gay, and bisexual (LGB) peers. In this report we examine transgender students' experiences with regard to indicators of negative school climate, such as biased language, experiences of harassment and assault, and the impact of victimization on educational outcomes. Lastly, we explore transgender

students' engagement in their school community and access to institutional resources.

## Methods

Data used in this report come from GLSEN's fifth National School Climate Survey, which was conducted during the 2006–2007 school year. Two methods were used in order to locate participants in an effort to obtain a representative sample of LGBT youth: outreach through community-based groups serving LGBT youth and outreach via the Internet, including targeted advertising on the social networking site MySpace.

When examining differences between transgender students and non-transgender students, we used the full sample of 6,209 LGBT students. However, by and large, this report examines the specific experiences of the 295 students in the survey who identified as transgender. These transgender students were between 13 and 20 years of age, and the majority of the sample was White (64%), and identified as gay or lesbian (54%).

## Key Findings

---

### *Biased Language*

---

Most transgender youth attended schools with hostile school climates. Similar to their non-transgender LGB peers, transgender students reported frequently hearing homophobic language and negative remarks about gender expression from other students. Although it was not frequent, some students reported hearing these types of remarks from school personnel.

- 90% of transgender students heard derogatory remarks, such as “dyke” or “faggot,” sometimes, often, or frequently in school.
- 90% of transgender students heard negative remarks about someone’s gender expression sometimes, often, or frequently in school. Remarks about students not acting “masculine” enough were more common than remarks about students not acting “feminine” enough (82% vs. 77% hearing remarks sometimes, often, or frequently).
- A third of transgender students heard school staff make homophobic (32%) remarks, sexist (39%) remarks, and negative comments about someone’s gender expression (39%) sometimes, often, or frequently in the past year.

Transgender students also reported little intervention on the part of school personnel when such language was used. Less than a fifth of transgender students said that school staff intervened most of the time or always when hearing homophobic remarks (16%) or negative remarks about someone’s gender expression (11%).

---

## ***School Safety and Experiences of Harassment and Assault***

---

Many transgender students were made to feel unsafe in school because of some personal characteristic, most notably their gender expression and sexual orientation. Two-thirds of transgender students felt unsafe in school because of their sexual orientation (69%) and how they expressed their gender (65%). Transgender students were more likely to feel unsafe in school because of a personal characteristic than were non-transgender students (82% of transgender students compared to 67% of female students, 68% of male students, and 73% of students with other gender identities).

Transgender students experienced high levels of in-school victimization. The majority of students had been verbally harassed in school in the past year because of their sexual orientation and gender expression, and many had also experienced physical violence.

- Almost all transgender students had been verbally harassed (e.g., called names or threatened) in the past year at school because of their sexual orientation (89%) and their gender expression (87%).
- Over half of all transgender students had been physically harassed (e.g., pushed or shoved) in school in the past year because of their sexual orientation (55%) and their gender expression (53%).
- Many transgender students had been physically assaulted (e.g., punched, kicked, or injured with a weapon) in school in the past year because of their sexual orientation (28%) and their gender expression (26%).
- Although LGBT students overall reported high levels of harassment and assault in school, transgender students experienced even higher levels than non-transgender students.

Similar to their non-transgender peers, most (54%) transgender students who were victimized in school did not report the events to school authorities. Unfortunately, among those who did report incidents to school personnel, few students (33%) believed that staff addressed the situation effectively.

---

## ***Impact of Victimization on Educational Outcomes***

---

A hostile school climate can have very negative repercussions on transgender students' ability to succeed in school – a high incidence of harassment was related to increased absenteeism, decreased educational aspirations, and lower academic performance. Transgender students fared worse on these educational outcomes than non-transgender lesbian, gay, and bisexual students, perhaps because of their increased levels of in-school victimization.

- Almost half of all transgender students reported skipping a class at least once in the past month (47%) and missing at least one day of school in the past month (46%) because they felt unsafe or uncomfortable.

- Transgender students experiencing high levels of harassment were more likely than other transgender students to miss school for safety reasons (verbal harassment based on sexual orientation: 64% vs. 25%; gender expression: 56% vs. 32%; gender: 68% vs. 38%).
- Transgender students were more likely to miss school due to safety concerns than non-transgender students (46% of transgender students compared to 34% of female students, 27% of male students, and 40% of students with other gender identities).
- Transgender students who experienced high levels of harassment had significantly lower grade point averages than those who experienced lower levels of harassment (verbal harassment based on sexual orientation: 2.2. vs. 3.0; gender expression: 2.3 vs. 2.8; gender: 2.2 vs. 2.7).
- Transgender students experiencing high levels of harassment were more likely to report that they were not planning on going to college than those experiencing lower levels of harassment (verbal harassment based on sexual orientation: 42% vs. 30%; gender expression: 40% vs. 30%; gender: 49% vs. 32%).
- Transgender students had lower educational aspirations than male students and reported lower GPAs than male students and marginally lower GPAs than female students.

---

### ***Engagement with the School Community***

---

Given transgender students experienced high levels of harassment and assault, it is not surprising that they were less likely to feel a part of their school community than their non-transgender peers – transgender students reported lower feelings of school belonging than lesbian, gay, and bisexual non-transgender students. However, the more transgender students were able to fully participate in their school community – by being open about their sexual orientation and/or gender identity and by being able to discuss LGBT issues at school – the greater their sense of belonging to their school community was.

- Transgender students who were out to most or all other students and school staff reported a greater sense of belonging to their school community than those who were not out or only out to a few other students or staff. The majority (66%) of transgender students were out to most or all of their peers, yet less than half (45%) were out to most or all of the school staff.
- The more transgender students discussed LGBT issues in school, the more likely they were to feel like a part of their school community. Most transgender students had talked with a teacher (66%) or a school-based mental health professional (51%) at least once in the past year about LGBT-related issues. Transgender students were also more likely than non-transgender students to talk with school staff about these issues.

---

## ***In-School Resources and Supports***

---

In addition to experiencing high levels of in-school victimization, many transgender students lacked the institutional supports that may lessen the negative effects of victimization. Although most transgender students (83%) could identify at least one supportive educator, only a third (36%) could identify many supportive staff. Furthermore, like their non-transgender peers, the majority lacked access to other supportive resources, such as Gay Straight-Alliances, inclusive curricula, and comprehensive anti-harassment policies.

- Less than half (44%) of transgender students reported that they had a student club that address LGBT student issues, i.e., a Gay Straight-Alliance (GSA), in their school. Although transgender students were not more likely to report having a GSA in their school, they did report attending GSA meetings more frequently than non-transgender LGB students.
- Less than half (46%) of transgender students reported that they could find information about LGBT people, history, or events in their school library and only a third (31%) were able to access this information using the school Internet.
- Less than a fifth of transgender students (16%) reported that LGBT-related topics were included in their textbooks or other assigned readings, and only a tenth (11%) were exposed to an inclusive curriculum that included positive representations of LGBT people, history, or events in their classes.
- Only half (54%) of transgender students reported that their school had an anti-harassment policy, and only 24% said that the school policy included specific protections based on sexual orientation, gender identity, or gender expression.

## **Conclusions and Recommendations**

Findings from this report demonstrate that transgender students often face extremely hostile school environments. Similar to non-transgender lesbian, gay, and bisexual students, most transgender students hear biased language, feel unsafe in school, are regularly harassed, and lack LGBT-related resources and supports. Furthermore, compared to their non-transgender peers, transgender students consistently reported higher levels of harassment and assault, were less likely to feel like a part of their school community, and had poorer educational outcomes. Transgender students were also more likely to be involved with LGBT-related issues in their schools, perhaps because they are faced with unique challenges in school, such as accessing gender-segregated facilities and being addressed by their preferred names and pronouns.

Educators, policymakers, and safe school advocates must continue to seek to understand the specific experiences of transgender students, and implement measures to ensure that schools are safe and inclusive environments for all LGBT youth. Given the potential

positive impact of supportive educators, student clubs, curricular resources, and comprehensive anti-harassment policies on the school experiences of LGBT students, it is imperative that schools work to provide these resources to students. Along with providing access to LGBT-related resources, it is important for educators, advocates, and policymakers to recognize how the needs of transgender youth may both be similar to and different from the needs of their non-transgender peers. Schools should explicitly address issues and experiences specific to transgender students.

Practices and policies that are sensitive to the experiences of transgender students would not only serve to improve the school experiences of those students, but can also send an important message to all members of a school community that individuals will not be limited nor defined merely by their gender. Taken together, these recommended measures can move us towards a future in which every child learns to respect and accept all people, regardless of sexual orientation, gender identity, or gender expression.



## INTRODUCTION

GLSEN (the Gay, Lesbian, and Straight Education Network) envisions a world where schools are safe places for all students, regardless of their sexual orientation, gender identity, or gender expression. Yet lesbian, gay, bisexual, and transgender<sup>1</sup> (LGBT) youth may face particularly hostile school climates, as they often report experiencing harassment, discrimination, and other negative experiences in school, often specifically related to their sexual orientation, gender identity, and how they express their gender. Such experiences include high levels of verbal and physical harassment and assault, social exclusion and isolation, and other interpersonal problems with peers.<sup>2</sup>

The population of LGBT youth includes both those whose sexual orientation (i.e., lesbian, gay, and bisexual youth) or gender identity (transgender youth) are considered non-normative by societal standards. Although sexual orientation and gender identity are distinct concepts, both are affected by societal expectations regarding gender. For example, a child who is assigned the gender of male at birth is traditionally expected to identify as male throughout his life, be romantically and sexually involved with females, and express himself in ways compatible with standard gender norms (e.g., expressing an interest in sports or not wearing make-up). LGBT youth, regardless of their gender identity, often face victimization and stigmatization based on both sexual orientation and gender expression. However, transgender youth may face additional, unique challenges at school, such as difficulty accessing gender-segregated areas including bathrooms and locker rooms, and the refusal of both educators and other students to address them by their preferred names and

pronouns. Thus, in order to ensure schools are safe environments for all students, including those whose gender identity might challenge traditional ideas about gender, it is important to understand the specific experiences of transgender youth in school.

Although research regarding the educational experiences of LGBT youth has increased over the last two decades, the specific experiences and needs of transgender students remain largely unexplored by the literature. The small body of existing research on the school experiences of transgender youth demonstrates that schools are not safe places for these students. Several qualitative studies have found that transgender students often face pervasive harassment and assault because of their gender identity, gender expression, and their actual or perceived sexual orientation, and are often subjected to intense scrutiny and judgment by their teachers and peers.<sup>3</sup> Furthermore, school policies and practices that enforce gender segregation, such as school bathrooms, locker rooms, security procedures, dress codes, and classroom procedures (i.e., sorting students into groups by gender) can also pose challenges for transgender students,<sup>4</sup> either because they do not identify as either male or female or because other members of the school community do not accept them as the gender with which they identify. Not surprisingly, research indicates that this hostile school climate may also have negative effects on transgender youth's educational outcomes, including skipping school and eventually dropping out of school altogether.<sup>5</sup>

These in-depth qualitative research studies provide important insights into the experiences of transgender youth in specific contexts. However, to date, GLSEN's biennial National School Climate Survey is the only large-scale research study examining the specific school experiences of transgender youth nationwide. Since 1999, the National School Climate Survey has examined the experiences of LGBT secondary school students in U.S. schools and provided specific information about in-school victimization faced by the transgender youth who participated in the survey. We have included the findings from the *2007 National School Climate Survey*<sup>6</sup> about transgender students' experiences of victimization in this report. However, it is important to examine the wide array of transgender youth's experiences in greater detail, including, but not limited to, their experiences of victimization. In this report, we provide a broader picture of transgender students' school experiences nationwide, both in comparison to and independent of their non-transgender lesbian, gay, and bisexual (LGB) peers. We examine transgender students' experiences with regard to indicators of negative school climate, including: exposure to biased language in school, sense of safety and absenteeism related to safety concerns, experiences of harassment and assault, and the impact of victimization on academic performance and future educational aspirations. In addition, we explore transgender students' access to institutional resources, such as supportive educators, Gay-Straight Alliances, LGBT-inclusive curriculum, and

comprehensive anti-harassment policies. Further, we examine the degree to which transgender students are engaged in their schools, through their interactions with educators and their sense of belonging to their school community.

## Notes

- 1 The term “transgender” refers broadly to people whose gender identity may not be consistent with the gender they were assigned at birth, including individuals whose gender identity may not conform to the binary gender system (e.g., a person who identifies as neither male nor female). Transgender may also be used as an umbrella term for all those whose gender expression is considered inconsistent with their birth assigned gender or sex (i.e. those who do not conform to “traditional” notions of “appropriate” gender expression).
- 2 Bochenek, M. & Brown, A. W. (2001). *Hatred in the Hallways: Violence and Discrimination Against Lesbian, Gay, Bisexual, and Transgender Students in U.S. Schools*. New York: Human Rights Watch.  
  
D’Augelli, A. R., Pilkington, N. W., & Hershberger, S. L. (2002). Incidence and mental health impact of sexual orientation victimization of lesbian, gay, and bisexual youths in high school. *School Psychology Quarterly*, 17(2), 148–167.  
  
Kosciw, J.G. & Diaz E. M. (2006). *The 2005 National School Climate Survey: The Experiences of Lesbian, Gay, Bisexual and Transgender Youth in our Nation’s Schools*. New York: GLSEN.  
  
Russell, S. T., Seif, H., & Truong, N. L. (2001). School outcomes of sexual minority youth in the United States: Evidence from a national study. *Journal of Adolescence*, 24, 111–127.
- 3 Grossman, A. & D’Augelli, A. (2006). Transgender youth: Invisible and vulnerable. *Journal of Homosexuality*, 1(1), 111–128.  
  
Gutierrez, N. (2004). Resisting fragmentation, living whole: Four female transgender students of color speak about school. *Journal of Gay & Lesbian Social Services*, 16(3/4), 69–79.  
  
Sausa, L. (2005). Translating research into practice: Trans youth recommendations for improving school systems. *Journal of Gay & Lesbian Issues in Education*, 3(1), 15–28.  
  
Wyss S. (2004). ‘This was my hell’: the violence experienced by gender non-conforming youth in US high schools. *International Journal of Qualitative Studies in Education*. 17(5), 709-730.
- 4 Sausa (2005). See Note 3 for full citation.  
  
Grossman & D’Augelli (2006). See Note 3 for full citation.
- 5 Grossman & D’Augelli (2006). See Note 3 for full citation.  
  
Gutierrez (2003). See Note 3 for full citation.  
  
Sausa (2005). See Note 3 for full citation.  
  
Wyss (2004). See Note 3 for full citation.
- 6 Kosciw, J. G., Diaz, E. M., & Greytak, E. A. (2008). *2007 National School Climate Survey: The Experiences of Lesbian, Gay, Bisexual, and Transgender Youth in our Nation’s Schools*. New York: GLSEN. To download a free copy of the report, visit [www.glsen.org/research](http://www.glsen.org/research).





## **METHODS**

GLSEN's National School Climate Survey is a biennial survey of U.S. secondary school students who identify as lesbian, gay, bisexual, and/or transgender. Data used in this report come from the fifth installment of the survey, which was conducted during the 2006–2007 school year. Two methods were used in order to locate participants and obtain a more representative sample of LGBT youth. First, participants were obtained through community-based groups or service organizations serving LGBT youth. Fifty groups/organizations were randomly selected to participate from a list of over 300 groups nationwide. Of these 50 groups, 38 were able to have youth complete the survey and a total of 288 surveys were obtained through this method. Our second method was to make the National School Climate Survey available online through GLSEN's website. Notices about the survey were posted on LGBT-youth oriented listservs and websites. Notices were also emailed to GLSEN chapters and to youth advocacy organizations, such as Advocates for Youth and Youth Guardian Services. To ensure representation of transgender youth and youth of color, special efforts were made to notify groups and organizations that work predominantly with these populations. We also conducted targeted advertising on the social networking site MySpace. Notices about the survey were shown to MySpace users who were between 13 and 18 years old and who indicated on their user profile that they were gay, lesbian, or bisexual (MySpace does not provide a way to send targeted advertisements to users who identify as transgender). A total of 5,921 surveys were completed online. Data collection occurred from April to August 2007.

The full sample consisted of a total of 6,209 lesbian, gay, bisexual, and transgender students, from all 50 states and the District of Columbia. In order to assess gender identity, students were provided the following list of terms and asked to select all the terms that applied to them: male, female, transgender, transgender male-to-female, and transgender female-to-male. Students were also given the opportunity to write in how they described their gender. For the purposes of this study, students were considered to be transgender if they chose any of the transgender terms, or wrote in that they identified as transgender. A total of 295 transgender students participated in the survey.

Transgender students in the survey were from 47 states and the District of Columbia, and were between 13 and 20 years of age. Table 1 presents the sample's demographics. The category "transgender" encompasses a wide range of identities, and transgender students in our survey identified in a variety of ways, including but not limited to, male-to-female, female-to-male, and solely as transgender. Some students, who when asked about their gender identity, selected both male and transgender or selected both female and transgender (although not male-to-female or female-to-male). Other students in our sample identified as both male and female or both male-to-female and female-to-male and were categorized as "multigender" for the purposes of this study.

About two-thirds of the sample (64%) was White and over half identified as gay or lesbian (53%). Students were in grades 6 to 12, with the largest numbers being in 10th or 11th grade. Table 2 shows the characteristics of the schools attended by transgender students in our survey. The majority of students (93%) attended public schools, and students were most likely to attend schools in urban areas (40%) and in districts with low levels of poverty (73%).

Although this report focuses on transgender students' specific experiences in school, we also examined how their experiences may have differed from the experiences of the non-transgender students in the National School Climate Survey, i.e., LGB male and female students and LGB students who selected "other" as their gender identity.<sup>7</sup> Throughout this report, we discuss our findings regarding potential differences between transgender students and other students from the survey. In addition to examining differences between transgender students and non-transgender LGB students, we thought it was important to look at how transgender students' experiences may differ by the specific ways in which they identify. We found no differences in transgender students' experiences based on the way they specifically identified their gender (male-to-female transgender, female-to-male transgender, transgender only) and thus discuss the experiences of transgender youth as a whole group throughout this report.<sup>8</sup>

**Table 1. Demographics of Transgender Survey Respondents (n=295)**

<b>Gender Identity</b>			<b>Sexual Orientation</b>		
Transgender <sup>a</sup>	6%	n=19	Gay or Lesbian	53%	n=157
Transgender Female-to-Male	56%	n=164	Bisexual	32%	n=93
Transgender Male-to-Female	14%	n=41	Straight/Heterosexual	3%	n=10
Transgender and Female	10%	n=28	Other sexual orientation (e.g., queer, questioning, pansexual)	12%	n=34
Transgender and Male	2%	n=7			
Multigender <sup>b</sup>	9%	n=55			
<b>Race and Ethnicity</b>			<b>Grade</b>		
White	64%	n=185	6th	0%	n=1
African American or Black	4%	n=12	7th	7%	n=19
Hispanic or Latino/a	13%	n=38	8th	11%	n=31
Asian or Pacific Islander	7%	n=19	9th	20%	n=57
Native American, American Indian or Alaska Native	7%	n=21	10th	22%	n=65
Multiracial	5%	n=13	11th	21%	n=60
			12th	20%	n=58

Average Age =15.9 years

<sup>a</sup> Refers to students who identified as “transgender” but did not identify as male, female, male-to-female, or female-to-male.

<sup>b</sup> “Multigender” refers to transgender students who identified as male and female or male-to-female and female-to-male.

**Table 2. School Characteristics of Transgender Survey Respondents (n=295)**

Grade Levels			School Type		
K through 12 School	3%	n=9	Public School	93%	n=275
Lower School	2%	n=7	Charter	3%	n=7
Middle School	12%	n=36	Magnet	7%	n=20
Upper School	8%	n=24	Religious-affiliated	4%	n=11
High School	74%	n=219	Other independent or private school	3%	n=9
Community Types			District-Level Poverty <sup>a</sup>		
Urban	40%	n=115	Very High (>75%)	4%	n=12
Suburban	37%	n=106	Somewhat High (51–75%)	22%	n=61
Small town/Rural	23%	n=66	Somewhat Low (26–50%)	46%	n=127
			Very Low (≤25%)	27%	n=74
Region			<sup>a</sup> Based on data from the National Center for Education Statistics regarding the percentage of students eligible for free or reduced lunch.		
Northeast	23%	n=68			
South	26%	n=78			
Midwest	21%	n=62			
West	30%	n=87			

**Notes**

- 7 There were significant differences between transgender students and non-transgender students in how they identified their sexual orientation. Compared to non-transgender students, transgender students were less likely to identify as bisexual and more likely to identify as something other than gay, lesbian, or bisexual (e.g., straight/heterosexual, pansexual). In the *2007 National School Climate Survey*, we found differences in students’ experiences based on sexual orientation; thus, we control for sexual orientation when testing differences across gender identity throughout this report.
- 8 For students who selected “male” or “female” in addition to “transgender,” we could not discern whether also selecting “male” or “female” indicated the gender they were assigned at birth or the gender with which they currently identify. Thus, these students were not included in the analyses of differences within the group of transgender students. Students categorized as “multigender” were also not included in these analyses, as “multigender” was an umbrella term for a variety of ways of identifying that may or may not share any inherent meaning.



## RESULTS

### Biased Language in School

Keeping classrooms and hallways free of homophobic, sexist, and other types of biased language is one aspect of creating a safe school climate for students. The *2007 National School Climate Survey*, similar to our previous surveys, asked students about the frequency of hearing homophobic remarks (such as “faggot” and “dyke”), racist remarks (such as “nigger” or “spic”) and sexist remarks (such as someone being called a “bitch” in a derogatory way or comments about girls being inferior to boys) while at school. Students were also asked about the frequency of hearing negative remarks about the way in which someone expressed their gender at school (such as a student being told that she does not act “feminine enough”). Students were also asked about the frequency of hearing biased remarks from school staff. In addition to being asked about the frequency of hearing remarks from other students and from school staff, students were asked whether anyone intervened when hearing this type of language used in school.

Although we would not necessarily expect transgender students to hear biased remarks in school any more or less often than other students in the *2007 National School Climate Survey*, we believe it is important to demonstrate how often transgender students were exposed to biased language. Similar to results from the national survey of the general LGBT student population, we found that transgender students often heard biased language in school, especially homophobic remarks, sexist remarks, and negative

remarks about students' gender expression, and that there was little intervention with such language on the part of school staff.

