Gender Identity Disorder

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Kenneth J. Zucker

Because gender identity disorder (GID) in children is relatively uncommon, most child clinicians and researchers are likely to have had very little direct experience with it. In this chapter, I provide a selective overview of our knowledge about children with GID. In keeping with the general mission of this volume, where appropriate, I focus on the interface between typical and atypical development in my consideration of children with GID.

Some of the material in this chapter comes from our own Child and Adolescent Gender Identity Clinic. Between 1978 and 1997, 277 boys and 45 girls were referred, a sex ratio of 6.2:1. At referral, the mean age of the children was about 7 years, with a range of 3–12 years. Their mean Full-Scale IQ was at the high end of the *Average* range, with a range from the *Intellectually Deficient* to the *Very Superior*. Parents' were, on average, middle-class, with a range that fully covered the socioeconomic spectrum. About two-thirds of the children lived with both of their parents; the remaining one-third came from single-parent or reconstituted families (Zucker, Bradley, & Sanikhani, 1997). Relative to the general population, there was a disproportionate number of referred boys who were adopted in the first year of life (7.6%), mainly at birth (Zucker & Bradley, 1998).

PHENOMENOLOGY

The following two vignettes illustrate the basic phenomenology of GID.

> Nathan, a 6-year-old boy with an IQ of 106, was referred at the request of his mother, who had spoken informally with a friend who was a therapist. He lived with his mother, who had a lower-middle-class socioeconomic background. Nathan was the product of a planned, but anonymous, sexual encounter. Nathan's mother was "desperate" to have a child with whom she could spend "the rest of her life" (indeed, during the assessment, Nathan's mother commented that she would rather "date" him than adults). As a consequence,

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Nathan's biological father was unknown to him, although he often asked his mother to marry and thus provide him with a dad.

Nathan's mother stated that he was happy in every way except in one respect: "He desperately wants to be a girl and to cut off his penis." Of particular concern to his mother was that, of late, Nathan would sing himself to sleep with a sad song: "My dreams will never come true." Nathan's mother had noted signs of cross-gender behavior since he was under 2 years of age. At that time, he began to cross-dress in an intense and compulsive way, using items such as towels and aprons.

At the time of assessment, Nathan preferred girls as playmates but complained that some of them would tease him because he acted like a girl. He was also teased quite intensely by other boys because of his cross-gender behavior. Nathan's favorite toys were Barbie dolls, of which he had "dozens," and he would spend hours enacting nurturant, benevolent female icons, such as Snow White, Sleeping Beauty, and Cinderella. During the clinical assessment, Nathan's capacity to "flip" into female roles was striking. It was as if Nathan had become another person. In fact, Nathan had brought to the assessment some of his feminine dress-up apparel. In the presence of his mother and the two interviewers, Nathan removed all of his outer clothing and put these on, commenting somewhat sadly that he hoped that if he was "good enough," we might be able to give him a "[sex change] operation" that day. Nathan's mother reported that he had no interest in athletics or rough-and-tumble play and that they were both very "frightened" by a boy they had known who had intense temper tantrums.

Aimee, a 4½-year-old girl with an IQ of 117, was referred at her mother's request. The parents were of a lower-middle-class socioeconomic background. Aimee's mother was extremely concerned about her gender identity development, but her father was not.

During an intake telephone interview, Aimee's mother was tearful as she recounted her concerns. She remarked that she had always planned not to "[sex] stereotype," as this was part of her child-rearing philosophy, but that she was now "very worried" about Aimee. She indicated that, since around the age of 2, Aimee referred to herself with stereotypical boys' names such as Johnny or Stevie. She preferred to play with swords and guns, particularly squirt guns, although it was noted that Aimee also played with dolls but that these incidents were "few and far between." In role play, Aimee was never the "mommy" but rather was one male or another, such as the "daddy," and during such enactments, she would "put on" a deeper voice. Aimee would often imitate her father by carrying around a portable phone or pretending to use a pager. Aimee was "very adamant" about not wearing dresses or skirts and, in fact, if required to, would not attend special occasions. When Aimee would don masculine dress-up apparel, she made remarks such as "I look like a great man." Regarding peer relations, Aimee's mother was not sure if she played more with girls or with boys although she noted that in the day care she attended, Aimee wanted to be with the boys "but they weren't interested." Aimee frequently expressed a wish to be a boy, or, at other times, actually insisted that she was a boy. She also expressed the desire to grow a penis and was interested in standing to urinate.

During an interview, Aimee's parents placed the onset of Aimee's cross-gender behavior at around 27 months, while she was away from her father. At this time, Aimee began to refer to herself with boys' names. Aimee's father attributed her conflicts to her desire to be like him—wanting her hair cut short like his and to wear what he wore.

