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Sexual Orientation versus Age of Onset as Bases for Typologies (Subtypes) for Gender Identity Disorder in Adolescents and Adults

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Abstract The most widely used and influential typologies for transsexualism and gender identity disorder (GID) in adolescents and adults employ either sexual orientation or age of onset of GID-related symptoms as bases for categorization. This review compares these two typological approaches, with the goal of determining which one should be employed for the diagnosis of GID in Adolescents or Adults (or its successor diagnosis) in the forthcoming revision of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM). Typologies based on sexual orientation and age of onset of GID-related symptoms are roughly comparable in ease and reliability of subtype assignment. Typologies based on sexual orientation, however, employ subtypes that are less ambiguous and better suited to objective confirmation and that offer more concise, comprehensive clinical description. Typologies based on sexual orientation are also superior in their ability to predict treatment-related outcomes and comorbid psychopathology and to facilitate research. Commonly expressed objections to typologies based on sexual orientation are unpersuasive when examined closely. The DSM should continue to employ subtypes based on sexual orientation for the diagnosis of GID in Adolescents or Adults or its successor diagnosis.

Keywords DSM-V · Gender identity disorder · Transsexualism · Sexual orientation · Age of onset · Typology

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Introduction

Persons who experience persistent discomfort with their biologic sex or with the gender role of that sex (*gender dysphoria*; American Psychiatric Association [APA], 2000) and who display a strong and persistent cross-gender identification can be diagnosed with *transsexualism* (APA, 1980, 1987; World Health Organization [WHO], 1992) or *gender identity disorder* (GID; APA, 1994, 2000). Transsexualism has long been recognized to be a "heterogeneous disorder" (APA, 1980, p. 261), and several different classification systems or typologies for transsexualism and GID have been proposed. Most of these typologies have addressed only male-to-female (MtF) transsexualism, because, until recently, only one type of female-to-male (FtM) transsexualism was believed to exist. The most influential and widely used transsexual typologies have emphasized either *sexual orientation* or *age of onset of GID-related symptoms* (e.g., gender dysphoria, unremitting gender dysphoria, cross-gender identification, or overt cross-gender behavior) as the principal criterion for classification. Classification systems based on sexual orientation have served as typologies or specifiers[1] for the

[1] The DSM-IV (APA, 1994) and DSM-IV-TR (APA, 2000) distinguish between *subtypes* and *specifiers* for diagnoses:

> *Subtypes* define mutually exclusive and jointly exhaustive phenomenological subgroupings within a diagnosis and are indicated by the instruction "specify type" in the criteria set….In contrast, *specifiers* are not intended to be mutually exclusive or jointly exhaustive and are indicated by the instruction "specify" or "specify if" in the criteria set. (APA, 2000, p. 1)

In the DSM-IV and DSM-IV-TR, criteria sets for the diagnosis of GID in Adolescents or Adults include instructions to *specify* sexual orientation, i.e., sexually attraction to males, females, both, or neither (e.g., APA, 2000, p. 582). These four categories, however, are mutually exclusive and jointly exhaustive; consequently, they should properly be considered subtypes, not specifiers. In the DSM-III-R (APA, 1987), the criteria

diagnoses of transsexualism and GID in the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM*; APA, 1980, 1987, 1994, 2000), ever since these diagnoses entered the DSM in 1980. Transsexual typologies based on the age of onset of GID-related symptoms have also been widely used, however, especially in past decades and in some northern European countries (e.g., the Netherlands, Norway, Poland, and Sweden; see Cohen-Kettenis, van Goozen, Doorn, & Gooren, 1998; Doorn, Poortinga, & Verschoor, 1994; Haraldsen, Opjordsmoen, Egeland, & Finset, 2003; Herman-Jeglińska, Grabowska, & Dulko, 2002; Johansson, Sundbom, Höjerback, & Bodlund, 2009; Landén, Wålinder, Hambert, & Lundström, 1998). The *International Classification of Diseases* (WHO, 1992) does not employ any subtypes or specifiers for the diagnosis of transsexualism.

As this article goes to press, the DSM is undergoing revision, a process that is expected to produce a new edition, the DSM-V, in 2012 (APA, 2008). Accordingly, it is appropriate to reexamine the two principal bases for framing typologies for transsexualism—sexual orientation and age of onset of GID-related symptoms—and consider which one should be employed as the basis for a typology for GID or its successor diagnosis in the DSM-V. In this article, I will review the history of these two typological approaches and summarize the evidence concerning the value of each for use with the diagnosis of GID. Specifically, I will consider the extent to which typologies based on sexual orientation versus age of onset of GID-related symptoms: (1) employ categories (subtypes) that are unambiguous, easily ascertained, and reliable; (2) facilitate concise, comprehensive clinical description; (3) offer prognostic value for treatment-related outcomes; (4) offer predictive value for comorbid psychopathology; and (5) facilitate research and offer heuristic value. These criteria reflect the DSM's emphasis on "clinical utility, reliability, [and] descriptive validity" (APA, 2000, p. xxvi) and its intention to "facilitate research" (APA, 2000, p. xxiii). I will conclude by addressing some additional theoretical and practical issues related to the two principal typological approaches, including several issues raised by Cohen-Kettenis and Pfäfflin (2009).

Footnote 1 continued
set for the diagnosis of Transsexualism includes an instruction to *specify* sexual orientation, i.e., asexual, homosexual, heterosexual, or unspecified (p. 76), but the accompanying text refers to these categories as "types" (p. 75). These four categories, too, are mutually exclusive and jointly exhaustive; according to the definitions of the DSM-IV and DSM-IV-TR, they would also be considered subtypes. In the DSM-III (APA, 1980), the criteria set for the diagnosis of Transsexualism includes *subtype* designations, based on prior sexual history, i.e., asexual, homosexual, heterosexual, or unspecified (p. 262). These categories are also mutually exclusive and jointly exhaustive, so their designation as subtypes is consistent with the definitions of the DSM-IV and DSM-IV-TR. Note that, in classification systems based on age of onset of GID-related symptoms, the binary categories that are typically employed (e.g., early- vs. late-onset, or primary vs. secondary) are also mutually exclusive and jointly exhaustive. According to the definitions of the DSM-IV and DSM-IV-TR, they would also be considered subtypes.

Transsexual typologies that emphasize neither sexual orientation nor age of onset of GID-related symptoms also exist (e.g., Buhrich & McConaghy, 1978; Freund, Steiner, & Chan, 1982; Sørensen & Hertoft, 1980, 1982) but are primarily of historical interest. I will address them only to the extent that they are relevant to a comparison of the two most widely employed typological approaches.

Early History of Sexual Orientation and Age of Onset as Descriptive Variables in Transsexualism

Beginning with the earliest clinical descriptions of transsexualism, sexual orientation has been considered an important descriptive variable. Early investigators paid less attention to age of onset of GID-related symptoms as a descriptive variable, because onset was usually assumed to be very early in nearly all cases. Only in the late 1960s and early 1970s, however, did clinicians and researchers begin to use sexual orientation and age of onset as criteria for framing formal transsexual typologies. The emergence of these typologies partly reflected attempts to develop bases for selecting appropriate candidates for sex reassignment surgery (SRS), which was becoming more readily available. Nearly all investigators have referenced the sexual orientation of transsexuals to birth sex; this convention should be assumed, unless an exception is specifically noted.

Hirschfeld (1948, 1991) was arguably the first author to devote significant study to the phenomenon now recognized as transsexualism. Hirschfeld did not distinguish between the conditions that are now called transsexualism and transvestic fetishism; he referred to persons with either condition simply as "transvestites." In his earliest writings on the subject, Hirschfeld (1991) expressed the belief that the sexual orientations of the transvestic persons he studied—nearly all of whom were males—were directed "in almost all cases… toward persons of the opposite [biological] sex" (p. 130); the rare exceptions were bisexual in orientation. Later, Hirschfeld (1948) recognized a wider range of sexual orientations among transvestic persons: "About 35 per cent of transvestites are heterosexual and an equal percentage homosexual, while about 15 per cent are bisexual. The remaining 15 per cent are mostly automonosexual, but also include a small proportion of asexuals" (p. 167). The persons Hirschfeld called *automonosexual*, whose sexuality was primarily directed toward themselves rather than toward other people, would now be called *analloerotic*, "not sexually attracted toward other people" (Blanchard, 1989a). Most subsequent transsexual typologies based on sexual orientation have drawn from the five categories that Hirschfeld (1948) set forth. But, although Hirschfeld evidently believed that sexual orientation was a relevant variable in describing transsexualism, his observations seem to have been simply descriptive, not the proposal of a formal typology. Hirschfeld (1991) had little to say about the age of onset of cross-gender wishes in the transvestic

persons he studied, noting that "in most of the cases we can trace the urge back into their early childhood" (p. 125).

Hamburger (1953), one of Christine Jorgensen's physicians, reported data from 465 persons who wrote to him requesting sex reassignment. He divided his male informants into "transvestic" men, who emphasized their desire to cross-dress, and "other" men, who did not. This division, however, appeared to be purely descriptive and did not represent a proposed typology. Hamburger reported the sexual orientations of his informants relative to anatomic sex, using three categories: heterosexual, homosexual, and bisexual/autosexual (i.e., analloerotic) or asexual. Among the informants who included information about their sexual orientations, about 40% of the transvestic males and 87% of the nontransvestic males were homosexually oriented, whereas all of the females were homosexually oriented. Hamburger said little about the age of onset of gender dysphoria or cross-gender identity in his informants, noting only that "the desire for change of sex appears before puberty" (p. 375).

Randell (1959) described 20 male and 10 female transsexual patients, along with 17 male and 3 female transvestite patients. He reported the sexual orientation of the male patients using the 0–6 Kinsey scale (Kinsey, Pomeroy, & Martin, 1948), observing that most of the MtF transsexuals fell into the heterosexual-bisexual range (Kinsey 1–3; none were Kinsey 0) but that one quarter were exclusively homosexual (Kinsey 6). Randell found, however, that "with one notable exception, the female patients were homosexually orientated" (p. 1450). Here again, the author's observations concerning sexual orientation appeared to be simply descriptive, not indicative of a proposed transsexual typology. Randell described the age of onset of the patients' cross-gender feelings only briefly, observing that, in transsexual and transvestite patients of both sexes, "the onset of the transvestite impulse was early, usually before the age of 10 years" (p. 1450).

Lukianowicz (1959) was perhaps the first investigator to devote significant attention to age of onset of gender dysphoria in describing transsexualism. Unlike some contemporaries, he distinguished between transvestism and transsexualism; he believed that, although the two conditions were similar, transsexualism was almost exclusively a male phenomenon and that "the morbid desire 'to be a woman' is much deeper in transsexualism" (p. 50). Lukianowicz classified transvestites according to sexual orientation (asexual, automonosexual, heterosexual, homosexual, or bisexual) but thought it "likely that all transsexualists are homosexual" (p. 49). Consequently, his principal criterion for classifying transsexuals was severity of distress (mild, intermediate, or severe); he noted that mild cases were likely to be satisfied with partial measures, whereas in severe cases "the individual would be satisfied with nothing else but a complete conversion-operation" (p. 50). Lukianowicz believed that transvestism—and apparently most cases of transsexualism, too—usually developed very early in life. He observed that, for the male transvestite, "the beginning of his transvestite tendencies is to be sought in his early childhood" (p. 51) and that only rarely did transvestism first manifest during the late teenage years. Lukianowicz suggested, however, that a late onset of gender dysphoria was characteristic of many cases of intermediate-intensity transsexualism, which "probably consists of cases of very slowly developing transsexualism, presenting for years a typical picture of a 'mere' transvestism, and turning eventually into transsexualism" (p. 51).

Wålinder (1967) described 30 MtF and 13 FtM transsexual patients he had interviewed but did not propose a formal transsexual typology. Twenty-eight of the 30 MtF patients and all of the FtM patients described themselves as sexually aroused "mentally" by same-sex persons; the remaining 2 MtF patients were mentally aroused by opposite-sex persons. The reported age of onset of the wish to be the other sex was 0–5 years in all of the FtM patients and in two-thirds of the MtF patients; in the remaining MtF patients, reported age of onset of cross-gender wishes was about equally divided between 5–10 years, 10–15 years, and 15–25 years.

Meyer (1974) described several clinical variants among persons applying for sex reassignment. His descriptions can be conveniently considered here, even though they involved quasi-typological categories and arguably were not truly "early." On the other hand, Meyer did not claim to present a comprehensive typology of severely gender dysphoric persons. Meyer's categories were largely based on sexual orientation, in that they reflected patients' "sexual object choice, erotic preference, fantasies, and interpersonal social maneuvers" (p. 529). The categories included (a) *stigmatized homosexuals* and *masochists*, who were actively and exclusively homosexual, or nearly so; (b) *aging transvestites* and *younger transvestites*, who were primarily heterosexual and who displayed prominent cross-gender fetishism; (c) *polymorphous perverse* applicants, who were not exclusively homosexual and whose sexual behaviors were essentially opportunistic; (d) *schizoid* patients, who were analloerotic or asexual; and (e) *eonists*, who had minimal or no history of successful heterosexual relationships, homosexual experimentation, or sexual arousal with cross-dressing. The first four of these five sets of categories corresponded closely to Hirschfeld's (1948) homosexual, heterosexual, bisexual, and automonosexual/asexual groups; the fifth, eonists, consisted of persons who would later be considered "classical" or "true" transsexuals in other typologies. Interestingly, Meyer did not believe that an early onset of gender dysphoria was particularly characteristic of eonists, noting that "the eonists do not have an early history (as nearly as can be told during the course of evaluation) necessarily different from that of others presenting for sex reassignment" (p. 549).

MtF Transsexual Typologies Emphasizing Sexual Orientation

The MtF transsexual typologies discussed in this section emphasize sexual orientation and are summarized in Table 1. All of the

Table 1 Male-to-female transsexual typologies emphasizing sexual orientation

Author(s)	Category names	Age of onset	Criterion used to define age of onset	Exclusive androphilia	Childhood cross-gender behavior	Cross-gender fetishism	Asexuality or analloeroticism
Benjamin (1966)	Type VI	Early childhood	Gender dysphoria	Always	Not discussed	Never?	Often
	Type V	Early childhood		Sometimes	Not discussed	Never?	Often
	Type IV	Early childhood		Never	Not discussed	Rarely?	Often
Money and Gaskin (1970–1971)	Effeminate-homosexual	Usually prepubertal	Cross-gender identity	Always	Always	Never?	Sometimes
	Transvestitic	Usually prepubertal		Never	Rarely?	Always	Not discussed
Bentler (1976)	Homosexual	Usually childhood	Feel self to be like a woman	Always	Not discussed	Sometimes	Never?
	Heterosexual	Usually childhood		Never	Not discussed	Often	Never?
	Asexual	Usually childhood		Never	Not discussed	Sometimes	Often?
Levine et al. (1976)	Group A (homosexual)	By adolescence	Cross-gender identity	Always	Not discussed	Not discussed	Often?
	Group B (nonhomosexual)	By adolescence		Never	Not discussed	Not discussed	Often?
Blanchard (1985, 1988, 1989a, b; Blanchard et al. 1987)	Homosexual[a]	Usually prepubertal	Cross-gender wishes	Almost always	Almost always	Rarely	Rarely
	Heterosexual[a]	Often prepubertal		Never	Sometimes	Almost always	Rarely
	Bisexual[a]	Often prepubertal		Never	Sometimes	Almost always	Rarely
	Asexual/analloerotic[a]	Often prepubertal		Never	Sometimes	Almost always	Usually
Whitam (1987, 1997)	Homosexual	Early childhood	Cross-gender behavior	Always	Always	Never	Almost never?
	Heterosexual	Around puberty		Never	Rarely?	Often	Sometimes
Lawrence (2005)	Homosexual	Usually childhood	Wish to be the other sex	Always	Not discussed	Sometimes	Rarely
	Heterosexual	Usually childhood		Never	Not discussed	Almost always	Rarely
	Bisexual	Usually childhood		Never	Not discussed	Almost always	Rarely
	Asexual	Usually childhood		Never	Not discussed	Almost always	Almost always
Smith et al. (2005a, b)	Homosexual	Usually childhood	Gender dysphoria	Always	Often?	Sometimes	Not discussed
	Nonhomosexual	Sometimes childhood		Never	Sometimes?	Often	Not discussed
Johansson et al. (2009)	Homosexual	Variable	Wish to become the opposite sex	Always	Not discussed	Not discussed	Not discussed
	Nonhomosexual	Variable		Never	Not discussed	Not discussed	Not discussed

Note: An entry with a question mark denotes a probable answer

[a] Blanchard (1989a) recommended using only two categories, homosexual and nonhomosexual, when describing small numbers of persons

earliest attempts to categorize MtF transsexualism typologically were based on sexual orientation. This probably reflects the tradition, dating back to Hirschfeld (1991), of using sexual orientation as a descriptor in transvestism. At first, MtF transsexual typologies based on sexual orientation were apparently intended only to facilitate concise clinical description. By the late 1980s, however, sexual orientation was sometimes considered to be a prognostic indicator in MtF transsexualism as well.