---

### ***Students' Reports of Hearing Biased Remarks in School***

---

Homophobic remarks were commonly heard in school by transgender students. As shown in Figure 1, 90% of students reported hearing derogatory remarks, such as “dyke” or “faggot,” sometimes, often, or frequently in school. Hearing expressions using “gay” in a negative way, such as “that’s so gay,” was also quite prevalent, with 97% of students hearing them sometimes, often, or frequently at school. These expressions are often used to mean that something or someone is worthless or boring and, thus, may be dismissed as innocuous in comparison to overtly derogatory remarks such as “faggot.” However, most transgender students did not view these expressions as innocuous — 85% reported that hearing “gay” used in a negative manner at school caused them to feel bothered or distressed to some degree.

Negative remarks about the way in which someone expressed their gender (i.e., not acting “masculine” or “feminine” enough) were pervasive, with nine out of ten (90%) transgender students hearing negative remarks about someone’s gender expression sometimes, often, or frequently in school (see Figure 1). Remarks about students not acting “masculine” enough were more common than remarks about students not acting “feminine” enough (82% vs. 77% hearing remarks sometimes, often, or frequently).<sup>9</sup>

Sexist remarks were also very commonly heard by transgender students, with almost all (95%) students reporting that they heard sexist language in school sometimes, often, or frequently (see Figure 1). Although less commonly reported than other types of biased remarks, just over two-thirds (67%) of transgender students reported hearing racist remarks sometimes, often, or frequently in school (see also Figure 1).

Students not only heard biased language from other students, but from school personnel as well. About a third of transgender students reported that they heard school staff make homophobic (32%) and sexist remarks (39%), and negative comments about someone’s gender expression (39%) sometimes, often, or frequently in the past year (see Figure 1). Although less frequently reported than other types of remarks, one in ten (10%) students reported that they had heard school staff make racist remarks at least some of the time at school (see also Figure 1).

---

## ***Intervention with Biased Language by School Staff and Students***

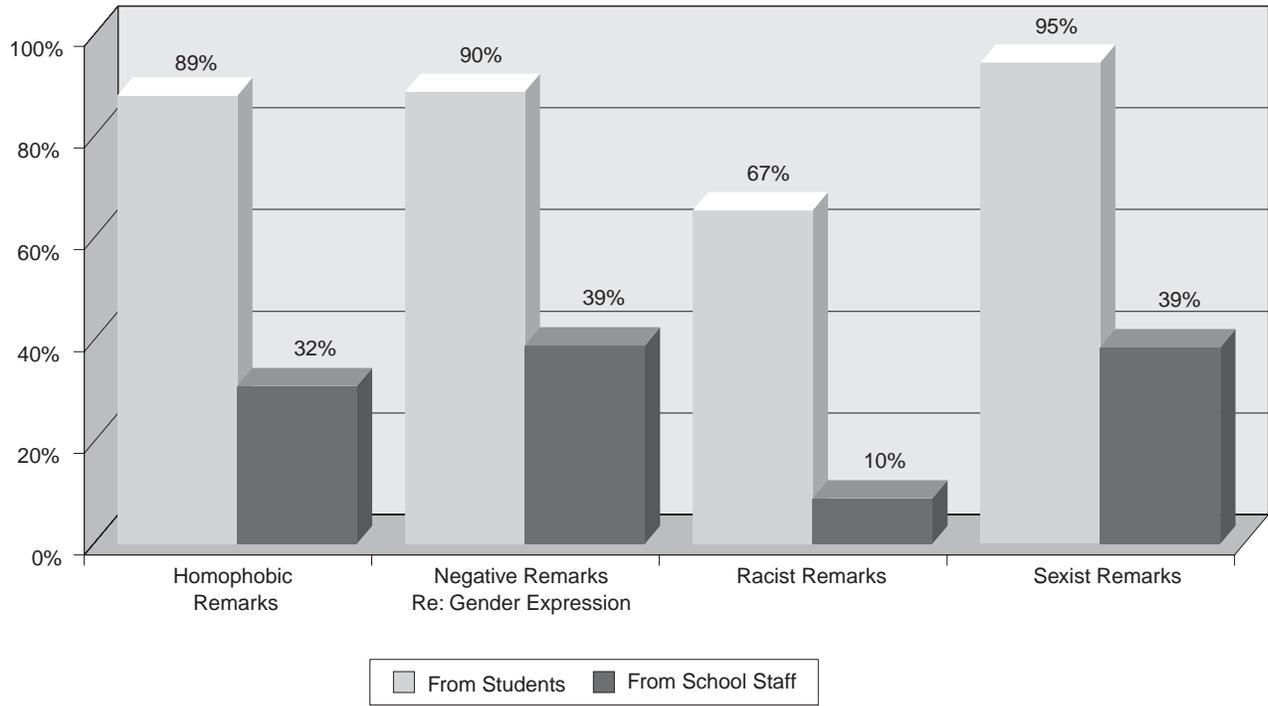
---

In addition to how often students hear biased remarks in school, the degree to which school staff address the use of such language when used in their presence is another indicator of overall school climate. By intervening when hearing biased remarks, school staff may send the message that such language is unacceptable and will not be tolerated in school. Conversely, staff's failure to intervene with biased remarks may send a message that such language is not only tolerated in school, but acceptable to use. Therefore, we asked students in our survey how often teachers or other school staff intervened in some way when biased remarks were made in their presence.

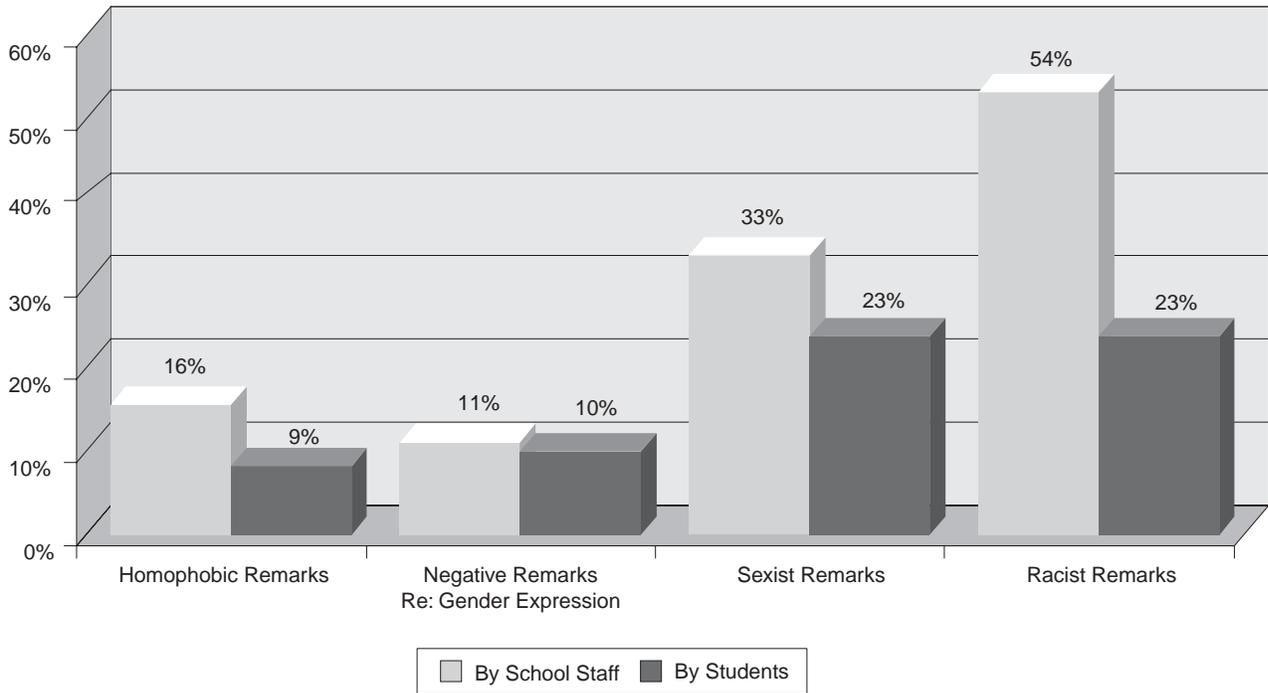
Biased language use by students remained largely unchallenged by school personnel. As shown in Figure 2, less than a fifth of students said that school personnel intervened most of the time or always when hearing homophobic remarks (16%) or negative remarks about someone's gender expression (11%). In contrast, students were more likely to report that staff intervened when hearing sexist or racist remarks,<sup>10</sup> with a third (33%) reporting that staff intervened most of the time or always when hearing sexist remarks and just over half (54%) reporting this level of intervention with racist remarks (see also Figure 2).

One would expect teachers and school staff to bear the responsibility for addressing problems of biased language in school as they are the authorities charged with ensuring that schools are safe for all students. However, students may at times intervene when hearing biased language as well, and such interventions may be another indicator of school climate. As shown in Figure 2, few transgender students reported that their classmates intervened when hearing biased remarks in school. About one-tenth reported that other students intervened most of the time or always when hearing homophobic remarks (9%) or negative comments about someone's gender expression (10%). Although the percentage of student intervention with sexist and racist remarks was greater,<sup>11</sup> only a quarter of students said that their peers intervened most of the time or always when sexist (24%) or racist (24%) language was used.

**Figure 1. Hearing Biased Remarks in School**  
 (percentage hearing remarks "sometimes," "often," or "frequently")



**Figure 2. Intervention When Biased Remarks Were Made in School**  
 (percentage reporting that students or staff intervened "most of the time" or "always")



## Notes

- 9 Mean differences in the frequencies between types of biased remarks based on gender expression were examined using paired t-tests and percentages are shown for illustrative purposes. The effect was significant,  $t(294)=2.70, p<.001$ .
- 10 Mean differences in the frequencies of school staff intervention across types of remarks were examined using repeated measures multiple analysis of variance (MANOVA) and percentages are shown for illustrative purposes. The multivariate effect was significant, Pillai's Trace=.48,  $F(3, 165)=49.76, p<.001$ . Univariate effects were considered at  $p<.01$ .
- 11 Mean differences in the frequencies of student intervention across types of remarks were examined using repeated measures multiple analysis of variance (MANOVA) and percentages are shown for illustrative purposes. The multivariate effect was significant, Pillai's Trace=.17,  $F(3, 260)=17.60, p<.001$ . Univariate effects were considered at  $p<.01$ .

## Overall Safety in School

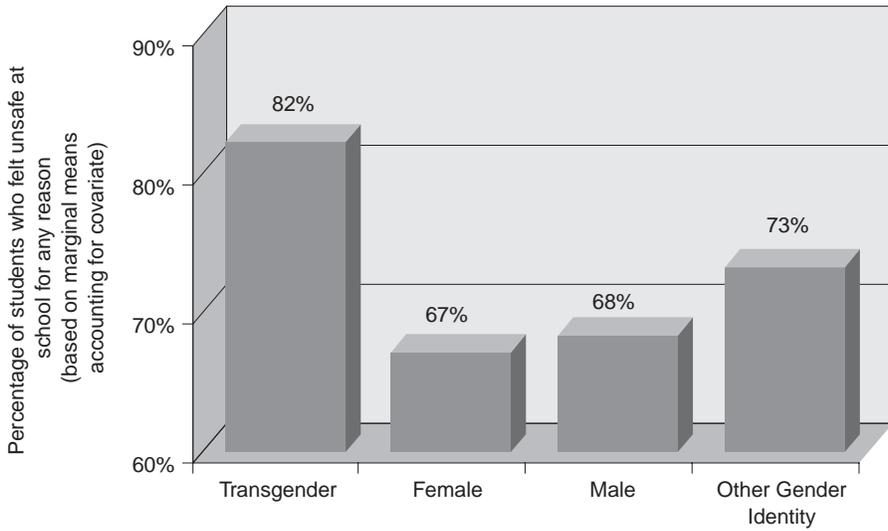
In order to assess overall feelings of safety in school, students in our survey were asked if they felt unsafe in school because of certain personal characteristics: sexual orientation, gender, gender expression, and actual or perceived race/ethnicity, disability, or religion. In the *2007 National School Climate Survey*, LGBT students reported feeling unsafe because of a variety of characteristics, most commonly their sexual orientation and gender expression. Similarly, we found that a majority of transgender students reported feeling unsafe because of at least one of these characteristics, and in fact, transgender students were more likely to feel unsafe than LGB students who were not transgender.<sup>12</sup> For example, as illustrated in Figure 3, 82% of transgender students felt unsafe at school because of one of the personal characteristics, compared to two-thirds (67%) of female students.

As shown in Figure 4, about two-thirds (65%) of transgender students felt unsafe because of how they expressed their gender (i.e., a student who does not express themselves in a way considered to be appropriately “masculine” or “feminine” according to traditional societal norms). More than two-thirds of transgender students felt unsafe because of their sexual orientation (69%), and more than a third (36%) felt unsafe because of their gender (see also Figure 4). Furthermore, a quarter (25%) felt unsafe because of their actual or perceived religion, and less than a fifth felt unsafe because of their actual or perceived race or ethnicity (15%), or because of an actual or perceived disability (9%).

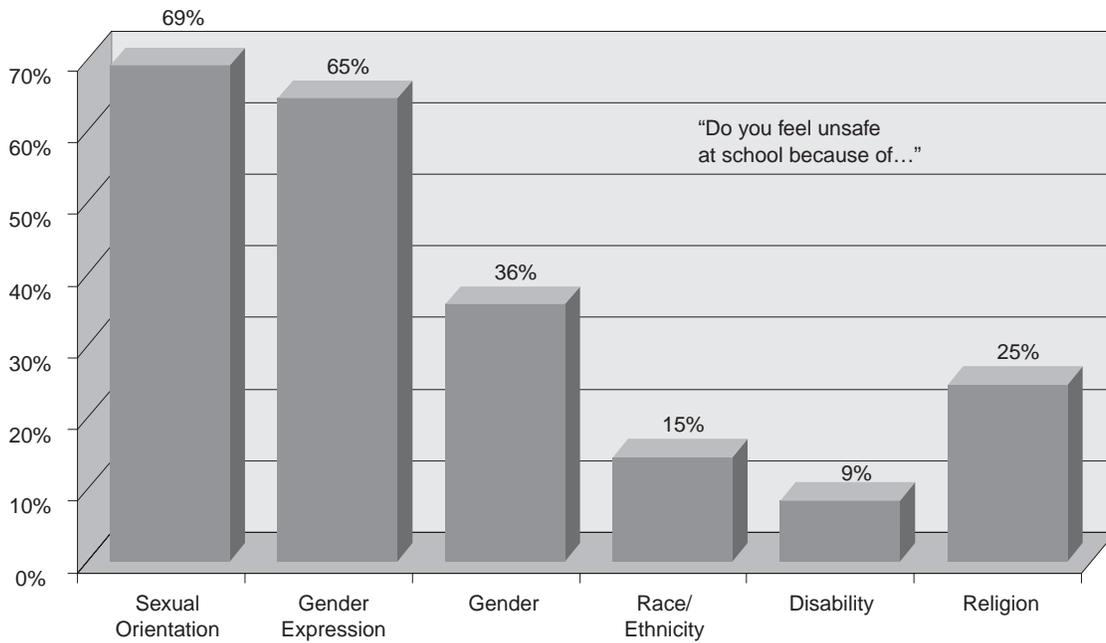
Transgender students often felt unsafe because of multiple characteristics, illustrating the ways in which multiple dimensions of identity may intersect to shape students’ experiences. As shown in Table 3, a closer look at the three most common reasons transgender students often felt unsafe at school – sexual orientation, gender expression, and gender – revealed that students most commonly felt unsafe because of all three characteristics (27%) or because of both their sexual orientation and gender expression (29%). Fewer students (16%) felt unsafe because of only one of these characteristics (see also Table 3).

Feeling unsafe or uncomfortable in school can negatively affect students’ academic success, particularly if it results in avoiding classes or missing days of school. Thus, we asked students how many times they had missed classes or an entire day of school in the past month because they felt uncomfortable or unsafe in school. As shown in Figure 5, almost half of all transgender students reported skipping a class at least once in the past month (47%) and missing at least one day of school in the past month (46%) because they felt unsafe or uncomfortable. Given that transgender students were more likely to feel unsafe at school, it is not surprising that they were also more likely to miss school due to safety concerns than non-transgender students.<sup>13</sup> For example, 46% of transgender students had missed at least one entire day of school for this reason, compared to 27% of male students (see Figure 6).

**Figure 3. Feeling Unsafe at School by Gender Identity**



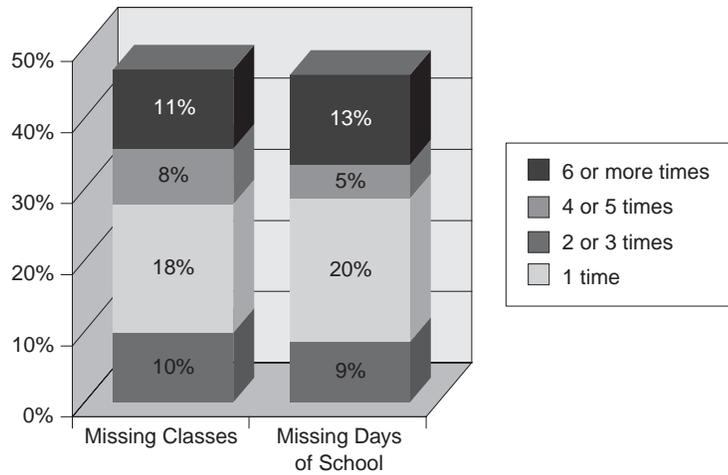
**Figure 4. Percentage of Transgender Students Who Felt Unsafe at School**



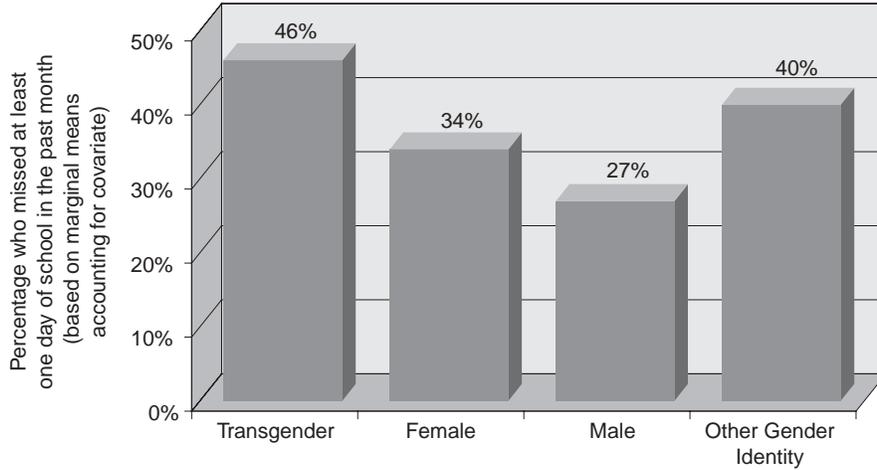
**Table 3. Feeling Unsafe at School Based on Sexual Orientation, Gender Expression, and/or Gender**

All Three (Sexual Orientation, Gender Expression, & Gender)	27%	n=79	Sexual Orientation Only	9%	n=27
Sexual Orientation & Gender Expression	29%	n=85	Gender Expression Only	6%	n=17
Sexual Orientation & Gender	4%	n=13	Gender Only	1%	n=3
Gender & Gender Expression	4%	n=11	None	20%	n=60

**Figure 5. Frequency of Missing School and Classes in Past Month Because of Feeling Unsafe or Uncomfortable**



**Figure 6. Missing School Because of Safety Concerns by Gender Identity**



## Notes

- 12 To test differences across gender identity, an analysis of covariance (ANCOVA) was conducted with feeling unsafe at school for any reason as the dependent variable, gender identity as the independent variable, and sexual orientation as a covariate. When examining potential differences across gender identity, we used the more restrictive  $p > .01$  in determinations of statistical significance for our analyses because of the large sample size ( $n=6184$ ). The main effect of gender identity was significant:  $F(3, 6165)=10.84, p < .001$ .
- 13 To test differences across gender identity, a multiple analysis of covariance (MANCOVA) was conducted with missing school because feel unsafe or uncomfortable and skipping class because feel unsafe or uncomfortable as the dependent variables, gender identity as the independent variable, and sexual orientation as a covariate. Percentages are shown for illustrative purposes. The multivariate effect was significant: Pillai's Trace=.01,  $F(6, 12284)=11.18, p < .001$ . Univariate effects were considered significant at  $p < .01$  and marginally significant at  $p < .05$ .

## **Experiences of Harassment and Assault in School**

Given that the majority of transgender students felt unsafe in school, it was important to document their experiences related to in-school harassment and assault. We asked students how often (“never,” “rarely,” “sometimes,” “often,” or “frequently”) they had been verbally harassed, physically harassed, or physically assaulted during the past school year because of their sexual orientation, gender, gender expression, or actual or perceived race or ethnicity, disability, or religion.

---

### ***Verbal Harassment***

As we had found in the full sample of LGBT students, students’ sexual orientation and gender expression were the most commonly targeted characteristics with regard to verbal harassment (e.g., being called names or threatened) in school.<sup>14</sup> About nine in ten transgender students reported being verbally harassed at school because of their gender expression (87%) and their sexual orientation (89%), and over half experienced this form of harassment often or frequently (see Figure 7). The next most frequent type of verbal harassment for transgender students was related to gender, with 72% reporting any occurrence in the past year and a quarter (25%) reporting it occurred often or frequently. In addition, as shown in Figure 7, nearly half of transgender students reported having ever been verbally harassed in the past year because of their actual or perceived race/ethnicity (44%) or religion (48%) and fewer reported being harassed because of an actual or perceived disability (28%).

---

### ***Physical Harassment***

Similar to the reported experiences of verbal harassment, physical harassment (e.g., being pushed or shoved) was most commonly related to transgender students’ sexual orientation or how they expressed their gender.<sup>15</sup> As illustrated in Figure 8, over half had been physically harassed in school in the past year because of their sexual orientation (55%) or their gender expression (53%). Furthermore, over a quarter had experienced this type of victimization often or frequently (sexual orientation: 29%, gender expression: 27%). Nearly half (42%) of transgender students had been physically harassed in the past school year because of their gender, with 17% experiencing this type of harassment often or frequently. Fewer students had experienced physical harassment in the past year because of their actual or perceived religion (24%), race/ethnicity (21%), or disability (15%).