Apart from Aimee's gender identity development, the parents did not report other major concerns about her socioemotional functioning. It was, however, apparent from the clinical assessment that the marital relationship was quite conflicted and at times involved physical altercations. Aimee's mother was clinically depressed and had a behavioral history consistent with borderline personality and dependent personality traits. Because Aimee's father would not agree to be interviewed alone, only aspects of his life history could be

ascertained. By maternal report, he had had a marked history of sexual promiscuity and recreational drug use, the latter of which had resulted in some rather severe physical health problems. It was also apparent that there was a lot of disagreement about parenting issues: Mother saw father as very permissive ("Everything with him is a day on the beach"), and father saw mother as rigid and controlling.

Aimee was clearly quite sensitive to her mother's unpredictable mood states and would get very agitated when her mother was angry. She would tell her mother that she hated her, and call her "poo-poo, cacky, throw-up." Aimee's sensitivity to interpersonal conflict was also apparent on the Rorschach test. Several of the blots were perceived as quite threatening (e.g., sharp objects, sharks). On Card X, Aimee commented, "Dangerous stuff that can kill you. ... They look so dangerous to me. They might not to you, but they do to me." Regarding her parents' relationship, Aimee would tell her mother quite directly, "You don't like him" (i.e., her father).

These vignettes illustrate that boys and girls with GID display an array of sex-typed behavior signaling a strong psychological identification with the opposite sex and a rejection or avoidance of sex-typed behaviors more characteristic of their own sex. The behaviors occur in concert, not in isolation, and it is this behavioral patterning that is of clinical significance. From a developmental perspective, it is also important to note that the age of onset of these cross-gender behaviors is typically during the toddler and preschool years (Green, 1976), the same time period in which more normative or typical signs of gender identity development are first expressed. This suggests that the mechanisms or processes that underlie the development of GID may resemble the same processes that account for normative psychosexual differentiation, albeit in inverted form.

DIAGNOSIS, ASSESSMENT, AND REASONS FOR REFERRAL

Diagnosis

DSM-IV Diagnostic Description and Changes from DSM-III-R

In the DSM-IV (American Psychiatric Association, 1994), there were some changes in the conceptualization of GID and in the diagnostic criteria. For example, there was a reduction of diagnoses from three to one between the DSM-III-R (American Psychiatric Association, 1987) and the DSM-IV. The DSM-IV Subcommittee on Gender Identity Disorders (hereafter, the DSM-IV Subcommittee; Bradley et al., 1991) took the position that the DSM-III-R diagnoses of GID of childhood, transsexualism, and GID of adolescence or adulthood, nontranssexual type, were not qualitatively distinct disorders but reflected differences in both developmental and severity parameters. As a result, the DSM-IV Subcommittee recommended one overarching diagnosis, GID, that could be used, with appropriate variations in criteria, across the life cycle. Table 36.1 shows the DSM-IV criteria for GID. It can be seen that three criteria (Points A, B, and D) are required for the diagnosis and that Point C is an exclusion criterion.

Compared to the DSM-III and DSM-III-R, there were five main changes in the criteria for use with children:

1. The A criterion reflects the child's cross-gender identification, indexed by a total of five behavioral characteristics, of which at least four must be present. These characteristics had been listed in either the A or B criterion in the DSM-III-R.

Table 36.1. DSM-IV Diagnostic Criteria for Gender Identity Disorder

A. A strong and persistent cross-gender identification (not being merely a desire for any perceived cultural advantages of being the other sex).
In children, the disturbance is manifested by at least four (or more) of the following:

1. Repeatedly stated desire to be, or insistence that he or she is, the other sex.
2. In boys, preference for cross-dressing or simulating female attire; in girls, insistence on wearing only stereotypical masculine clothing.
3. Strong and persistent preferences for cross-sex roles in make-believe play or persistent fantasies of being the other sex.
4. Intense desire to participate in the stereotypical games and pastimes of the other sex.
5. Strong preference for playmates of the other sex.

B. Persistent discomfort with his or her sex, or a 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 the penis or testes are disgusting or will disappear, or that it would be better not to have a penis, or an aversion toward rough-and-tumble play and rejection of male stereotypical toys, games, and activities; in girls, rejection of urinating in a sitting position, the assertion that she has or will grow a penis, or that she does not want to grow breasts or menstruate, or a marked aversion toward normative feminine clothing.

C. The disturbance is not concurrent with a physical intersex condition.

D. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Source: Reprinted with permission of the American Psychiatric Association. Only criteria for children are listed.

2. The B criterion reflects the child's rejection of his or her anatomic status and/or rejection of same-sex stereotypical activities and behaviors. In the DSM-III-R, the B criterion had also included some behavioral signs of cross-gender identification, which are now restricted to the A criterion.