Benjamin's (1966) "Sex Orientation Scale" was arguably the first formally proposed MtF transsexual typology. Benjamin distinguished MtF transsexual types primarily on the basis of severity of gender dysphoria, but sexual orientation also differed significantly between types. Benjamin recognized three types of male transvestism, which he called *Types I*, *II*, and *III*, along with three types of MtF transsexualism, which he called *Types IV*, *V*, and *VI*. Benjamin's Type VI MtF transsexuals were "true" transsexuals; they were severely gender dysphoric, and their sexual orientation was always exclusively homosexual (Kinsey 6). Type V MtF transsexuals were also "true" transsexuals, but were less severely gender dysphoric; their sexual orientation could range from bisexual to exclusively homosexual (Kinsey 4–6). Benjamin did not consider Type IV MtF transsexuals to be "true" transsexuals; he believed they represented an intermediate stage between transvestism and "true" transsexualism. Type IV MtF transsexuals were the least gender dysphoric of the three transsexual types, and their sexual orientation could range from primarily heterosexual to bisexual (Kinsey 1–4; but apparently *not* Kinsey 0). Benjamin thought that MtF transsexuals of all three types often displayed little sexual interest or exhibited low libido. He apparently did not consider age of onset of gender dysphoria to be important for distinguishing transsexual types: He noted that MtF transsexuals of all three types commonly reported the onset of gender dysphoria in early childhood.

Money and Gaskin (1970–1971) proposed another early MtF transsexual typology emphasizing sexual orientation, although they explicitly rejected the word "typology," arguing that MtF transsexualism represented a continuum of symptomatology. Accordingly, they presented their proposed MtF transsexual types—*effeminate-homosexual* and *transvestitic*—as "idealized cases," rather than descriptors of distinct clinical populations. Money and Gaskin's effeminate-homosexual MtF transsexuals were overtly feminine in their interests and behaviors during childhood and adulthood and were exclusively sexually attracted to men. The authors thought that the typical effeminate-homosexual MtF transsexual was also hyposexual, "essentially indifferent to his own orgasm, and perhaps even offended by it" (p. 256). Money and Gaskin's transvestitic MtF transsexuals, like the transvestites they resembled, were heterosexual in orientation but also experienced cross-gender fetishism, in that "male genital arousal and performance are, paradoxically, dependent on the emergence of the feminine personality" (p. 255). Their gender expression was, at least at times, conventionally masculine. Like their effeminate-homosexual counterparts, their cross-gender feelings emerged before puberty. Money and Gaskin did not suggest that their typology carried any prognostic significance.

Bentler (1976) formulated a MtF transsexual typology based on questionnaire data from 42 MtF patients who had undergone SRS. He categorized participants as *homosexual* if they had identified as homosexual before SRS and had never married; only a few of these persons reported any sexual activity with female partners, but 23% reported sexual arousal with cross-dressing. Bentler categorized participants as *heterosexual* if they had been married before SRS; all but one of these participants also had identified as heterosexual before SRS, and most reported multiple female sexual partners, but only 50% reported sexual arousal with cross-dressing. He categorized participants as *asexual* if they denied having identified as homosexual before SRS, had never been married, and denied ever having experienced "pleasant and successful" coitus with female partners; most of these individuals reported few female sexual partners, about half had identified as heterosexual, and only 18% reported sexual arousal with cross-dressing. Bentler believed that his typology was clinically meaningful, noting that homosexual MtF transsexuals tended to undergo more surgical procedures than their heterosexual and asexual counterparts but often seemed less satisfied with their results.

Levine, Gruenewald, and Shaiova (1976) contrasted 12 MtF transsexuals who had engaged in homosexual behavior extensively and regularly (*group A*) and 6 MtF transsexuals who had engaged in homosexual behavior infrequently, briefly, or not at all (*group B*). Members of both groups reported feelings of belonging to the opposite sex at least from adolescence. Levine et al. observed that the groups differed most significantly in their employment history: All those in group A received public assistance, and all had worked as prostitutes, whereas all but one of those in group B were employed, and none were known to have engaged in prostitution. Moreover, the members of group A uniformly "expressed virtually no affect in their conversations" (p. 84), whereas most of those in group B displayed at least "superficially more adequate, socially appropriate modulation of emotional expressiveness" (p. 84). The report by Levine et al. represents one of the earliest attempts to examine possible relationships between sexual orientation and psychopathology in MtF transsexualism.

Blanchard (1985, 1988, 1989a, b; Blanchard, Clemmensen, & Steiner, 1987) proposed a sexual orientation-based MtF transsexual typology that is now regarded as "fundamental" (Michel, Mormont, & Legros, 2001, p. 366). Blanchard (1985) studied the prevalence of sexual arousal with cross-dressing in 163 MtF transsexuals, whom he divided into four groups—*homosexual*, *heterosexual*, *bisexual*, and *asexual*—based on their scores on separate measures of androphilia (sexual attraction to adult males) and gynephilia (sexual attraction to adult females). Significantly fewer of Blanchard's homosexual participants (15%)

reported sexual arousal with cross-dressing than did the heterosexual, bisexual, or asexual participants (73% combined), with no significant differences among the last three groups. Blanchard believed that some instances in which ostensibly homosexual participants reported sexual arousal with cross-dressing were attributable to misrepresentation of sexual orientation by persons who were actually not androphilic. Blanchard et al. (1987) found that the ages of onset of cross-gender wishes and cross-dressing did not differ significantly between homosexual and heterosexual (i.e., not exclusively homosexual) MtF transsexuals. Blanchard (1988) observed that homosexual MtF transsexuals reported significantly higher levels of cross-gender wishes, feelings, and behaviors during childhood than did nonhomosexual (i.e., not exclusively homosexual) MtF transsexuals and that they sought treatment at significantly younger ages. Blanchard (1989b) demonstrated that homosexual, heterosexual, bisexual, and asexual/analloerotic MtF transsexuals could be differentiated based on formal measures of cross-gender fetishism, heterosexual experience, analloeroticism, and *autogynephilia* (sexual arousal to the thought or image of oneself as a female).

Writing from a cross-cultural perspective, Whitam (1987, 1997) described *homosexual* MtF transsexuals as "highly cross-gendered [male] individuals of homosexual orientation who live much of the time as women and would prefer to be women regardless of whether sex reassignment surgery is sought" (Whitam, 1987, p. 183). He observed that "in most societies these persons regard themselves as homosexuals and are regarded by more masculine homosexuals as a natural part of the homosexual world" (Whitam, 1987, p. 177). Thus, for Whitam, homosexual MtF transsexuals were homosexual men with transsexual wishes and lifestyles, not MtF transsexuals whose sexual orientation happened to be homosexual. He observed that homosexual MtF transsexuals usually engaged in overt cross-gender behavior beginning in early childhood, that they did not exhibit cross-gender fetishism, and that they typically displayed "strong, overt sexuality" (Whitam, 1997, p. 202). Whitam (1987) described *heterosexual* MtF transsexuals as heterosexual men who "desire sex reassignment surgery but do not have [behavioral] characteristics that are often linked to being female" (p. 197). He noted, for example, that heterosexual MtF transsexuals were often highly athletic, rarely engaged in dancing or performance, and tended to favor traditionally masculine occupations. He also stated that heterosexual MtF transsexuals were usually typically masculine during childhood and that "often their only cross-gender behavior is cross-dressing, which may not appear until just before, during, or after puberty and is often done in secret" (Whitam, 1997, p. 192). Whitam (1997) further observed that heterosexual MtF transsexuals "often report cross-dressing fetishistically at least for a period of time" (p. 193) and that they "seem to manifest significantly lower levels of sexual interest" (p. 202) than their homosexual MtF counterparts.

Lawrence (2005) studied the sexual behavior of 232 MtF transsexuals who had undergone SRS. She categorized participants on the basis of sexual orientation but found that participants sometimes reported a significant change in the direction of their sexual attraction after undergoing SRS. Lawrence also observed that three possible criteria for assigning sexual orientation—stated sexual attraction, stated pattern of sexual partnering, and reported numbers of male and female partners—yielded slightly different results. For most analyses, Lawrence used the last of these criteria, classifying participants based on their sexual experience before SRS as *homosexual* (at least one male partner and no female partners), *heterosexual* (at least one female partner and no male partners), *bisexual* (at least one male and one female partner), or *asexual* or analloerotic (no female or male partners). Lawrence observed that the prevalence of autogynephilic sexual arousal before SRS varied with sexual orientation: Heterosexual and bisexual participants reported a significantly higher prevalence of any autogynephilic sexual arousal, and higher median levels of autogynephilic arousal, than homosexual participants. There were also nonsignificant trends for asexual participants to report a higher prevalence of any autogynephilic arousal and a higher median level of autogynephilic arousal than homosexual participants. A few ostensibly homosexual participants reported autogynephilic sexual arousal; in most cases, this seemed to reflect misrepresentation of their sexual orientation. Lawrence also found that the number of sexual partners before SRS reported by homosexual, heterosexual, and bisexual participants were roughly comparable to the number of lifetime sexual partners reported by male participants in the National Health and Social Life Survey (Laumann, Gagnon, Michael, & Michaels, 1994); if number of partners can be considered an indicator of sexual interest, these results suggested that homosexual, heterosexual, and bisexual MtF transsexualism did not represent hyposexual conditions.

Smith, van Goozen, Kuiper, and Cohen-Kettenis (2005a, b) categorized MtF transsexual patients as *homosexual* or *nonhomosexual* (i.e., not exclusively homosexual) on the basis of self-reported pattern of sexual attraction. Lawrence (2008a) argued that, based on their marital histories, some MtF patients whom Smith et al. (2005b) had described as homosexual had probably misrepresented their sexual orientations and were actually nonhomosexual, potentially blurring genuine differences between the two groups. Despite this possible limitation, Smith et al. (2005b) observed that homosexual and nonhomosexual MtF patients differed in significant ways: Compared with their nonhomosexual counterparts, homosexual MtF patients sought sex reassignment at younger ages, were less likely to report a history of sexual arousal with cross-dressing, were less likely to have been married, and were judged to have a physical appearance that was more congruent with their gender identity. Homosexual MtF patients reported more symptoms of GID during childhood than their nonhomosexual counterparts, but this difference was not statistically significant (Smith et al., 2005b).

Two MtF patients expressed some regret following SRS; both were nonhomosexual (Smith et al., 2005a).

Johansson et al. (2009) summarized outcomes of the sex reassignment process in 25 male GID patients, whom they categorized on the basis of both sexual orientation (homosexual vs. nonhomosexual) and age of onset of cross-gender wishes; I will address the former categorization here. The authors did not explicitly describe their basis for deciding sexual orientation, but they referenced Blanchard (1989a), suggesting that they were familiar with his system of categorization. Among 13 patients categorized as homosexual, 1 had not yet completed SRS and 1 other had decided to forgo SRS entirely; among 12 patients categorized as nonhomosexual, 2 had not yet completed SRS and 3 others had decided to forego SRS (between-group differences nonsignificant). All but 1 patient self-rated the global outcome of the sex reassignment process as positive; the exception, who self-rated her outcome as negative, was nonhomosexual in orientation. Clinicians rated the global outcomes of the homosexual patients as positive in 10 cases and neutral in 3 cases; they rated the global outcomes of the nonhomosexual patients as positive in 8 cases, neutral in two cases, and negative in 2 cases (neither of the last being the patient with the self-reported negative outcome). Thus, all 3 instances of negative outcomes (1 patient-rated, 2 clinician-rated) occurred in nonhomosexual MtF transsexuals ($p = .10$ by Fisher's exact test, two-tailed).

MtF Transsexual Typologies Emphasizing Age of Onset of GID-Related Symptoms

The MtF transsexual typologies discussed in this section, which emphasize age of onset of GID-related symptoms, are summarized in Table 2. The need to develop criteria for selecting appropriate candidates for sex reassignment apparently inspired the development of many typologies emphasizing age of onset. Clinicians and researchers hypothesized that persons who reported an early onset of GID-related symptoms were likely to be better candidates for sex reassignment than persons who reported a later onset of these symptoms (Person & Ovesey, 1974b). Patients who reported an early onset of GID-related symptoms, therefore, were referred to as "primary," "true," "core," or "genuine" transsexuals, whereas their counterparts who reported a later onset were referred to as "secondary," "atypical," or "non-core" transsexuals.

Person and Ovesey (1974a, b) proposed one of the most influential MtF transsexual typologies based on age of onset of gender dysphoria (Michel et al., 2001, p. 366, described it as "fundamental"), although it differed significantly from most age of onset-based typologies that followed. Person and Ovesey (1974a) distinguished *primary* MtF transsexuals, in whom the "transsexual impulse" (p. 6) was lifelong and unremitting, from *secondary* MtF transsexuals, "who gravitate toward transsexualism only after sustained periods of active homosexuality or transvestism" (p. 6). Person and Ovesey (1974a) believed that primary MtF transsexualism began in early childhood, whereas secondary MtF transsexualism developed in adulthood, usually in reaction to some severe psychosocial stress. Primary MtF transsexualism was supposedly characterized by a low level of sexual interest and by the absence of either overt masculinity or effeminacy. Secondary transsexualism, as described by Person and Ovesey (1974b), was not a unitary phenomenon: It encompassed two distinct subtypes, *homosexual* and *transvestitic*, closely resembling the subtypes that Money and Gaskin (1970–1971) called *effeminate-homosexual* and *transvestitic*. The only unifying feature of secondary transsexualism was its adult onset. Person and Ovesey (1974b) felt that:

> In terms of our classification, the primary transsexual theoretically should make the best candidate for sex reassignment….The situation is different, however, with both homosexual and transvestic transsexuals who comprise the majority of applicants for sex reassignment….We would…be extremely cautious in recommending surgical sex reassignment in these two groups (p. 191).

Fisk (1974a, b; Laub & Fisk, 1974) distinguished several types of male patients who sought sex reassignment at the Stanford University gender program. He used the term *gender dysphoria syndrome*, rather than transsexualism, to refer to these patients' diagnosis. In Fisk's typology, the number of recognized typological categories and their exact names varied slightly from one article to another. It appears that persons in only three of Fisk's typological categories, however, were considered appropriate candidates for SRS in the Stanford program (Laub & Fisk, 1974): *classic transsexualism of Benjamin* (a reference to Benjamin, 1966), *effeminate homosexuality*, and *transvestism*. Only patients in these three categories, for example, were selected for inclusion in a follow-up descriptive study of applicants to the Stanford program (Dixen, Maddever, Van Maasdam, & Edwards, 1984); consequently, only these categories are included in Table 2. Other typological categories described by Fisk included persons with *psychosis*, *extreme sociopathy and psychopathy*, and *inadequate/schizoid personality* (1974b; Laub & Fisk, 1974). Classic MtF transsexualism was characterized by onset in early childhood, life-long feminine behavior, exclusive androphilia, absence of sexual arousal with cross-dressing, and perhaps a disinterest in genital sexuality (Fisk, 1974a; Laub & Fisk, 1974). Effeminate homosexuality progressing to gender dysphoria syndrome was characterized by androphilia, episodic nonerotic cross-dressing, and onset of gender dysphoria in adulthood (Laub & Fisk, 1974). Transvestism progressing to gender dysphoria syndrome was characterized by erotic arousal with cross-dressing, gynephilia, and onset of gender dysphoria in adulthood (Laub & Fisk, 1974).