---

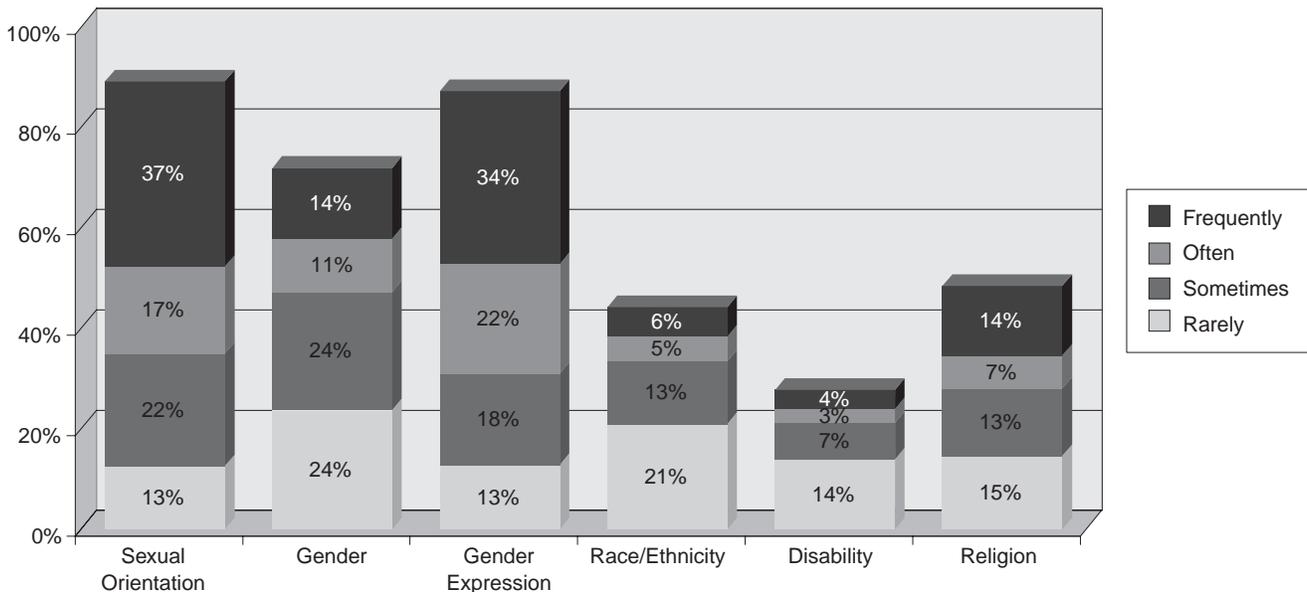
### ***Physical Assault***

Students were also asked whether they had been physically assaulted (e.g., being punched, kicked, or injured with a weapon) while in school. Given the more severe nature of physical assault, it is not surprising that students were less likely to report this type of victimization than to report verbal or physical harassment. Nonetheless, almost half (44%) of all transgender students reported that they had been physically

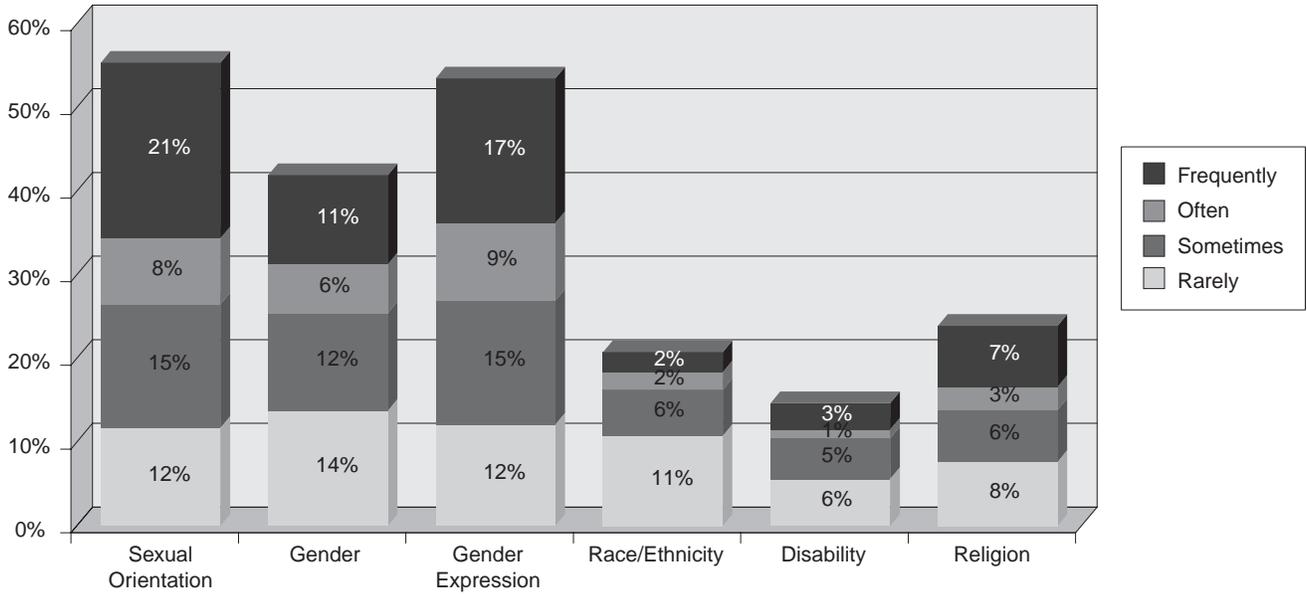
assaulted at some point at school in the past year. As shown in Figure 9, sexual orientation and gender expression were, again, the most commonly targeted characteristics — 28% of students reported that they had ever been physically assaulted at school in the past year because of their sexual orientation and 26% because of how they expressed their gender.<sup>16</sup> The next most prevalent type of assault was because of their gender, with more than a tenth (16%) of transgender students reporting that they had ever been physically assaulted for this reason. Fewer students reported physical assault based on their actual or perceived religion (11%), race/ethnicity (7%), or disability (4%).

Overall, transgender students experienced higher levels of harassment and assault than other students in the *2007 National School Climate Survey* sample. As shown in Figure 10, transgender students had the highest average levels of victimization when compared to non-transgender LGB students.<sup>17</sup> The differences between transgender students and other students in the survey were most pronounced for victimization based on gender and gender expression, followed by sexual orientation. Nevertheless, transgender students were also higher on levels of victimization based on race/ethnicity, disability, and religion. Given that gender, gender expression, and sexual orientation are linked, it is perhaps not surprising that transgender students experienced higher levels of victimization based on these three characteristics. However, it is unclear why transgender students would also have had higher levels of victimization based on the other characteristics. It is possible that because transgender students may be more frequently targeted because of their gender or gender expression, they then are more likely to become targets for other types of harassment as well. Further research should explore why transgender students may be at greater risk than their non-transgender LGB peers for victimization based on all types of personal characteristics.

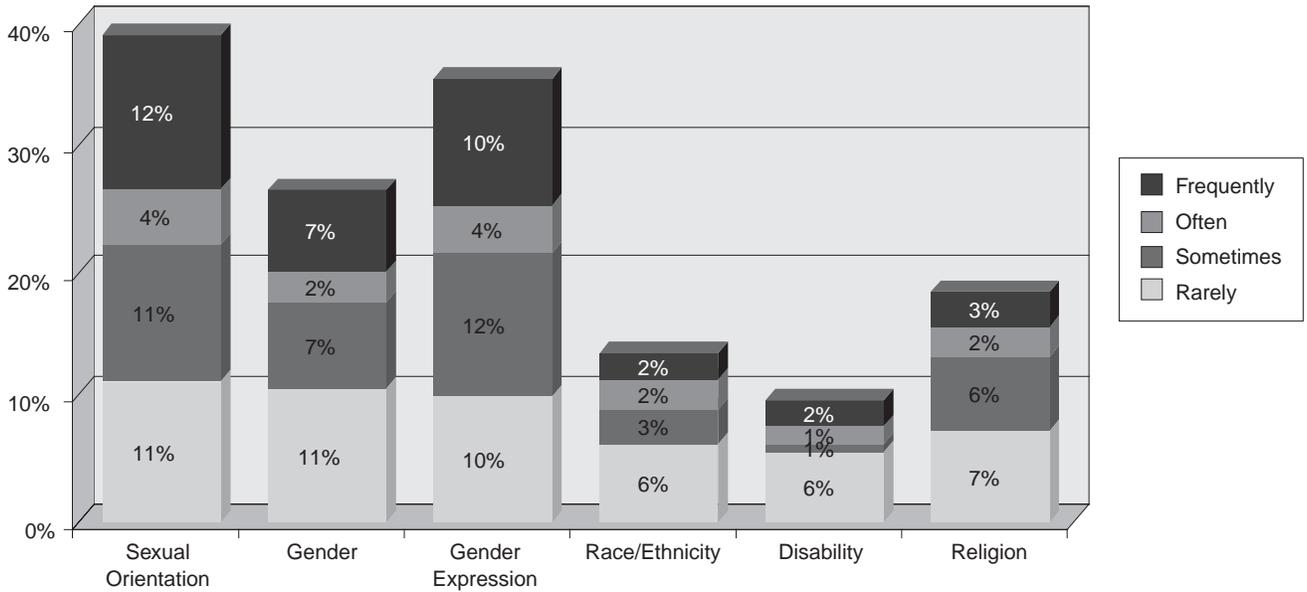
**Figure 7. Frequency of Verbal Harassment in the Past School Year**



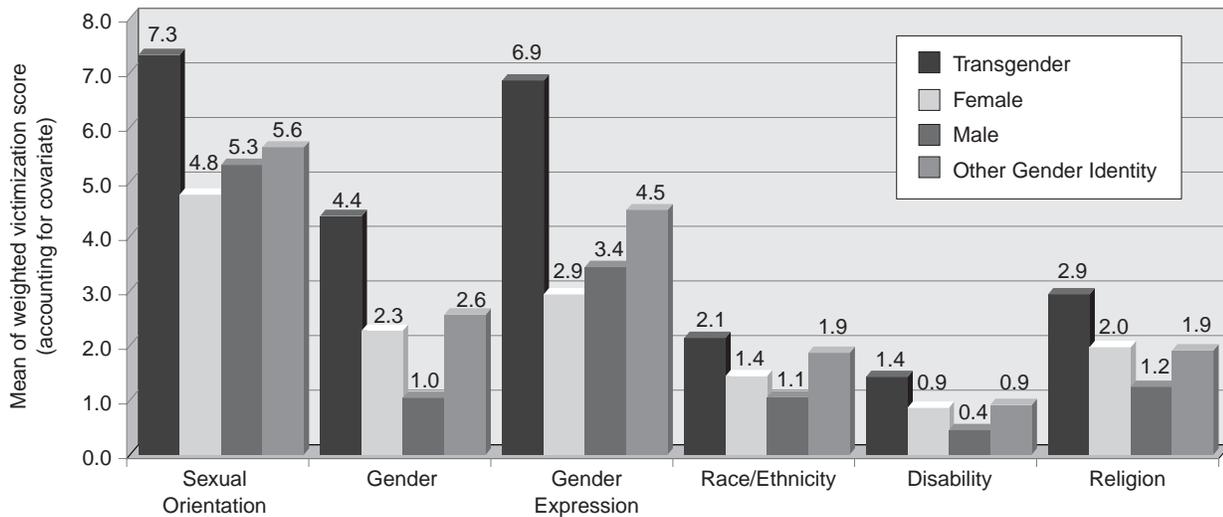
**Figure 8. Frequency of Physical Harassment in the Past School Year**



**Figure 9. Frequency of Physical Assault in the Past School Year**



**Figure 10. Experiences of Victimization by Gender Identity**



### ***Other Types of Victimization Events in School***

In addition to experiences of harassment and assault that are related to specific personal characteristics, transgender students may experience other types of victimization at school that are not clearly related to a personal characteristic. Thus, we asked students in our survey about other negative events they may have experienced in school, such as being sexually harassed or having their property stolen or deliberately damaged.

As shown in Figure 11, sizable percentages of transgender students reported experiencing these other forms of victimization at school in the past year:

- Over three-fourths of transgender students (76%) reported being sexually harassed, such as receiving unwanted sexual remarks or being touched inappropriately.
- Nine in ten transgender students experienced some sort of relational aggression – 89% reported being the target of mean rumors or lies, and 92% had felt deliberately excluded or “left out” by other students.
- Almost two-thirds (62%) of transgender students reported experiencing some sort of electronic harassment or “cyberbullying” (e.g., text messages, emails, or postings on Internet social networking sites such as MySpace).
- Two-thirds of transgender students (67%) had their property (e.g., car, clothing, or books) stolen or deliberately damaged at school.

Similar to findings about harassment and assault based on personal characteristics, transgender students were more likely than non-

transgender LGB students to experience these other types of victimization.<sup>18</sup> Specifically, transgender students were more likely than all other non-transgender students to have their property damaged or stolen or to feel excluded by other students. They were also more likely than male and female students to have experienced electronic harassment or to have been the target of mean rumors or lies, and more likely than male students to have been sexually harassed. As mentioned above regarding victimization based on personal characteristics, transgender students may be targeted for these other types of harassment given they are commonly targeted because of their gender, gender expression, or sexual orientation, and further research is needed in this area.

---

### ***Reporting of Harassment and Assault***

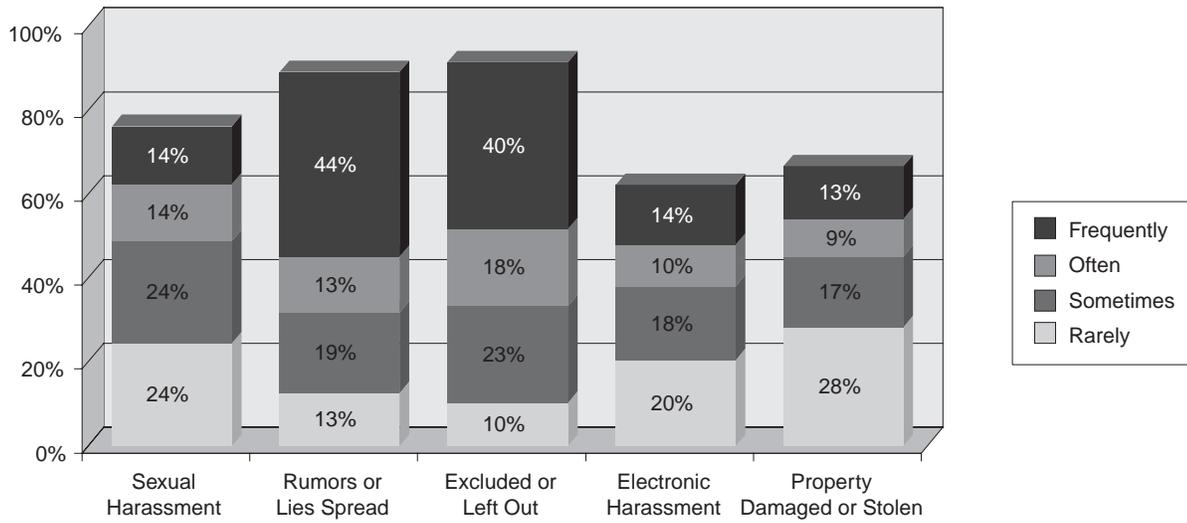
---

We learned from the *2007 National School Climate Survey* that the majority of LGBT students who are victimized in school did not tell school authorities about the incident, and when they did most did not feel that staff effectively addressed the situation. Our findings for transgender students are similar – most (54%) who were harassed or assaulted in school did not report the incident to staff (see Figure 12). As illustrated in Figure 12, few students indicated that they reported incidents of harassment or assault most of the time or always to staff (14%). Although transgender students experienced higher levels of harassment and assault than non-transgender students, there were no differences in rates of reporting these incidents to school authorities.<sup>19</sup>

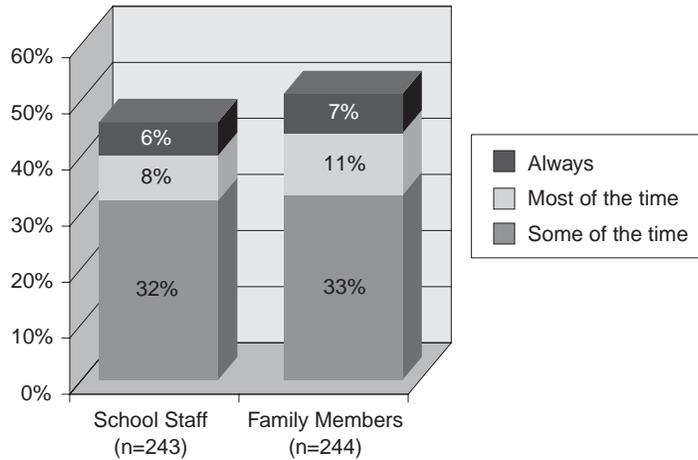
Reporting incidents of harassment and assault to school staff may be an intimidating task for students. Furthermore, there is also no guarantee that reporting incidents to school staff would result in effective intervention. For students who had reported any such incident to school staff, we asked how effective it was to do so. As shown in Figure 13, only a third (33%) of transgender students who reported incidents of victimization to school staff said that effective actions were taken to address the situation. Transgender students were not any more or less likely than non-transgender students to say that the responses of staff were effective.<sup>20</sup>

Family members may represent an additional resource for students who are harassed or assaulted in school and may be able to advocate for the student with school personnel. Only half (51%) of transgender students told a family member when they were harassed or assaulted at school (see Figure 12). For those students who had reported incidents to a family member, we asked how often a family member had talked to school staff about the incident – almost two-thirds (61%) said that the family member addressed the issue with school staff at least some of the time. As with reporting to school staff, transgender students were not different from non-transgender students in their frequency of reporting incidents to a family member. They also did not differ from other students in how frequently they reported a family member addressed the incidents with school staff.<sup>21</sup>

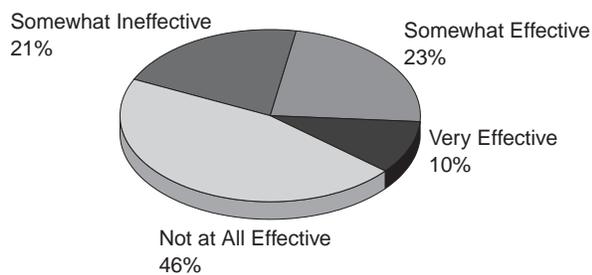
**Figure 11. Frequency of Other Types of Harassment in the Past School Year**



**Figure 12. Frequency of Reporting Incidents of Harassment and Assault**



**Figure 13. Effectiveness of Reporting Incidents of Victimization to a School Staff Person (n=111)**



## Notes

- 14 Mean differences in the frequencies of verbal harassment across types were examined using repeated measures multiple analysis of variance (MANOVA) and percentages are shown for illustrative purposes. The multivariate effect was significant, Pillai's Trace=.67,  $F(5, 275)=108.98$ ,  $p<.001$ . Univariate effects were considered at  $p<.01$ .
- 15 Mean differences in the frequencies of physical harassment across types were examined using repeated measures multiple analysis of variance (MANOVA) and percentages are shown for illustrative purposes. The multivariate effect was significant, Pillai's Trace=.38,  $F(5, 278)=33.32$ ,  $p<.001$ . Univariate effects were considered at  $p<.01$ .
- 16 Mean differences in the frequencies of physical assault across types were examined using repeated measures multiple analysis of variance (MANOVA) and percentages are shown for illustrative purposes. The multivariate effect was significant, Pillai's Trace=.25,  $F(5, 274)=18.50$ ,  $p<.001$ . Univariate effects were considered at  $p<.01$ .
- 17 For the purpose of analysis, weighted variables measuring "victimization" were created based on each personal characteristic. For each type of victimization (sexual orientation, gender, gender expression, race/ethnicity, disability, religion), a weighted variable measuring the frequency of victimization across the three severity levels (verbal harassment, physical harassment, physical assault) was created, giving more weight to physical harassment and, in turn, physical assault because of the increased severity of the event. Six "victimization" variables were created. Scores on the "victimization" variables ranged from a minimum of 0 to a maximum of 22. To test differences across groups, a multivariate analysis of covariance (MANCOVA) was conducted with all the victimization variables as dependent variables, gender identity as the independent variable, and sexual orientation as a covariate. Multivariate results were significant: Pillai's Trace=.104,  $F(18, 16,995)=33.83$ ,  $p<.001$ . Univariate effects were considered at  $p<.01$ . Transgender students experienced higher levels of victimization than LGB male and female students and LGB students with other gender identities for victimization based on gender expression, gender, sexual orientation, and religion. Transgender students experienced higher levels of victimization than LGB male and female students (but not than LGB students with other gender identity) for victimization based on race/ethnicity and victimization based on disability.
- 18 To test differences across gender identity, a multiple analysis of covariance (MANCOVA) was conducted with frequencies of each type of victimization (sexual harassment, having rumors or lies spread, being excluded or left out, having property damaged or stolen, and electronic harassment) as the dependent variables, gender identity as the independent variable, and sexual orientation as a covariate. The multivariate effect was significant, Pillai's Trace=.03,  $F(15, 18219)=11.32$ ,  $p<.001$ . Univariate effects were considered at  $p<.01$ .
- 19 To test differences across gender identity, an analysis of covariance (ANCOVA) was conducted with frequencies of reporting incidents to school staff as the dependent variable, gender identity as the independent variable, and sexual orientation as a covariate. The main effect of gender identity was not significant at  $p<.01$ .
- 20 To test differences across gender identity, an analysis of covariance (ANCOVA) was conducted with effectiveness of reporting harassment or assault to school staff as the dependent variable, gender identity as the independent variable, and sexual orientation as a covariate. While the main effect of gender identity was significant:  $F(3, 1826)=4.19$ ,  $p<.01$ , post-hoc comparisons revealed that there were no significant differences between transgender students and non-transgender students.
- 21 To test differences across gender identity, an analysis of covariance (ANCOVA) was conducted with reporting incidents to family member as the dependent variable, gender identity as the independent variable, and sexual orientation as a covariate. The main effect of gender identity was not significant at  $p<.01$ .  
  
To test differences across gender identity, an analysis of covariance (ANCOVA) was conducted with family member addressing incident with school staff as the dependent variable, gender identity as the independent variable, and sexual orientation as a covariate. While the main effect of gender identity was significant:  $F(3, 2269)=4.28$ ,  $p<.01$ , post-hoc comparisons revealed that there were no significant differences between transgender students non-transgender students.