3. The criteria for boys and girls are more similar than they were in the DSM-III-R. For example, in the DSM-III-R, girls had to have a "stated" desire to be a boy, whereas boys had to have only an "intense" desire to be a girl. Moreover, the passage referring to girls in the DSM-III-R contained no reference to intensity or chronicity. In the DSM-IV, both boys and girls must manifest a "repeatedly" stated desire to be of the other sex.

4. In the DSM-III-R, a girl's desire to be of the other sex could not be "merely ... for any perceived cultural advantages from being a boy" (p. 73), whereas this proviso was not included for boys. In the DSM-IV, the proviso applies to both boys and girls.

5. In the DSM-III-R, the A criterion specified that a child must show a "persistent and intense distress" about being a boy or a girl. This phrase has been deleted from the DSM-IV A criterion; however, Point D specifies that the "disturbance ... causes clinically significant distress or impairment in social, occupational, or other important areas of functioning" (p. 538).

Reliability and Validity

Can the DSM-IV diagnosis of GID be made reliably? Because the criteria have changed, and because no field trials were conducted, this question cannot yet be answered; however, previous versions of the criteria have shown strong evidence for both reliability and validity (Zucker & Bradley, 1995).

Distress and Impairment

As noted by Zucker (1992), the DSM-III-R did not provide guidelines regarding the assessment of distress in the A criterion ("persistent and intense distress" about being a boy or a girl) or the ways in which it might be distinct from other operationalized components in the criteria (namely, the "desire" to be of the other sex). In the DSM-IV, this problem persists (except that it is now located in Point D), and there is the additional problem of defining impairment.

The inclusion of a distress/impairment criterion ("a clinical significance criterion"; American Psychiatric Association, 1994, p. 7) is not unique to GID; in fact, this criterion now appears in most of the DSM-IV diagnoses. Very little empirical work preceded the introduction of the criterion (see Spitzer & Wakefield, 1999). Indeed, the DSM-IV states that assessment of distress and impairment "is an inherently difficult clinical judgment" (p. 7).

For children with GID, we need to ask two interrelated questions: Are they distressed by their condition, and, if so, what is the source of the distress? Regarding these questions, there are two broad views. One view is that children with GID become distressed about their cross-gender behavior only after it has been interfered with (Stoller, 1975). Stoller took the position that marked cross-gender identification (in boys) was ego-syntonic because the putative familial psychodynamics that produced it were systemically syntonic.

The other view is that the distress is caused by psychopathology in the child and in the family. Coates and Person (1985) claimed that GID is a "solution" to specific forms of psychopathology in the child, particularly separation anxiety and "annihilation" anxiety, that were induced by familial psychopathology.

It is conceivable that both views are correct or that one or the other better fits individual cases. The latter view, however, is more compatible with the notion of inherent distress, whereas the former is more compatible with the notion that social pathology creates individual pathology. From a clinical standpoint, it has been my experience that from a very early age, many youngsters with GID feel a sense of discomfort regarding their status as boys or girls, which matches nicely with the DSM notion of distress. Nevertheless, in my view, there are youngsters in whom the behavioral characteristics of GID appear to be ego-syntonic, and who experience distress only when their cross-gender behavior is interfered with by others. The exact manner in which we should measure the putative distress of children with GID has not been worked out (Zucker, 1999a); however, this holds true not only for GID but also for all of the other childhood psychiatric conditions that include the distress/impairment criterion.

Regarding impairment, there are several domains in which it might be manifest in children with GID. For example, children with GID seem to have more trouble than other children with basic cognitive concepts concerning their gender. Zucker et al. (1993) found that children with GID were more likely than controls to misclassify their own gender. Zucker et al. (1999) provided additional evidence that children with GID appear to have a "developmental lag" in the acquisition of gender constancy. Given the ubiquity of gender as a social category (Lewis, 1980), this may well lead to affective confusion in self-representation and in social interactions.

There is also evidence that children with GID have poorer peer relations than controls and more general behavioral problems, possible indices of impairment (although the evidence for their relation to the GID itself is open to debate, an issue that is discussed further later) (Zucker & Bradley, 1995; Zucker et al., 1997).

Assessment

Biomedical Tests

There are no known biological markers that can identify children with GID. Gross parameters of biological sex, such as the sex chromosomes and the appearance of the external genitalia, are invariably normal (Green, 1976).

Because gender identity conflict is overrepresented among specific physical intersex conditions (Zucker, 1999c), particularly congenital adrenal hyperplasia (CAH) in genetic females (Meyer-Bahlburg et al., 1996), partial androgen-insensitivity syndrome in genetic males reared as girls, and in genetic males with cloacal exstrophy reared as girls (Meyer-Bahlburg, Ehrhardt, Pinel, & Gruen, 1989), it is important to inquire about any physical signs of these conditions; however, it is rare that these conditions have not already been diagnosed prior to a clinical assessment for GID.