Stoller (1979, 1980) began to formulate theories of MtF transsexual development in the late 1960s (e.g., Stoller, 1968) but apparently did not propose a formal MtF transsexual typology

Table 2 Male-to-female transsexual typologies emphasizing age of onset

Author(s)	Category names	Age of onset	Criterion used to define age of onset	Exclusive androphilia	Childhood cross-gender behavior	Cross-gender fetishism	Asexuality or analloeroticism
Person and Ovesey (1974a, b)	Primary	Early childhood	Wish for sex reassignment	Never?	Rarely	Never	Always
	Homosexual[a]	Adulthood		Always	Always	Never	Never
	Transvestitic[a]	Adulthood		Never	Never?	Always	Sometimes
Fisk (1974a, b; Laub & Fisk 1974)	Classic transsexualism[b]	Early childhood	Desire to be the other sex	Always	Always	Never	Often?
	Effeminate homosexuality[b]	Adulthood		Always	Usually?	Never	Not discussed
	Transvestism[b]	Adulthood		Never	Never?	Always	Not discussed
Stoller (1979, 1980)	Primary (true)	Early childhood	Complete and overt cross-gender behavior	Always	Always	Never	Not discussed
	Secondary	Usually adulthood		Sometimes	Sometimes	Sometimes	Not discussed
Levine and Lothstein (1981)	Primary[b]	Early childhood	Cross-gender identity and gender dysphoria	Always	Always	Never	Not discussed
	Effeminate homosexual[a,b]	Adulthood		Always	Usually	Never	Not discussed
	Transvestic[a,b]	Adulthood		Never	Never?	Always	Sometimes?
	Gender ambiguous[a,b]	Adulthood		Never	Sometimes?	Not discussed	Usually
Lundström et al. (1984)	Primary (genuine)	Childhood?	Unremitting gender dysphoria	Always	Always	Never	Usually
	Effeminate homosexuality[a]	Adulthood?		Always	Always	Never	Never?
	Transvestism[a]	Adulthood?		Never	Never	Always	Rarely?
Dolan (1987)	Primary (true)	Early childhood	Cross-gender wishes and behavior	Always	Always	Never	Sometimes
	Effeminate homosexual[a]	Adulthood		Always	Always	Never	Not discussed
	Heterosexual transvestitic[a]	Adulthood		Never	Never?	Always	Not discussed
	Atypical[a]	Adulthood		Sometimes	Not discussed	Not discussed	Sometimes
Docter (1988)	Primary	Early childhood	Unremitting gender dysphoria	Usually	Usually	Never	Not discussed
	Secondary, homosexual type	Adulthood		Usually	Sometimes?	Never	Not discussed
	Secondary, transvestite type	Adulthood		Never	Sometimes?	Always	Not discussed
Burns et al. (1990)	Core positive	Prepubertal	Gender dysphoria *or* cross-gender behavior	Often	Sometimes?	Never	Sometimes
	Core negative	Postpubertal		Sometimes	Not discussed	Sometimes	Sometimes
Doorn et al. (1994)	Early-onset	Prepubertal	Awareness of transsexual feelings	Usually	Often	Sometimes	Not discussed
	Late-onset	Postpubertal		Sometimes	Sometimes	Often	Not discussed
Seil (1996, 1997, 2004)	Primary (ego-syntonic)	Early childhood	Overt expression of cross-gender identity	Usually	Always	Never?	Often
	Secondary (ego-dystonic)	Adulthood		Sometimes	Rarely?	Often	Often
Landén et al. (1998)	Core	Prepubertal?	Unremitting gender dysphoria	Always	Always	Never	Not discussed
	Non-core	Postpubertal?		Often	Usually	Sometimes	Not discussed

Table 2 continued

Author(s)	Category names	Age of onset	Criterion used to define age of onset	Exclusive androphilia	Childhood cross-gender behavior	Cross-gender fetishism	Asexuality or analloeroticism
Herman-Jeglińska et al. (2002)	Primary	Early childhood	Unrmitting gender dysphoria	Always	Always	Never	Not discussed
	Secondary	Adulthood?		Never?	Sometimes?	Often	Not discussed
Haraldsen et al. (2003)	Early-onset	Childhood	Meeting full criteria for GID	Usually?	Always	Not discussed	Not discussed
	Late-onset	Adulthood?		Not discussed	Not discussed	Not discussed	Not discussed
Johansson et al. (2009)	Early-onset	Early childhood	Wish to become the opposite sex	Sometimes	Not discussed	Not discussed	Not discussed
	Late-onset	Postpubertal		Sometimes	Not discussed	Not discussed	Not discussed

Note: An entry with a question mark denotes a probable answer

[a] A subtype of secondary transsexualism or secondary gender dysphoria syndrome

[b] The authors referred to these as categories of gender dysphoria syndrome, rather than categories of transsexualism

until 1979. He defined *primary* (or *true*) MtF transsexuals as those who were and always had been "the most feminine of all males, [who] have never had an episode—for moments or extended periods—of being able to appear like or live in the role of an ordinary masculine male" (1979, p. 541). Stoller (1980) explained that "the word 'primary' is used in this diagnosis because the condition starts in the patient's earliest years and remains constant throughout life. It can, therefore, be contrasted with secondary transsexualism, a later acquisition" (p. 1699). Thus, Stoller's *secondary* MtF transsexuals were those who had lived unequivocally as boys or men, at least for short periods. Stoller (1980) recognized that there was great diversity among secondary MtF transsexuals, and he considered the category to be little more than "a wastebasket diagnosis" (p. 1700). Nevertheless, he observed that secondary MtF transsexuals constituted "by far the greatest number of people requesting sex reassignment" (Stoller, 1980, p. 1701). Stoller noted that most of the patients that Person and Ovesey (1974a) considered primary MtF transsexuals would be categorized as secondary MtF transsexuals under his typology. He believed that psychotherapy might result in some secondary MtF transsexuals giving up their wish for sex reassignment, whereas this was unlikely in the case of primary MtF transsexuals.

Levine and Lothstein (1981) described males with *primary gender dysphoria syndrome* as having an "obvious, documentable, lifelong, profound disturbance of core gender identity" (p. 88), characterized in childhood by relentless cross-dressing (albeit perhaps secretly) and overt effeminacy and in adolescence by a complete absence of cross-gender fetishism or heterosexual experimentation. Any adolescent homosexual experimentation by these individuals was supposedly "short-lived and unpleasant" (p. 88), resulting in rejection of homosexual identity. Levine and Lothstein noted, however, that "many of these [primary] patients report brief, unsuccessful, last-ditch efforts to live as males in mid- to late adolescence" (p. 89). The authors thought that only a few males requesting sex reassignment were of the primary type. Like Person and Ovesey (1974a, b), Levine and Lothstein believed that *secondary gender dysphoria syndrome* arose later in life, presumably in adulthood. Males with secondary gender dysphoria syndrome had also experienced lifelong gender identity concerns, but of lesser intensity; they were more conflicted about their feminine identifications and tended to be more overtly masculine in their presentations. Levine and Lothstein thought that secondary gender dysphoria syndrome could arise from any of three prototypical *adaptations* to these lower-intensity gender identity concerns: *effeminate homosexual*, characterized by exclusive or near-exclusive androphilia and childhood effeminacy; *transvestic*, characterized by gynephilia and a history of cross-gender fetishism; and *gender ambiguous*, characterized by bisexuality and low libido. There was also a *mixed* adaptation (not listed in Table 2), combining features of two or more of the prototypical adaptations. Levine and Lothstein observed that the development of

secondary gender dysphoria syndrome from one of these adaptations was usually related to stress (e.g., loss of an important relationship, severe depression, or physical disease).

Lundström, Pauly, and Wålinder (1984) distinguished between *primary (genuine)* and *secondary* transsexualism in males. Although Lundström et al. did not use the term "age of onset" or any similar term, they believed that the critical distinguishing characteristic of primary MtF transsexualism was the absence of any "fluctuation in gender dysphoria symptoms" (p. 292), which implied an early onset—presumably in childhood, although this was not explicitly stated—of gender dysphoria that then remained consistently present over the person's entire life. Weak libido and an intense aversion to biological sex characteristics were also prominent features of primary MtF transsexualism. In addition, primary MtF transsexuals invariably had been feminine as children, were androphilic, and lacked any history of fetishistic cross-dressing. Like Person and Ovesey (1974a, b), Lundström et al. believed that there were two distinct subtypes of secondary MtF transsexualism, arising from either *effeminate homosexuality* or *transvestism*; the feature shared by these two subtypes was fluctuation in gender dysphoria over the person's life. Secondary MtF transsexualism arising from effeminate homosexuality was characterized by androphilia, childhood effeminacy, no history of fetishistic cross-dressing, and libido that was "often high" (p. 292). Secondary MtF transsexualism arising from transvestism was characterized by a history of fetishistic cross-dressing, gynephilia, and absence of childhood effeminacy. Lundström et al. believed that "most gender dysphoric patients are secondary transsexuals, who will not be helped by sex reassignment" (p. 290).

Dolan (1987) similarly distinguished between *primary (true)* and *secondary* MtF transsexualism. He described primary MtF transsexuals as those who displayed "lifelong cross-gender wishes and behaviour" (p. 667), were exclusively androphilic, and experienced no cross-gender fetishism; the extent of their sexual interest was variable. Dolan was unusual in believing that primary MtF transsexuals rarely cross-dressed before adolescence. He also asserted that they invariably passed effortlessly as females, without the benefit of cross-sex hormone therapy, electrolysis, or voice training. Dolan believed that primary MtF transsexuals were very rare. He described secondary MtF transsexuals, a residual group, as developing cross-gender wishes later in life. Dolan observed that there were three principal subtypes of secondary MtF transsexualism. The *effeminate homosexual* subtype was characterized by exclusive androphilia, effeminacy, and nonerotic cross-dressing. The *heterosexual transvestitic* subtype was characterized by gynephilia, a history of fetishistic cross-dressing, and an absence of overt effeminacy. The *atypical* subtype comprised persons with diverse sexual orientations and backgrounds; psychiatric disorders, especially borderline personality disorder, were common in this subtype. Dolan felt that sex reassignment was appropriate for primary MtF transsexuals but risky for secondary MtF transsexuals, who often lost their families, friends, and occupations following transition. He observed that most published case reports of regret following MtF sex reassignment involved secondary transsexuals.

Docter (1988) likewise distinguished *primary* (early-onset) and *secondary* (late-onset) MtF transsexualism, proposing that "the critical component that sets [primary MtF transsexualism] apart from all others is the necessary history of lifelong gender dysphoric feelings" (pp. 24–25). He added, however, that primary MtF transsexualism was typically accompanied by "sexual preference [that] is usually homosexual from an early age" (p. 24), "an absence of fetishism associated with cross dressing" (p. 24), and "actual behavior which is more appropriate for the opposite gender" (p. 27). Docter believed that secondary MtF transsexualism comprised two different subtypes, of which "one is based on a [prior] career as a transvestite and the other is based on a prior career as a homosexual" (p. 29). He thought that the two secondary MtF subtypes shared "an absence of lifelong gender dysphoria" and "features of narcissistic or borderline personality" (p. 29) but few other features in common. Secondary MtF transsexualism, *homosexual* type, was characterized by "predominantly homosexual erotic preference" (p. 32) and no history of fetishistic cross-dressing. Secondary MtF transsexualism, *transvestite* type, was characterized by a history of sexual arousal with cross-dressing and a heterosexual or bisexual erotic preference.

Burns, Farrell, and Brown (1990) conducted a retrospective chart review of patients who had applied for sex reassignment at a gender identity clinic in London. They distinguished between *core positive* and *core negative* MtF transsexualism. Core positive MtF transsexuals were those who met the following criteria: "(a) the age of onset was before puberty; (b) the adoption of the cross-gender role was without sexual arousal; and (c) a dislike of secondary sex characteristics was present" (pp. 265–266). Patients not meeting these criteria were considered core negative. Burns et al. defined age of onset as "the age at which gender dysphoria and/or *cross-gender behavior* [emphasis added] occurred which was related to the presenting problem" (p. 266). Onset before age 13 was considered prepubertal. Although age of onset was not the only stated criterion in their typology, Burns et al. found that it was the key criterion: In a group of 25 MtF and 10 FtM transsexuals who met full DSM-III-R (APA, 1987) diagnostic criteria for transsexualism, age of onset was the only characteristic on which core positive and core negative patients differed significantly. Sexual arousal with cross-dressing, sexual orientation, and extent of sexual activity did not significantly differentiate between core positive and core negative patients. Dislike of secondary sex characteristics "proved difficult to measure" (p. 266) and the authors apparently abandoned it as a criterion. Burns et al. found that core positive patients were more likely to be referred for SRS than core negative patients, although they did not report results for MtF and FtM transsexuals separately. Because the criteria Burns et al. used in defining their typological categories

probably were regarded as prognostically important by the clinicians making the referrals for SRS, this observation is not surprising.

Doorn et al. (1994) distinguished between *early-onset* and *late-onset* MtF transsexualism. They categorized MtF transsexuals who reported being "aware of their transsexual feelings" (p. 189) before age 12 as early-onset and those who reported awareness after age 12 as late-onset. In a group of 155 MtF transsexual patients, Doorn et al. found that, in comparison to their late-onset counterparts, early-onset MtF patients reported a significantly greater preference for female-typical toys and play activities during childhood (but no significant difference in preference for girls as playmates), a significantly earlier age of first cross-dressing (but no significant difference in frequency of adolescent cross-dressing or extent of fetishistic cross-dressing), and a significantly greater preference for imagined heterosexual male sexual partners in adolescence (but no significant difference in overall level of sexual interest).

Seil (1996, 1997, 2004) proposed a MtF transsexual typology that was nominally based on whether the patient's cross-gender wishes were experienced during childhood as nonconflictual (*primary* or *ego-syntonic* MtF transsexualism) or as conflictual (*secondary* or *ego-dystonic* MtF transsexualism). Nevertheless, Seil's typology closely resembled other typologies based on age of onset, in that overt cross-gender expression began in early childhood among primary MtF transsexuals but only in adulthood among secondary MtF transsexuals. Consequently, Seil's typology can conveniently be grouped with typologies based explicitly on age of onset. Seil (1996) believed, however, that both primary and secondary MtF transsexuals first experienced cross-gender wishes "at about the same age, 5 or 6 years" (p. 753) and differed only in the extent to which those wishes created mental conflict, resulting in differences in overt cross-gender expression. Seil (1997) reported that "during treatment, secondary transsexuals are able to overcome the amnesia of their early years and recall awareness and behavior indicative of gender dysphoria in the same developmental period reported by the primary transsexuals, i.e., around age five" (p. 137). Seil (2004) proposed that parental disapproval of cross-gender expression, which was later internalized by the child, was the cause of the ego-dystonic feelings that secondary MtF transsexuals experienced in relation to their cross-gender wishes. He conceded, however, that primary MtF transsexuals probably also encountered parental disapproval and that the relative strength of cross-gender identity in the two groups might also be relevant:

> Why this disapproval is effective in suppressing gender identity for the secondary group of patients and not for the primary group is not clear. It may be that the cross-gendered identity is not as strong or clear for the secondary group as it is for the primary transgendered. (2004, p. 106)

Seil (2004) reported that, among his 220 MtF patients, about 76% of primary MtF transsexuals and 53% of secondary MtF transsexuals reported being homosexual relative to birth sex, despite the fact that 65% of the secondary MtF transsexuals had been married to women. He suggested that many secondary MtF transsexuals who had married women were "not very sexually active, and some marriages are almost celibate" (Seil, 2004, p. 107) but that fetishistic cross-dressing occurred "commonly" (Seil, 1996, p. 753) among secondary MtF transsexuals.

Landén et al. (1998) distinguished between *core* and *non-core* MtF transsexualism, using criteria similar to those employed by Lundström et al. (1984) but omitting the criterion of low sexual interest. The authors apparently agreed with Lundström et al. that the key defining features of core MtF transsexualism were unremitting gender dysphoria and aversion to biological sex characteristics. Landén et al.'s tabular data suggested that age of onset was probably prepubertal in most core MtF transsexuals but probably postpubertal in most of their non-core counterparts. Core MtF transsexuals, as defined by Landén et al., were also exclusively homosexual, exhibited effeminate behavior in childhood, and did not experience sexual arousal with cross-dressing; but some non-core MtF patients also displayed these characteristics. Non-core MtF transsexuals, according to Landén et al., included at least two subgroups, "conditions bordering on transvestism" and "conditions bordering on homosexuality" (p. 285). In a combined group of MtF and FtM patients, Landén et al. found that core transsexuals were less likely than non-core transsexuals to experience regret following SRS.

Herman-Jeglińska et al. (2002) classified MtF transsexuals as *primary* or *secondary*, ostensibly using criteria identical to those used by Landén et al. (1998) to differentiate core and non-core MtF transsexualism. This might imply that, like Landén et al., Herman-Jeglińska et al. also regarded the early onset of unremitting gender dysphoria, accompanied by intense aversion to biological sex characteristics, as the most significant defining features of primary MtF transsexualism. Sexual orientation also effectively differentiated the two groups, however, in that all primary MtF transsexuals studied by Herman-Jeglińska et al. were exclusively homosexual, whereas no secondary MtF transsexuals were. Moreover, Herman-Jeglińska et al. observed that, in addition to cross-gender identity, the characteristic features of secondary transsexualism were "behaviors bordering on transvestism (fetishistic cross-dressing) or a nonhomosexual… sexual orientation" (p. 529). Consequently, whereas the intellectual pedigree of the MtF transsexual typology used by Herman-Jeglińska et al. emphasized age of onset, their typology could equally well be interpreted as emphasizing sexual orientation. Herman-Jeglińska et al. found that, compared with their secondary counterparts, primary MtF transsexuals were significantly younger at clinical presentation and were significantly less likely to have been married; they also rated themselves as significantly more feminine than secondary MtF transsexuals.

Haraldsen et al. (2003) studied cognitive performance in early-onset GID patients of both sexes. They defined early-onset patients as those "fulfilling criteria A to D [for GID] in the DSM from childhood on" (p. 908). Otherwise, their description of early-onset MtF patients was limited to the observation that their cognitive performance did not differ from that of nontranssexual men. Haraldsen et al. observed that, among 52 early-onset patients of both sexes (22 males, 30 females), sexual orientation was primarily homosexual ($n = 38$) but occasionally heterosexual ($n = 2$), bisexual ($n = 3$), or analloerotic ($n = 9$). Haraldsen et al. did not describe any late-onset MtF patients nor any general characteristics of such patients.

