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# Overrepresentation of Adopted Adolescents at a Hospital-Based Gender Dysphoria Clinic

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## Abstract

**Purpose:** We have noted a greater than expected prevalence of adopted children presenting to our multidisciplinary gender program for evaluation of gender dysphoria.

**Methods:** A retrospective review of 184 patient charts was conducted to assess the prevalence of adopted children presenting to gender clinic.

**Results:** Fifteen of 184 patients seen were living with adoptive families (8.2%). This is significantly higher than expected based on U.S. census data.

**Conclusion:** Adopted children are referred to our gender program more than would be expected based on the percentage of adopted children in our state and the United States at large. This may be due to a true increased risk of gender dysphoria in adopted children, or could represent presentation bias. Gender programs should be prepared to provide assessments for adopted children. Further work is needed to understand the relationship between adopted status and gender development.

**Keywords:** adoption; gender dysphoria; transgender

## Introduction

Programs providing medical care for transgender adolescents have seen a dramatic rise in volume in the past few years, with many more children and adolescents presenting with gender dysphoria.<sup>1</sup> As more patients present for medical care, important trends that can inform our understanding of gender dysphoria are beginning to emerge. We have noted a greater than expected prevalence of adopted children who present with gender dysphoria at our pediatric hospital-based multidisciplinary gender program; this trend was initially noted in a retrospective review by Spack et al.<sup>2</sup>

Gender dysphoria denotes incongruence between the sex assigned at birth and gender identity, the internal feeling of one's gender. At baseline, adolescents with gender dysphoria experience distress and suffer disproportionately from depression, anxiety, self-harm, and suicidality due to this incongruence.<sup>3,4</sup> Manage-

ment involving mental health support and medical interventions, including hormonal therapy in patients meeting treatment criteria, can reduce distress and improve functioning and quality of life.<sup>5,6</sup>

Data from U.S.-based and international studies demonstrate that adopted children are referred to mental health providers more often than nonadopted children, and have increased risk of suicide attempt, substance abuse, and other psychiatric conditions.<sup>7-9</sup> This has been postulated to represent true differences in risk, an increased tendency for adoptive parents to seek services, or a combination of these factors.<sup>10</sup> Zucker and Bradley<sup>11</sup> first noted overrepresentation of adopted patients in clinics serving transgender youth in 1998. They found 7.6% of their referred male population had been adopted or taken into permanent foster care before age 2 years, much lower than the Ontario early adoption rate of 1.49%.<sup>11</sup> Spack et al. reported a

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prevalence of adopted children seen at the Gender Management Services clinic in Boston at 8.2% (8/97) using data from 1998 to 2009, however, this finding was not elaborated upon in that report.<sup>2</sup> In a study of parental ratings of child mental health and gender, parent participants, all who were recruited from a single group therapy program for parents of gender nonconforming children and adolescents, reported a very high rate of adopted children (52%).<sup>12</sup> A case study also described a child adopted at age 16 months with gender dysphoria and attachment disorder.<sup>13</sup> To our knowledge there has been no other published data describing co-occurrence of adoption and gender dysphoria or adoption rates in transgender youth populations, and no published data that include data on adopted status and sex assigned at birth.

At our gender program we noted the seemingly common occurrence of gender dysphoric children and adolescents living with adoptive families. This retrospective study aims to determine the percentage of adopted versus nonadopted patients referred to our program, compare these percentages to state and national adoption data, explore the demographic and historical data of our patient cohort in the context of adoption status, and discuss the implications of these findings.

## Methods

Between 2007 and 2015, 184 adolescents presenting with gender dysphoria were seen at a pediatric hospital-based multidisciplinary gender program in Boston, Massachusetts. Patients were identified using an electronic query using the unique clinic number assigned to the gender program to find all patients seen in the gender program clinic. All 184 patient charts were reviewed manually. As part of an initial evaluation, a clinic psychologist performed a comprehensive history and psychological assessment and documented these assessments in the electronic medical record. The medical, social, and family history sections within these assessment notes were reviewed to determine sex at birth and adopted versus nonadopted status. For adopted patients, information regarding age at adoption and birthplace were recorded when available. State and national census data were reviewed regarding adoption rates. All study activities were approved by the Boston Children's Hospital Institutional Review Board, and patient data were protected by the use of sound research methods and use of de-identified data. Data were extracted manually and entered into Excel. Means were compared by *t*-test and

proportions by Fisher exact test, using SAS software (version 9.4, Cary, NC) with  $p=0.5$  as the threshold for statistical significance.