In our sample of children, physical intersex conditions were present in 7 (15.5%) of the 45 girls; in contrast, only 1 (0.0036%) of the 277 boys had such a condition. This finding is consistent with Meyer-Bahlburg's (1994) observation that gender identity conflict is most prominent among genetic females with atypical exposure to prenatal androgens or among genetic males with partial or typical exposure to prenatal androgens but who are reared as girls.

Psychological Tests

A number of parent-report and behavioral measures can be used to assess sex-typed behavior in children with GID (Zucker, 1992; Zucker & Bradley, 1995). From a diagnostic standpoint, it should be recognized that no one test is a replacement for a diagnosis that is established by a clinical interview that covers the behavioral signs for GID. Nevertheless, these measures have strong discriminant validity and constitute one strong line of evidence that GID is, in fact, a distinct syndrome. As reviewed elsewhere, data from psychological tests show a consistent pattern in that the percentage of false positives appears to be lower than the percentage of false negatives (Zucker, 1992; Zucker & Bradley, 1995).

Parent-report data can illustrate the sometimes dramatic differences in sex-typed behavior between children referred for gender identity concerns and controls. Let us consider four of the five diagnostic signs in Point A of the DSM-IV criteria for GID (Table 36.1, A1–A3, A5). It should, of course, be well known to developmentalists that the sex-typed behaviors concerning choice of clothing in dress-up play, roles in fantasy play, and peer affiliation preference show, on average, substantial sex differences in the general population of boys and girls. Table 36.2 shows maternal ratings for these four behaviors in gender-referred children and controls. It can be seen that the differences between the two groups are quite dramatic. There is, however, evidence for more "false negatives" than "false positives"; for example, 11.0% of the gender-referred children were judged to have same-sex friends as favorite playmates but only 3.7% of the controls were judged to have cross-sex friends as favorite playmates.

Reasons for Referral

Because parents, not children, generally make the decision to seek out an assessment, one might ask what reasons parents provide regarding their request for an assessment of their child with GID—reasons that are not necessarily mutually exclusive.

Table 36.2. Maternal Ratings of Specific Sex-Typed Behaviors

	Group	
	Gender Identity Disorder	Controls
Wish to be opposite sex[a]	(*N* = 201)	(*N* = 380)
Frequently/every day	23.4%	0.3%
Once-in-a-while	35.8%	3.2%
Very rarely	16.9%	4.2%
Never	23.9%	92.4%
Dress-up play[b]	(*N* = 165)	(*N* = 250)
Same-sex	10.9%	87.2%
Equal	16.4%	9.6%
Cross-sex	72.7%	3.2%
Role in fantasy play[c]	(*N* = 180)	(*N* = 300)
Same-sex	20.6%	93.0%
Equal	21.7%	5.7%
Cross-sex	57.8%	1.3%
Favorite playmates[d]	(*N* = 200)	(*N* = 378)
Same-sex	11.0%	66.7%
Equal	37.0%	29.6%
Cross-sex	52.0%	3.7%

Note. Controls consisted of three groups of children: siblings, clinic-referred, and nonreferred ("normals"). Preliminary analyses showed no differences among the three types of controls, so their data were collapsed. Same-sex and cross-sex categories combined the response options of *Usually* and *Always*. For dress-up play, role play, and playmates, there was a *Not applicable* option (e.g., "doesn't dress up"). Children whose mothers endorsed this option had their data exluded from these analyses; hence, the *N*s vary from item to item. The four items are from a 16-item parent-report questionnaire (Zucker, 1992, pp. 332–334).

[a] X^2 (3) = 296.5, $p < .00001$

[b] X^2 (2) = 261.2, $p < .00001$

[c] X^2 (2) = 273.7, $p < .00001$

[d] X^2 (2) = 237.1, $p < .00001$

Phase-Specific Notions Regarding Gender Identity Differentiation

As noted earlier, the initial behavioral signs of GID most often appear during the toddler and preschool years, just like the behavioral signs of more typical gender identity development. In my experience, it has been extremely common for parents to report that when their child's cross-behavior first began, they viewed it as developmentally normal or typical, a "phase" that most or all children "go through." Some parents consulted their pediatrician or family doctor, who would provide reassurance that the behavior was, in fact, developmentally normal or phase-specific. Similar reassurance is often also provided by nursery school teachers or day care workers.