As previously noted, Johansson et al. (2009) categorized 25 male GID patients on the basis of both sexual orientation and age of onset of cross-gender wishes; I will address the latter categorization here. Johansson et al. did not explicitly describe their basis for deciding age of onset but suggested that a childhood onset of the "strong wish to become the opposite sex" was usually considered typical of early-onset transsexuals, whereas a pubertal or postpubertal onset (age 12 or later) of cross-gender identification and gender dysphoria was considered characteristic of late-onset transsexuals. All 11 patients categorized as early-onset had completed SRS; of 14 patients categorized as late-onset, 3 had not yet completed SRS and 4 others had decided to forego SRS entirely ($p = .11$ by Fisher's exact test, two-tailed, for decision to forego SRS). The only patient who self-rated the global outcome of the sex reassignment process as negative was early-onset. Clinicians rated the global outcomes of the early-onset patients as positive in 8 cases and neutral in 3 cases and the global outcomes of the late-onset patients as positive in 10 cases, neutral in 2 cases, and negative in 2 cases. There were no significant between-group differences in global outcome ratings.

MtF Transsexual Typologies Emphasizing Neither Sexual Orientation Nor Age of Onset

The three MtF transsexual typologies discussed in this section emphasize neither sexual orientation nor age of onset, but they deserve consideration because of their historical or conceptual significance; these typologies are summarized in Table 3. Two of the typologies (Buhrich & McConaghy, 1977, 1978; Freund et al., 1982) emphasize cross-gender fetishism; these typologies are closely associated with, but can be distinguished from, MtF typologies that emphasize sexual orientation. The typology proposed by Sørensen and Hertoft (1980, 1982) is important primarily because it was apparently the earliest typology to employ the term *core transsexualism*, a term that was subsequently used by other investigators in rather different ways.

Buhrich and McConaghy (1978) studied 29 MtF transsexual patients and distinguished between a *nuclear* (nonfetishistic) group and a *fetishistic* group, based on the patients' self-reported histories of cross-gender fetishism. The fetishistic group reported significantly more heterosexual experience than the nuclear group; there was also a nonsignificant trend toward less homosexual experience in the fetishistic group. One member of the fetishistic group appeared to have been primarily analloerotic. The authors used penile plethysmography to assess sexual orientation in the two groups; based on the summary data presented, most members of the nuclear group appeared to have been primarily androphilic, whereas most members of the fetishistic group, with one notable exception, appeared to have been primarily gynephilic. In an earlier report, Buhrich and McConaghy (1977) described the histories of the fetishistic MtF patients in greater detail: All of the fetishistic MtF patients reported symptoms of gender dysphoria and gender-atypical behavior during childhood.

Sørensen and Hertoft (1980, 1982) were arguably the earliest researchers to distinguish between *core* and *non-core* MtF transsexualism. They defined these categories differently than most subsequent investigators, however, so it is useful to consider their criteria carefully. Sørensen and Hertoft (1980) believed that core MtF transsexuals displayed intact reality testing, "stable, submissive, pseudofeminine narcissism" (p. 143), stable ego strength, and "agenitalism" (absence of genital sexual satisfaction; p. 143). The last of these criteria was perhaps the most important typologically: None of Sørensen and Hertoft's (1980) core MtF patients reported genital sexual satisfaction, but about 72% of their non-core MtF patients did. Sexual orientation did not distinguish between core and non-core MtF transsexuals: Most persons in both groups reported homosexual attraction, and a few in both groups reported heterosexual attraction. Sørensen and Hertoft (1982) observed that neither core nor non-core MtF patients recalled any fetishistic cross-dressing. The authors believed that transsexualism began in early childhood in both groups.

Freund et al. (1982) studied 136 male patients with self-reported cross-gender identities; about three quarters were MtF transsexuals (with sustained cross-gender identities), while the rest were "borderline transsexuals" (with fluctuating cross-gender identities) or transvestites (with cross-gender identities only when sexually aroused). Freund et al. used the absence or presence of self-reported cross-gender fetishism to distinguish between *nonfetishistic* (*type A*) and *fetishistic* (*type B*) transsexual categories. The patients' sexual orientations were categorized as homosexual or heterosexual, based on the relative strength of self-reported androphilia and gynephilia; thus, Freund et al.'s homosexual MtF transsexuals were predominantly, but not necessarily exclusively, homosexual. Sexual orientation, defined in this way, differed significantly between the two transsexual types: Nonfetishistic MtF transsexuals, with rare exceptions, had predominantly homosexual orientations, whereas fetishistic MtF transsexuals displayed roughly equal numbers of predominantly homosexual and predominantly heterosexual orientations. About three quarters of all predominantly

Table 3 Male-to-female transsexual typologies emphasizing neither sexual orientation nor age of onset

Author(s)	Category names	Age of onset	Criterion used to define age of onset	Exclusive androphilia	Childhood cross-gender behavior	Cross-gender fetishism	Asexuality or analloeroticism
Buhrich and McConaghy (1977, 1978)	Nuclear (type A)	Childhood?	Wish to be the opposite sex	Often	Not discussed	Never	Rarely?
	Fetishistic (type B)	Childhood		Rarely	Usually	Always	Sometimes
Sørensen and Hertoft (1980, 1982)	Core	Early childhood	Cross-gender identity	Often	Often?	Never?	Always
	Non-core	Early childhood		Often	Often?	Never?	Sometimes
Freund et al. (1982)	Nonfetishistic (type A)	Not discussed	Not discussed	Usually?	Not discussed	Never	Not discussed
	Fetishistic (type B)	Not discussed		Rarely?	Not discussed	Always	Not discussed

Note: An entry with a question mark denotes a probable answer

homosexual MtF transsexuals studied, however, were nonfetishistic. Moreover, predominantly homosexual MtF transsexuals who were fetishistic displayed significantly higher attraction to females and significantly lower attraction to males than predominantly homosexual MtF transsexuals who were nonfetishistic (i.e., fetishistic homosexual patients tended to be more bisexual, whereas nonfetishistic homosexual patients tended to be more predominantly homosexual). The childhood attitudes and interests of the nonfetishistic MtF transsexuals were significantly more gender-atypical than those of their fetishistic counterparts.

FtM Transsexual Typologies

The FtM transsexual typologies discussed in this section are summarized in Table 4. Many early theorists argued that typologies for FtM transsexualism were unnecessary, because they believed that essentially all FtM transsexuals shared whatever typological characteristics were considered important. Thus, Money and Gaskin (1970–1971) and Whitam (1987, 1997), who proposed MtF transsexual typologies based on sexual orientation, believed that no such typology was required for FtM transsexuals, because all or almost all FtM transsexuals were homosexual relative to birth sex. Similarly, Fisk (1974a, b; Laub & Fisk, 1974) and Stoller (1979, 1980), who proposed MtF transsexual typologies based on age of onset, believed that such a typology was not required for FtM transsexuals, because FtM transsexualism always developed in early childhood. Person and Ovesey (1974a, b), who likewise framed a MtF transsexual typology based on age of onset, also concluded that such a typology was unnecessary for FtM transsexuals; but they believed that FtM transsexualism developed only in homosexual females and, consequently, that all FtM transsexuals were of the late-onset or secondary type. Sørensen and Hertoft (1980, 1982), who proposed a MtF transsexual typology that emphasized the presence or absence of genital sexual interest, thought that such a typology was unnecessary for FtM transsexuals, because "all the females are genitally directed, [and] libidinally impulsive" (p. 145).

Other authors were unclear or uncertain about whether a typology for FtM transsexualism was indicated. Lundström et al. (1984), who distinguished between primary and secondary MtF transsexualism based on the presence or absence of lifelong, unwavering gender dysphoria, never clearly stated whether their typology was also applicable to FtM transsexuals: Some language in their article seemed to imply this, but the authors never explicitly described a FtM typology or any correlated features. Blanchard (1989a), who proposed a MtF transsexual typology based on sexual orientation, applied the terms *homosexual* and *nonhomosexual* to FtM transsexuals in a descriptive sense but stopped short of proposing a FtM

typology based on sexual orientation, because he felt that clinical experience with nonhomosexual FtM transsexuals was so limited that it was not possible to decide whether they shared enough similarities to constitute a genuine type. Coleman, Bockting, and Gooren (1993) applied the terms *bisexual* and *homosexual* (referenced to gender identity, not birth sex) descriptively to FtM transsexuals who were not exclusively gynephilic but argued that a typological classification was not clinically useful, because "for female-to-male transsexuals, classification based on sexual orientation does not seem relevant in clinical-decision making as to sex reassignment" (p. 48).

A few researchers and clinicians, however, proposed formal FtM transsexual typologies, based on either sexual orientation or age of onset of GID-related symptoms. Usually, these were extensions of typologies the authors had also proposed for MtF transsexuals. The extension of these typologies to FtM transsexuals, however, often occurred with little explanation or elaboration and sometimes seemed to be almost an afterthought.

Levine and Lothstein (1981) believed that the distinction between *primary and secondary* gender dysphoria syndrome was applicable to females as well as males. They described females with primary gender dysphoria syndrome as having obvious masculine personality characteristics that had been present since childhood and that were relentlessly progressive. Levine and Lothstein thought that most females with gender dysphoria syndrome were of the primary type. They observed that sexual orientation in females with primary gender dysphoria syndrome was "often" (p. 96), but apparently not always, exclusively gynephilic. Levine and Lothstein believed that secondary gender dysphoria syndrome in females was characterized by a "progression of masculine behaviors [that] is not relentless" (p. 96). They thought it could arise from either of two prototypical adaptations to ongoing gender identity concerns: *homosexual*, characterized by masculinity and gynephilia, often in the context of recent object loss and a "rigidly antihomosexual background" (p. 96); and *gender ambiguous*, characterized by less obvious masculinity and an absence of exclusive gynephilia. As with secondary gender dysphoria syndrome in males, there was also a *mixed* adaptation (not listed in Table 4), combining features of the two prototypical adaptations. Levine and Lothstein appeared to doubt that cross-gender fetishism was relevant to understanding gender dysphoria syndrome in females, suggesting that "there is probably no such thing as a female transvestite" (p. 95).

Dolan (1987) similarly extended his typology of *primary (true)* and *secondary* transsexualism to FtM transsexuals. He described primary FtM transsexuals as displaying cross-gender wishes and behaviors from earliest childhood, being exclusively gynephilic, and never experiencing cross-gender fetishism. He believed that FtM transsexuals of this type were quite rare. Dolan believed that primary FtM transsexuals could pass easily as men without the use of cross-sex hormones. He described secondary FtM transsexuals as developing cross-gender wishes later in life. Dolan believed there were three principal subtypes of secondary FtM transsexualism. The *butch type homosexual* subtype was characterized by a history of childhood masculinity and exclusive gynephilia; this was by far the most common of all the subtypes. The *"transvestitic"* subtype was very rare and was characterized by fetishistic cross-dressing or "overidealized attachment" (p. 669) to male clothing, usually with prominent exhibitionistic traits; bisexuality and a history of childhood masculinity were often present as well. The *atypical* subtype comprised females with varying sexual orientations and backgrounds who usually had a history of borderline personality disorder or other major psychiatric illness.

Burns et al. (1990) distinguished between *core positive* and *core negative* FtM transsexualism, as they had done for MtF transsexualism. Because none of the FtM transsexuals reported sexual arousal with cross-dressing, the principal criterion for distinguishing core positive from core negative persons was the onset of gender dysphoria or cross-gender behavior before versus after puberty. As noted earlier, Burns et al. found that core positive patients were more likely than core negative patients to be referred for SRS, but they did not report results for MtF and FtM transsexuals separately.

Seil (1996, 1997, 2004) applied his distinction between *primary* (*ego-syntonic*) and *secondary* (*ego-dystonic*) transsexualism to FtM transsexuals. As noted earlier, he believed that parental disapproval of cross-gender expression, subsequently internalized by the child, accounted for the ego-dystonic feelings that secondary transsexuals, both MtF and FtM, experienced with respect to their cross-gender feelings. Seil (1996) conceded, however, that cross-gender expression by females often elicited little disapproval, noting that a gender-atypical girl might "attain the niche of family tomboy, often to the delight of the father" (p. 751) and that "a masculine young woman can find an acceptable place in adolescent society" (p. 751). These observations might suggest that secondary FtM transsexualism would be a rare phenomenon; but, unlike most other investigators, Seil (2004) thought that the majority of his FtM patients were secondary or ego-dystonic. He reported that about 90% of his primary FtM transsexual patients were gynephilic, as were about 75% of his secondary FtM transsexual patients.

In a study of cognitive functioning in FtM and MtF transsexual patients, Cohen-Kettenis et al. (1998) extended Doorn et al.'s (1994) typology of MtF transsexualism to FtM transsexuals, distinguishing between *early-onset* and *late-onset* subtypes. Cohen-Kettenis et al. confined their investigation to early-onset transsexuals: They neither described any late-onset FtM patients nor discussed any general characteristics of such patients. Cohen-Kettenis et al. described early-onset FtM transsexuals only briefly, noting that all were homosexual in orientation and that they achieved worse scores than nontranssexual women on a test of verbal memory but similar scores on tests of visuospatial ability.

Landén et al. (1998) distinguished between *core* and *non-core* FtM transsexuals, just as they did for MtF transsexuals. As

Table 4 Female-to-male transsexual typologies

Author(s)	Category names	Age of onset	Criterion used to define age of onset	Exclusive gynephilia	Childhood cross-gender behavior	Cross-gender fetishism	Asexuality or analloeroticism
Levine and Lothstein (1981)	Primary[a]	Early childhood	Cross-gender identity and gender dysphoria	Always	Always	Never	Not discussed
	Homosexual[a,b]	Adulthood		Always	Usually?	Never	Not discussed
	Gender ambiguous[a,b]	Adulthood		Never?	Not discussed	Never	Not discussed
Dolan (1987)	Primary (true)	Early childhood	Cross-gender wishes and behavior	Always	Always	Never	Sometimes
	Butch type homosexual[b]	Adulthood		Always	Always	Never	Not discussed
	"Transvestitic"[b]	Adulthood		Never	Often	Sometimes?	Not discussed
	Atypical[b]	Adulthood		Sometimes	Not discussed	Not discussed	Not discussed
Burns et al. (1990)	Core positive	Prepubertal	Gender dysphoria *or* cross-gender behavior	Often	Sometimes?	Never	Sometimes?
	Core negative	Postpubertal		Often	Not discussed	Never	Sometimes?
Seil (1996, 1997, 2004)	Primary (ego-syntonic)	Early childhood	Overt expression of cross-gender identity	Almost always	Always	Not discussed	Not discussed
	Secondary (ego-dystonic)	Adulthood		Usually	Often?	Not discussed	Sometimes?
Cohen-Kettenis et al. (1998)	Early-onset	Prepubertal	Awareness of transsexual feelings	Always	Usually?	Not discussed	Not discussed
	Late-onset	Postpubertal		Not discussed	Not discussed	Not discussed	Not discussed
Landén et al. (1998)	Core	Prepubertal?	Unremitting gender dysphoria	Always	Always	Never	Not discussed
	Non-core	Postpubertal		Often	Usually	Never	Not discussed
Chivers and Bailey (2000)	Homosexual	Childhood	Cross-gender identity	Usually	Always?	Not discussed	Not discussed
	Nonhomosexual	Childhood		Never	Usually?	Not discussed	Not discussed
Herman-Leglińska et al. (2002)	Primary	Early childhood	Unremitting gender dysphoria	Always	Always	Never	Not discussed
	Secondary	Adulthood?		Never?	Sometimes?	Not discussed	Not discussed
Haraldsen et al. (2003)	Early-onset	Childhood	Meeting full criteria for GID	Usually?	Always	Not discussed	Not discussed
	Late-onset	Adulthood?		Not discussed	Not discussed	Not discussed	Not discussed
Smith et al. (2005a, b)	Homosexual	Not specified	Gender dysphoria	Always	Almost always?	Rarely	Not discussed
	Nonhomosexual	Not specified		Never	Almost always?	Rarely	Not discussed
Johansson et al. (2009)	Homosexual	Usually childhood	Wish to become the opposite sex	Always	Not discussed	Not discussed	Not discussed
	Nonhomosexual	Variable		Never	Not discussed	Not discussed	Not discussed
Johansson et al. (2009)	Early-onset	Early childhood	Wish to become the opposite sex	Almost always?	Not discussed	Not discussed	Not discussed
	Late-onset	Postpubertal		Sometimes	Not discussed	Not discussed	Not discussed

Note: An entry with a question mark denotes a probable answer

[a] The authors referred to these as categories of gender dysphoria syndrome, rather than categories of transsexualism

[b] A subtype of secondary transsexualism or secondary gender dysphoria syndrome

previously noted, their criteria were similar to those of Lundström et al. (1984). Unlike Lundström et al., however, Landén et al. clearly indicated that their typology was applicable to FtM transsexuals (e.g., in a footnote to their Table 1, p. 286), although their descriptions of the criteria for distinguishing between core and non-core individuals were not always appropriate for FtM persons (e.g., one was the presence or absence of "effeminate behavior during childhood," p. 285). The characteristic features of core FtM transsexualism were unremitting gender dysphoria, aversion to biological sex characteristics, homosexual orientation, absence of sexual arousal with cross-dressing, and childhood cross-gender behavior (being a "tomboy"; p. 286). The authors found no evidence of sexual arousal with cross-dressing in any of their FtM patients, however, and their tabular data suggested that cross-gender behavior during childhood was present in nearly all FtM transsexuals. Based on Landén et al.'s tabular data, age of onset was probably prepubertal in most core FtM transsexuals but postpubertal in most non-core FtM transsexuals. As previously noted, Landén et al. found that, for MtF and FtM patients combined, core transsexuals were less likely than their non-core counterparts to express regret following SRS.

