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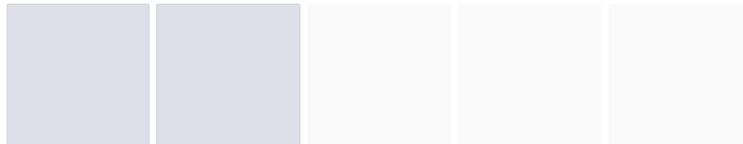
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The etiology of gender identity disorder (GID) remains largely unknown. In recent literature, increased attention has been attributed to possible biological factors in addition to psychological variables. To review the current literature on case studies of twins concordant or discordant for GID. A systematic, comprehensive literature review. Of 23 monozygotic female and male twins, nine (39.1%) were concordant for GID; in contrast, none of the 21 same-sex dizygotic female and male twins were concordant for GID, a statistically significant difference ( $P=0.005$ ). Of the seven opposite-sex twins, all were discordant for GID. These findings suggest a role for genetic factors in the development of GID.



Female twin pairs concordant/disc... concordant/disc...

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ment of GID. **Heylens G, De C  
E, and T'Sjoen G. Gender  
12;9:751–757.**

GID; Transsexualism

Introduction

After decades of research, the etiology of gender identity disorder (GID) remains largely unknown. Developmental psychological models have identified temperamental vulnerabilities of the GID child, particular patterns of parent–child interaction, family dynamics, and traumatic events as possible risk factors [1–3], although, in one recent study, there was a failure to identify parental problems [4].

Recent literature has focused more on genetic and other biological factors, rather than on psychological factors, when trying to explain the genesis of GID. Research on biological factors is multifaceted: from size and cell number of different sex-dimorphic brain nuclei [5–7], prenatal exposure to abnormal androgen levels [8], and to genetically based sex hormone abnormalities [9]. The research of Hare et al. [9] provided evidence

that male-to-female transsexualism was associated with gene variants responsible for less sensitivity. The percentage of false positive in their control group was, however, extremely high, which weakens the results.

Coolidge et al. [10] studied parents of 31 adolescents to estimate the prevalence of GID in children. They found a 2.3% prevalence of GID in adolescents, while 62% heritability, while 38% of the variance was explained by a nonshared environmental component. These results confirmed the earlier findings of Bailey et al. [11], who, in a retrospective study, found that childhood gender nonconformity was substantially heritable for adult twins. Knaflitz et al. [12] examined genetic and environmental influences on 3- and 4-year-old twins' atypical gender development based on parental ratings of gender behavior. They concluded that the genetic effect was less strong than the environmental effects, with the exception of behaviorally classified masculin

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i, 17-β-hidroksisteroid  
tik faktörlerin de  
oranında saptanmış,  
yrıca CH'nin spesifik  
ır (8)(9)(10)(11)(12).

... Genetik faktörlerin de CH'de etkili olabileceği düşünülmüş özellikle monozigot ikizlerde yapılan bir çalışmada CH, %39,1 oranında saptanmış, ancak aynı cinsiyette dizigotik ikizlerde veya karşı cinsiyetteki ikizlerde CH saptanmamıştır (8). Ayrıca CH'nin spesifik genlerle ilişkisi araştırılmış ancak yapılan çalışmalarda istatistiksel olarak anlamlılık saptanmamıştır (8)(9)(10)(11)(12). Transbireylerin çoğunda cinsiyet gelişim bozukluğu (CGB) saptanmamıştır (13); bu nedenle cinsiyet değişimi talebi ile endokrinoloji polikliniklerine başvuran çocuk ve ergenlerde endokrin tetkikler öykü ve ayrıntılı fizik muayeneye göre gerekirse istenmelidir. ...

### CİNSİYET HOŞNUTSUZLUĞU OLAN ADOLESANLARDA ENDOKRİNOLOJİK YAKLAŞIM

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Apr 2021

● Esin Karakilic-Ozturan · Fatma Feyza Darendeliler

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... [18] There is also, 33.3% concordance in monozygotic male twins and 22.8% in monozygotic female twins, [19] even in the twins, who were reared apart. [20] Trans women and trans men as well as men and women have distinct phenotypes in grey and white matter of brain. Human cerebral cortex is sexually dimorphic and has both AR and ER. ...

### Management of gender incongruence and gender affirmation surgeries -The Indian perspective, from a large volume gender identity clinic

[Article](#) [Full-text available](#)

Jul 2021 · [Indian J Med Sci](#)

● Richie Gupta · ● Rajat Gupta

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... In a study conducted on a relevant sample of twin couples (5799) of 3-4 years of age, the inheritance estimates of identity phenomena were much higher in females than in males (Knafo et al. 2005). The data was also confirmed in a study explicitly conducted on the heritability of gender dysphoria, also indicating a very high rate (40%) of homozygotes compared to dizygotes (Heylens et al. 2012). ...

### The Body in the Picture: The Lesson of Phantom Limbs and the Origins of the BIID

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Jan 2020

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... Genetics may play a role in gender identity (100): monozygotic twins have 39% concordance for gender dysphoria numbers of subjects

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#### Scientific Statement

#### spectrum Disorder

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Project

World Professional Association for Transgender Health

 Jamison Green ·  Gail Knudson ·  Madeline B Deutsch · [...] ·  Kenneth J. Zucker

My intention with this project in the context of ResearchGate is to provide a place for researchers to locate official statements from WPATH that comment on issues that are not directly covered in ... [\[more\]](#)

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Twins and eating disorders

September 1992 · American Journal of Psychiatry

J G Solomon

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Article

Self-report delinquency and violence in adult twins

February 1996 · Psychiatric Genetics

J. Philippe Rushton

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