From a normative developmental perspective (i.e., a purely statistical approach), it should be possible to answer the question of whether cross-gender behavior is common enough at certain ages to be considered (statistically) typical or phase-specific. Although it is beyond the scope of this chapter to review the relevant data in detail, a number of normative studies point to the conclusion that cross-gender behavior is relatively uncommon among nonreferred populations of boys and girls, even during the preschool years (Zucker, 1985; Zucker &

Bradley, 1995; Zucker et al., 1997). Although these normative studies provide evidence for an age-related decrease in the occurrence of some specific cross-gender behaviors, none of the studies suggest that cross-gender behavior is ever common or frequent enough to be considered "normative" in a statistical sense. Given that this is the case for specific cross-gender behaviors, it is certainly the case for patterns of cross-gender behavior.

Social Thresholds for Cross-Gender Behavior

Parental tolerance of cross-gender behavior, independent of the issue of its commonness, can be considered under the rubric of the "social thresholds" concept. For example, many parents will go along with, if not encourage, a child's cross-gender behavior during the toddler and preschool years (Green, 1974). From a "motivational" perspective, some parents will report that they were attempting to raise their child in a non-sex-stereotypic or nonsexist manner, which is surely part of a cultural *Zeitgeist*, at least in segments of contemporary Western society (see, e.g., Bem, 1998). Indeed, some parents of boys will comment that nursery school teachers or day care workers are "delighted" to see a young male engage in cross-dressing and female doll play, interpreting it along the lines of nurturant or creative behavior ("role" flexibility). Eventually, however, some threshold for the extent of cross-gender behavior is crossed, which activates parental concern.

Social Ostracism

A very common reason for referral concerns social ostracism, particularly in the peer group, but also from siblings, relatives, and other adults known to the child. From the normative developmental literature, there is, however, considerable evidence that cross-gender behavior elicits more disapproval in boys than it does in girls, from both peers and parents (Fagot, 1985), which may be one factor in explaining the sex difference in referral rates described earlier.

Family Dynamics

Some parents believe that various factors within the family have contributed to their child's sense of unhappiness about being a boy or a girl. This attributional bias is part of the motivation to seek out an assessment.

Long-Term Psychosexual Differentiation

A final concern pertains to the relationship between marked cross-gender behavior in childhood and postpubertal gender identity and sexual orientation. Some parents are concerned that their child might grow up to be "transsexual"; other parents are concerned that their child will grow up to be gay or homosexual—indeed, many parents appear to "condense" concerns about their child's gender identity and sexual orientation development such that these two aspects of psychosexual development are viewed as isomorphic, rather than as correlated, phenomena (for further discussion, see Bailey & Zucker, 1995; Zucker, 1999b).

ASSOCIATED FEATURES

Apart from the behavioral characteristics that define GID, children with this disorder have other sex-dimorphic traits that distinguish them from control children. For example,

masked adult raters judged boys with GID to have a physical appearance that was more stereotypically feminine and less stereotypically masculine than same-sex controls, whereas the converse was found for girls with GID (Fridell, Zucker, Bradley, & Maing, 1996; McDermid, Zucker, Bradley, & Maing, 1998; Zucker, Wild, Bradley, & Lowry, 1993). Other research showed that boys with GID were perceived by their parents as having been particularly "beautiful" and "feminine" during their infancy compared to control boys (Green, 1987). Boys with GID have a lower parent-rated activity level than same-sex controls, whereas girls with GID have a higher parent-rated activity level than same-sex controls. Indeed, boys with GID have a lower activity level than girls with GID (Zucker & Bradley, 1995). Finally, boys with GID have a relative deficit in spatial ability whereas same-sex controls do not (Zucker & Bradley 1995).

General Behavior Problems

On measures such as the Child Behavior Checklist (CBCL) and the Teacher's Report Form, clinic-referred boys and girls with GID show significantly more general behavior problems than their siblings and nonreferred ("normal") children (Zucker & Bradley, 1995). Given that the siblings and nonreferred children do not engage, on average, in marked cross-gender role behavior, this might be construed as evidence for a relation between cross-gender role behavior and general behavior problems. The situation, however, is clearly more complicated than this, because demographically matched clinical controls (who, on average, show typical gender role behavior) show comparable levels of behavior problems to the children with GID (Zucker & Bradley, 1995). Thus, the relation between childhood sex-typed behavior patterns and general adjustment is complex (cf. Lewis, 1987).

On the CBCL, boys with GID have a predominance of internalizing behavioral difficulties, whereas girls with GID do not (Zucker & Bradley, 1995). Boys with GID have also been found to show high rates of separation anxiety traits (Coates & Person, 1985; Zucker, Bradley, & Lowry Sullivan, 1996).

At present, reasons for this associated behavioral psychopathology have been best studied in boys with GID (Zucker & Bradley, 1995). It is positively associated with age, which may reflect the results of increasing social ostracism, particularly in the peer group. It is also associated with a composite index of maternal psychopathology, which may reflect generic, nonspecific familial risk factors in producing behavior problems in general. The predominance of internalizing psychopathology may reflect familial risk for affective disorders and temperamental features of the boys. The extent to which aspects of the behavioral psychopathology may actually induce the emergence of the GID itself remains unresolved.