Chivers and Bailey (2000) surveyed 39 FtM transsexuals, whom they classified as *homosexual* or *nonhomosexual* based on the participants' self-reported sexual fantasies, which were categorized using a Kinsey scale (Kinsey et al., 1948). Homosexual FtM transsexuals (Kinsey 4–6; 62% were Kinsey 6) described their childhood behavior as significantly more gender-atypical than nonhomosexual FtM transsexuals (Kinsey 0–3); the groups did not differ significantly in their self-described childhood gender identity. Compared with their nonhomosexual counterparts, homosexual FtM transsexuals reported a significantly greater number of sexual partners, greater interest in visual sexual stimuli, and greater sexual versus emotional jealousy.

Herman-Jeglińska et al. (2002) classified FtM transsexuals as *primary* or *secondary*, just as they had for MtF transsexuals. Although their typology nominally was based on age of onset, all of the primary FtM transsexuals studied by Herman-Jeglińska et al. were exclusively homosexual, whereas none of their secondary FtM transsexuals were (albeit most had only incidental heterosexual experience). Consequently, the authors' FtM transsexual typology could equally well be interpreted as emphasizing sexual orientation. Compared with their secondary FtM counterparts, primary FtM transsexuals were significantly less likely to have been married or to have had children, but the two groups did not differ significantly in age at clinical presentation or in self-rated masculinity or femininity.

As previously noted, Haraldsen et al. (2003) applied their age of onset-based typology of GID to FtM as well as MtF patients, but did not describe FtM patients separately, except to observe that their cognitive performance was not different from that of nontranssexual women. Haraldsen et al. never described any late-onset FtM patients nor any general characteristics of such patients. For FtM and MtF patients combined, sexual orientation was primarily, but not exclusively, homosexual.

Smith et al. (2005a, b) categorized FtM transsexuals as *homosexual* or *nonhomosexual* on the basis of self-reported sexual attraction. Smith et al. (2005b) found that homosexual and nonhomosexual FtM patients did not differ significantly in the age at which they sought sex reassignment, history of marriage, or congruence of their physical appearance with their gender identity. Although homosexual FtM patients reported more symptoms of GID during childhood than their nonhomosexual counterparts, the difference was not statistically significant. Homosexual FtM patients did, however, report significantly fewer psychological problems than did nonhomosexual FtM patients.

Johansson et al. (2009) summarized outcomes of the sex reassignment process in 17 female GID patients, whom they categorized on the basis of both sexual orientation (homosexual vs. nonhomosexual) and age of onset of the wish to become the opposite sex; consequently, this study is assigned two separate entries in Table 4. As previously noted, the authors did not explicitly describe their bases for deciding sexual orientation or age of onset. Fifteen FtM patients were categorized as homosexual and early-onset, 1 was categorized as homosexual and late-onset, and 1 was categorized as nonhomosexual and late-onset. Two homosexual, early-onset patients had not yet completed SRS; the nonhomosexual, late-onset patient had decided to forego SRS. All but one patient self-rated the global outcome of the sex reassignment process as positive; the exception was the homosexual, late-onset patient, whose self-rated outcome was negative. Clinicians rated the global outcomes of the 15 homosexual, early-onset patients as positive in 7 cases, neutral in 5 cases, and negative in 3 cases; they rated the global outcome of the homosexual, late-onset patient as negative and that of the nonhomosexual, late-onset patient as positive. The small percentages of nonhomosexual and late-onset patients FtM patients in this study preclude meaningful statistical analyses.

Unambiguity, Ease of Ascertainment, and Reliability of Subtypes in Typologies Based on Sexual Orientation versus Age of Onset

Conclusions regarding the unambiguity, ease of ascertainment, and reliability of subtypes in typologies based on sexual orientation versus age of onset of GID-related symptoms are summarized in Table 5.

Typologies Based on Sexual Orientation

The DSM-IV (APA, 1994) and DSM-IV-TR (APA, 2000) employed a sexual orientation-based typology for GID consisting of four subtypes, defined in terms of sexual attraction to

Table 5 Comparison of typologies for gender identity disorder based on sexual orientation versus age of onset

Criterion	Typologies based on sexual orientation	Typologies based on age of onset of GID-related symptoms
Is the basis for subtype assignment unambiguous?	Yes: Usual categories of sexual orientation (to males, females, both, or neither) are widely understood and accepted	No: There is little agreement about which symptoms or behaviors are most relevant, or about what constitutes early versus late onset
Can subtypes be easily ascertained?	Yes, via self-report; formal self-report scales are readily available	Yes, via self-report; but formal self-report scales are not readily available
Can subtypes be reliably ascertained?	Not always: Self-report can be unreliable in some males who claim to be sexually attracted to males; however, several objective measures of sexual orientation exist	Not always: Self-report is often described as unreliable; however, family members can sometimes confirm age of onset of overt cross-gender behavior
Does the typology facilitate concise, comprehensive clinical description?	Yes, especially in MtF transsexuals, in whom gynephilia or its absence is one of the best predictors of other important clinical features (e.g., cross-gender fetishism and childhood gender-atypicality)	No, especially in late-onset MtF transsexuals, who are heterogeneous with respect to many important clinical features (e.g., sexual orientation, cross-gender fetishism, and childhood gender-atypicality)
Does the typology offer prognostic value for treatment-related outcomes?	Yes: Several studies suggest that homosexual orientation is associated with better subjective outcomes following MtF sex reassignment (e.g., fewer regrets and greater satisfaction), but with a lower prevalence of stable partnered relationships	Somewhat: One study suggests that earlier onset of gender dysphoria may be associated with better outcomes following MtF SRS; another suggests that earlier onset may be associated with a greater likelihood of dropping out of treatment
Does the typology offer predictive value for comorbid psychopathology?	Yes: A few studies suggest that homosexual orientation is associated with better psychological functioning in both MtF and FtM transsexuals	No: There is little, if any, evidence that age of onset of GID-related symptoms is predictive of comorbid psychopathology
Does the typology facilitate research and offer heuristic value?	Yes: Typologies based on sexual orientation have directly facilitated or inspired several informative, interesting, and clinically useful research studies	Very little: Typologies based on age of onset have directly facilitated or inspired few informative, interesting or clinically useful research studies, partly due to lack of agreement on definitions of the relevant categories

males, females, both sexes, or neither sex. The subtypes in Blanchard's (1989a) sexual orientation-based typology were equivalent: homosexual, heterosexual, bisexual, and analloerotic. These subtypes (or at least the first three) appear to be widely understood and largely unambiguous to the general public (Laumann et al., 1994), as well as to professionals. Sexual attraction is usually ascertained through self-report; several formal self-report scales for sexual orientation are available (e.g., Kinsey et al., 1948; Klein, Sepekoff, & Wolf, 1985; see also McConaghy, 1998). In addition, "the investigator often has the objective evidence of marriage or common-law relationships to take into consideration" (Blanchard, 1989a, p. 327) when deciding sexual orientation. In research settings, various methodologies exist for assessing sexual arousal or interest in response to visual or auditory sexual stimuli involving same-sex or opposite-sex persons; these include penile and vaginal plethysmography (e.g., Barr & Blaszczynski, 1976; Chivers, Rieger, Latty, & Bailey, 2004; Lawrence, Latty, Chivers, & Bailey, 2005; Rieger, Chivers, & Bailey, 2005), viewing time (e.g., Harris, Rice, Quinsey, & Chaplin, 1996; Rullo, Strassberg, & Israel, 2009), other visual methods (e.g., Jiang, Costello, Fang, Huang, & He, 2006; Wright & Adams, 1994), and brain imaging (e.g., Hu et al., 2008; Paul et al., 2008; Safron et al., 2007). These objective measures can serve to confirm or contradict self-reported sexual orientation in males with GID, in whom sexual arousal tends to be category-specific (i.e., consistent with reported or observed sexual interests; Lawrence et al., 2005). In nontranssexual women, objective measures of sexual arousal or interest are less well correlated with sexual partner preference (Chivers et al., 2004); whether this might also be true of some or most females with GID has not been studied.

Self-reported sexual orientation is not always reliable in males with GID. In a study by Walworth (1997), 6 (12%) of 52 MtF transsexuals admitted having deliberately lied to or misled their therapists about their sexual attraction to women; 4 (8%) admitted having done so about their sexual attraction to men. In some cases, self-reported attraction to men has been observed to be inconsistent with objective indicators of sexual attraction, such as predominant sexual partnership history (Lawrence, 2005, 2008a) and neovaginal photoplethysmography (Lawrence et al., 2005). Moreover, males with GID who have a history of sexual attraction to women sometimes report changes in their sexual orientations following gender transition, resulting in sexual attractions that are supposedly directed primarily or exclusively towards men (e.g., Daskalos, 1998; Lawrence, 2005). Such reported changes are inconsistent with the longstanding observation that sexual orientation (i.e., direction of sexual attraction) in males is essentially unchangeable in adulthood (Harry, 1984; Pillard & Bailey, 1995; Swaab, 2007). Freund (1985) summarized some possible interpretations of this inconsistency:

> It is not easy, and often impossible, to decide whether these patients deliberately try to mislead the examiner, just appearing as feminine as possible in order to have a better chance of obtaining a recommendation for sex reassignment surgery, or whether their wish to be in the female role in sexual interaction results in fantasies of sexual intercourse as a female with a male and that this makes them prefer the male as a sexual partner, in spite of not being attracted toward male but toward female body shapes. (pp. 265–266)

Typologies Based on Age of Onset

For transsexual typologies based on age of onset, the most appropriate GID-related symptom by which to define onset and the most appropriate dividing point for distinguishing early- from late-onset subtypes are not self-evident. As noted previously, investigators have offered differing opinions about exactly which feelings or behaviors, if they occurred early in life, were typologically significant: Some have emphasized gender dysphoria (or unremitting gender dysphoria), others cross-gender identity, and still others gender-atypical behavior. Investigators have also differed about how best to distinguish between early versus late onset. For some, "early" meant early childhood; others considered any time before puberty to be "early." In adult patients, age of onset, however defined, is usually ascertained based on self-report. Some items in the Dutch-language Biographical Questionnaire for Transsexuals (Doorn et al., 1994; Smith et al., 2005a, b) concern age of onset of cross-gender feelings and behaviors, but this scale is unpublished. One item in Blanchard's (1993b) Pure Gender Dysphoria Scale for males asks about the onset of gender dysphoria before age 12. I have been unable to locate other published self-report inventories that include items related to age of onset of GID-related symptoms.

In principle, parents or other family members could confirm or contradict the self-reported age of onset of cross-gender feelings and behaviors in transsexual patients. Wålinder (1967) attempted to confirm the age of onset of cross-gender behaviors in his patients by interviewing their parents, but he was successful in obtaining information in only 17 (40%) of 43 cases; in 2 of the 17 cases, the parents denied noticing anything unusual. In a report relevant to the accuracy of parental confirmation of gender-atypicality, Bailey, Nothnagel, and Wolfe (1995) examined the correlation between self- and maternal reports of childhood feminine interests and feminine gender identity in a group of homosexual men. They found that 89% of the mothers of their participants were willing to complete questionnaires, and that self- and maternal reports were moderately correlated for both feminine interests and feminine gender identity in childhood (.47 and .43, respectively), but were far from identical. It is not clear whether these results might be generalizable to patients with GID. Video recordings made during childhood could, in theory, also be used to confirm age of onset of childhood gender-nonconformity. Rieger, Linsenmeier, Gygax, and Bailey (2008) studied the relationship between self-reported childhood gender-nonconformity and childhood gender-nonconformity as rated by others (based on the content of home videos made during participants' childhoods) in homosexual and heterosexual men and women. For homosexual men, the correlation between self-reported and other-rated childhood gender-nonconformity was high (.60) but far from perfect; correlations were substantially lower for heterosexual men and for women. In summary, clinicians and researchers would probably find it difficult to confirm or contradict self-reported age of onset of cross-gender feelings and behaviors in transsexual patients.

Investigators have observed that transsexuals' self-reports concerning the early onset of gender dysphoria, cross-gender identity, or cross-gender behavior are often unreliable. Lukianowicz (1959), for example, concluded that male gender patients' self-reports concerning the early onset of their cross-gender feelings were often inaccurate:

> A wishful falsification of memory takes place, the patients begin to recall and misinterpret various insignificant incidents in their childhood, till they finally firmly believe that "ever since I can remember, I always wanted to be a woman." (The incessant progress of these emotionally overvalued ideas resembles the relentless development of delusions in paranoia.) (p. 51)

Bancroft (1972) similarly believed that a possible complicating factor in understanding the development of MtF transsexualism was that

> transexuals [sic] distort their past histories to fit into their transexual identity and are therefore more likely to report early transexual urges to support the idea that they are basically female….[One patient] when first seen reported his transexual feelings to be of recent origin; nine months later he was reporting them as starting much earlier in his life. (p. 62)

Fisk (1974b), too, noted the tendency of candidates for sex reassignment to deliberately or inadvertently misrepresent their histories to make them consistent with accepted ideas about classical (i.e., early-onset) transsexualism:

> Slowly, there appeared instances in which the seemingly very pat histories revealed inconsistencies, downright fabrications and blatant distortions….The element of conscious fabrication or manipulation seemed quite secondary to the phenomenon of retrospectively "amending" one's subjective history. Here, the patient quite subtly alters, shades, rationalizes, denies, represses, forgets, etc., in a compelling rush to embrace the diagnosis of transsexualism. (pp. 8–9)

Sørensen and Hertoft (1980) likewise observed that MtF transsexuals typically displayed "memory distortion with exclusion of earlier masculine traits" (p. 139). Levine and Lothstein (1981) cautioned that females with gender dysphoria, too, sometimes did not accurately describe the development of their cross-gender feelings: "All females requesting SRS describe persistent masculine fantasies. Like the males, however, they may be guilty of consciously or unconsciously distorting their developmental histories." (p. 96). Walworth (1997) reported that three of the five most common subjects about which MtF transsexuals admitted having lied to or misled their therapists included "preferring girls' games and toys as a child[,] childhood wishes to have been born a girl[, and] identifying with female characters as a child" (p. 359).

The most recent edition of the *Standards of Care for Gender Identity Disorders* of the Harry Benjamin International Gender Dysphoria Association (Meyer et al., 2001) proposed that primary ("true") transsexualism in males was a rare phenomenon and that many supposed cases of primary MtF transsexualism were attributable to patients who had falsified their histories:

> During the 1960s and 1970s, clinicians used the term *true transsexual*….True transsexuals were thought to have: 1) cross-gender identifications that were consistently expressed behaviorally in childhood, adolescence, and adulthood; 2) minimal or no sexual arousal to cross-dressing; and 3) no heterosexual interest, relative to their anatomic sex…. Belief in the true transsexual concept for males dissipated when it was realized that such patients were rarely encountered, and that some of the original true transsexuals had falsified their histories to make their stories match the earliest theories about the disorder. (p. 9)

Although the statement by Meyer et al. notes the unreliability of reports of consistent, life-long cross-gender identification and expression (the key features of most typologies based on age of onset), it also suggests that reports of exclusive homosexual interest (the key feature of typologies based on sexual orientation) are often misrepresented.

In a recent review article, Cohen-Kettenis and Pfäfflin (2009) summarized the situation by stating without qualification that "retrospective data of [transsexual] adults regarding the date of onset of their feelings of being different are not reliable."

Descriptive Value of Typologies Based on Sexual Orientation versus Age of Onset

Conclusions regarding the descriptive value of transsexual typologies based on sexual orientation and age of onset of GID-related symptoms are summarized in Table 5. One of the principal reasons for creating typologies and classification systems for mental disorders is to facilitate concise, comprehensive clinical description by and for mental health professionals. The DSM-IV-TR (APA, 2000) discussed the desirable characteristics of typologies used for this purpose:

> Naming of categories is the traditional method of organizing and transmitting information in everyday life and has been the fundamental approach used in all systems of medical diagnosis. A categorical approach to classification works best when all members of a diagnostic class are homogeneous, when there are clear boundaries between classes, and when the different classes are mutually exclusive. (p. xxxi)

Homogeneity within subtypes is an especially important contributor to concise, comprehensive clinical description; it will be addressed specifically in the discussion that follows.