## Results

Of the 184 patients seen in the gender program, 15 were adopted and living with their adoptive families at the time of clinical assessment. The proportion of adopted children assessed at our gender program (8.2%, 99% confidence interval 3.8–14.8%) was significantly higher than expected based on the prevalence of adoption in the United States, where according to the 2010 census 2.4% of reported householders' children younger than 18 were adopted (1,527,020 of 64,77,147 children;  $p<0.001$ ). The prevalence in our sample was likewise higher than that in Massachusetts, where 2.3% of reported children were adopted (29,636 of 1,290,794;  $p<0.001$ ).<sup>14</sup>

Of the 15 adopted adolescents, age at assessment ranged from 9.5 to 17.2 years (mean 13.6 years). This was significantly younger than the nonadopted adolescents (age range 7.5–20.6 years, mean 15.1 years;  $p=0.03$ ). Eight of the 15 adopted adolescents were assigned male at birth (53%) and 7 were assigned female at birth (47%). In the nonadopted sample, 71 were assigned male at birth (42%) and 98 were assigned female at birth (58%). The proportion of male sex assigned at birth did not differ significantly by adoption status ( $p=0.43$ ).

Within the group of 15 adopted patients with gender dysphoria, age at adoption ranged from infancy to 9 years with only one patient adopted after age 2. Thirteen of 15 were adopted through a domestic or international adoption agency, 1/15 was adopted through foster care, and 1/15 was adopted by a friend or family member of the birth parents. All 15 adopted patients were living in the United States with their adoptive families at the time of assessment and their birth nations were as follows: United States 7/15, China 2/15, Guatemala 2/15, Cambodia 1/15, Lebanon 1/15, Russia 1/15, and South Korea 1/15.

## Discussion

In discussion of the possible etiology for the co-occurrence of adopted status and presentation to a gender clinic, one could consider both true co-occurrence and also presentation bias as possible factors. Gender development is a complex process that is not completely understood. Genetics have been implicated as a contributing factor in gender development. One twin study demonstrated increased concordance of gender dysphoria in monozygotic twins compared to



dizygotic twins.<sup>15</sup> Also, the prenatal hormonal milieu, more specifically the amount of androgen or estrogen exposure on the developing fetal brain, may also be influential on gender development in childhood.<sup>16,17</sup> In addition, the postnatal environment appears to be important for gender development. Factors such as the social relationship between a young child and their caregiver,<sup>18</sup> parental expectations, and societal norms<sup>19</sup> likely influence development of the child's gender identity. We must consider whether genetics, prenatal hormonal milieu, or the process of being adopted could result in higher degrees of gender dysphoria when considering this study's results.

We are not aware of any genetic evidence that would link adoption to gender dysphoria, however, deeper inquiry into this possibility would be an important next step. In addition, there is no evidence that a fetus with a hormonal exposure increasing risk for gender dysphoria would be more likely to be adopted. Alternatively, postnatal factors could provide more plausible explanations. For example, adoptive parents may be more open to allowing their child to explore gender nonconforming behaviors than biological parents. Additionally, adopted children have a unique experience of identity formation, which differs from non-adopted children. Adoptive identity narratives have shown that adopted adolescents actively reflect on the meaning of adoption in creation of their self-theory.<sup>20</sup> Perhaps adopted adolescents actively constructing their self-theories are more likely to critically assess other aspects of their identities, such as their gender identities, leading to increased presentation with gender dysphoria.

An alternative explanation for our findings is that they do not represent a true difference in gender dysphoria in adopted children, but that they represent a presentation bias. It has been suggested that adoptive parents may have a lower threshold to seek medical care for their adopted children.<sup>8</sup> Specifically with respect to gender dysphoria, we suggest that adoptive parents may feel less personal stigma in raising a gender nonconforming child and may be more likely to seek supportive transition-related care from a gender dysphoria clinic for their child. Additionally, if adoptive parents are coming from higher socioeconomic strata they may be more likely to have the resources to present to a tertiary care center for these services.

The even sex distribution of adopted patients appears to imply that a relationship between adopted status and development of gender dysphoria is not sex specific. The mix of domestically and internationally

adopted children in our gender clinic would suggest that the relationship is not limited by place of birth, but rather is indicative of a more global relationship between adopted status and gender development.

This study is limited by the fact that it is retrospective in nature such that obtaining more details about circumstances surrounding the adoptions, the adoptive families' belief systems, and their parenting approaches were not available for analysis. As such, we are able to report on an increased rate of adopted children in our clinic without the ability to make more concrete statements regarding causality. It is limited in sample size, with data coming from a single program. It also may be limited in generalizability as it reports on data from a single clinic. For these reasons, our speculation about etiology may be premature.

## Conclusion

Understanding the relationship between gender identity and adoption status has important implications across the fields of adoption, gender development, and gender dysphoria. In the field of adoption, if further study determines that adopted children have higher rates of gender dysphoria, this could inform the anticipatory guidance provided to adoptive parents. For example, parents considering adoption could receive education regarding variability of gender identity in children, and importance of openness and acceptance of gender identity differences in their adopted children. Parsing out the etiology of such a relationship could propel the field of gender development and could support evidence that postnatal environmental factors play a role in gender identity formation. Mental health and medical providers caring for patients with gender dysphoria should be prepared to work with children of all social circumstances, including adopted children. Family support groups specifically related to this subpopulation could be established in larger gender centers and adoption support centers. Further research is needed to establish the strength of this association and underlying causative factors.

## Author Disclosure Statement

No competing financial interests exist.

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