Family Demographics

Two family demographic variables—sibling sex ratio and birth order—are associated with GID. Boys with GID come from families with a significant excess of brothers, not sisters (Blanchard, Zucker, Bradley, & Hume, 1995; Zucker, Green, et al., 1997). In a study by Blanchard et al. (1995), a matched clinical control group of boys did not show a significant excess of brothers and, in both studies, the sibling sex ratio of the probands was elevated when compared to the known secondary sex ratio at birth (the ratio of male live births to female live births) in the general population. Blanchard et al. (1995) also showed that boys with GID have a later birth order than clinical control boys. Both Blanchard et al. and Zucker, Green, et al. (1997) also provided evidence suggesting that boys with GID are born later primarily in

relation to their brothers, not their sisters. Because of small sample size, only birth order could be examined in girls with GID. Zucker, Lightbody, Pecore, Bradley, and Blanchard (1998) found that girls with GID have an earlier birth order than clinical control girls, and there was some evidence suggesting that they were born early primarily in relation to their sisters, but not their brothers.

Both biological and psychosocial explanations of these familial demographic patterns have been proposed, but none have yet been tested empirically. For example, in boys, one possible biological explanation pertains to maternal immune reactions during pregnancy. Because the male fetus is experienced by the mother as more "foreign" (antigenic) than the female fetus, it has been suggested that the production of maternal antibodies has the (inadvertent) consequence of demasculinizing or feminizing the male fetus. Because the mother's antigenicity increases with each successive male pregnancy, the model predicts that males born later in a sibline would be more affected, which is consistent with the finding that boys with GID are later born, and that this birth order effect occurs largely in relation to the number of older brothers, not older sisters. Among the varied psychosocial accounts, one explanation pertains to differential parental attention to a later-born son who has one or more older brothers; for example, a father may spend less time with a later-born son because he has already invested heavily in relating to his older sons and thus is less available as an object of masculine identification. It has also been argued that mothers who had desired a daughter might be particularly prone to feminize a later-born son (for a more detailed review, see Blanchard, 1997; Blanchard & Klassen, 1997; Blanchard et al., 1995; Zucker, Green, et al., 1997).

ETIOLOGICAL INFLUENCES

Both biological and psychosocial factors have been proposed to account for the development of GID in children. In the biological arena, several domains of inquiry have been deemed relevant: both molecular and behavior genetics, the roles of both prenatal maternal stress and immune reactions (as discussed earlier), prenatal sex hormones, and temperament. In the psychosocial arena, other domains have been deemed relevant: prenatal gender preference of the parents, social reinforcement of cross-gender behavior, quantitative and qualitative aspects of mother–child and father–child relationships, self-socialization, and traumata within the family matrix. All of these domains of putative influence have been reviewed in detail elsewhere (Zucker & Bradley, 1995).

Biological Influences

Lines of biological inquiry have been relatively limited in the study of children with GID. For example, molecular genetic and postmortem neuroanatomical studies have been conducted in relation to other aspects of psychosexual differentiation (namely, sexual orientation), but comparable studies have not been carried out with regard to GID. There is reasonable consensus that gross prenatal hormonal anomalies do not account for the development of GID in the majority of cases. However, it is conceivable that more subtle variations in patterns of prenatal hormonal secretion play a predisposing role. For example, in experimental studies of female rhesus monkey offspring, it has been possible, by varying the timing of exogenous administration of hormones during the pregnancy, to alter the normal patterning of sex-

dimorphic behavior but to keep normal genital differentiation intact (Goy, Bercovitch, & McBrair, 1988). This animal model, which shows a *dissociation* between sex-dimorphic behavioral differentiation and genital differentiation, has the most direct relevance for explaining the marked cross-gender behavior of children with GID, since their genitalia are invariably normal.

Psychosocial Influences

Psychosocial factors, to truly merit causal status, must be able to influence the emergence of marked cross-gender behavior in the first few years of life. Parental tolerance or encouragement of early cross-gender behavior appears to be one such candidate; it is a factor that has been reported on by clinicians of diverse theoretical persuasions and has also marshaled some degree of empirical support (Green, 1987; Zucker & Bradley, 1995).