Typologies Based on Sexual Orientation

Typologies based on sexual orientation offer substantial descriptive value in MtF transsexualism. As the data in Table 1 indicate, most investigators who have proposed such typologies have observed that homosexual MtF transsexuals tend to differ from nonhomosexual MtF transsexuals in other clinically important ways. Compared with their nonhomosexual counterparts, exclusively homosexual MtF transsexuals are more likely to report overt cross-gender behavior during childhood (Blanchard, 1988; Money & Gaskin, 1970–1971; Whitam, 1987, 1997), but are less likely to report cross-gender fetishism (Bentler, 1976; Blanchard, 1985, 1989b; Lawrence, 2005; Money & Gaskin, 1970–1971; Smith et al., 2005b; Whitam, 1987, 1997). Homosexual MtF transsexuals also seek treatment at younger ages than their nonhomosexual counterparts (Blanchard, 1988; Smith et al., 2005b), and their physical appearance is more congruent with their gender identity (Smith et al., 2005b). In a study of 422 gender-dysphoric males, Blanchard, Dickey, and Jones (1995) observed that homosexual patients were significantly shorter, lighter, and lighter in proportion to their height than their nonhomosexual counterparts; although Smith et al. (2005b) were unable to confirm these findings in a study of 113 MtF transsexuals, their study was underpowered to detect any but large effect sizes (Cohen, 1988). Homosexual MtF transsexuals appear to be so strikingly different from their nonhomosexual counterparts that the two subtypes appear to represent completely different clinical spectra (Whitam, 1987) and plausibly reflect entirely different etiologies (Freund, 1985; Smith et al., 2005b).

MtF transsexuals in most Western countries are predominantly nonhomosexual (Lawrence, 2008c), so it is especially important to consider the extent to which nonhomosexual MtF transsexuals constitute a homogeneous group. In most respects, this appears to be the case: Nonhomosexual MtF transsexuals who are attracted to women, to women and men, and to neither women nor men do not differ significantly with respect to cross-gender fetishism (Blanchard, 1985), childhood cross-gender behavior (Blanchard, 1988), age of clinical

presentation (Blanchard, 1988), or autogynephilic sexual arousal (Blanchard, 1989b; see also Lawrence, 2005). In a few respects, however, the three nonhomosexual MtF groups do differ in important ways: Whereas autogynephilia is characteristic of all three subtypes (Blanchard, 1989b; Lawrence, 2005), arousal to the thought of being admired as a woman by another person (*autogynephilic interpersonal fantasy*) is especially characteristic of bisexual MtF transsexuals (Blanchard, 1989b), whereas analloeroticism, not surprisingly, is especially characteristic of MtF transsexuals who are attracted to neither women nor men (Blanchard, 1989b). MtF transsexuals belonging to different nonhomosexual subtypes also differ significantly in the number of sexual partners and number of episodes of sexual activity they report following SRS (Lawrence, 2005). Blanchard (1989a) proposed that, in research studies involving more than a few MtF participants, researchers should specify whether nonhomosexual MtF transsexuals were heterosexual, bisexual, or analloerotic; this seems advisable, given that this subcategorization of the nonhomosexual group provides additional descriptive value.

Two important studies, conducted by Freund et al. (1982) and Johnson and Hunt (1990), addressed the comparative descriptive value of a number of features associated with MtF transsexualism; both studies found sexual orientation, and gynephilia specifically, to be an important, and arguably the most important, descriptive feature. As previously discussed, Freund et al. studied 136 male patients with varying degrees of cross-gender identity, most of whom were transsexuals or "borderline transsexuals." They examined the extent to which an overall measure of cross-gender identity was associated with eight variables that putatively contributed to it: androphilia, gynephilia, childhood femininity, fetishism, heterosexual experience, analloeroticism, masochism, and sadism. Masochism and sadism were included because of "clinical experience that strong masochism in males often occurs together with transvestism" (Freund et al., p. 51). The authors' overall measure of cross-gender identity was empirically derived from principal component analysis of patient data for the eight putative contributing variables. The first (largest) factor derived from the analysis, which Freund et al. called *type of cross-gender identity*, accounted for roughly 47% of the total variance, with all other factors being much smaller. The variable with the highest loading on type of cross-gender identity was gynephilia (loading .91), followed by childhood femininity (−.79), fetishism (.79), and androphilia (−.78); loadings for the other variables were much lower. Freund et al. concluded that there were two main types of cross-gender identity: one associated with gynephilia and fetishism, the other associated with childhood femininity and androphilia.

Johnson and Hunt (1990) studied 25 MtF transsexuals in the process of gender transition, examining the interrelationships between five variables they believed to be related to transsexual typology: androphilia, gynephilia, cross-gender fetishism, feminine gender identity in childhood, and age of onset of either cross-dressing or cross-gender fantasies. The authors used measures of androphilia and gynephilia developed by Blanchard (1985), which were nominally independent of each other; consequently, respondents could report high levels of both androphilia and gynephilia (i.e., bisexual attraction) or low levels of both (i.e., analloeroticism). Johnson and Hunt found that androphilia was not significantly associated with any other typological variable but that gynephilia was significantly and positively associated with cross-gender fetishism ($r = .36$) and significantly and negatively associated with feminine gender identity in childhood ($r = -.32$); note that the last finding replicates an observation by Freund et al. (1982). Johnson and Hunt also found that age of onset was significantly and negatively associated with feminine gender identity in childhood ($r = -.35$) but with no other typological variable. These results suggested that, among the five typological variables studied, gynephilia and feminine gender identity in childhood conveyed the most useful descriptive information, because each was significantly associated with the other and each was also significantly associated with one other typological variable. Age of onset and cross-gender fetishism appeared to be less useful descriptively, and androphilia was least useful, presumably because it was reported by both exclusively homosexual and ostensibly bisexual (i.e., *pseudobisexual*; Blanchard, 1989b) persons, who might otherwise have few traits in common.

The study by Johansson et al. (2009), which presented data about sexual orientation and age of onset of the wish to become the opposite sex in 25 MtF transsexuals, provided additional evidence that sexual orientation and age of onset are only modestly associated in such patients. Among 13 homosexual MtF patients, 7 were early-onset and 6 were late-onset; among 12 nonhomosexual MtF patients, 4 were early-onset and 8 were late-onset. The resulting four-fold point correlation coefficient (ϕ or w) = .21; this represents a small effect size (Cohen, 1988).

Less information is available concerning the descriptive value of sexual orientation in FtM transsexuals. Limited evidence suggests that homosexual FtM transsexuals display greater childhood masculinity, and sexual attitudes that are more male-typical, than their nonhomosexual counterparts (Chivers & Bailey, 2000). Homosexual and nonhomosexual FtM patients have not been shown to differ, however, in childhood gender identity (Chivers & Bailey, 2000) or in age of clinical presentation, history of marriage, or congruence of physical appearance with gender identity (Smith et al., 2005b).

Typologies Based on Age of Onset

Typologies based on age of onset of GID-related symptoms also offer descriptive value in MtF transsexualism, but arguably less than typologies based on sexual orientation. As the data in Table 2 indicate, many investigators have observed that early-onset MtF transsexuals tend to differ from late-onset MtF transsexuals in other clinically important ways. For example, com-

pared with their late-onset counterparts, early-onset MtF transsexuals usually display more cross-gender behavior during childhood (Docter, 1988; Dolan, 1987; Doorn et al., 1994; Laub & Fisk, 1974; Levine & Lothstein, 1981; Lundström et al., 1984; Seil, 1996, 2004; Stoller, 1979, 1980; but see Person & Ovesey, 1974a, b) and less cross-gender fetishism (Burns et al., 1990; Docter, 1988; Dolan, 1987; Fisk, 1974a, b; Levine & Lothstein, 1981; Lundström et al., 1984; Person & Ovesey, 1974a, b; Seil, 1996; Stoller, 1979, 1980; but see Doorn et al., 1994, and Johnson & Hunt, 1990).

In most reports, late-onset MtF transsexuals have been described as greatly outnumbering their early-onset counterparts (Dolan, 1987; Levine & Lothstein, 1981; Lundström et al., 1984; Seil, 2004; Stoller, 1980; but see Doorn et al., 1994, and Johansson et al., 2009). Consequently, it is important to consider the extent to which late-onset MtF transsexuals constitute a relatively homogeneous group. Investigators have routinely found, however, that late-onset MtF transsexuals are quite heterogeneous. Person and Ovesey (1974a, b), Laub and Fisk (1974), Stoller (1979, 1980), Levine and Lothstein (1981), Lundström et al. (1984), Dolan (1987), and Docter (1988) all observed that late-onset MtF transsexuals comprised at least two disparate groups: extremely effeminate men with no history of cross-fetishism who were exclusively homosexual and reasonably masculine men with a history of cross-gender fetishism who were primarily heterosexual. As noted earlier, the extreme diversity of clinical presentations among late-onset or secondary MtF transsexuals led Stoller (1980) to declare that the category constituted little more than a "wastebasket" (p. 1700).

As previously discussed, Johnson and Hunt (1990) found that, in MtF transsexuals, age of onset of cross-dressing or cross-gender fantasies was significantly and negatively associated with feminine gender identity in childhood but was not significantly associated with any other variable of interest (androphilia, gynephilia, or cross-gender fetishism). Age of onset was somewhat less valuable descriptively than gynephilia, which was also significantly and negatively associated with feminine gender identity in childhood and which was, in addition, significantly and positively associated with cross-gender fetishism. As previously noted, data from Johansson et al. (2009) demonstrated that, in MtF transsexuals, age of onset of the wish to become the opposite sex displayed only a modest association with sexual orientation. The study by Herman-Deglińska et al. (2002), in contrast, could be interpreted as suggesting that age of onset was strongly predictive of sexual orientation, in that all the primary MtF patients studied were exclusively homosexual, whereas none of the secondary MtF patients were; but this "perfect" correlation evidently reflected Herman-Deglińska et al.'s use of nonhomosexual orientation (and cross-gender fetishism, with which it is commonly associated), rather than age of onset per se, as the principal basis for categorizing patients as secondary MtF transsexuals.

Little information is available concerning the descriptive value of age of onset in FtM transsexuals. Nearly all early-onset FtM transsexuals have been described as homosexual, but so have most late-onset FtM transsexuals (Dolan, 1987; Landén et al., 1998; Levine & Lothstein, 1981; Seil, 2004).

Prognostic Value of Typologies Based on Sexual Orientation versus Age of Onset for Treatment-Related Outcomes

Clinicians who treat patients with GID have historically been interested in patient characteristics that influence response to treatment. Treatment-related outcomes include satisfaction or regret, continuation versus discontinuation of treatment, and psychological and social functioning following sex reassignment. Conclusions regarding the comparative value of transsexual typologies based on sexual orientation versus age of onset of GID-related symptoms for predicting treatment-related outcomes are summarized in Table 5.

Fisk (1974a) observed that both classic (early-onset, homosexual) and effeminate homosexual (late-onset, homosexual) gender dysphoric MtF patients showed significant improvements in social, psychological, economic, and sexual adjustment after sex reassignment. For transvestite (late-onset, nonhomosexual) gender-dysphoric MtF patients, sexual adjustment improved significantly after sex reassignment (Fisk, 1974a), while social and psychological adjustment became no worse (Laub & Fisk, 1974). Taken together, these results suggest that, in this study, sexual orientation showed a stronger association with treatment-related outcomes than did age of onset.

Bentler (1976) noted that some questionnaire data he obtained were "suggestive of a relatively higher level of strain" (p. 575) for homosexual and asexual MtF transsexuals than for their heterosexual counterparts. Moreover, one quarter of the homosexual MtF participants reported that "life as a woman was not up to expectations" (p. 576), whereas no heterosexual or asexual MtF participants reported this. Bentler concluded that there was some meaningful association between sexual orientation and quality of outcomes in MtF sex reassignment.

Wålinder, Lundström, and Thuwe (1978) examined factors associated with satisfaction or regret following SRS in a group of 14 MtF transsexuals, 5 (36%) of whom were regretful. Among the regretful patients, 4 of 5 reported heterosexual experience, whereas among the nonregretful patients, only 2 of 9 reported heterosexual experience ($p = .06$, one-tailed; $p = .09$, two-tailed). Despite this finding of only trend-level significance at a conventional alpha level, the authors concluded that "heterosexual experience [was] present significantly more often in those transsexuals who regretted the measures taken" (p. 19).

Lindemalm, Korlin, and Uddenberg (1987) examined factors predictive of positive outcomes of SRS in 13 MtF transsexual patients. In contrast to the findings of some other studies, the authors found that both heterosexual experience and bisexual experience were associated with better, not worse, sexual

adjustment after SRS. Early onset of gender-atypicality (playing with girls during childhood, feminine behavior during childhood, cross-dressing before age 10) was not associated with better outcomes for psychosocial adjustment, sexual adjustment, or nonrepentence.

Kockott and Fahrner (1988) commented on the prevalence and stability of partnered relationships among 37 MtF transsexuals who had completed SRS. Of the 10 MtF transsexuals who reported such relationships, 4 were partnered with women and 6 with men. On the basis of qualitative data, Kockott and Fahrner concluded that "partnerships between male-to-female transsexuals and female partners seem to last longer than partnerships with male partners" (p. 544).

Blanchard, Steiner, Clemmensen, and Dickey (1989) reported that, in a group of 50 MtF transsexuals who had completed SRS, 4 (29%) of 14 nonhomosexual MtF patients either regretted having undergone SRS or were not certain they would undergo SRS again if they had it to do over. Of 36 homosexual MtF transsexuals, none were regretful. Despite the small sample sizes, the difference in prevalence of regret between the homosexual and nonhomosexual groups was statistically significant.

In a study previously discussed, Johnson and Hunt (1990) examined associations between five predictor variables related to transsexual typology—androphilia, gynephilia, cross-gender fetishism, feminine gender identity in childhood, and age of onset of cross-dressing or cross-gender fantasies—and three variables related to outcomes of gender transition in 25 MtF transsexuals. The outcome variables were social gender reorientation (consistency of self-presentation as a female and possession of gender-appropriate identity documents), physical gender reorientation (use of feminizing hormones, having undergone vaginoplasty), and work adjustment (ability to be self-supporting through employment). Androphilia was significantly associated with better social gender reorientation, whereas gynephilia was significantly associated with better work adjustment. Age of onset of cross-dressing or cross-gender fantasies was not significantly associated with any of the outcome variables examined.

Pfäfflin (1992) described the outcomes of SRS in 196 MtF transsexual patients, 3 of whom expressed regret. All 3 regretful patients were evidently nonhomosexual, reporting no sexual experience with males but long-term partnerships with females. One regretful patient began cross-dressing before age 10, and the other 2 began at puberty. Pfäfflin concluded that nonhomosexual orientation was a possible risk factor for regret following MtF sex reassignment but offered no conclusions regarding age of onset of cross-gender expression as a possible risk factor.

Tsoi (1993) examined outcomes of SRS in 45 MtF and 36 FtM transsexual patients, all of whom were exclusively homosexual in orientation. Among the MtF patients, age of onset of gender dysphoria was not significantly different in patients who achieved "good" outcomes and those who achieved only "satisfactory" outcomes.

Kuiper and Cohen-Kettenis (1998) described 10 transsexual patients (9 MtF, 1 FtM) who expressed regret following SRS or reverted to living in their original gender role. Based on the case summaries provided, all but 1 of the MtF patients were nonhomosexual (heterosexual, bisexual, or analloerotic), as was the FtM patient (bisexual). Only the homosexual MtF patient and the FtM patient displayed gender-atypical behavior during childhood. Five of the patients, including the FtM patient, reported an onset of gender dysphoria at age 8 or earlier, whereas the other 5 patients reported an onset of gender dysphoria at age 12 or later. Two of the MtF patients cross-dressed incidentally before puberty; the other patients began cross-dressing only after puberty. Two of the MtF patients had a history of sexual arousal with cross-dressing. The authors concluded that caution was indicated in offering sex reassignment to patients with "late onset of the gender conflict, fetishistic cross-dressing, psychological instability and/or social isolation" (Discussion section, ¶ 5). It appears, however, that the most commonly shared features among the regretful patients were nonhomosexual orientation (9 of 10 patients) and late onset of overt cross-gender expression (8 of 10 patients), although Kuiper and Cohen-Kettenis did not emphasize either of these features. It is also notable that half of the regretful patients reported an onset of gender dysphoria before age 8.