## Impact of Victimization on Educational Outcomes

For all students, experiencing victimization in school may negatively affect their ability to receive an education. The potential stress caused by being frequently harassed in school may negatively affect a student's ability to focus on their school work and academic performance. In addition, students who are frequently harassed in school may attempt to avoid these hurtful experiences by not attending school and may be more likely to miss school than students who do not experience such victimization. In this way, school-based victimization may impinge on a student's right to an education. In the *2007 National School Climate Survey*, we found that higher frequencies of harassment were related to lower grade point averages, decreased educational aspirations, and increased absenteeism due to safety concerns for LGBT students. In this report, we examined the relationship between harassment and academic achievement, educational aspirations, and absenteeism for transgender students specifically, looking at how experiences of harassment related to sexual orientation, gender, and gender expression affect these educational outcomes.

We found that experiences with harassment were, in fact, related to missing days of school for transgender students. As shown in Figure 14, transgender students who experienced high frequencies of verbal harassment related to gender expression, gender, or sexual orientation were more likely than transgender students who did not experience such frequent harassment to report missing school because they felt unsafe.<sup>22</sup> For example, 68% of transgender students experiencing high levels of harassment because of their gender missed at least one day of school in the last month because they felt unsafe or uncomfortable in school, compared to 38% of transgender students experiencing low levels of harassment (see Figure 14).

Harassment was also related to lower academic achievement among transgender students. Figure 15 shows the reported grade point averages (GPAs) of transgender students by levels of verbal harassment based on gender, gender expression, and sexual orientation. Across all three types, transgender students who were more frequently harassed had significantly lower grades than those who were less often harassed.<sup>23</sup> For example, transgender students who were verbally harassed because of their sexual orientation often or frequently reported a GPA of 2.2, compared to transgender students who were harassed less often who reported a GPA of 3.0.

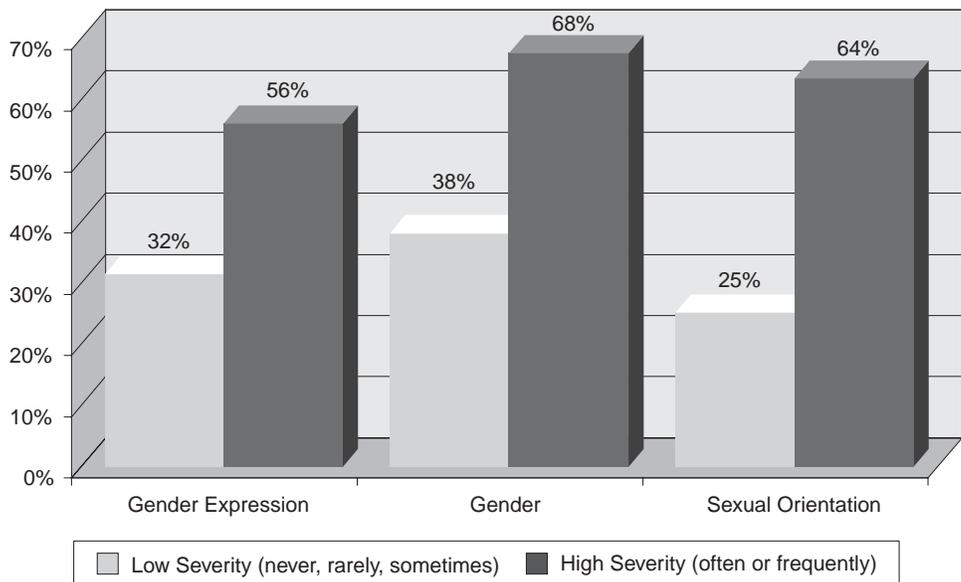
Not only may frequent harassment result in lower academic achievement, but it may also affect a student's educational aspirations. Figure 16 shows the percentage of transgender students not planning to pursue a college education by levels of verbal harassment based on gender, gender expression, and sexual orientation. Across all three types of harassment, transgender students who were more frequently harassed were more likely to say they did not plan to pursue further education than those who were less often harassed.<sup>24</sup> For example,

almost half (49%) of students who experienced high frequencies of verbal harassment because of their gender did not plan to go to college, compared to a third (32%) of those who had not experienced such high levels of harassment (see Figure 16).

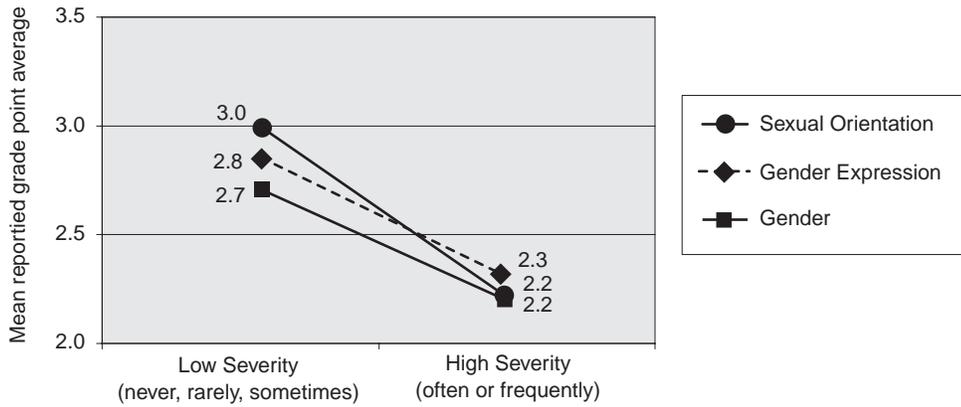
Given the relationship between harassment and educational outcomes, and given that transgender students are more likely to be harassed than non-transgender LGB students, it is not surprising that transgender students reported poorer educational outcomes than non-transgender students. Specifically, transgender students had lower educational aspirations than male students and reported lower GPAs than male students and marginally lower GPAs than female students.<sup>25</sup> In addition, there was a difference for transgender students in the degree to which harassment negatively affected academic achievement. Although for all gender groups increased harassment was associated with lower GPAs, this negative relationship was stronger for transgender students such that their GPAs fell even lower than non-transgender students when having experienced high levels of harassment. It is possible that victimization for transgender students has a greater effect on their emotional well-being, which then results in lowered achievement.

**Figure 14. Severity of Verbal Harassment and Absenteeism Due to Safety Reasons**

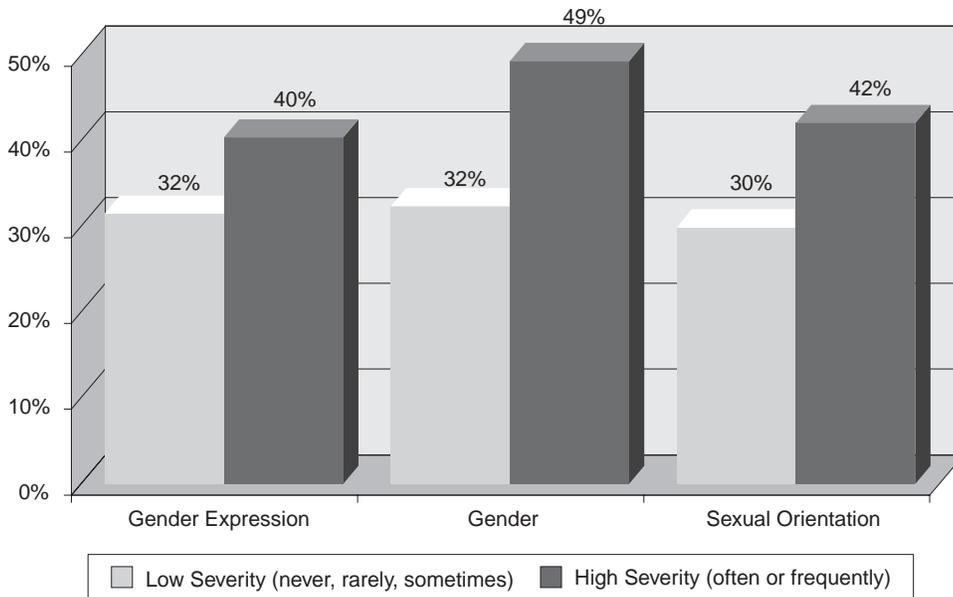
(percentage who missed at least one day of school in the past month)



**Figure 15. Academic Achievement and Severity of Verbal Harassment**



**Figure 16. Severity of Verbal Harassment and Educational Aspirations**  
(percentage NOT planning to pursue post-secondary education)



## Notes

- 22 The relationships between missing school and harassment were examined through Pearson correlations—verbal harassment based on gender expression:  $r=.27$ ; verbal harassment based on gender:  $r=.34$ ; verbal harassment based on sexual orientation:  $r=.40$ . All correlations were significant at  $p<.01$ . Percentages are shown for illustrative purposes.
- 23 The relationships between GPA and harassment were examined through Pearson correlations: verbal harassment based on gender expression:  $r=-.21$ ; verbal harassment based on gender:  $r=-.20$ ; verbal harassment based on sexual orientation:  $r=-.30$ . All correlations were significant at  $p<.01$ . Mean GPAs by level of harassment are shown for illustrative purposes.
- 24 The relationships between educational aspirations and harassment were examined through Pearson correlations: verbal harassment based on gender expression:  $r=-.13$ ,  $p<.05$ ; verbal harassment based on gender:  $r=-.14$ ,  $p<.05$ ; verbal harassment based on sexual orientation:  $r=-.16$ ,  $p<.01$ . Percentages are shown for illustrative purposes.
- 25 To test differences across gender identity, a multiple analysis of covariance (MANCOVA) was conducted with GPA and educational aspirations as the dependent variables, gender identity as the independent variable, and sexual orientation as a covariate. The multivariate effect was significant: Pillai's Trace=.01,  $F(6, 12196)=9.89$ ,  $p<.001$ . Univariate effects were considered significant at  $p<.01$  and marginally significant at  $p<.05$ .

## Engagement with the School Community

The degree to which students feel accepted by and a part of their school community is another important indicator of the quality of their school experience and is related to educational outcomes. To the extent that students feel comfortable in school and with their classmates and believe that school staff care about their well-being and academic success, they may then have greater academic motivation and higher academic achievement.<sup>26</sup> In contrast, being harassed or assaulted in school would likely make a student feel less welcome or part of the school community. In the *2007 National School Climate Survey*, we examined indicators of school engagement, such as: LGBT students' sense of belonging to their school community, their level of "outness" about their sexual orientation or gender identity, and their participation in discussions of LGBT-related issues in school. We found, in fact, that students experiencing more frequent victimization were less likely to feel like a part of their school community. Given that transgender students experienced higher levels of harassment and assault than non-transgender students in the survey sample, we believed it was important to specifically examine their sense of belonging to and engagement in their school community.

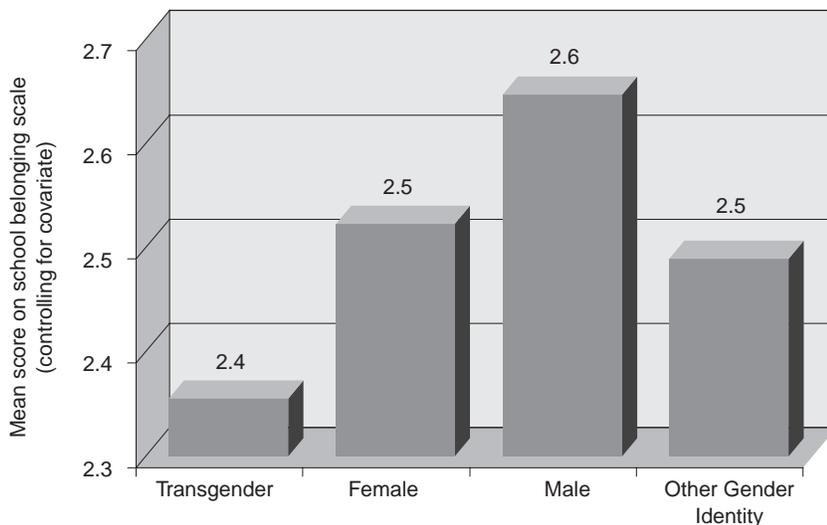
---

### School Belonging

---

In order to examine students' sense of belonging to their school community, students were given a series of statements about feeling like a part of their school and were asked to indicate how much they agreed or disagreed with the statements.<sup>27</sup> Given that transgender students experienced higher levels of victimization than other students in the *2007 National School Climate Survey* sample, we expected that they would be less likely to feel that they were a part of their school. And, in fact, as illustrated in Figure 17, transgender students had a lower sense of school belonging than non-transgender LGB students.<sup>28</sup>

**Figure 17. Sense of School Belonging by Gender Identity**



---

## ***Outness***

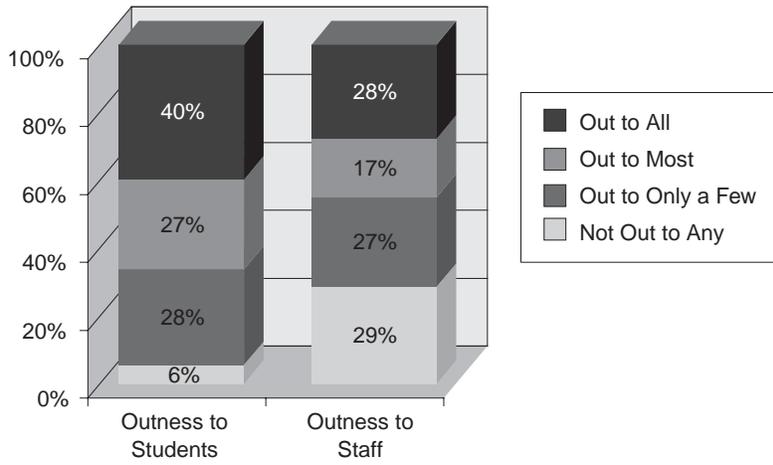
---

Even when transgender students feel safe from physical harm in school, they may not be comfortable disclosing their gender identity and/or sexual orientation which may prevent them from participating in school activities as fully as their peers. Students were asked how “out” or open they were in school about their sexual orientation and/or gender identity to other students and to school staff. As shown in Figure 18, the majority (66%) of transgender students were out to most or all of their peers. In contrast, less than half of transgender students (45%) were out to most or all of the school staff (see also Figure 18). Transgender students were not different than non-transgender LGB students in their degree of outness to other students;<sup>29</sup> however, transgender students were more likely to be out to staff members than other students. As shown in Figure 19, three-quarters of transgender students were out to most or all of the school staff compared to about two-thirds of the other groups.<sup>30</sup> Students were also asked whether or not they were out to a parent or guardian. As illustrated in Figure 19, transgender students were more likely than female students and students with other gender identities to be out to be to a parent or guardian, but were not more likely than male students.<sup>31</sup>

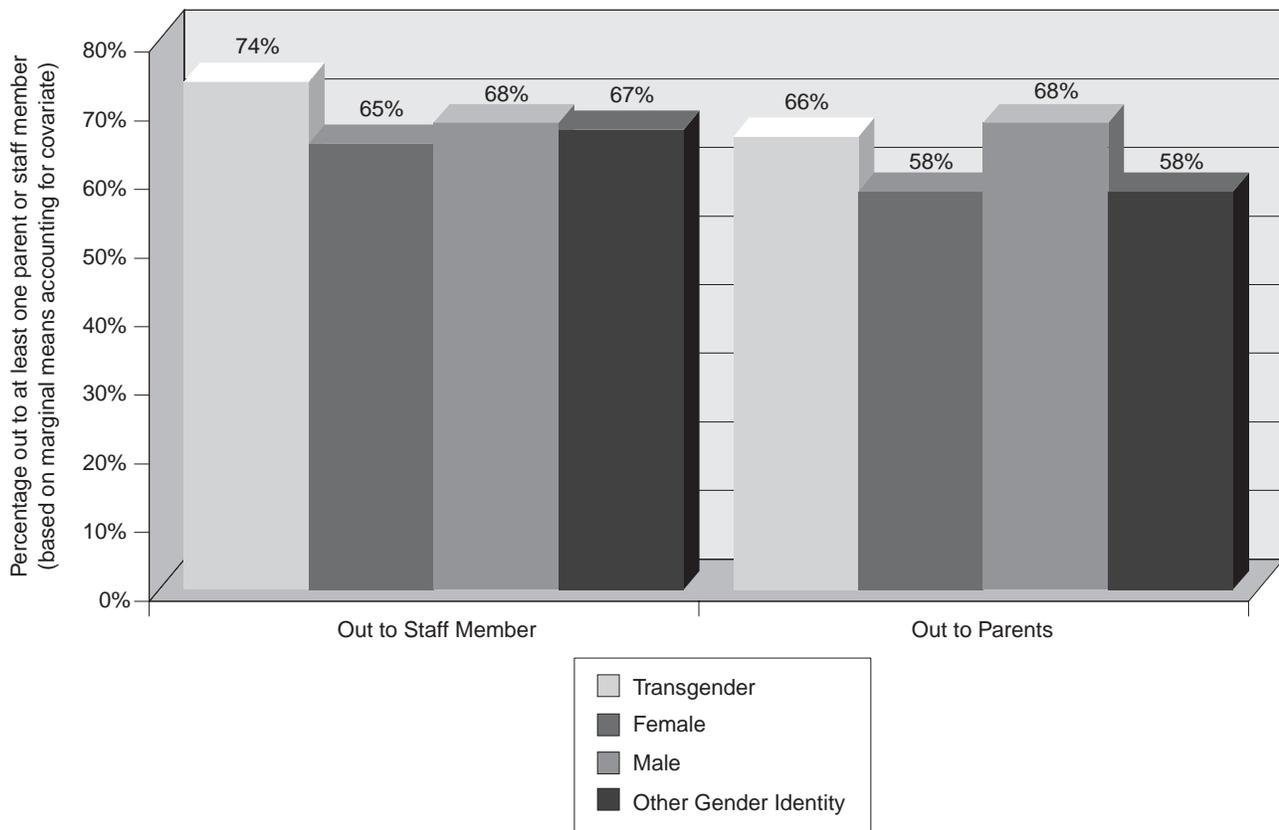
Some transgender students may feel that they cannot publicly acknowledge their sexual orientation or gender identity because it may single them out for harassment in school. As shown in Figure 20, the more out transgender students were to their peers at school, the higher their reported experiences of victimization related to their gender expression and sexual orientation.<sup>32</sup> However, those who were more out in school were also more likely to report experiences of victimization to school staff.<sup>33</sup> In the *2007 National School Climate Survey*, some students indicated that they did not report incidents to school staff because of concerns about confidentiality, specifically that they feared being “outed” by the staff person to other members of the school community. A transgender student who is already out to students or staff might be less concerned about being “outed” and thus, as we found, more likely to report incidents. For example, as illustrated in Figure 21, 18% of transgender students who were out to most or all of their school staff indicated that they reported incidents of harassment or assault to staff most of the time or always, compared to 10% of those who were either not out to staff or only out to a few staff.

Being out about one’s sexual orientation and/or gender identity may also have positive effects on transgender students’ educational experiences. For transgender students, being out, and thus able to participate more fully in one’s school community, was related to a greater sense of belonging in school.<sup>34</sup> For example, as shown in Figure 22, transgender students who were out to most or all other students reported a greater sense of belonging to their school community than those who were not out or only out to a few other students.

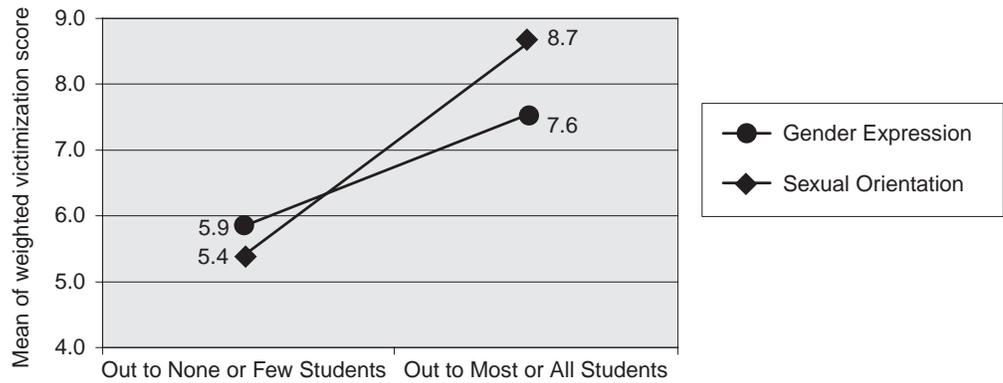
**Figure 18. Degree of Being Out to Other Students and School Staff**



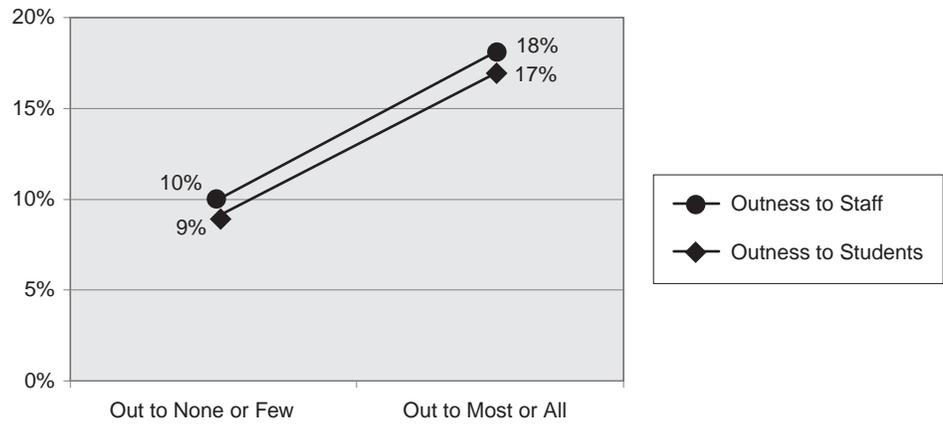
**Figure 19. Outness to School Staff and Parents by Gender Identity**



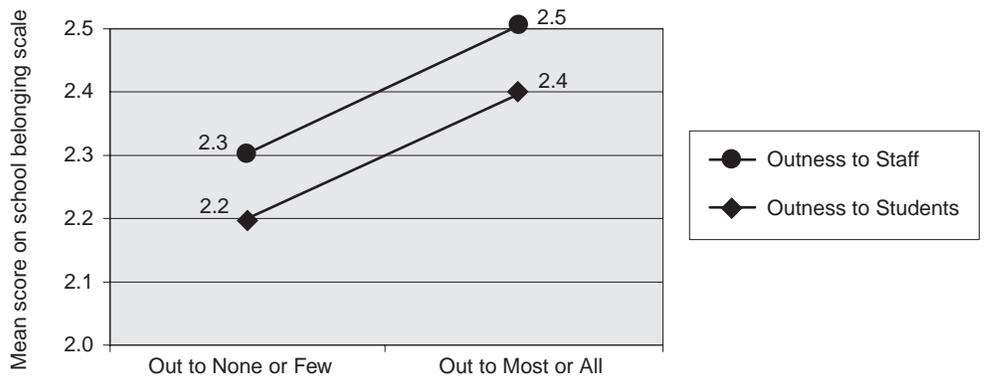
**Figure 20. Experiences of Victimization Based on Gender Expression and Sexual Orientation and Degree of Outness to Students at School**



**Figure 21: Reporting of Harassment and Assault to School Staff and Degree of Outness at School**  
(percentage reporting incidents to staff "most of the time" or "always")



**Figure 22: Sense of Belonging by Degree of Outness at School**



---

## ***Talking About LGBT-Related Issues in School***

---

Discussing LGBT issues in class may be another indicator of school engagement, as being able to talk about these issues in school may enhance a student's educational experience and make the student feel like a greater part of the school community. For example, students may want to raise issues related to LGBT people or events, such as discussions of the LGBT civil rights movement in a social studies class. Almost half (43%) of transgender students reported being uncomfortable raising LGBT issues in class (see Figure 23); nevertheless, three-fourths (76%) had actually raised these issues at least once in the past year (see Figure 24).