The reasons why parents might tolerate, if not encourage, early cross-gender behaviors appear to be quite diverse, suggesting that the antecedents to this "end state" are multiple in origin. As noted earlier, for example, some parents report being influenced by ideas regarding nonsexist child rearing. In other parents, the antecedents seem to be rooted in pervasive conflict that revolves around gender issues. For example, a small subgroup of mothers (about 10%) of boys with GID appear to experience something akin to what I have termed *pathological gender mourning* (Zucker, 1996). During the pregnancy, there is a strong desire for a girl; in all of the cases, the mother had already borne at least one other son, but no daughter—except in three instances in which the daughter was given up for adoption (one case) or had died in infancy (two cases). After the birth of the "nonpreferred" son, this wish seems to color strongly the mother's perception and relationship with her newborn, and there are strong signs of ambivalence about his gender status. This ambivalence has been manifested in several ways, including marked jealousy of friends with daughters, assignment of a gender-ambiguous or neutral given name, delayed naming of the newborn, severe postpartum depression, replacement and adoption fantasies, recurrent nightdreams about being pregnant with a girl, conscious preoccupations (e.g., diary entries about the unmet "need" to have a daughter), and active cross-dressing of the boy during infancy and toddlerhood.

Green (1987) examined quantitative and qualitative aspects of the father–son relationship, including amount of shared time. Green found that the amount of time the fathers of the feminine boys recalled spending with their sons during the second year of life, years 3 to 5, and at the time of assessment was less than the amount of time that the fathers of the controls recalled spending with their sons during the same periods. The difference in recalled shared time occurred in both two-parent families and in the families in which the parents had separated. The fathers of the feminine boys also recalled spending less time with the feminine boy than with a male sibling (when there was one) during these periods. This last finding is of interest in light of the birth order data reviewed earlier, suggesting that boys with GID, on average, tend to be later born relative to their brothers. Perhaps fathers of later-born sons are prone to spend less time with them, and this interactional pattern functions as a predisposing factor for their sons' behavioral femininity.

Another emerging line of psychosocial data concerns the extent of psychological and psychiatric disorder among the parents of children with GID. Although there is variation, the evidence suggests that these parents have rates of psychopathology that are greater than those of parents of "normal" children and at least commensurate with those of parents of clinical control children (Marantz & Coates, 1991; Zucker & Bradley, 1995). For example, among

mothers of boys with GID, over half had two or more psychiatric disorders on the Diagnostic Interview Schedule, with major depressive episode and recurrent major depression being the most common (Zucker & Bradley, 1995). Among fathers of boys with GID, depression and alcohol abuse have also been quite common. What needs to be resolved and worked out is whether parental impairment, when it is present, impacts directly on the genesis of GID or whether it functions more as a perpetuating factor. Other evidence suggests that parental impairment is associated with the extent of general behavior problems seen in children with GID (Zucker & Bradley, 1995) and thus may function as a general risk factor.

PSYCHOSEXUAL DIFFERENTIATION: FOLLOW-UP

Green (1987) has conducted the most extensive long-term follow-up of boys with GID. This study can be used as a benchmark for the other published follow-up reports, which have been summarized in detail elsewhere (Zucker, 1985, 1990). At the moment, insufficient numbers of girls have been followed prospectively to draw conclusions about long-term outcome.

Green's (1987) study contained 66 feminine boys and 56 control boys assessed initially at a mean age of 7.1 years (range, 4–12). Forty-four feminine boys and 30 control boys were available for follow-up at a mean age of 18.9 years (range, 14–24). The majority of the boys were not in therapy between assessment and follow-up.

Sexual orientation in fantasy and behavior was assessed by means of a semistructured clinical interview. Kinsey ratings were made on a 7-point continuum, ranging from exclusive heterosexuality to exclusive homosexuality. Depending on the measure (fantasy or behavior), 75–80% of the previously feminine boys were either bisexual or homosexual at follow-up versus 0–4% of the control boys.

Green also reported on the gender identity status of the 44 previously feminine boys. He found that 1 youngster, at the age of 18 years, was gender-dysphoric to the extent of considering sex-reassignment surgery.

The prospective data are consistent with retrospective studies of adults with a homosexual sexual orientation, which have repeatedly shown that homosexual men and women recall more cross-gender behavior in childhood than heterosexual men and women (Bailey & Zucker, 1995). Thus, there is now sufficient evidence from both retrospective and prospective studies to conclude that childhood sex-typed behavior is strongly associated with later sexual orientation, which represents one of the more powerful illustrations of developmental continuity to emerge from research in developmental psychiatry.

Recall interviews with adult transsexuals with a "homosexual" sexual orientation almost invariably document a childhood cross-gender history. The prospective studies of children with GID, however, have yielded only a handful of transsexual outcomes. Thus, the convergence between prospective and retrospective studies is far less for transsexualism than for homosexuality.