Landén et al. (1998) investigated regret following SRS in a mixed group of MtF ($n = 124$) and FtM ($n = 94$) transsexuals. The authors distinguished between *core* and *non-core* transsexuals; as noted earlier, the key features of their definition of core transsexualism were unremitting (and by implication, early-onset) gender dysphoria and aversion to biological sex characteristics. Landén et al. found that non-core transsexuals were more likely to express regret following SRS than core transsexuals. Age of onset was not significantly associated with regret, however, suggesting that other features of the core/non-core typology explained the observed difference in regret between the groups. Surprisingly, there was a nonsignificant trend ($p = .08$) for "conditions bordering on homosexuality" (a subcategory of non-core transsexualism) to be associated with a higher prevalence of regret, although neither homosexual nor heterosexual experience per se was significantly associated with regret.

Muirhead-Allwood, Royle, and Young (1999) examined regret following SRS in 140 MtF transsexual patients, 9 (6%) of whom expressed some postoperative regret. Eight (89%) of the 9 regretful patients reported a nonhomosexual orientation before SRS. Although the authors emphasized the preponderance of nonhomosexual orientation among regretful participants, 114 (86%) of the 133 patients for whom preoperative sexual orientation data were available were nonhomosexual, so the relationship between sexual orientation and regret in this study was not statistically significant.

Lewins (2002) studied the prevalence of stable partnered relationships in self-identified MtF transsexuals, not all of whom had completed SRS. MtF transsexuals who identified as lesbian (i.e., heterosexual relative to birth sex) were significantly more likely to be in a stable relationship than MtF transsexuals who identified as heterosexual (i.e., homosexual relative to birth sex).

Lawrence (2003) investigated the relationship between variables related to transsexual typology and subjective outcomes of SRS in 232 MtF transsexuals. The typological variables of greatest interest were age at first wish to change sex or be the other sex, childhood femininity in the participant's opinion, childhood femininity in others' probable opinion, sexual attraction to males versus females, sexual experience with males versus females, and frequency of autogynephilic sexual arousal. The three outcome variables were absence of regret, happiness with surgical result, and improvement in quality of life with SRS. Of 30 correlations examined, only 5 were statistically significant: Younger age at first wish to change sex or be the other sex and greater childhood femininity in the participant's opinion were significantly associated with absence of regret; greater childhood femininity in the participant's opinion and in others' probable opinion were significantly associated with greater improvement in quality of life; and lower frequency of autogynephilic arousal was significantly associated with greater improvement in quality of life. Measures of sexual orientation were not significantly associated with any outcome variable. Because this study was exploratory, statistical results were not corrected for multiple comparisons; moreover, participants' responses displayed limited ranges for all outcome variables (i.e., most participants rated all outcomes very positively). Consequently, these results should be interpreted cautiously.

Lawrence (2005) examined the association between sexual orientation and prevalence of stable partnered relationships in 232 MtF transsexual patients who had completed SRS. Patients who reported at least one female sexual partner but no male sexual partners following SRS were significantly more likely to be in a stable partnered relationship at the time of the survey than patients who reported at least one male sexual partner but no female sexual partners after SRS. Patients who reported any female sexual partners following SRS (i.e., behaviorally heterosexual or bisexual patients) were more likely to have been in a stable partnered relationship at some time following SRS than patients who reported at least one male sexual partner but no female sexual partners after SRS.

Smith et al. (2005a) reported outcomes of sex reassignment in 220 MtF and 105 FtM applicants. They found that homosexual transsexuals (MtF and FtM groups combined) experienced less regret, both during treatment and following sex reassignment, than their nonhomosexual counterparts and also experienced better overall postoperative functioning. Surprisingly, Smith et al. found that applicants who reported more GID symptoms during childhood were more likely to drop out of treatment prematurely.

Olsson and Möller (2006) described the long-term follow-up of a nonhomosexual MtF transsexual who expressed regret after sex reassignment. Although reports of single cases obviously must be interpreted cautiously, regret following sex reassignment is rare enough that such cases are worth noting. The patient was categorized as nonhomosexual on the basis of self-reported sexual attraction to women and successful sexual relationships with women. The patient's childhood medical records described several characteristics usually associated with early-onset GID: As a preschool child, the patient "preferred to play with girls and with dolls. He also liked to dress as a girl" (p. 502).

Weyers et al. (2009) investigated mental and physical health in 50 MtF transsexual patients who had completed SRS. They categorized patients as homosexual, heterosexual, bisexual, or not sexually interested (asexual), but referenced the first two categories to gender identity, rather than birth sex. In contrast to some previous reports, the authors observed that androphilic MtF transsexuals were as likely to be involved in a current relationship (not necessarily a stable or long-term one) as their gynephilic counterparts. They also found that androphilic MtF transsexuals obtained higher scores on an index of sexual functioning.

Predictive Value of Typologies Based on Sexual Orientation versus Age of Onset for Comorbid Psychopathology

Most diagnoses in the DSM, including GID, are accompanied by discussions of comorbid psychopathology. The description of GID in DSM-IV-TR (APA, 2000) also mentions that one sexual orientation-based subtype is associated with comorbid psychopathology (i.e., that men with GID who are attracted to neither sex often display schizoid traits). Accordingly, it may be useful to consider the comparative value of transsexual typologies based on sexual orientation versus age of onset of GID-related symptoms for predicting comorbid psychopathology. Only a few studies have addressed this topic; the relevant findings are summarized in Table 5.

In a study previously discussed, Johnson and Hunt (1990) examined the associations between five variables related to transsexual typology (androphilia, gynephilia, cross-gender fetishism, feminine gender identity in childhood, and age of onset of cross-dressing or cross-gender fantasies) and three different measures of psychological disturbance (social introversion, depression, and tension and worry). They found no significant association between any typological variable and any of the psychological outcome variables.

Hartmann, Becker, and Rueffer-Hesse (1997) conducted psychological testing in 20 MtF transsexuals, 10 of whom were

homosexual (androphilic) and 10 whom were nonhomosexual (gynephilic). They observed that nonhomosexual patients reported more neurotic symptoms, based on scores on the German short form of the Minnesota Multiphasic Personality Inventory (MMPI):

> The scores of the gynephilic patients are clearly higher for the so-called "neurotic trias" [sic] of Hypochondria, Depression[,] and Hysteria, the most valid scales of the German version of the MMPI. This suggests that the gynephilic patients of our sample have more neurotic symptoms, especially of the somatization and psychosomatic type. (Results section, ¶ 2)

Hartmann et al. did not, however, provide any statistical analyses of the observed differences.

Seil (2004) reported that, in his practice, the prevalence of drug and alcohol abuse, and other secondary diagnoses as well, did not differ significantly between primary (ego-syntonic, early-onset) and secondary (ego-dystonic, late-onset) MtF transsexuals or between primary and secondary FtM transsexuals.

Smith et al. (2005a) found that homosexual transsexuals (MtF and FtM patients combined) displayed better psychological functioning after sex reassignment than their nonhomosexual counterparts, based on scores on the Dutch version of the Symptom Check List (SCL-90; Derogatis, Lipman, & Covi, 1973). Smith et al. (2005b) likewise reported that homosexual FtM transsexuals reported significantly fewer psychological problems than their nonhomosexual counterparts, again based on scores on the Dutch SCL-90.

In a study involving 35 MtF and 27 FtM transsexuals who had undergone SRS, De Cuypere et al. (2006) found that, for MtF and FtM patients combined, homosexual orientation was associated with lower psychiatric comorbidity, as indicated by scores on the Dutch SCL-90 (Derogatis et al., 1973). When MtF transsexuals were evaluated separately, however, no significant association between sexual orientation and psychiatric comorbidity was found.

Ability of Typologies Based on Sexual Orientation versus Age of Onset to Facilitate Research and Provide Heuristic Value

A stated goal of the DSM classification system is to "facilitate research" (APA, 2000, p. xxiii). Accordingly, it is appropriate to compare the ability of transsexual typologies based on sexual orientation versus age of onset of GID-related symptoms to contribute to this goal; the results of this comparison are summarized in Table 5. One important way in which a typology could facilitate research would be by offering heuristic value: that is, by inspiring or enabling investigators to conduct informative, interesting, and useful research studies. Arguably, part of the ability of a typology to facilitate research derives from the etiological or developmental theories associated with that typology; this point of view informs the analysis that follow. It is important to note, however, that the DSM is an atheoretical classification system; consequently, adoption of a particular typology for GID does not necessarily imply endorsement of the theories associated with that typology, regardless of the value of such theories in facilitating research.

Perhaps the best evidence of the value of a typology in facilitating research is the frequency with which it is actually utilized in clinical and laboratory research studies. As the earlier discussions concerning prediction of treatment-related outcomes and comorbid psychopathology demonstrated, several clinical studies have used transsexual typologies based on sexual orientation to categorize participants, and many of these studies have found significant associations between sexual orientation-based subtypes and other variables of interest. Fewer clinical studies have used transsexual typologies based on age of onset of GID-related symptoms to categorize participants, and few of these studies have found significant associations between age of onset and other variables of interest.

Typologies based on sexual orientation also have been widely utilized in laboratory research studies, particularly those investigating neuroanatomical or neurophysiological features associated with GID. Typologies based on age of onset of GID-related symptoms sometimes have been considered in such studies as well, but generally have received less attention, especially in recent years. A few examples will illustrate these points. Two influential postmortem studies of hypothalamic (or limbic) nuclei in the brains of MtF transsexuals (Kruijver et al., 2000; Zhou, Hofman, Gooren, & Swaab, 1995), conducted during the previous decade, categorized participants on the basis of both sexual orientation and age of onset of gender dysphoria and devoted roughly equal attention to both typologies in their discussion sections. A more recent study from the same institution, involving many of the same patients (Garcia-Falgueras & Swaab, 2008), again categorized patients on the basis of both sexual orientation and age of onset of gender dysphoria; but only sexual orientation figured prominently in the discussion. It is also noteworthy that Garcia-Falgueras and Swaab explicitly adopted the sexual orientation-based typology proposed by Blanchard (1989a), categorizing patients as homosexual or nonhomosexual relative to birth sex. Three recent brain imaging studies involving MtF transsexuals and nontranssexual men and women (Berglund, Lindström, Dhejne-Helmy, & Savic, 2008; Gizewski et al., 2008; Luders et al., 2009), in contrast, devoted little attention to age of onset of GID-related symptoms but considerable attention to sexual orientation. For methodological reasons, Berglund et al. included only nonhomosexual MtF transsexuals in their study; the authors further subdivided their participants into heterosexual and asexual subtypes, as proposed by Blanchard (1989a), and discussed their findings in relation to these subtypes. Although Berglund et al. reported the age of onset of gender dysphoria in their participants, they never

addressed this typological feature in their discussion. Gizewski et al. described the sexual orientation of their MtF participants and discussed how sexual orientation might have influenced participants' responses to stimulus materials; they did not describe the age of onset of participants' GID-related symptoms. Luders et al. also described the sexual orientation of their MtF participants but did not mention age of onset of GID-related symptoms. Luders et al. did not analyze homosexual and nonhomosexual participants separately, but they acknowledged that this was a limitation of their study; after referencing Blanchard's (1989a, b) typology, they proposed that "future studies that take into consideration sexual orientation [in MtF transsexuals] will not only further reveal the underlying determinants of gender identity in general, but also possibly advance our understanding of different transsexual subtypes" (p. 907).

This greater emphasis on typologies based on sexual orientation is not unexpected: Because sexual orientation is a more unambiguous and more reliable basis for categorization than age of onset of GID-related symptoms, it is not surprising that clinical and laboratory researchers have utilized it more often. Moreover, because sexual orientation appears to carry greater descriptive value than age of onset of GID-related symptoms in MtF transsexualism, and perhaps in FtM transsexualism as well, it is not surprising that sexual orientation would display stronger associations with other variables of interest.

It may be useful to consider some additional illustrations of the value of typologies based on sexual orientation versus age of onset of GID-related symptoms in facilitating research, in areas in other than the investigation of treatment-related outcomes, comorbid psychopathology, and possible neuroanatomical and neurophysiological correlates of GID.

Typologies Based on Sexual Orientation

Studies conducted by Blanchard (1985, 1988, 1989a, b, 1991, 1992, 1993a, b) illustrate the ability of transsexual typologies based on sexual orientation to facilitate research and provide heuristic value. Blanchard's (1985, 1988) observations of the similarities between heterosexual, bisexual, and analloerotic/asexual MtF transsexuals led him to formulate the concept of *autogynephilia* (Blanchard, 1989a, b) and to conclude that it was central to the phenomenon of nonhomosexual MtF transsexualism. Blanchard (1991) subsequently proposed that autogynephilia was a "misdirected form of heterosexual impulse" (p. 241). He also demonstrated that autogynephilia typically coexisted with heterosexual attraction but could also compete with it (Blanchard, 1992); and that, among autogynephilic men, autogynephilic fantasies of having a female body (Blanchard, 1993b), and especially female genitals (Blanchard, 1993a), were most strongly associated with gender dysphoria.

The understanding that heterosexual, bisexual, and analloerotic/asexual MtF transsexualism almost always involved the coexistence and competition of autogynephilia and various forms of heterosexual attraction led, in turn, to the concept of *erotic target location errors* (Blanchard, 1991; Freund & Blanchard, 1993; see also Lawrence, 2009b): the theory that autogynephilia and similar erotic interests represented developmental errors in locating erotic targets in the environment. The concept of erotic target location errors inspired still further investigation concerning possible analogues of autogynephilia such as *apotemnophilia* (paraphilic interest in undergoing limb amputation; Lawrence, 2006) and *autoandrophilia* (sexual arousal to the thought or image of oneself as a male; Dickey & Stephens, 1995) as it manifests in androphilic men (Lawrence, 2009a). These developments, which have advanced our understanding of both MtF transsexualism and the paraphilias, were outgrowths of Blanchard's original adoption of a sexual orientation-based classification system for MtF transsexualism.

Several early studies demonstrated that homosexual nontranssexual men have a significantly later birth order than nonhomosexual nontranssexual men (Hare & Moran, 1979; Slater, 1962), as well as a higher proportion of male siblings (Kallmann, 1952). Working from a sexual orientation-based typology for MtF transsexualism, Blanchard and Sheridan (1992) demonstrated that homosexual gender dysphoric men had a significantly later birth order and a higher proportion of male siblings than the nonhomosexual gender dysphoric men. These results provided an important replication of earlier findings concerning birth order and sibling sex ratio in homosexual men, one that would not have been possible if the authors had not utilized a such a typology. The results also demonstrated the heuristic value of this sexual orientation-based typology, leading Cohen-Kettenis and Gooren (1999) to conclude that, "In future research, as well as clinical practice, this important [typological] distinction should no longer be ignored" (p. 322).

In an analysis of 22 studies of MtF transsexuals and gender dysphoric men from 16 countries, Lawrence (2008c) demonstrated that societal individualism was highly correlated with the percentage of nonhomosexual participants in the various countries. The observed association between the relative prevalence of the two MtF transsexual subtypes and a societal factor that putatively influenced their expression was interesting and unexpected, again demonstrating the heuristic value of this sexual orientation-based typology. It is also notable that Lawrence was able to compile results from over 20 studies that used reasonably comparable definitions of sexual orientation; it is difficult to imagine compiling a similar number of studies that employed reasonably comparable definitions of age of onset of GID-related symptoms. This, too, testifies to the heuristic value of typologies based on sexual orientation and their ability to facilitate research.

The observation that homosexual orientation is associated with childhood gender-atypicality in MtF transsexuals (Freund et al., 1982; Johnson & Hunt, 1990) led Chivers and Bailey (2000) to investigate whether homosexual orientation is asso-

ciated with childhood or adult gender-atypicality in FtM transsexuals. Their specific findings—homosexual FtM transsexuals were more gender-atypical for some, but not all, traits examined—are less important than the fact that the extension to FtM transsexuals of a sexual orientation-based typology developed for MtF transsexuals yielded interesting and unexpected findings.

Typologies Based on Age of Onset

It is difficult to find persuasive examples of the ability of typologies based on age of onset of GID-related symptoms to facilitate research. The study by Doorn et al. (1994) probably offers the best example: The authors found some expected associations between age of onset of gender dysphoria and other variables of interest (i.e., some cross-gender play preferences and heterosexual interest in adolescence), but failed to find other expected associations (i.e., prevalence of cross-dressing and extent of fetishistic cross-dressing). In this case, a typology based on age of onset of GID-related symptoms can be seen as offering at least limited heuristic value.

Other Theoretical and Practical Considerations Regarding Typologies Based on Sexual Orientation versus Age of Onset

Many of the issues addressed in this section were raised by Cohen-Kettenis and Pfäfflin (2009), who commented on an early draft of the present article. Others were suggested as appropriate topics for discussion as part of the peer review process.

Is There No Agreement Concerning the Number and Kind of Relevant Transsexual Subtypes?