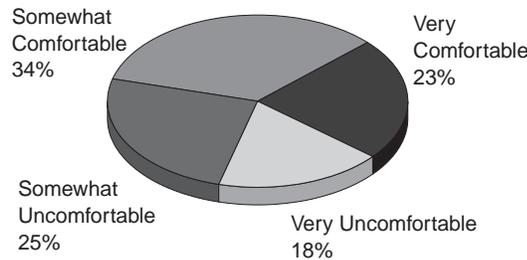
In addition to asking students about raising LGBT issues during class, we asked about their interactions with various school personnel about LGBT-related issues. Transgender students reported that they would be most comfortable talking one-on-one with teachers or school mental health professionals, such as counselors, social workers, or psychologists. As shown in Figure 25, about half of students reported that they would be somewhat or very comfortable talking with their teachers or a school counselor, social worker, or school psychologist, and over a third said that they would be comfortable talking with a school nurse or other medical professional. Fewer transgender students said they would feel comfortable talking one-on-one with a principal, vice/assistant principal, school librarian or other resource staff, or a coach about these issues.

Students were also asked how often they had actually spoken with various school personnel about LGBT-related issues in the past school year. By and large, the staff with whom they most often had discussed these issues were the same staff with whom they were most comfortable – teachers and school mental health professionals (counselors, social workers, psychologists). However, as shown in Figure 26, transgender students were more likely to have actually spoken with a teacher (66%) than a school mental health professional (51%) even though their comfort level with counselors/social workers/psychologists was somewhat higher. This finding is to be expected given that students typically spend more time interacting with teachers than school-based mental health professionals and thus students may have more opportunity to engage in conversations with teachers. Transgender students were much less likely to report having talked about LGBT issues with principals, vice/assistant principals, or other school personnel (see again Figure 26).

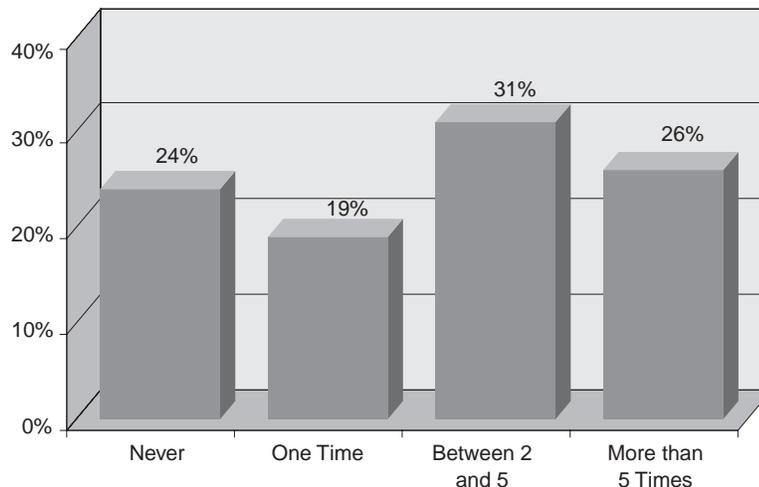
Being able to talk about LGBT issues in school may help transgender students feel more connected to their school community. We found that students who talked about these issues more often in school, both by raising them in class and talking to school staff, were more likely to feel like a part of their school.<sup>35</sup> For example, as shown in Figure 27, transgender students who rarely talked to their teachers about LGBT issues had lower scores on the school belonging scale (2.3) than those who regularly talked to their teachers (2.7).

Compared to non-transgender lesbian, gay, and bisexual students, transgender students were more likely to talk about LGBT issues in school, although they were not any more comfortable doing so.<sup>36</sup> Specifically, transgender students were more likely to report having actually raised LGBT issues in class<sup>37</sup> and having talked with school staff about these issues<sup>38</sup> (see Figures 28 and 29). For example, as illustrated in Figure 29, over half (52%) of transgender students had talked to a school counselor, social worker, or psychologist about LGBT issues in the past year, compared to a third (34%) of male students. Although we had thought that these differences may be related to the higher levels of victimization reported by transgender students – having higher levels of victimization perhaps increasing the likelihood of talking to school staff – these gender differences remained even after accounting for levels of victimization experienced.<sup>39</sup> Thus, it appears that transgender students may be talking more often to school staff about LGBT-related issues other than their experiences of victimization. Further research should examine the content of these LGBT-related communications, and research should explore why, even when they feel no more comfortable doing so, transgender students are more likely to discuss LGBT issues in school than LGB students who do not identify as transgender.

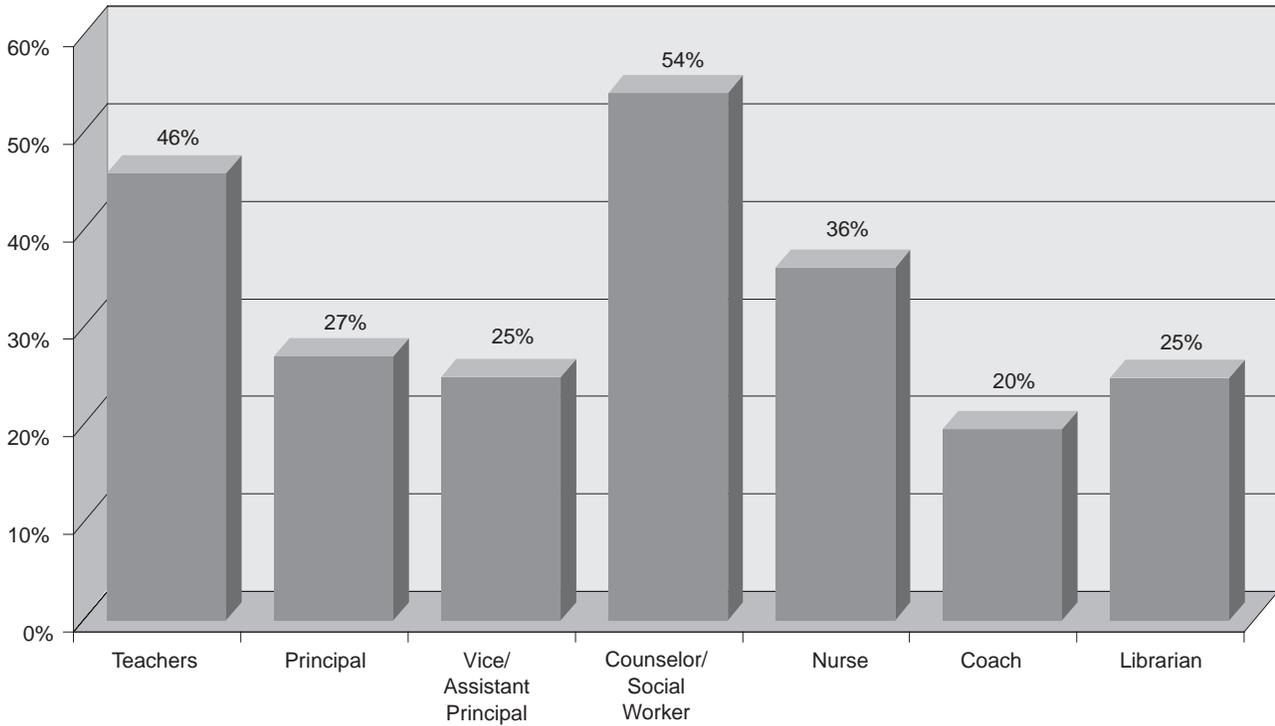
**Figure 23. Comfort Level Raising LGBT Issues in Class**



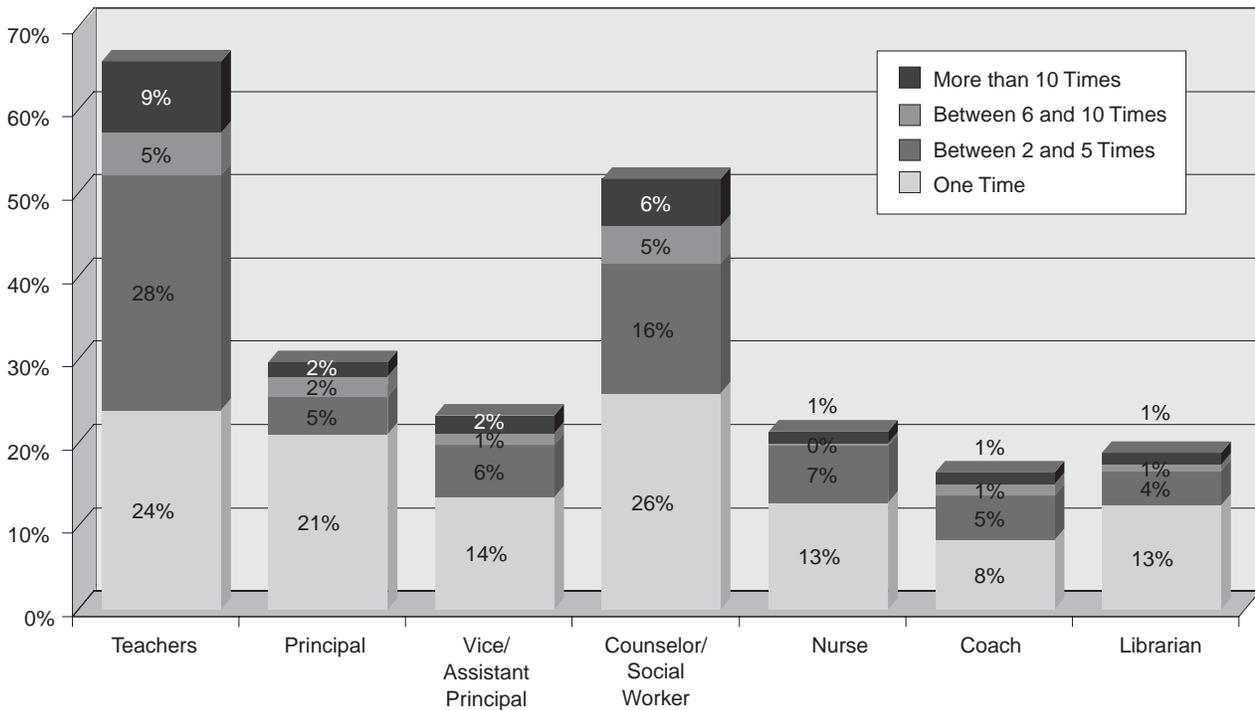
**Figure 24. Frequency of Students Raising LGBT Issues in Class**



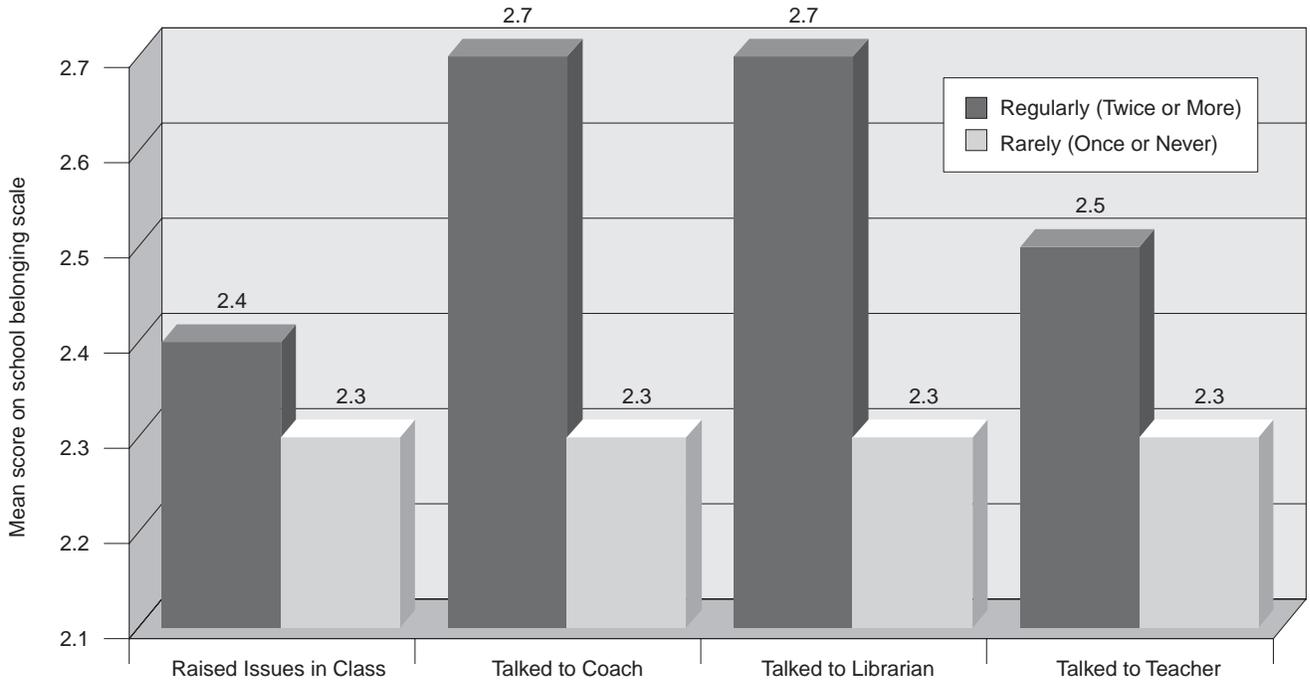
**Figure 25. Comfort Talking with School Staff about LGBT Issues**  
 (percentage reporting they would be "somewhat comfortable" or "very comfortable")



**Figure 26. Frequency of Students Speaking to School Staff about LGBT Issues**



**Figure 27. Sense of Belonging and Talking about LGBT Issues in School**



**Figure 28. Raising LGBT Issues in Class by Gender Identity**

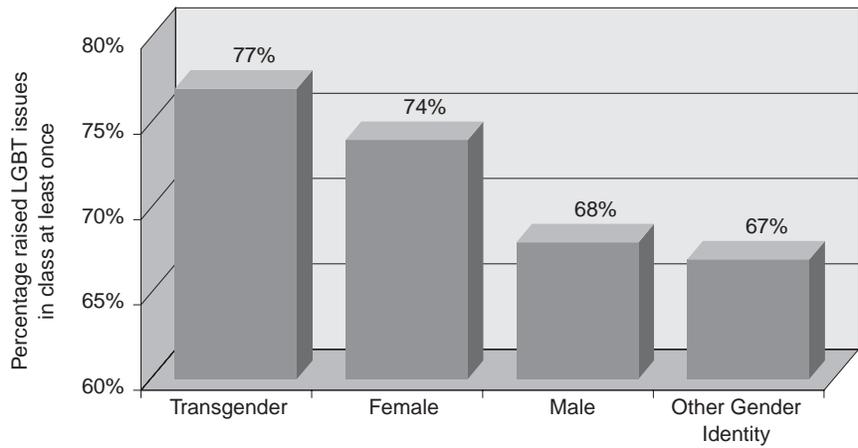
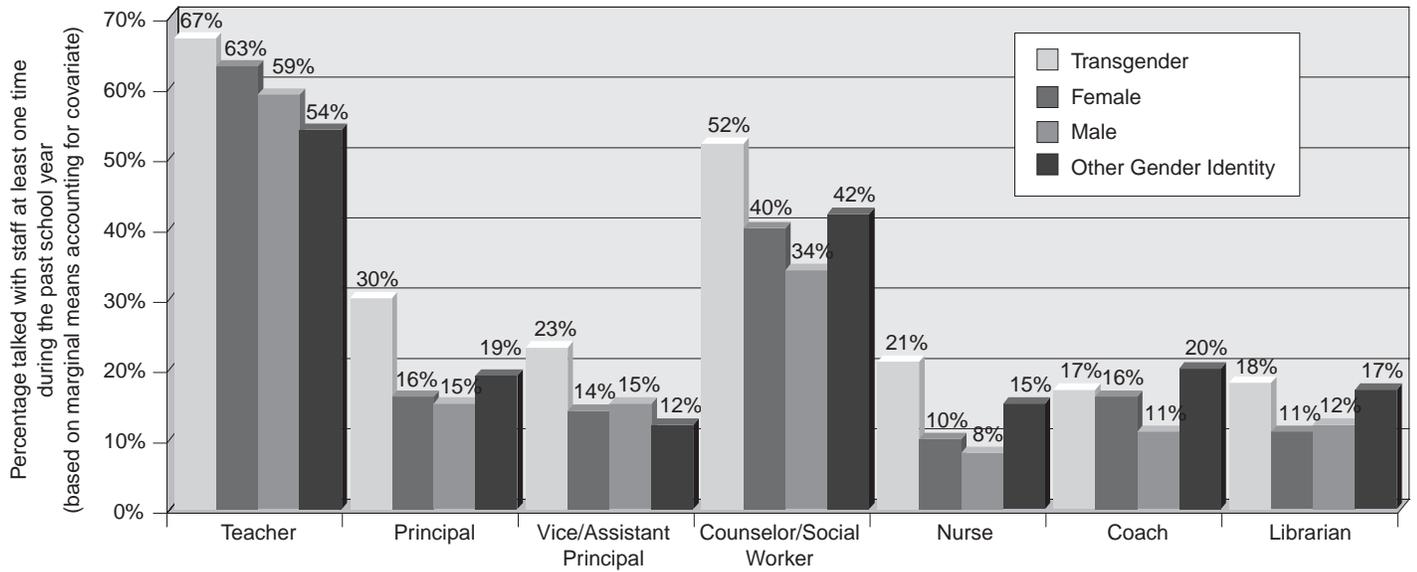


Figure 29. Talking to School Staff about LGBT Issues by Gender



## Notes

- 26 Goodenow, C. & Grady, K.E. (1993). The relationship of school belonging and friends' values to academic motivation among urban adolescent students. *Journal of Experimental Education*, 62(1), 60–71.
- Roeser, R.W., Midgley, C. & Urdan, T.C. (1996). Perceptions of the school psychological environment and early adolescents' psychological and behavioral functioning in school: The mediating role of goals and belonging. *Journal of Educational Psychology*, 88, 408–422.
- 27 A measure for the psychological sense of school membership was developed for use with adolescents by Carol Goodenow: Goodenow, C. (1993). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools*, 30(1), 79–90.
- 28 To test differences across gender identity, an analysis of covariance (ANCOVA) was conducted with feeling of school belonging as the dependent variable, gender identity as the independent variable, and sexual orientation as a covariate. The main effect of gender identity was significant:  $F(3, 6136)=27.64$ ,  $p<.001$ .
- 29 To test differences across gender identity, an analysis of covariance (ANCOVA) was conducted with outness to students as the dependent variable, gender identity as the independent variable, and sexual orientation as a covariate. The main effect of gender identity was not significant.
- 30 To test differences across gender identity, an analysis of covariance (ANCOVA) was conducted with outness to staff as the dependent variable, gender identity as the independent variable, and sexual orientation as a covariate. The main effect of gender identity was significant:  $F(3, 6149)=9.73$ ,  $p<.001$ . Transgender students were significantly higher on outness to staff than non-transgender LGB female students, and marginally higher than non-transgender GB male students and LGB students with other gender identities. Percentages are shown for illustrative purposes.
- 31 To test differences across gender identity, an analysis of covariance (ANCOVA) was conducted with outness to parents as the dependent variable, gender identity as the independent variable, and sexual orientation as a covariate. The main effect of gender identity was significant:  $F(3, 6147)=4.31$ ,  $p<.01$ . Percentages are shown for illustrative purposes.
- 32 The relationships between being out to students and experiences of victimization were examined through Pearson correlations— victimization based on sexual orientation:  $r=.23$ ,  $p<.01$ ; victimization based on gender expression:  $r=.20$ ,  $p<.01$ . The correlation between being out and experiences of victimization based on gender was not significant. Category means are shown for illustrative purposes.
- 33 The relationships between reporting and being out were examined through Pearson correlations – out to other students:  $r=.18$ ,  $p<.01$ ; out to staff:  $r=.17$ ,  $p<.05$ . Percentages are shown for illustrative purposes.
- 34 The relationships between school belonging and being out were examined through Pearson correlations – out to other students:  $r=.19$ ,  $p<.01$ ; out to staff:  $r=.20$ ,  $p<.01$ . Category means are shown for illustrative purposes.
- 35 The relationships between raising LGBT issues in class and school belonging was examined through a Pearson correlation— $r=.13$ ,  $p<.01$ .
- The relationships between talking to school staff and school belonging were also examined through Pearson correlations. The correlations were significant for talking to teachers:  $r=.20$ ,  $p<.01$ ; coaches:  $r=.15$ ,  $p<.01$ ; and librarians/resource staff:  $r=.16$ ,  $p<.01$ .