Where have all the transsexuals gone? There are at least three possibilities. First, as Weinrich (1985) argued, the reason may be a simple statistical one. Because the base rate of transsexualism is so low, even within the population of cross-gender-identified children, large sample sizes would be required to "scoop in" the few transsexual patients. A second possibility concerns referral bias. As Green (1974) argued, it is conceivable that transsexuals grow up in families in which the cross-gender behavior is never experienced as "dystonic"; hence, a clinical assessment is not sought. Thus, clinic-referred samples may not perfectly

reflect the universe of children with GID. Finally, as Green (1974) also pointed out, the natural history of cross-gender identification may be altered by the assessment process itself, with or without therapy. Reductions in cross-gender identity during childhood may well lower the risk for subsequent transsexualism.

Childhood Sex-Typed Behavior and Sexual Orientation: Explaining the Linkage

Both biological and psychosocial perspectives have been invoked to account for the association between childhood sex-typed behavior and sexual orientation. The most prominent biological explanation is that both sex-typed behavior and sexual orientation are joined together by some common factor or set of factors; for example, regarding genetic females with CAH, excessive prenatal exposure to androgens has been posited as the linkage factor that explains the higher rates of both behavioral masculinity during childhood (Berenbaum & Hines, 1992) and bisexuality/homosexuality in adulthood (Zucker, Bradley, Oliver, et al., 1996).

Psychosocial perspectives have been varied. For example, Green (1987) conjectured that compared to control boys, a feminine boy's lack of close relationships with other boys and with his father might result in "male affect starvation." Thus, in adolescence and adulthood, homoerotic contact is used in some compensatory manner to achieve closeness with other males. This scenario is an example of accounting for a within-sex difference in a behavioral outcome (in this instance, sexual orientation). It is not clear if "male affect starvation" during childhood would also account for a girl's later sexual attraction to males.

In Bem's (1996) developmental theory of sexual orientation, it is, in fact, proposed that similar mechanisms are operative in the sexual object choice of feminine boys and feminine girls (and masculine boys and masculine girls). Bem's account is not so much a "deficit" model, as is implied by the term "affect starvation," as a "difference" model. Bem proposed that variations in childhood "temperaments" influence a child's preference for sex-typical or sex-atypical activities and peers:

> These preferences lead children to feel different from opposite-sex or same-sex peers—to perceive them as dissimilar, unfamiliar, and exotic. This, in turn, produces heightened nonspecific autonomic arousal that subsequently gets eroticized to that same class of dissimilar peers: Exotic becomes erotic. (p. 320)

For feminine boys and feminine girls, males are "exotic," whereas for masculine boys and masculine girls, females are "exotic."

Bem's (1996) theory of sexual orientation represents a prototype in trying to unite typical and atypical development. There are, however, many unanswered questions and alternative interpretations raised by the theory. For example, Bem places great emphasis on temperamental factors that affect a child's preference for sex-typical or sex-atypical activities and friendships—an emphasis that might be disputed by some developmentalists (Ruble & Martin, 1998). Empirical evidence for the emergence of specific erotic feelings following "heightened nonspecific autonomic arousal" is scant, although it is quite likely that the relevant tests can be obtained through an analysis of emerging sexual interactions within the preadolescent peer group.

Bem's theory is intriguing in that it implies a greater potential for malleability in sexual-orientation development than is apparent in some of the biological theories. For example, if a

feminine boy becomes more masculine in the course of his childhood, does this imply that the likelihood of later homoeroticism decreases? Conversely, if a feminine girl becomes more masculine in the course of her childhood, does this imply that the likelihood of later homoeroticism increases?

Unfortunately, there is not much information available to answer these questions. Green (1987) compared on a number of childhood variables the feminine boys who were subsequently classified as bisexual or homosexual with the feminine boys who were subsequently classified as heterosexual. Although some feminine behaviors distinguished the two subgroups, a composite extent of femininity score only approached conventional levels of significance, and only for the rating of sexual orientation in fantasy, not behavior. The lack of a stronger correlation is somewhat surprising, since one might have expected an association between the degree of cross-gender identification and long-term outcome; however, Green (1987) did find that the continuation of certain feminine behaviors throughout childhood was associated with later homosexuality. Thus, it may be that the persistence of these feminine behaviors is more important than their extent during the early childhood years.

SUMMARY

In this chapter, I have reviewed aspects of the core phenomenology, diagnostic and assessment issues, associated features, selected etiological factors, and long-term follow-up data pertaining to GID in children. Some matters have been more easily settle than others; for example, the phenomenology of GID is now well described, and extant assessment procedures are available to conduct a thorough diagnostic evaluation (see Zucker, 1992; Zucker & Bradley, 1995). Like other psychiatric disorders of childhood, however, it is apparent that complexity, not simplicity, is the guiding rule-of-thumb in any effort to make sense of the origins of GID. From an etiological standpoint, perhaps the most vexing issue is to make progress in solving the problem of specificity. It is likely that both biological and psychosocial factors will be implicated, and a model of cumulative risk (partly sex-specific) will be required to understand this relatively uncommon psychiatric disorder of childhood.

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