Cohen-Kettenis and Pfäfflin (2009) asserted that "in clinical writings, there seems to be agreement that transsexual subtypes do exist, although there is no agreement on the number and kind of relevant subtypes." In my opinion, their statement is only partly correct. For typologies based on age of onset of GID-related symptoms, there is indeed little agreement about which symptoms are most relevant or about the most appropriate dividing point between early and late onset; but typologies based on age of onset, while still in use, have been largely supplanted by typologies based on sexual orientation. For the latter typologies, Blanchard's (1989a) fundamental distinction between homosexual and nonhomosexual MtF transsexuals has been widely adopted in recent years (e.g., by Berglund et al., 2008; Garcia-Falgueras & Swaab, 2008; Johansson et al., 2009; Lawrence, 2005, 2008c; Smith et al., 2005a, b) and has been applied to FtM transsexuals as well (e.g., by Chivers & Bailey, 2000; Johansson et al., 2009; Smith et al., 2005a, b). When a four-category typology based on sexual orientation is indicated, Blanchard's (1989a) categories are almost always employed, using either his original category names (homosexual, heterosexual, bisexual, and asexual/analloerotic) or the equivalent names from the DSM-IV (APA, 1994) and DSM-IV-TR (APA, 2000): attracted to males, to females, to both, or to neither.

Do Typologies Based on Sexual Orientation Lack Clinical Utility?

Cohen-Kettenis and Pfäfflin (2009) argued that "although sexual orientation subtyping may be of interest to researchers in the field, no clinical decisions are currently based on this classification" and that "there are no convincing data on the clinical utility of both subtypes" (i.e., of either typology). They appeared to conclude, therefore, that typologies based on sexual orientation lack clinical utility. In my opinion, such a conclusion would be inaccurate. It may be true that, in most treatment centers, decisions concerning approval for hormone therapy and SRS no longer take sexual orientation into account. Nevertheless, homosexual and nonhomosexual MtF transsexualism are associated with different prognoses for some outcomes and arguably deserve somewhat different case conceptualizations. Most reported cases of regret among MtF transsexuals, for example, have involved nonhomosexual patients (e.g., Blanchard et al., 1989; Kuiper & Cohen-Kettenis, 1998; Olsson & Möller, 2006; Pfäfflin, 1992; Smith et al., 2005a; Wålinder et al., 1978; but see Landén et al., 1998; Lawrence, 2003; Muirhead-Allwood et al., 1999); consequently, clinicians might wish to emphasize the possibility of regret with their nonhomosexual MtF clients especially. In contrast, three studies (Kockott & Fahrner, 1988; Lawrence, 2005; Lewins, 2002) have suggested that homosexual MtF transsexuals have greater difficulty establishing stable, long-term relationships with partners of their preferred sex than do their nonhomosexual counterparts; clinicians might wish to emphasize the possibility of problems in achieving long-term partnerships with their homosexual MtF clients especially. Lawrence (2009c) suggested that nonhomosexual MtF transsexualism, in contrast to its homosexual counterpart, could be understood as a paraphilic phenomenon, with implications for case conceptualization in relation to issues such as investigating comorbid paraphilias, interpreting interactions with male sexual partners, and understanding responses to cross-sex hormone therapy.

Does Alleged Resistance by the Transsexual Community Pose Serious Difficulties for Typologies Based on Sexual Orientation?

Cohen-Kettenis and Pfäfflin (2009) alleged that "in the transgender community, there is strong resistance against subtyping on the basis of sexual orientation and activity and even against having to give this information for scientific purposes only." They proposed that, given the controversy surrounding the concept of autogynephilia, which some transgender persons

consider offensive, and the association of this concept with typologies based on sexual orientation, "It is therefore likely that…increased awareness regarding the sexual orientation issue has led to less reliable reports of sex reassignment applicants on their sexual orientation." It was even possible, Cohen-Kettenis and Pfäfflin suggested, that "sexual orientation has become so controversial that, in a clinical setting, the information given by applicants for medical interventions may have become invalid." In other words, Cohen-Kettenis and Pfäfflin argued that, due to the controversy surrounding autogynephilia and typologies based on sexual orientation, transsexual patients might either refuse to provide information about their sexual orientation or else might deliberately provide inaccurate information, thereby limiting the usefulness of typologies based on this criterion. I will address these two possibilities separately.

Is there evidence that significant numbers of transsexual patients are refusing to provide information about their sexual orientation, either because they object to the concept of autogynephilia or for any other reason? I have found no published reports documenting such a phenomenon. Several recently published studies in which MtF transsexual participants have been asked about their sexual orientation contain no descriptions of such refusals. For example, Sánchez and Vilain (2009) did not describe any refusals to report sexual orientation among the 53 MtF transsexual participants they surveyed, nor did Berglund et al. (2008), Gizewski et al. (2008), or Luders et al. (2009) among the MtF patients they studied (12, 12, and 24 participants, respectively).

Is there evidence that transsexuals, offended by the concept of autogynephilia or by the typology linked to it, are deliberately providing misinformation about their sexual orientation? Such occurrences might be difficult to detect and would be virtually impossible to disprove. But the phenomenon of transsexuals lying about or otherwise misrepresenting their sexual orientation certainly would not be anything new: As noted previously, clinicians have recognized for decades that transsexual patients sometimes lie about (Walworth, 1997) or otherwise misreport (Freund, 1985; Lawrence, 2008a; Meyer et al., 2001) their sexual orientation, albeit for different reasons than Cohen-Kettenis and Pfäfflin implicitly suggested. Fortunately, again as previously noted, objective information about marriage and partnership patterns can often be used to confirm or contradict self-reported sexual orientation. Moreover, reasonably reliable objective measures of sexual arousal and interest, including some utilizing neuroimaging, are increasing available in research settings.

Cohen-Kettenis and Pfäfflin (2009) did not explicitly argue that objections by transsexual persons to the concept of autogynephilia and to typologies based on sexual orientation *per se* constituted a disadvantage of such typologies. One might reasonably infer this, however, from their observation that autogynephilia "is considered highly offensive by some," in the context of a paragraph listing the disadvantages of typologies based on sexual orientation. In response to a request by a reviewer of an earlier draft of this article, I will briefly address this issue.

Winters (2008), cited by Cohen-Kettenis and Pfäfflin (2009), set forth most of the objections that MtF transsexuals typically offer concerning the concept of autogynephilia and the transsexual typology informed by it. As the title of her essay suggests, Winters' principal objections are that autogynephilia and its associated typology are "infallible" (i.e., unfalsifiable) and "derogatory." Winters' allegation of unfalsifiability is perhaps not central to the issue at hand, but it can be quickly dismissed as inaccurate: One can easily imagine several kinds of evidence that could, in principle, falsify Blanchard's theory of autogynephilia.[2] Winters' allegation that autogynephilia and its associated typology are derogatory is really at the heart of the matter. She characterizes the concept and the typology as "offensive" (¶ 7), "stigmatizing and dehumanizing" (¶ 7), and "an affront to human legitimacy and dignity" (¶ 10). Fundamentally, her complaint is that Blanchard's theory of autogynephilia conceptualizes some MtF transsexuals *differently than they conceptualize themselves*: as "homosexual men" (¶ 10) or as men "motivated…primarily by sexual paraphilia" (¶ 10), rather than as transsexual *women* motivated by "an inner feminine gender identity or 'essence'" (¶ 10).

Objections of this kind do not, in my opinion, constitute strong arguments against transsexual typologies based on sexual orientation. The history of science contains many examples of theories that offered substantial explanatory value but were criticized and sometimes temporarily suppressed because they challenged people's self-concepts. The theories of Galileo and Darwin come readily to mind: These theories, too, undoubtedly were once considered offensive, stigmatizing, dehumanizing, and an affront to human dignity by people accustomed to thinking of themselves as occupying the center of the universe or as being the result of a special creation. I have argued (Lawrence, 2008b) that theories that challenge the self-concepts of MtF transsexuals have the potential to inflict narcissistic injury (see Kohut, 1972) and that clinicians and scholars have an obligation to be mindful of this possibility in their choice of descriptive language, to avoid inflicting such injury unnecessarily on a vulnerable population. But such an obligation would not, in my opinion, justify discarding typologies based on sexual orientation, given their substantial descriptive, explanatory, prognostic, and heuristic value.

[2] Examples would include repeated objective demonstration (not just self-report) of sexual arousal with cross-dressing or cross-gender fantasy in significant numbers of gender dysphoric males who are demonstrably androphilic, or repeated failure to objectively demonstrate sexual arousal with cross-dressing or cross-gender fantasy in significant numbers of gender dysphoric males who are demonstrably gynephilic.

Does Self-Favorable Reporting to Obtain Access to Care Limit the Value of Typologies Based on Sexual Orientation?

Cohen-Kettenis and Pfäfflin (2009) suggested that one limitation of typologies based on sexual orientation is that "it is likely that, depending on the criteria of access to treatment in a specific treatment facility, applicants adjust their biographical data with respect to sexuality. This makes the quality of the information, especially when given during clinical assessment, questionable." It is true that, in the past, self-favorable reporting of sexual orientation (i.e., reporting an exclusively homosexual orientation) in order to obtain access to care posed a significant, albeit not insurmountable, challenge for the accurate classification of patients. This is less likely to be a significant problem nowadays, however, because in most treatment programs, as Cohen-Kettenis and Pfäfflin themselves observed, "no clinical decisions are currently based on this classification."

Does the Possible Mutability of Sexual Orientation Create Problems for Typologies Based on Sexual Orientation?

Cohen-Kettenis and Pfäfflin (2009) suggested that "another problem concerning the usefulness of sexuality-related GID specifiers regards the stability of sexual orientation." They cited research by Diamond (2000; Diamond & Butterworth, 2008) in support of the idea that "there is considerable fluidity in sexual orientation, especially for women." Here again, I believe that Cohen-Kettenis and Pfäfflin have overstated the case. As noted earlier, sexual orientation in males appears to be essentially unchangeable in adulthood (Harry, 1984; Pillard & Bailey, 1995; Swaab, 2007), despite some reported changes in sexual self-identification and in the sex of chosen partners. In the only laboratory study (Lawrence et al., 2005) of a MtF transsexual who reported a change in sexual orientation following SRS, subjective and objective measures of sexual arousal were inconsistent with the supposed change in orientation. The studies by Diamond (2000; Diamond & Butterworth, 2008), cited by Cohen-Kettenis and Pfäfflin, described "sexual fluidity" only in females, not in males. It is also notable that 4 of the 89 nonheterosexual females whom Diamond (2008) followed longitudinally eventually adopted complete or partial transgender identities and that these individuals—in contrast to most of Diamond's other participants—displayed little evidence of sexual fluidity. Two of these transgender-identified females were attracted to both men and women and had relationships with both men and women, during adolescence *and* at 10-year follow-up; one was attracted to both men and women but had relationships primarily or exclusively with women, during adolescence *and* at 10-year follow-up; and one was exclusively attracted to women and apparently had relationships only with women, during adolescence *and* at 10-year follow-up (Diamond, 2008; Diamond & Butterworth, 2008). In summary, there is no credible evidence of mutability of sexual orientation in adult males, including MtF transsexuals. Some adult females arguably display at least limited mutability of sexual orientation, but it is not known whether this is true of FtM transsexuals specifically; evidence against this possibility is that the transgender-identified females described by Diamond (2008; Diamond & Butterworth, 2008) reported little change in their sexual attractions and sexual partner choices over a 10-year study period.

Is the Correlation Between Age of Onset and Sexual Orientation High Enough that the Former Can Substitute for the Latter?

Cohen-Kettenis and Pfäfflin (2009) proposed that "it would also be worthwhile to investigate the relationship between onset age and sexual orientation more extensively. If they are highly correlated and onset age has proven its clinical utility, onset age rather than sexual orientation could be used." This relationship has been investigated at least once: In a study of 25 MtF transsexuals, Johnson and Hunt (1990) found that gynephilia (arguably the best indicator of sexual orientation in their study) showed a nonsignificant correlation, −.04, with age of onset of cross-dressing or cross-gender fantasies; the correlation between androphilia and age of onset was of greater magnitude (−.18) but again nonsignificant. In a recent study of MtF transsexuals, Johansson et al. (2009) did not report a correlation between sexual orientation and age of onset of gender dysphoria, but, as previously noted, a four-fold point correlation coefficient can easily be calculated from their tabular data and was fairly low: .21. These low correlations should not be surprising: Although homosexual MtF transsexuals, on average, report an earlier age of onset of GID-related symptoms than their nonhomosexual counterparts, between-group differences tend to be small. For example, Blanchard et al. (1987) found that homosexual MtF transsexuals reported first cross-gender wishes at an average age of 7.7 years, versus 9.8 years for nonhomosexual MtF transsexuals. Lawrence (2005) observed that, among MtF transsexuals who reported either consistent homosexual ($n = 17$) or heterosexual ($n = 50$) attractions before and after sex reassignment, mean ages of onset of gender dysphoria were 6.3 and 8.0 years, respectively; for the two groups combined ($n = 67$), the point-biserial correlation between sexual orientation and age of onset (not originally reported, but calculated for this article) was .14.

Have Typologies Based on Age of Onset Been Inadequately Studied? Should the DSM-V Employ One of These Typologies, Simply Because They Deserve More Study?

Citing an early draft of the present article, Cohen-Kettenis and Pfäfflin (2009) claimed that "Lawrence also indicates that onset age [as a basis for typologies] has hardly been studied, because, historically, there was more scientific interest in sexual orientation." They went onto argue that "it is the importance of onset age for the long-term development of gender dysphoric individuals we need to know much more about" and, therefore, that "it is likely that a specifier focusing on onset age, provided that it is clearly defined and well measured, will contribute even more to our understanding of gender dysphoria than sexual orientation."

Cohen-Kettenis and Pfäfflin (2009) evidently misunderstood my findings: I summarized 15 typologies based on age of onset of GID-related symptoms (14 listed in Table 2, plus Cohen-Kettenis et al., 1998, listed in Table 4), versus only 10 based on sexual orientation (9 listed in Table 1, plus Chivers & Bailey, 2000, listed in Table 4). This does not suggest that the former typologies have "hardly been studied." Indeed, one could make the case that, from the mid-1970s into the early 1990s, typologies based on age of onset were dominant: They received greater attention and were more widely used than typologies based on sexual orientation, despite the inclusion of the latter typologies in the DSM. Typologies based on sexual orientation did not achieve their current dominant status until the studies conducted by Blanchard (1985, 1988, 1989a, b; Blanchard et al., 1987) were published and came to the attention of clinicians and researchers. Typologies based on age of onset have not been *neglected*; they have been *abandoned* (or largely so), and for good reasons: They are inferior in reliability and in descriptive, prognostic, and heuristic value.

If Cohen-Kettenis and Pfäfflin (2009) genuinely believed that typologies based on age of onset had been inadequately studied, then they surely took an unusual stance in recommending the adoption of such an unproven typology, simply because it had been inadequately studied. I would argue that typologies based on age of onset have *not* been inadequately studied: They have been studied and found to be inadequate. In either case, however, it is difficult to reconcile Cohen-Kettenis and Pfäfflin's recommendation of such a typology with the DSM's stated goal of "reflect[ing] the best available clinical and research literature" (APA, 2000, p. xxvii).

It is probable that Cohen-Kettenis and Pfäfflin's (2009) recommendation was influenced by the emergence of a small but important clinical population that might justify increased attention to age of onset of gender dysphoria as a descriptive and possible prognostic variable in GID. This is a cohort of patients with documented onset of gender dysphoria in early childhood and documented persistence of gender dysphoria into adolescence or young adulthood. To date, however, fewer than 50 such patients have been described (Cohen-Kettenis, 2001; Wallien & Cohen-Kettenis, 2008; Zucker & Bradley, 1995). This cohort of patients presumably informed Cohen-Kettenis and Pfäfflin's conjecture that it might be useful to "differentiate between onset in various phases (e.g., very early childhood [before the age of about three years], childhood until puberty, adolescence, and adulthood)." The existence of these persistently gender dysphoric young patients suggests that age of onset can still be an important consideration in GID; but it does nothing to improve the limited reliability, predictive value, and heuristic value of typologies based on this criterion. Cohen-Kettenis and Pfäfflin are correct that the age of onset of GID-related symptoms deserves further study; this does not imply, however, that age of onset should replace sexual orientation as the basis for a typology for GID in the DSM-V.

Summary and Conclusion

Transsexual typologies based on sexual orientation have been in use longer than typologies based on age of onset of GID-related symptoms and have been more widely used in studies published during the last decade. For both typologies, subtype assignment based on self-report is relatively easy, but the reliability of subtype assignment via self-report is not outstanding for either typology. Objective measures, however, can confirm or contradict self-reported sexual orientation; methods to confirm or contradict self-reported age of onset involve significant limitations. Typologies based on sexual orientation employ subtypes that are less ambiguous than typologies based on age of onset and that are better at facilitating concise, comprehensive clinical description. Typologies based on sexual orientation are superior in their ability to predict treatment-related outcomes and comorbid psychopathology and to facilitate research. Commonly expressed objections to typologies based on sexual orientation and arguments in favor of typologies based on age of onset are unpersuasive when examined closely. The forthcoming edition of the DSM should continue to employ subtypes based on sexual orientation for the diagnosis of GID in Adolescents or Adults or its successor diagnosis.

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