- 36 To test differences in comfort level raising LGBT issues in class across gender identity, an analysis of covariance (ANCOVA) was conducted with comfort level raising LGBT issues in class as the dependent variable, gender identity as the independent variable, and sexual orientation as a covariate. The main effect of gender identity was significant:  $F(3, 6142)=4.92, p<.01$ , although post-hoc comparisons indicated that there were no differences between transgender students and other students.
- To test differences in comfort level talking school staff about LGBT-related issues across gender identity, a multivariate analysis of covariance (MANCOVA) was conducted with comfort level talking to each school staff member as dependent variables, gender identity as the independent variable, and sexual orientation as a covariate. Multivariate results were significant: Pillai's Trace=.047,  $F(21, 17,781)=13.58, p<.001$ , although post-hoc comparisons indicated that there were no differences between transgender students and other students.
- 37 To test differences across gender identity, an analysis of covariance (ANCOVA) was conducted with number of times raising LGBT issues as the dependent variable, gender identity as the independent variable, and sexual orientation as a covariate. The main effect of gender identity was significant:  $F(3, 6134)=10.91, p=.001$ . Post-hoc comparisons revealed that transgender students were more likely ( $p<.01$ ) than non-transgender GB male students and LGB students with other gender identities to have raised LGBT issues in class, and marginally more likely ( $p<.05$ ) than LGB female students. Percentages are shown for illustrative purposes.
- 38 To test differences across gender identity, a multivariate analysis of covariance (MANCOVA) was conducted with talking to each school staff member (never talking staff member and talking to staff member at least once) as the dependent variables, gender identity as the independent variable, and sexual orientation as a covariate. Multivariate results were significant: Pillai's Trace=.026,  $F(21, 17460)=7.28, p<.001$ . Univariate effects were considered at  $p<.01$ . Transgender students were more likely to have talked with principals and vice/assistant principals than all other types of students. Transgender students were more likely than LGB female students and LGB students with other gender identities to have talked with teachers. Transgender students were more likely than male and female LGB students and marginally more likely ( $p<.05$ ) than LGB students with other gender identities to have talked with counselors/school social workers/school psychologists and with school nurses/other medical professionals. Transgender students were more likely than male and female LGB students to have talked with librarians/other resource staff. Transgender students were only marginally more likely ( $p<.05$ ) than male LGB students to have talked with coaches. Percentages are shown for illustrative purposes.
- 39 To test differences across gender identity, controlling for levels of victimization, a multivariate analysis of covariance (MANCOVA) was conducted with talking to each school staff member as the dependent variables, gender identity as the independent variable, and sexual orientation, victimization based on sexual orientation, victimization based on gender, and victimization based on gender expression as covariates. Multivariate results were significant: Pillai's Trace=.015,  $F(21, 16692)=3.39, p<.001$ . Univariate effects were considered at  $p<.01$ .

## **In-School Resources and Supports**

Another dimension of school climate for transgender students is the availability of positive resources about LGBT-related issues and of supportive teachers and other school personnel. Students were asked about the availability of in-school resources and supports: student clubs that address LGBT student issues (such as Gay-Straight Alliances); the inclusion of LGBT people, history, or events in class curricula; teachers and other school staff who are supportive of LGBT students; and school policies for addressing incidences of harassment or assault. In the *2007 National School Climate Survey*, we found that each of these resources can have a positive impact on overall school climate and the experiences of LGBT students. Given their potential to improve school climate, it is important to examine students' access to these in-school resources and supports. We did not expect that the availability of these school-based resources would be different for transgender students than for non-transgender LGB students; and, in fact, there were no significant differences in availability of resources. However, we believed it important to describe transgender students' access to resources and do so in the following section.

---

### ***Supportive Student Clubs***

For many LGBT students and their allies, student clubs that address LGBT student issues (commonly called Gay-Straight Alliances or GSAs) may offer critical support. Slightly less than half (44%) of transgender students reported that they had a GSA in their school (see Figure 30). Among transgender students who had a GSA, over two-thirds (68%) said that they attended meetings often or frequently. Although transgender students were not more likely to report having a GSA in their school, they did attend GSA meetings more often than lesbian, gay, and bisexual students in our survey who were not transgender.<sup>40</sup> For example, over two-thirds (69%) of transgender students reported attending GSA meetings frequently or often compared to less than half (47%) of male students (see Figure 31). Transgender students, however, were not more generally involved in extracurricular activities, as there was no difference in level of participation with other school activities, such as student government or drama club, between transgender students and non-transgender students.<sup>41</sup>

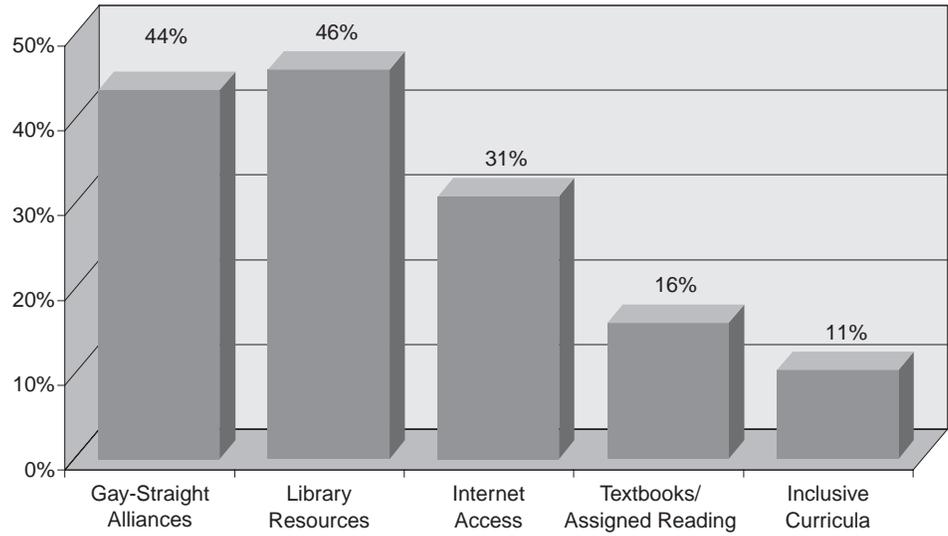
---

### ***Curricula Resources***

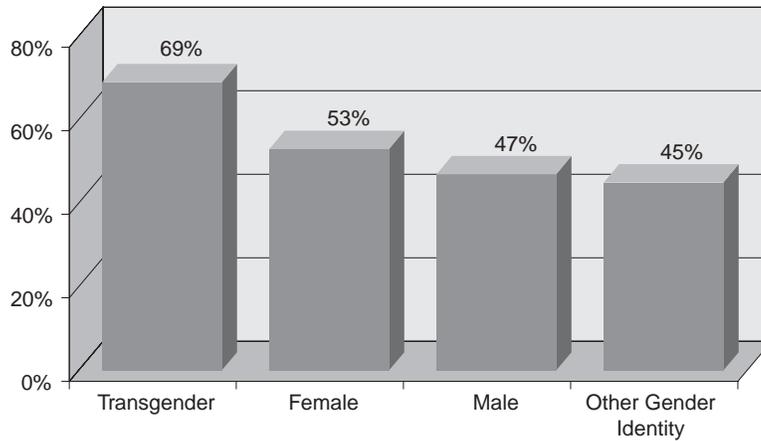
Most transgender students did not have access to LGBT-related curricular resources in school. As shown in Figure 30, less than half (46%) reported that they could find information about LGBT people, history, or events in their school library and only a third (31%) were able to access this information using the school Internet. Additionally, less than a fifth of transgender students (16%) reported that LGBT-related topics were included in their textbooks or other assigned

readings, and only a tenth (11%) were exposed to an inclusive curriculum that included positive representations of LGBT people, history, or events in their classes (see also Figure 30).

**Figure 30. LGBT-Related Resources in School**



**Figure 31. Frequency of Attending Gay-Straight Alliance (GSA) Meetings by Gender Identity**  
(percentage who attended GSA meetings "frequently" or "often")



---

### ***Supportive School Personnel***

---

Supportive teachers, principals, and other school staff serve as another important resource for transgender students. Having the support of caring adults in school may have a positive impact on the school experiences for students, particularly for those who feel marginalized or experience harassment. Eight out of ten transgender students (83%) could identify at least one school staff member whom they believed was supportive of LGBT students at their school, yet only slightly more than a third (36%) could identify six or more supportive school staff (see Figure 32).

---

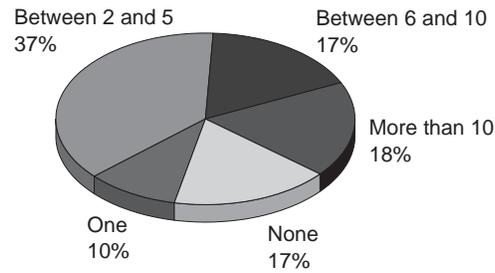
### ***School Policies for Addressing Harassment and Assault***

---

School policies that address in-school harassment and assault are imperative for creating school environments where students feel safe. Comprehensive policies enumerate categories that explicitly state protection based on personal characteristics, such as sexual orientation, gender identity, and gender expression. When a school has and enforces a comprehensive policy, one that also includes procedures for reporting incidents to school authorities, it can send a message that harassment and assault are unacceptable and will not be tolerated. It can also send a message that student safety, including the safety of LGBT students, is taken seriously by school administrators.

In the *2007 National School Climate Survey*, we found that having a comprehensive school policy was related to a more positive school climate for LGBT students in general. Policies that include gender identity and gender expression among enumerated categories may be particularly important for transgender students because they provide students with greater protection by making clear the various forms of harassment and assault that will not be tolerated and providing guidelines for reporting such events. Students were asked whether their school had a policy or procedure for reporting incidents of in-school harassment or assault, and if that policy explicitly included sexual orientation and gender identity or expression. As shown in Table 4, nearly half (46%) of transgender students reported that their school did not have a policy or did not know if their school had a policy. Among those who said their school had a policy, more reported that their school had a “generic” policy, one that does not include enumerated categories or specify the various types of harassment that are unacceptable. Few said that their school had a comprehensive policy that included sexual orientation and/or gender identity or expression (see also Table 4). Only about a tenth (12%) of transgender students reported that their school had a policy that specifically mentioned gender identity or gender expression.

**Figure 32. Number of School Staff Supportive of LGBT Students**



**Table 4. Students' Reports Regarding School Policies for Reporting Harassment and Assault**

No Policy <sup>a</sup>	46%
Any Policy	54%
Generic Policy <sup>b</sup>	31%
Comprehensive Policy	24%
Sexual Orientation Only	11%
Gender Identity/Expression Only	3%
Both Sexual Orientation & Gender Identity/Expression	9%

<sup>a</sup> Includes students who indicated that they did not know if there was a policy or not.

<sup>b</sup> Includes students who indicated that they did not know if the policy included specific enumeration.

## Notes

40 To test differences across gender identity, an analysis of covariance (ANCOVA) was conducted with frequency of GSA attendance as the dependent variable, gender identity as the independent variable, and sexual orientation as a covariate. The main effect of gender identity was significant:  $F(3, 2236)=9.83$ ,  $p<.001$ . Percentages are shown for illustrative purposes.

41 To test differences across gender identity, an analysis of covariance (ANCOVA) was conducted with level of school activity participation as the dependent variable, gender identity as the independent variable, and sexual orientation as a covariate. The main effect of gender identity was not significant.



## **CONCLUSIONS AND RECOMMENDATIONS**

### **Limitations**

The findings presented in this report provide valuable information about the school experiences of transgender students and may add to our understanding of the educational experiences of these youth. However, as with all research, there are some limitations to our study. It is important to note that the sample for this report is representative only of students who identified as transgender and had some connection to LGBT communities (either through their local youth organization or through the Internet) or had a MySpace page. However, because MySpace did not offer its users the opportunity to identify their gender as anything other than male or female, our outreach to transgender students through MySpace was limited to transgender students who identified as lesbian, gay, or bisexual.

### **Discussion**

Findings presented in this report highlight the experiences of transgender youth in U.S. schools. Similar to their non-transgender lesbian, gay, and bisexual peers, most transgender youth attended schools with hostile school climates. Many transgender students reported frequently hearing homophobic and sexist language, and negative remarks about gender expression from other students. They reported little intervention on the part of school personnel when such language was used, as well as hearing school personnel make such remarks themselves. Many transgender students were made to

feel unsafe in school because of their personal characteristics, most notably their gender expression and sexual orientation. The majority of students were verbally harassed in school in the past year because of their gender expression, sexual orientation, and gender. Many also experienced physical violence in school for these reasons. This hostile school climate had very negative repercussions on transgender students' ability to succeed in school – a high incidence of harassment was related to increased absenteeism, decreased educational aspirations, and lower academic performance. In addition to experiencing high levels of in-school victimization, many transgender students lacked the institutional supports that may ameliorate the negative effects of victimization. Transgender students who were victimized in school were unlikely to regularly report the events to school authorities, the very people who are tasked with ensuring that all students have a safe learning environment. Unfortunately, among those who did report incidents to school personnel, few students believed that staff addressed the situation effectively. Furthermore, although most transgender students could identify at least one supportive educator, the majority lacked access to other supportive resources, such as, GSAs, inclusive curricula, and comprehensive anti-harassment policies.

Findings from this report indicate that the school experiences of transgender students are similar to, yet also distinct in some ways, from their non-transgender lesbian, gay, and bisexual peers. Although LGBT students in general experience high levels of victimization, transgender students consistently reported the highest levels of victimization and were less likely than non-transgender students to feel like a part of their school community. Prior National School Climate Surveys<sup>42</sup> have found similar differences, with transgender students experiencing a more hostile school environment than non-transgender students. Whereas lesbian, gay, and bisexual people are often viewed as not conforming to traditional gender norms, transgender people may pose a challenge not only to gender roles, but also to the traditional understanding of gender itself; by challenging the convention that one's gender identity naturally follows their gender assigned at birth. Thus, transgender people may be more vulnerable to stigmatization, harassment, and discrimination that results from the strict enforcement of the traditional system of gender. In fact, prior research indicates that the more individuals deviate from traditional societal norms related to gender, the more likely they are to experience victimization and isolation.<sup>43</sup>

In addition to experiencing a more hostile school climate, this report demonstrates that transgender students were also more likely to be engaged with LGBT-related issues in their schools, as evidenced by more frequent attendance at GSA meetings, more frequent interaction with school personnel about LGBT issues, and greater frequency of raising LGBT issues in class. It is possible that transgender students are more engaged in LGBT-related issues and talk more with school staff because they face higher levels of in-school victimization; yet,

even when accounting for levels of victimization, there were still differences between transgender and non-transgender students. Thus, it may be that beyond explicit victimization, transgender students face other unique challenges in school that result in an increased interaction with educators and other students about LGBT issues. Perhaps transgender students are put in the position of having to educate school personnel and advocate for their rights in ways that non-transgender LGB students are not – for example, having to explain to others what being transgender means. School personnel and secondary students are most likely familiar with the idea of being gay, lesbian, or bisexual, and given that there are more gay, lesbian, and bisexual people than transgender people, they may have limited exposure to the concept of being transgender or to transgender individuals. In fact, past research found that both students and educators were more than twice as likely to know a gay, lesbian, or bisexual student than a transgender student.<sup>44</sup> In addition to educating members of the school community about being transgender, these students may also have to advocate for themselves with school authorities, particularly around issues related to accessing gender-segregated facilities (e.g., bathrooms and locker rooms) or being addressed by their preferred names and pronouns. An increased need to explain their situation and advocate for themselves may also account for why we found that transgender students were more likely to be out to school staff than non-transgender LGB students. Yet, although transgender students were more likely than their non-transgender peers to talk about LGBT issues in school, they were not any more comfortable doing so. Thus, perhaps transgender students engage in an inadvertent activism of sorts, in that given the nature of the challenges they face in school, they may have to advocate for their rights in ways that non-transgender students do not.

In addition to facing hostile school climates, both transgender and non-transgender lesbian, gay, and bisexual students shared other similar school experiences. All were unlikely to report incidents of harassment and assault to school staff, and those that did were unlikely to find the response of school staff to be effective. Transgender students' access to resources and supports also did not differ from their non-transgender peers, as LGBT students, regardless of their transgender status, lacked access to many school-based resources and supports.

## **Future Directions for Research**

This report adds to available information about LGBT youth by examining the specific experiences of a national sample of transgender students. With 295 participants, this study had one of the largest samples of transgender youth. Yet, research with larger samples of transgender youth is necessary to further our understanding of their experiences and enable examination of specific subgroups within the larger population of transgender youth. Future research should examine

the school experiences within various subgroups of transgender youth (e.g., Latino/a transgender youth, lesbian transgender youth, transgender youth in rural communities) and explore differences in experiences based on various demographic characteristics (e.g., race/ethnicity, age, sexual orientation). Furthermore, although we found no differences in transgender students' experiences based on the way they specifically identified their gender (e.g., male-to-female transgender, female-to-male transgender, transgender), the relatively small sample of youth in each category may have limited our ability to detect any differences in their experiences. Given that transgender people identify in a variety of ways, future research should examine potential differences in their experiences based on how they identify. Quantitative research with a large enough sample size to detect potential differences is needed, as well as qualitative research that explores transgender youth's experiences more in depth.

The current report has also raised a number of additional questions for future research. The findings from this report indicate that, compared to lesbian, gay, and bisexual students who do not identify as transgender, transgender students are more likely to be involved in LGBT-related issues, through their involvement in GSAs, interactions with school staff, and participation in classroom discussions. Research that explores both the content of and possible explanations for transgender students' greater involvement in LGBT issues at school would be an important contribution to our understanding of LGBT students' school experiences.

Further research is also needed on school structures, policies, and practices related to issues of gender expression and gender identity. For example, as existing research indicates that gender identity and expression are less likely than sexual orientation to be addressed in anti-harassment policies<sup>45</sup> and trainings for educators,<sup>46</sup> it is likely that other LGBT-inclusive resources (e.g., curricula, library resources) are more apt to include information about lesbian, gay, and bisexual people, history, and events than information about transgender people or issues. Findings from this report indicate that many transgender students do not have access to LGBT-related in-school resources at all, but further research should examine the extent to which these resources specifically address transgender people, history, and events. In addition to specifically LGBT-related resources, research should examine other school policies and practices, as school facilities are often segregated by gender with no alternatives provided for students for whom this creates difficulties. Research on the existence of traditionally gender segregated spaces (e.g., bathrooms and locker rooms) and school policies (e.g., dress codes and athletic teams) would provide a more complete picture of the ways in which school environments may accommodate or disenfranchise students who do not conform to traditional gender norms.

## Recommendations for Policy and Practice

The findings detailed in this report make it clear that there is an urgent need for action to create a safer school climate for transgender students. Educators, policymakers, and safe school advocates must continue to seek to understand the specific experiences of transgender students, and implement measures to ensure that schools are safe and inclusive environments for transgender youth.

Findings from the *2007 National School Climate Survey* highlight the important role that institutional supports can play in making schools safer for LGBT students. The availability of supportive school staff, Gay-Straight Alliances, LGBT inclusive curricular resources, and the presence of comprehensive anti-harassment school policies were related to improved school climate on a number of indicators, including: increased feelings of safety, lower frequencies of harassment and assault, lower absenteeism due to safety concerns, lower academic achievement, higher frequencies of reporting incidents of harassment and assault to school authorities, and more effective responses to incidents by school staff. Unfortunately, we found that the majority of transgender students did not have access to most of these resources. On a positive note, the vast majority of transgender students could identify at least one supportive staff person in school, although only about a third reported having access to many supportive staff. Given the potential positive impact of supportive educators, student clubs, curricular resources, and comprehensive anti-harassment policies on the school experiences of LGBT students, it is imperative that schools work to provide these resources to students.

Along with providing access to LGBT-related resources, it is important for educators, advocates, and policymakers to recognize how the needs of transgender youth may both be similar to and different from the needs of their non-transgender peers. It appears that educators are aware that transgender students may face particularly hostile climates – in two national studies, teachers and school principals recognized that transgender students would feel less safe at school than LGB students.<sup>47</sup> Yet, in order for LGBT-related resources to truly be inclusive and effective for transgender students, they must explicitly address issues and experiences specific to transgender students. However, prior research indicates that the needs of transgender students are often ignored and that issues involving gender identity or gender expression are rarely included in school policies or practices. School personnel need professional development to improve rates of intervention and increase the number of supportive school staff available to transgender students. However, a national survey of public school principals indicates that educators were rarely exposed to information about transgender students or victimization based on gender identity or expression.<sup>48</sup> Although educators were unlikely to receive this information, few principals believed that transgender issues were among the areas where their staff needed the most support and

training. Thus, it may be necessary for advocates to engage in efforts to make school administrators aware of the importance of training for educators on these issues. School staff can also help to create a safe and welcoming environment for all students by proactively educating their students. In an effort to prevent the all too pervasive negative remarks about gender expression, homophobic remarks, and harassment of transgender students, students should be taught that this type of behavior is not acceptable. Yet, based on research from a national survey of principals, most anti-bullying/harassment programs for students did not include information on bullying or harassment based on students' gender identity or gender expression.<sup>49</sup>

In addition to educating staff and students, schools and districts should also adopt and implement comprehensive policies that enumerate categories, including sexual orientation and gender identity and expression, and have clear and effective systems for reporting and addressing incidents that students experience. Yet, similar to findings from past research,<sup>50</sup> this report indicates that most schools do not have such policies. In addition, LGBT students overall reported that their schools' policies were more likely to specifically enumerate sexual orientation than gender identity or gender expression. Furthermore, many students were not aware whether their school had a policy or not. Thus, in addition to the inclusion of specific protections based on sexual orientation, gender identity, and gender expression, schools must take measures to ensure that all members of the school community are aware of the policies that are currently in place.

Although implementing strategies to decrease bullying and harassment for all students is crucial, schools must also go beyond addressing these critical issues and consider how policies and practices related to traditional notions of gender may contribute to a hostile school climate. For example, the gender segregation of school facilities, such as bathrooms, locker rooms, and physical education classes, gender-specific dress codes, and classroom procedures that sort students into groups by gender may all pose challenges for transgender students. Practices and policies that are sensitive to the experiences of transgender students would not only serve to improve their school experiences, but can send an important message to all members of a school community that individuals will not be limited nor defined merely by their gender.

Taken together, these recommended measures can move us towards a future in which every child learns to respect and accept all people, regardless of sexual orientation, gender identity, or gender expression.

## Notes

42 Kosciw and Diaz (2006). See Note 2 for full citation.

Kosciw, J. G. (2004). *The 2003 National School Climate Survey: The School-Related Experiences of our Nation's Lesbian, Gay, Bisexual and Transgender Youth*. New York: GLSEN.

43 Daley et al. (2008). Daley, A., Solomon, S., Newman, P. A., & Mishna, F. (2008). Traversing the margins: Intersectionalities in the bullying of lesbian, gay, bisexual and transgender youth. *Journal of Gay & Lesbian Social Services*, 19(3), 9–29.

Fitzpatrick, K. K., Eutona, S. J., Jonesa, J. N., & Schmidt, N. B. (2005). Gender role, sexual orientation and suicide risk. *Journal of Affective Disorders*, 87, 35–42.

Young, R. & Sweeting, H. (2004). Adolescent bullying, relationships, psychological well-being, and gender-atypical behavior: A gender diagnosticity approach. *Sex Roles*, 50(7/8), 525–537.

44 Harris Interactive & GLSEN (2005). *From Teasing to Torment: School Climate in America, A Survey of Students and Teachers*. New York: GLSEN.

45 Kosciw, et al. (2008). See Note 6 for full citation.

GLSEN & Harris Interactive. (2008). *The Principal's Perspective: School Safety, Bullying and Harassment, A Survey of Public School Principals*. New York: GLSEN.

Harris Interactive & GLSEN. (2005). See Note 44 for full citation.

46 GLSEN & Harris Interactive. (2008). See Note 45 for full citation.

47 In a national survey of secondary teachers (Harris Interactive & GLSEN, 2005), a smaller percentage of teachers believed that a transgender adolescent would feel “somewhat” or “very” safe at school than would a gay, lesbian, or bisexual adolescent (57% vs. 73%). Similarly, a national survey of public school principals (GLSEN & Harris Interactive, 2008) found that fewer secondary school principals believed a transgender student would feel “somewhat” or “very” safe at school, compared to those who believed a gay, lesbian, or bisexual student would feel that safe (76% vs. 89%).

48 GLSEN & Harris Interactive. (2008). See Note 45 for full citation.

49 GLSEN & Harris Interactive. (2008). See Note 45 for full citation.

50 GLSEN & Harris Interactive. (2008). See Note 45 for full citation.

Harris Interactive & GLSEN (2005). See Note 44 for full citation.

Kosciw & Diaz (2006). See Note 2 for full citation.





Gay, Lesbian and Straight Education Network  
90 Broad Street  
2nd Floor  
New York, NY 10004  
[www.glsen.org](http://www.glsen.org)





## MODEL SCHOOL DISTRICT POLICY REGARDING TRANSGENDER AND GENDER NONCONFORMING STUDENTS

### PURPOSE

California law and District policy require that all programs, activities, and employment practices be free from discrimination based on sex, sexual orientation, or gender identity. This policy is designed in keeping with these mandates to create a safe learning environment for all students and to ensure that every student has equal access to all school programs and activities.

This policy sets out guidelines for schools and district staff to address the needs of transgender and gender nonconforming students and clarifies how state law should be implemented in situations where questions may arise about how to protect the legal rights or safety of such students. This policy does not anticipate every situation that might occur with respect to transgender or gender nonconforming students, and the needs of each transgender or gender nonconforming student must be assessed on a case-by-case basis. In all cases, the goal is to ensure the safety, comfort, and healthy development of the transgender or gender nonconforming student while maximizing the student's social integration and minimizing stigmatization of the student.

### DEFINITIONS

The definitions provided here are not intended to label students but rather to assist in understanding this policy and the legal obligations of District staff. Students might or might not use these terms to describe themselves.

- "Gender identity" is a person's deeply held sense or psychological knowledge of their own gender, regardless of the gender they were assigned at birth. Everyone has a gender identity.
- "Transgender" describes people whose gender identity is different from their gender assigned at birth.
- "Gender expression" refers to the way a person expresses gender, such as clothing, hairstyles, activities, or mannerisms.
- "Gender nonconforming" describes people whose gender expression differs from stereotypical expectations, such as "feminine" boys, "masculine" girls, and those who are perceived as androgynous.

## GUIDANCE

### Privacy

All persons, including students, have a right to privacy. This includes the right to keep private one's transgender status or gender nonconforming presentation at school. Information about a student's transgender status, legal name, or gender assigned at birth also may constitute confidential medical information. School personnel should not disclose information that may reveal a student's transgender status or gender nonconforming presentation to others, including parents and other school personnel, unless legally required to do so or unless the student has authorized such disclosure. Transgender and gender nonconforming students have the right to discuss and express their gender identity and expression openly and to decide when, with whom, and how much to share private information.

When contacting the parent or guardian of a transgender or gender nonconforming student, school personnel should use the student's legal name and the pronoun corresponding to the student's gender assigned at birth unless the student, parent, or guardian has specified otherwise.

### Official Records

The District is required to maintain a mandatory permanent pupil record ("official record") that includes a student's legal name and legal gender. However, the District is not required to use a student's legal name and gender on other school records or documents. The District will change a student's official record to reflect a change in legal name or legal gender upon receipt of documentation that such change has been made pursuant to a court order. In situations where school staff or administrators are required by law to use or to report a transgender student's legal name or gender, such as for purposes of standardized testing, school staff and administrators shall adopt practices to avoid the inadvertent disclosure of such confidential information.

### Names/Pronouns

A student has the right to be addressed by a name and pronoun that corresponds to the student's gender identity. A court-ordered name or gender change is not required, and the student need not change his or her official records.

The intentional or persistent refusal to respect a student's gender identity (for example, intentionally referring to the student by a name or pronoun that does not correspond to the student's gender identity) is a violation of this policy.

### Gender-Segregated Activities

To the extent possible, schools should reduce or eliminate the practice of segregating students by gender. In situations where students are segregated by gender, such as for health education classes, students should be included in the group that corresponds to their gender identity.

### **Student Information Systems**

The District has modified its student information system to prevent disclosure of confidential information and ensure that school personnel use a student's preferred name and pronouns consistent with the student's gender identity. Instructions for using that system are attached to this policy.

### **Restroom Accessibility**

Students shall have access to the restroom that corresponds to their gender identity consistently asserted at school. Any student who has a need or desire for increased privacy, regardless of the underlying reason, should be provided access to a single stall restroom, but no student shall be required to use such a restroom.

### **Locker Room Accessibility**

The use of locker rooms by transgender students shall be assessed on a case-by-case basis with the goals of maximizing the student's social integration and equal opportunity to participate in physical education classes and sports, ensuring the student's safety and comfort, and minimizing stigmatization of the student. In most cases, transgender students should have access to the locker room that corresponds to their gender identity consistently asserted at school. Any student who has a need or desire for increased privacy, regardless of the underlying reason, should be provided with a reasonable alternative changing area such as the use of a private area (e.g., a nearby restroom stall with a door, an area separated by a curtain, a P.E. instructor's office in the locker room, or a nearby health office restroom), or with a separate changing schedule (e.g., using the locker room that corresponds to their gender identity before or after other students). Any alternative arrangement should be provided in a way that protects the student's ability to keep his or her transgender status confidential. In no case shall a transgender student be required to use a locker room that conflicts with the student's gender identity.

### **Physical Education Classes & Intramural Sports**

Transgender and gender nonconforming students shall be permitted to participate in physical education classes and intramural sports in a manner consistent with their gender identity.

### **Interscholastic Competitive Sports Teams**

Transgender and gender nonconforming students shall be permitted to participate in interscholastic athletics in a manner consistent with their gender identity.

### **Dress Codes**

Transgender and gender nonconforming students have the right to dress in a manner consistent with their gender identity or gender expression. In general, schools may not adopt dress codes that restrict students' clothing or appearance on the basis of gender.

### **Discrimination/Harassment**

It is the responsibility of each school and the District to ensure that transgender and gender nonconforming students have a safe school environment. This includes ensuring that any incident of discrimination, harassment, or violence is given immediate attention, including investigating the incident, taking appropriate corrective action, and providing students and staff with appropriate resources. Complaints alleging discrimination or harassment based on a person's actual or perceived transgender status or gender nonconformity are to be handled in the same manner as other discrimination or harassment complaints. (See the "Related Resources" and the "Assistance" sections of this policy for further information regarding the filing of discrimination or harassment complaints.)

### **Transferring a Student to Another School (Opportunity Transfers)**

In general, schools should aim to keep transgender and gender nonconforming students at the original school site. Opportunity transfers should not be a school's first response to harassment and should be considered only when necessary for the protection or personal welfare of the transferred student, or when requested by the student or the student's parent. The student or the student's parent or guardian must consent to any such transfer.

## **RELATED RESOURCES**

[Include here related policies from the District concerning the topics covered in the policy, such as discrimination, harassment, bullying, reporting incidents of discrimination, dress codes, and opportunity transfers.]

Complaints about violations of this policy should be handled through the Uniform Complaint Procedures. Cal. Code Regs. tit. 5, §§ 4600-4687.

## **ASSISTANCE**

[Include here contact information for relevant District offices that can provide assistance regarding educational equity compliance, SIS, athletics, or other issues.]

## **ATTACHMENTS**

[Include here instructions for entering data in and getting data from the District's student information system to prevent disclosure of confidential information and ensure that school personnel use a student's preferred name and pronouns consistent with the student's gender identity.]

# PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

## **Family Rejection as a Predictor of Negative Health Outcomes in White and Latino Lesbian, Gay, and Bisexual Young Adults**

Caitlin Ryan, David Huebner, Rafael M. Diaz and Jorge Sanchez

*Pediatrics* 2009;123;346-352

DOI: 10.1542/peds.2007-3524

The online version of this article, along with updated information and services, is located on the World Wide Web at:

<http://www.pediatrics.org/cgi/content/full/123/1/346>

PEDIATRICS is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. PEDIATRICS is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2009 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 0031-4005. Online ISSN: 1098-4275.

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™



# Family Rejection as a Predictor of Negative Health Outcomes in White and Latino Lesbian, Gay, and Bisexual Young Adults

Caitlin Ryan, PhD, ACSW<sup>a</sup>, David Huebner, PhD, MPH<sup>b</sup>, Rafael M. Diaz, PhD<sup>a</sup>, Jorge Sanchez, BA<sup>a</sup>

<sup>a</sup>César E. Chávez Institute, San Francisco State University, San Francisco, California; <sup>b</sup>Department of Psychology, University of Utah, Salt Lake City, Utah

The authors have indicated they have no financial relationships relevant to this article to disclose.

## What's Known on This Subject

To our knowledge, no other study has examined the relationship between family rejection of LGB adolescents with health and mental health problems in emerging adulthood.

## What This Study Adds

This study expands our understanding of predictors of negative health outcomes for LGB adolescents and provides new directions for assessing risk and preventing health and mental health problems in LGB adolescents.

## ABSTRACT

**OBJECTIVE.** We examined specific family rejecting reactions to sexual orientation and gender expression during adolescence as predictors of current health problems in a sample of lesbian, gay, and bisexual young adults.

**METHODS.** On the basis of previously collected in-depth interviews, we developed quantitative scales to assess retrospectively in young adults the frequency of parental and caregiver reactions to a lesbian, gay, or bisexual sexual orientation during adolescence. Our survey instrument also included measures of 9 negative health indicators, including mental health, substance abuse, and sexual risk. The survey was administered to a sample of 224 white and Latino self-identified lesbian, gay, and bisexual young adults, aged 21 to 25, recruited through diverse venues and organizations. Participants completed self-report questionnaires by using either computer-assisted or pencil-and-paper surveys.

**RESULTS.** Higher rates of family rejection were significantly associated with poorer health outcomes. On the basis of odds ratios, lesbian, gay, and bisexual young adults who reported higher levels of family rejection during adolescence were 8.4 times more likely to report having attempted suicide, 5.9 times more likely to report high levels of depression, 3.4 times more likely to use illegal drugs, and 3.4 times more likely to report having engaged in unprotected sexual intercourse compared with peers from families that reported no or low levels of family rejection. Latino men reported the highest number of negative family reactions to their sexual orientation in adolescence.

**CONCLUSIONS.** This study establishes a clear link between specific parental and caregiver rejecting behaviors and negative health problems in young lesbian, gay, and bisexual adults. Providers who serve this population should assess and help educate families about the impact of rejecting behaviors. Counseling families, providing anticipatory guidance, and referring families for counseling and support can help make a critical difference in helping decrease risk and increasing well-being for lesbian, gay, and bisexual youth. *Pediatrics* 2009;123:346–352

[www.pediatrics.org/cgi/doi/10.1542/peds.2007-3524](http://www.pediatrics.org/cgi/doi/10.1542/peds.2007-3524)

doi:10.1542/peds.2007-3524

### Key Words

LGB adolescents, risk factors, sexual orientation, gay youth, homosexuality

### Abbreviations

LGB—lesbian, gay, and bisexual  
FAP—Family Acceptance Project  
CES-D—Center for Epidemiologic Studies Depression Scale  
STD—sexually transmitted disease  
OR—odds ratio

Accepted for publication Jul 31, 2008

Address correspondence to Caitlin Ryan, PhD, ACSW, Adolescent Health Initiatives, César E. Chávez Institute, College of Ethnic Studies, San Francisco State University, 3004 16th St, 301, San Francisco, CA 94103. E-mail: caitlin@sfsu.edu

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275). Copyright © 2009 by the American Academy of Pediatrics

SINCE STUDIES WERE first published on homosexual youth in the 1970s and 1980s,<sup>1,2</sup> serious health disparities<sup>3–8</sup> have been documented among lesbian, gay, and bisexual (LGB) adolescents compared with their heterosexual peers. Population-based and community studies have documented higher levels of suicide attempts,<sup>9–11</sup> substance use,<sup>3,4,6</sup> symptoms of depression and mental health problems,<sup>12,13</sup> and sexual health risks, including risk for sexually transmitted infections, HIV,<sup>3,14,15</sup> and adolescent pregnancy.<sup>16–18</sup> Similarly, population-based studies have reported high levels of negative health outcomes for LGB adults compared with heterosexuals.<sup>19–22</sup>

Both practitioners and researchers have noted that risks to physical, emotional, and social health for sexual minority adolescents are primarily related to social stigma and negative societal responses,<sup>23–26</sup> particularly in schools.<sup>3,25–29</sup> In addition, several studies have linked minority stress (experiencing and internalizing negative life events and victimization in the social environment) with negative health outcomes in LGB adults, including depressive symptoms, substance use, and suicidal ideation.<sup>30,31</sup>

Pediatric providers are trained to work closely with families and to recognize that families have “a central and enduring influence” on a child’s life.<sup>32</sup> Because parents and key caregivers are perceived to play a vital role in an

adolescent's health and well-being,<sup>33</sup> it is surprising that so little attention has focused on parents and caregivers' influence on their LGB children and adolescents' health and well-being.

This article presents findings related to family rejection from the Family Acceptance Project (FAP), a research and intervention initiative to study the influence of family reactions on the health and mental health of lesbian, gay, and bisexual adolescents and young adults. To our knowledge, no other study has previously examined this relationship. The current study was designed to link specific family reactions to their children's sexual orientation and gender expression with health and mental health problems in emerging adulthood.

## METHODS

### Sampling and Recruitment

The FAP uses a participatory research approach advised at all stages by the population of interest (LGB adolescents, young adults, and family members), as well as health care providers, teachers, and advocates. Participatory research increases both the representativeness and the cultural competence of sampling and research strategies.<sup>34</sup> Providers, youth, and family members met regularly with the research team to provide guidance on all aspects of the research, including methods, recruitment, instrumentation, analysis, coding, materials development, and dissemination and application of findings.

We recruited a sample of 245 LGB young non-Latino white and Latino adults, ages 21 to 25 years, who were open about their sexual orientation to at least 1 parent or primary caregiver (including guardians) during adolescence. Twenty-one participants self-identified as transgender. Because of the small number of transgender participants, we only report here on outcomes from 224 LGB respondents. Participants were recruited conveniently from 249 LGB venues within 100 miles from our office. Half of the sites were community and social organizations that serve LGB young adults, and half were from clubs and bars serving this group. Bilingual recruiters conducted venue-based recruitment from bars and clubs and contacted each agency to access all young adults who use their services.

### Study Procedures

Young adults who expressed interest in the study were screened for eligibility, and those meeting inclusion criteria were enrolled. Criteria included: age 21 to 25 years; ethnicity (non-Latino white, Latino, or Latino mixed); self-identification as LGB, homosexual, or queer/non-heterosexual during adolescence; knowledge of their LGB sexual orientation by at least 1 parent or guardian during adolescence; and having lived with at least 1 parent or guardian during adolescence at least part-time. LGB young adults, ages 21 to 25 years, were studied to assess the impact of family reactions to their LGB identity at an age when most young people have achieved greater independence and are more likely to be living on

their own with fewer immediate parental buffers or behavioral restrictions.

The family rejection measures in the survey were developed based on a previous in-depth qualitative study conducted in English and Spanish among 53 socioeconomically and geographically diverse Latino and non-Latino white LGB adolescents and 49 completed families throughout California from 2002 to 2004. These in-depth individual interviews of 2 to 4 hours each generated 106 specific behaviors that families and caregivers used to express acceptance or rejection of their LGB children; 51 of these family reactions were rejecting (such as excluding their LGB child from family activities or events).

## Measures

### Family Rejection

On the basis of transcripts of in-depth interviews, we created 51 close-ended items that assessed the presence and frequency of each rejecting parental or caregiver reaction to participants' sexual identity and gender expression when they were teenagers, creating at least 3 close-ended items for each type of outwardly observable rejecting reaction documented in transcripts. For example, "Between ages 13–19, how often did your parents/caregivers blame you for any anti-gay mistreatment that you experienced?"

For each survey item, participants indicated whether their parents or caregivers reacted in the way specified by the item "many times," "a few times," "once or twice," or "never." For the current analysis, however, we dichotomized responses to each item into never (0) or ever (1). We dichotomized item responses because, at this point in the research program, it is unclear whether the frequencies of different rejecting reactions are equivalent with respect to potential health impact. For example, are multiple acts of exclusion from family activities equivalent to multiple disparaging comments made by the family about LGB persons? We plan to address these questions in subsequent analyses. In addition, the dichotomous scoring of items facilitated comparison of the mean number of different types of family rejecting reactions for different gender and ethnic subgroups. Dichotomized scores were then added to create a family rejection score, with values ranging from 0 to 51 (mean: 20.91; SD: 15.84). Reliability analyses indicate that the FAP Family Rejection Scale has high internal consistency (Cronbach's  $\alpha = .98$ ).

To facilitate use of the findings by pediatric providers, we also divided the sample equally into 3 subgroups based on the tertile in which their family rejection score fell: low rejection scores ( $n = 76$ ; scores ranging from 0–11.00 [mean: 4.86]), moderate rejection scores ( $n = 74$ ; scores ranging from 11.09 to 25.50 [mean: 17.48]), and high rejection scores ( $n = 74$ ; scores ranging from 26.56 to 51.00 [mean: 40.83]).

### Mental Health

We assessed 3 mental health outcomes: current depression, suicidal ideation in the last 6 months, and lifetime

**TABLE 1 Demographics**

Variable	Total (N = 224)	Male		Female		Statistically Significant Effects <sup>a</sup>
		White (n = 52)	Latino (n = 62)	White (n = 55)	Latina (n = 55)	
Mean age, y	22.82	22.88	22.74	23.09	22.58	None
Education, %						
Less than high school	9.8	13.5	11.3	5.5	9.1	None
High school graduate	18.3	19.2	19.4	18.2	16.4	
Some college	50.9	46.2	62.9	43.6	49.1	
College degree or higher	21.0	21.2	6.5	32.7	25.5	
Employment and income, %						
Currently employed	76.3	61.5	85.5	80.0	76.4	G <sup>b</sup> , GxE <sup>b</sup>
In school	56.6	40.0	66.7	45.5	84.6	E <sup>b</sup>
Weekly income <\$100	23.3	30.8	14.5	25.5	24.1	None
Weekly income \$101[en]\$300	32.7	19.2	33.9	40.0	37.0	
Weekly income \$301[en]\$500	28.3	34.6	29	21.8	27.8	
Weekly income \$500+	15.7	15.3	22.6	12.7	11.1	
Sexual identity, mean ages, y						
Aware of same-sex attraction	10.76	9.54	9.74	11.47	12.36	G <sup>c</sup>
Came out to self	14.16	13.88	13.64	14.2	14.95	G <sup>b</sup>
Came out to others	15.32	15.21	15.34	15.21	15.73	None
Came out to family	15.82	15.27	15.81	16.24	16.13	None

G indicates gender effect; E, ethnicity effect; GxE, gender-by-ethnicity interaction.

<sup>a</sup> Results of logistic regressions testing gender, ethnicity, and their interaction as predictors of demographic variables.

<sup>b</sup>  $P < .05$ .

<sup>c</sup>  $P < .001$ .

suicide attempts. Level of current depression was assessed through the Center for Epidemiologic Studies Depression Scale (CES-D). We used the recommended cut-off point for adolescents and young adults<sup>35</sup> (>16 indicates probable depression). Suicidal ideation and suicide attempts were measured by single items that were scored dichotomously yes (1) or no (0).

#### Substance Use and Abuse

We assessed substance use and abuse in 3 ways: heavy alcohol drinking in the past 6 months, use of illicit drugs in the past 6 months, and substance use–related problems in the last 5 years. Heavy drinking was defined by drinking 1 to 2 times per week or more with 3 or more drinks on a typical day. Illicit drug use was assessed by a single item answered dichotomously about use in the past 6 months. Four items assessed the potential negative consequences of alcohol and/or drug use: problems with the law, loss of employment, loss of consciousness, and conflicts with family, lovers, or friends. Measure of substance use–related problems was scored dichotomously ( $\geq 1$  substance use–related problems [1] versus none [0]).

#### Sexual Risk Behavior

We assessed sexual behavior in the last 6 months by asking about number, gender, and type of sexual partners, type of sexual activity, and whether condoms were used when activity involved anal or vaginal penetration. Based on these responses, we created 2 measures of sexual risk: Any unprotected anal and/or vaginal sex with a casual, nonmonogamous, or HIV-serodiscordant partner (1) at last intercourse, and (2) any time in the

past 6 months. Because young lesbian and bisexual women experience their greatest risks for HIV infection through sexual behaviors with men, sex between 2 women was not categorized as “risky” for HIV infection. Significant percentages of young women reported unprotected vaginal sex with casual male partners. Finally, we asked whether participants had ever in their lives been diagnosed by a health care professional as having an STD. The 3 measures were scored dichotomously as yes (1) or no (0).

## RESULTS

### Demographic Profile of the Sample

Table 1 includes the demographic profile of the sample. The mean age was 22.82 years, with no significant age differences by gender or ethnicity. Forty-eight percent were non-Latino whites and 52% were Latino; 51% identified as male, 49% as female. Contrary to what would be expected for non-LGB populations, non-Latino white men were the least likely to be employed (61.5%) and were less likely to be in school (40%). The findings on sexual identity development indicate that, on average, men were aware of same-sex attraction 2 years earlier than women and self-identified as LGB ~1 year earlier than the women. No gender differences were found for disclosure of sexual orientation to family and others.

### Negative Health Outcomes According to Gender and Ethnicity

Table 2 reports the prevalence of negative health problems for the sample according to gender and ethnicity. Rates are high for depression, suicidal ideation and at-

**TABLE 2 Health-Related Problems According to Gender and Ethnicity**

Variable	%					Statistically Significant Effects <sup>a</sup>
	Whole Sample	Male		Female		
		White	Latino	White	Latino	
Mental health problems						
Current depression (CES-D>16)	43.3	44.2	58.1	41.8	27.3	GxE <sup>b</sup>
Suicidal ideation	25.4	25.0	35.5	27.3	12.7	GxE <sup>b</sup>
Suicide attempts (any, ever)	40.6	44.2	54.8	34.5	27.3	None
Substance use and abuse						
Heavy drinking (past 6 mo)	41.5	48.1	58.1	32.7	25.5	None
Illicit substance use (last 6 mo)	54.5	47.3	43.6	63.5	62.9	None
Substance use[en]related problems (any, ever)	54.7	55.8	67.7	50.9	42.6	None
Sexual risk						
Unprotected sex with casual partner (last 6 mo)	27.2	40.4	45.2	7.3	14.5	G <sup>c</sup>
Unprotected sex with casual partner (at last intercourse)	20.7	13.7	32.3	20.0	14.8	GxE <sup>b</sup>
STD diagnosis (any, ever)	27.6	38.0	38.0	23.5	11.5	None

GxE indicates gender-by-ethnicity interaction.

<sup>a</sup> Results of logistic regressions testing gender, ethnicity, and their interaction as predictors of demographic variables.

<sup>b</sup>  $P < .05$ .

<sup>c</sup>  $P < .001$ .

tempts, substance use, and sexual health risks. More than half (54.7%) reported at least 1 substance use-related problem, and 40.6% reported at least 1 lifetime suicide attempt. Taken together, the data indicate that about half of this sample of young LGB adults show considerable mental health and substance use problems. Sexual risk behavior appears somewhat less frequently but still at a relatively high incidence.

To determine whether health outcomes differed according to gender and ethnicity, a series of logistic regression analyses were conducted, regressing each outcome onto gender (G: male, female), ethnicity (E: non-Latino white, Latino), and their interaction. Results of these analyses are presented in Table 2. For 2 of the 3 mental health outcomes, significant gender-by-ethnicity interactions were observed, with Latino men showing higher rates of depression and suicidal ideation. Latino men also showed higher levels of HIV risk behavior.

### Family Rejection According to Gender and Ethnicity

Table 3 reports means and SDs for the FAP Family Rejection Scale according to gender and ethnicity. Because scale items were scored dichotomously (ever [1] versus never [0]), scale means reflect the mean number of different negative parental/caregiver reactions experienced during adolescence within each subgroup. Non-Latino white women reported the least (mean: 17.65), whereas Latino men reported the highest number (mean: 24.52) of negative family reactions to their sexual orientation in adolescence. To determine whether levels of family rejection differed by gender and ethnicity, a 2 (gender) × 2 (ethnicity) analysis of variance was conducted on the number of reported rejecting experiences (see Table 3). Statistically significant main effects were observed only for gender, indicating that men reported more rejecting reactions than women.

### Family Rejection as Predictor of Negative Health Outcomes

The relationships between experiences of family rejection and the 9 negative health outcomes were analyzed

in 2 different ways. First, we analyzed the relationship between continuous scale scores and health outcomes in logistic regressions where continuous scores were the independent variable controlling for gender and ethnicity. For this analysis, continuous scores were rescaled so that 1 unit equaled 1 SD. Resulting odds ratios (ORs) can be interpreted as the increased risk for an outcome, given a 1-SD increase in family rejection. A second series of logistic regression analyses were conducted in which each health outcome was regressed onto the trichotomized rejection score, also controlling for gender and ethnicity. These results are reported in Table 4, including the proportion of participants within each family rejection subgroup (low, moderate, and high) who experienced the given negative health outcome.

Greater experiences of family rejection were associated with poorer health outcomes. This was true for all but 2 of the 9 outcomes (heavy drinking in the past 6 months and lifetime history of STD diagnosis). In general, large statistically significant differences in health outcomes were observed when participants scoring in the upper tertile of family rejection were compared with those in the lower tertile. Fewer differences were observed when moderate levels of rejection were compared with low rejection. As Table 4 shows, LGB young adults who reported higher levels of family rejection during adolescence were 8.4 times more likely to report having attempted suicide, 5.9 times more likely to report high levels of depression, 3.4 times more likely to report illegal drug use, and 3.4 times more likely to report having engaged in unpro-

**TABLE 3 Family Rejection**

Gender	White	Latino
Male	21.30 (17.03)	24.52 (17.12)
Female	17.65 (13.83)	19.74 (14.60)

Range of scale: 0 [en]51. Ethnicity:  $F_{1,220} = 1.58$ , not significant; gender:  $F_{1,220} = 4.06$ ,  $P < .05$ ; gender by ethnicity:  $F_{2,239} < 1$ , not significant.

**TABLE 4 Family Rejection as Predictors of Negative Health Outcomes**

Outcome Variable	Rejection Scale Score, OR (95% Confidence Interval) <sup>a</sup>	Percentage of Participants Experiencing Outcome			Moderate Rejection, OR (95% Confidence Interval) <sup>b</sup>	High Rejection, OR (95% Confidence Interval) <sup>b</sup>
		Low Rejection Scores	Moderate Rejection Scores	High Rejection Scores		
Mental health						
Suicidal ideation	2.13 (1.53–2.95) <sup>c</sup>	11.8	21.6	43.2	2.12 (0.86–5.18)	5.64 (2.42–13.14) <sup>c</sup>
Suicide attempts	3.09 (2.18–4.37) <sup>c</sup>	19.7	35.1	67.6	2.29 (1.08–4.83) <sup>d</sup>	8.35 (3.90–17.85) <sup>c</sup>
Depression (CES-D >16)	2.21 (1.62–3.01) <sup>c</sup>	22.4	44.6	63.5	2.92 (1.42–6.00) <sup>e</sup>	5.94 (2.86–12.34) <sup>c</sup>
Substance use/abuse						
Heavy drinking (past 6 mo)	0.84 (0.63–1.12)	40.8	47.3	36.5	1.34 (0.69–2.63)	0.71 (0.36–1.42)
Illicit substance use (past 6 mo)	1.83 (1.35–2.49) <sup>c</sup>	42.1	50.0	71.6	1.42 (0.74–2.72)	3.38 (1.69–6.77) <sup>e</sup>
Substance-related problems (any, ever)	1.60 (1.19–2.14) <sup>e</sup>	48.0	47.3	68.9	0.98 (0.51–1.88)	2.28 (1.16–4.50) <sup>d</sup>
Sexual risk behavior						
Unprotected sex with a casual partner (past 6 mo)	1.73 (1.25–2.40) <sup>e</sup>	23.7	12.2	45.9	0.41 (0.16–1.04)	2.50 (1.17–5.34) <sup>d</sup>
Unprotected sex with a casual partner (last intercourse)	1.72 (1.23–2.42) <sup>e</sup>	13.2	13.9	35.1	1.04 (0.41–2.69)	3.36 (1.47–7.67) <sup>e</sup>
STD diagnosis (any, ever)	1.32 (0.95–1.85)	24.0	27.1	32.8	1.25 (0.58–2.69)	1.49 (0.68–3.27)

All effects were adjusted for gender (female, male) and ethnicity (Latino, white).

<sup>a</sup> Continuous scale score, rescaled such that 1 unit = 1 SD; ORs can be interpreted as the change in odds of the outcome for a 1-SD change in rejection.

<sup>b</sup> Low rejection is the reference group.

<sup>c</sup>  $P < .001$ .

<sup>d</sup>  $P < .01$ .

<sup>e</sup>  $P < .05$ .

tected sexual intercourse, compared with peers from families with no or low levels of family rejection.

## DISCUSSION

The results of this study show that negative family reactions to an adolescent's sexual orientation are associated with negative health problems in LGB young adults. As such, this study provides empirical evidence to begin addressing long-standing questions about the precursors of high levels of risk consistently documented in studies of LGB youth and young adults. Because families play such a critical role in child and adolescent development, it is not surprising that adverse, punitive, and traumatic reactions from parents and caregivers in response to their children's LGB identity would have such a negative influence on their risk behaviors and health status as young adults. This study begins to help us understand the important role that parents and caregivers of lesbian, gay, and bisexual youth play in contributing to health problems in their LGB children. Given that higher levels of family rejection and higher rates of negative mental health and HIV risk outcomes were found among Latino gay and bisexual men, our study suggests that this subgroup is particularly affected.

Our findings also underscore a key recommendation of the American Academy of Pediatrics Task Force on the Family: to expand practice to encompass assessment of family relationships and behaviors.<sup>36</sup> Although the current study does not determine causality, it establishes a link between specific parental and caregiver rejecting behaviors and negative health problems in LGB young adults. LGB young people from families with no or low levels of rejection are at significantly lower risk than those from highly rejecting families related to depres-

sion, suicidality, illicit substance use, and risky sexual behavior. So helping families identify and reduce specific rejecting behaviors is integral to helping prevent health and mental health problems for LGB young people.

Parents consider pediatricians<sup>36</sup> and other health providers to be important sources of guidance in childrearing. By asking LGB adolescents about their relationships with their families and experiences with family rejection, providers can obtain important information in determining the adolescent's risk profile. Anticipatory guidance offers a direct opportunity to advise parents of LGB youth on how to support their child's health and development.<sup>23</sup>

The current study also has important implications for identifying youth at risk for family violence and for being ejected from their homes or placed in custodial care because of their LGB identity. LGB youth are overrepresented in foster care, juvenile detention, and among homeless youth. Moreover, conflict related to the adolescent's sexual and gender identity is a primary cause of ejection or removal from the home. Early intervention to help educate families about the impact of rejecting behaviors is important to help maintain these youth in their homes.

There are several limitations to the study. This is a retrospective study that measures young adults' reported experiences that occurred several years earlier, which may introduce some potential for recall bias. To minimize this concern, we created measures that asked whether a specific family event related to their LGB identity actually occurred (eg, verbal abuse), rather than asking generally about "how rejecting" parents were. Although we went to great lengths to recruit a diverse sample drawing from multiple venues, our sample is

technically one of convenience, and thus shares the limitations inherent in all convenience samples.<sup>37</sup> Thus, these data might not represent all subpopulations of LGB young adults, as well as individuals who are neither white nor Latino. The study focused on LGB non-Latino white and Latino young adults to permit more in-depth assessment of cultural issues and experiences related to sexual orientation and gender expression, so it did not include all other groups and drew from 1 urban geographic area. Subsequent research should include greater ethnic diversity to assess potential differences in family reactions. Lastly, given the cross-sectional nature of this study, we caution against making cause-effect interpretations from these findings.

### RECOMMENDATIONS FOR PRACTICE

Pediatric providers can help decrease family rejection and increase support for LGB young people in several ways:

1. Ask LGB adolescents about family reactions to their sexual orientation and gender expression and refer to LGB community support programs and for supportive counseling as needed.
2. Identify LGB support programs in the community and online resources to educate parents about how to help their LGB children. Parents need access to positive parental role models to help decrease rejection and increase family support for their LGB children.
3. Advise parents that negative reactions to their adolescent's LGB identity may negatively influence their child's health and mental health.
4. Recommend that parents and caregivers modify highly rejecting behaviors that have the most negative influence on health concerns, such as suicidality.
5. Expand anticipatory guidance to include information on the need for support and the link between family rejection and negative health problems in LGB young people.

Unlike children and adolescents, in general, who receive services and care in the context of their families, LGB adolescents are typically served as adults as if they have no families, across a wide range of settings. These findings indicate that providers serving LGB young people must begin to assess family dynamics and consider the role of families when assessing an LGB adolescent's risk and making decisions about their care. Counseling families, providing anticipatory guidance, and referring families for counseling and support can help make a critical difference in decreasing risk and increasing well-being for many LGB youth who have limited support. Our preliminary work with families who are ambivalent and conflicted about their children's LGB identity indicates that they are receptive and interested to learn about how their words, actions and behaviors affect their children's health. Additional work is needed to demonstrate how to help families increase support for their LGB children by building on family strengths and the love they have for their LGB children.

### APPENDIX: RESOURCES FOR FAMILIES WITH LGB CHILDREN

#### PFLAG

Education, information, and support for parents and families with LGB family members; referrals to LGB community resources and services: [www.pflag.org](http://www.pflag.org)

#### PFLAG for Families of Color & Allies (New York City)

Education, information, and support for families of color with LGB family members, including information, resources, and support in Spanish: [www.pflagfamiliesofcolor.org](http://www.pflagfamiliesofcolor.org)

#### API Family Pride

Education, information, and support for Asian and Pacific Islander (API) families with LGB family members: [www.apifamilypride.org](http://www.apifamilypride.org)

#### Family Acceptance Project

Research-based education and services for ethnically diverse families with LGB children in English, Spanish, and Chinese; currently developing provider assessment tools and interventions to help increase family support for ethnically diverse LGB children and youth: <http://familyproject.sfsu.edu>

#### Gender Spectrum Education & Training

Family information, support, and annual conference for families with gender-variant children; training on gender identity and expression for schools and providers for helping gender nonconforming and transgender children and youth: [www.genderspectrum.org](http://www.genderspectrum.org)

### ACKNOWLEDGMENTS

This work was funded by a grant from The California Endowment awarded to Drs Ryan and Diaz.

We gratefully acknowledge the support of our funder and the contribution of our community advisory groups and the many adolescents, families and young adults who shared their lives and experiences with us. We also thank The California Endowment, the reviewers, and our colleagues for their assistance and insightful comments: Elizabeth Saewyc, PhD, RN, PHN; Stephen Russell, PhD; Janet Shalwitz, MD; and Donna Futterman, MD.

### REFERENCES

1. Roesler T, Deisher R. Youthful male homosexuality. *JAMA*. 1972;219(8):1018-1023
2. Remafedi G. Adolescent homosexuality: Psychosocial and medical implications. *Pediatrics*. 1987;79(3):331-337
3. Garofalo R, Wolf C, Kessel S, Palfrey J, DuRant RH. The association between risk behaviors and sexual orientation among a school-based sample of adolescents. *Pediatrics*. 1998;101(5):895-902
4. DuRant RH, Krowchuk DP, Sinai SH. Victimization, use of violence, and drug use at school among male adolescents who engage in same-sex sexual behavior. *J Pediatr*. 1998;133:113-118
5. Remafedi G. Predictors of unprotected intercourse among gay and bisexual youth: Knowledge, beliefs, and behavior. *Pediatrics*. 1994;94(2 pt 1):163-168

6. Rosario M, Hunter J, Gwadza M. Exploration of substance use among lesbian, gay, and bisexual youth: Prevalence and correlates. *J Adolesc Res.* 1997;12:454–476
7. Rosario M, Meyer-Bahlburg HFL, Hunter J, Gwadz M. Sexual risk behaviors of gay, lesbian and bisexual youths in New York City: Prevalence and correlates. *AIDS Educ Prev.* 1999;11(6):476–496
8. Remafedi G. Health disparities for homosexual youth: The children left behind. In: Wolitski RJ, Stall R, Valdiserri RO, editors. *Unequal Opportunity: Health Disparities Affecting Gay and Bisexual Men in the United States.* New York, NY: Oxford University Press; 2007:275–300
9. Remafedi G, French S, Story M, Resnick MD, Blum R. The relationship between suicide risk and sexual orientation: results of a population-based study. *Am J Public Health.* 1998;88(1):57–60
10. Garofalo R, Wolf C, Wissow LS, Woods ER, Goodman E. Sexual orientation and risk of suicide attempts among a representative sample of youth. *Arch Pediatr Adolesc Med.* 1999;153(5):487–493
11. D’Augelli AR, Hershberger SL, Pilkington NW. Suicidality patterns and sexual orientation-related factors among lesbian, gay, and bisexual youths. *Suicide Life Threat Behav.* 2001;31(3):250–264
12. D’Augelli AR, Hershberger SL. Lesbian, gay, and bisexual youth in community settings: Personal challenges and mental health problems. *Am J Community Psychol.* 1993;21(4):421–448
13. D’Augelli AR. Mental health problems among lesbian, gay, and bisexual youths ages 14 to 21. *Clin Child Psychol Psychiatry.* 2002;7(4):433–456
14. Harper GW. Sex isn’t that simple: culture and context in HIV prevention interventions for gay and bisexual male adolescents. *Am Psychol.* 2007;62(8):803–819
15. Saewyc EM, Skay CL, Pettingell SP, et al. Hazards of stigma: The sexual and physical abuse of gay, lesbian, and bisexual adolescents in the United States and Canada. *Child Welfare.* 2006;85(2):195–213
16. Saewyc EM, Bearinger LH, Blum RW, Resnick MD. Sexual intercourse, abuse and pregnancy among adolescent women: Does sexual orientation make a difference? *Fam Plann Perspect.* 1998;31:127–131
17. Saewyc E, Pettingell S, Skay C. Teen pregnancy among sexual minority youth during the 1990s: countertrends in a population at risk. *J Adolesc Health.* 2004;34(2):125–126
18. Forrest R, Saewyc E. Sexual minority teen parents: demographics of an unexpected population. *J Adolesc Health.* 2004;34(2):122
19. Cochran SD, Sullivan JG, Mays V. Prevalence of mental disorders, psychological distress and mental health services use among lesbian, gay and bisexual adults in the United States. *J Consult Clin Psychol.* 2003;71(1):53–61
20. Gilman SE, Cochran SD, Mays VM, Hughes M, Ostrow D, Kessler RC. Prevalences of DSM-III-R disorders among individuals reporting same-gender sexual partners in the National Co-morbidity Survey. *Am J Public Health.* 2001;91(6):933–939
21. Cochran SD, Mays VM. Lifetime prevalence of suicidal symptoms and affective disorders among men reporting same-sex sexual partners: results from the NHANES III. *Am J Public Health.* 2000;90(4):573–578
22. Herrell R, Goldberg J, True WR, Ramakrishnan V, Lyons M, Eisen S, Tsuang MT. Sexual orientation and suicide: a co-twin control study in adult men. *Arch Gen Psychiatry.* 1999;56(10):867–874
23. Ryan C, Futterman D. Lesbian and gay youth: Care and counseling. *J Adolesc Med.* 1997;8(2):207–374
24. Perrin EC. *Sexual Orientation in Child and Adolescent Health Care.* New York, NY: Kluwer Academic/Plenum Publishers; 2002
25. Bontempo D., D’Augelli AR. Effects of at-school victimization and sexual orientation on lesbian, gay, or bisexual youths’ health risk behavior. *J Adolesc Health.* 2002;30(5):364–374
26. Goodenow C, Szalacha L, Westheimer K. School support groups, other school factors, and the safety of sexual minority adolescents. *Psychol Schools.* 2006;43(5):573–589
27. California Safe Schools Coalition and 4-H Center for Youth Development, University of California, Davis. *Safe Place to Learn: Consequences of Harassment Based on Actual or Perceived Sexual Orientation and Gender Non-conformity and Steps for Making Schools Safer.* San Francisco, CA: California Safe Schools Coalition; 2004
28. Reis B. *They Don’t Even Know Me: Understanding Anti-Gay Harassment and Violence in Schools.* Safe Schools Coalition: Seattle, WA; 1999
29. GLSEN. *From Teasing to Torment: School Climate in America, A Survey of Students and Teachers.* New York, NY: GLSEN; 2005
30. Diaz RM, Ayala G, Bein E, Jenne J, Marin BV. The impact of homophobia, poverty, and racism on the mental health of Latino gay men. *Am J Public Health.* 2001;91(6):927–932
31. Meyer IH. Minority stress and mental health in gay men. *J Health Soc Behav.* 1995;36(1):38–56
32. American Academy of Pediatrics, Task Force on the Family. Preface to the report of the Task Force on the Family. *Pediatrics.* 2003;111(6 pt 2):1539
33. Steinberg L, Duncan P. Work Group IV: Increasing the capacity of parents, families, and adults living with adolescents to improve adolescent health outcomes. *J Adolesc Health.* 2002;31(6 suppl):261–263
34. Viswanathan M, Ammerman A, Eng E, et al. *Community-Based Participatory Research: Assessing the Evidence.* Rockville, MD: Agency for Healthcare Research and Quality; 2004. AHRQ publication 04-E022-2
35. Radloff LS. The use of the Center for Epidemiologic Studies depression scale in adolescents and young adults. *J Youth Adolesc.* 1991;20(2):149–166
36. Schor EL; American Academy of Pediatrics, Task Force on the Family. Family pediatrics: report of the task force on the family. *Pediatrics.* 2003;111(6 pt 2):1539–1571
37. Binson D, Blair J, Huebner DM, Woods WJ. Sampling in surveys of lesbian, gay, and bisexual people. In: Meyer IH, Northridge ME, eds. *The Health of Sexual Minorities: Public Health Perspectives on Lesbian, Gay, Bisexual, and Transgender Populations.* New York, NY: Springer; 2007:375–418

# Family Rejection as a Predictor of Negative Health Outcomes in White and Latino Lesbian, Gay, and Bisexual Young Adults

Caitlin Ryan, David Huebner, Rafael M. Diaz and Jorge Sanchez

*Pediatrics* 2009;123;346-352

DOI: 10.1542/peds.2007-3524

<b>Updated Information &amp; Services</b>	including high-resolution figures, can be found at: <a href="http://www.pediatrics.org/cgi/content/full/123/1/346">http://www.pediatrics.org/cgi/content/full/123/1/346</a>
<b>References</b>	This article cites 30 articles, 14 of which you can access for free at: <a href="http://www.pediatrics.org/cgi/content/full/123/1/346#BIBL">http://www.pediatrics.org/cgi/content/full/123/1/346#BIBL</a>
<b>Citations</b>	This article has been cited by 1 HighWire-hosted articles: <a href="http://www.pediatrics.org/cgi/content/full/123/1/346#otherarticles">http://www.pediatrics.org/cgi/content/full/123/1/346#otherarticles</a>
<b>Post-Publication Peer Reviews (P<sup>3</sup>Rs)</b>	3 P <sup>3</sup> Rs have been posted to this article: <a href="http://www.pediatrics.org/cgi/eletters/123/1/346">http://www.pediatrics.org/cgi/eletters/123/1/346</a>
<b>Subspecialty Collections</b>	This article, along with others on similar topics, appears in the following collection(s): <b>Office Practice</b> <a href="http://www.pediatrics.org/cgi/collection/office_practice">http://www.pediatrics.org/cgi/collection/office_practice</a>
<b>Permissions &amp; Licensing</b>	Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at: <a href="http://www.pediatrics.org/misc/Permissions.shtml">http://www.pediatrics.org/misc/Permissions.shtml</a>
<b>Reprints</b>	Information about ordering reprints can be found online: <a href="http://www.pediatrics.org/misc/reprints.shtml">http://www.pediatrics.org/misc/reprints.shtml</a>

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

