

# Sexual Health and Sexual Behavior

Bartos, S.E. (accepted). Sexual health and sexual behavior. In Oxford Research Encyclopedia of Psychology. Oxford University Press.

## Abstract and Keywords

Both academic and lay definitions of sex vary. However, definitions generally gravitate around reproduction and experience of pleasure. Some theoretical directions, such as psychoanalysis and evolutionary psychology, have positioned sexuality at the center of psychological phenomena. Much research has also linked sex to health and disease. On the one hand, certain sexual thoughts, feelings, behaviors, and identities have been described as pathological. Over time, some of these have been accepted as normal (esp. homosexuality), while other forms of pathology have also been proposed (e.g., “porn addiction”). On the other hand, some aspects of sexuality are being researched due to their relevance to public health (e.g., sex education) or to counseling (e.g., assisted reproduction). Sex research has always been controversial, paradoxically receiving both positive attention and disdain. These contradictory social forces have arguably affected both the content and the scientific quality of sex research.

Keywords: sexual health, sexual behavior, LGBT, intersex, pornography, sexual pathology, minority stress, sex education

## What Is Sex?

The exact meaning of “sex” is more than an academic question: it has social, political, and legal implications. However, there is little agreement about its definition. When six hundred American college students were asked which activities they would describe as “having sex,” there was a broad (but far from unanimous) agreement that vaginal penetration by a penis was sex, while kissing was not (Sanders & Reinisch, 1999; data collected in 1991). However, the consensus was a lot less clear on other activities: for example, two-fifths of the men appreciated they were having sex when their genitals were orally stimulated; and one-fifth of all participants thought penile-anal intercourse was not “having sex.” Peterson and Muehlenhard (2007) identified similarly complex patterns in their US college sample. They also found that their participants did not apply definitions of sex consistently to their own and their partners’ experiences. Masturbation is also defined in different ways, depending on one’s gender, the presence of a partner, and the experience of orgasm (Kirschbaum & Peterson, 2018). Such issues around defining sexual activities raise real-life questions: for example, women who do not label an activity as sex may not label it as rape when performed forcibly, even when the act meets the legal definition (Peterson & Muehlenhard, 2004).

A similar issue of practical definitions arises around sexual orientation/identity. Many men who feel romantic and/or sexual attraction towards other men identify as gay, bisexual, or queer. Researchers, physicians, and educators have also increasingly embraced these terms (see Figure 1B). However, many men who do not identify with such labels also have sex with other men, and therefore health programs usually aimed at gay and bisexual men need to reach them as well. During the HIV crisis of the 1980s and 1990s, the medical profession coined the initialism MSM (men who have sex with men; Glick, Muzyka, Salkin, & Lurie, 1994) to deal with this

issue (on the controversy around the term, see Young & Meyer, 2005). (As research on HIV prevention focused largely on men, the term “women who have sex with women” or “WSW” is much rarer; see Young & Meyer, 2005.)

The research discussed up to this point treats “sex” as an empirical rather than an analytical category: studying its multiple meanings seems more relevant for psychological research than setting an *a priori* definition. “Sex,” as understood in this article, covers a broad range of thoughts, feelings, attitudes, identities, and behaviors related to human reproduction, genitals, and pleasure. The scope of the article is narrower in terms of academic discipline, as it centers on psychological research; knowledge produced by other fields is recognized (see esp. the section “Sex, science, and society”), but it is not the focal point. The key topics that interest sex researchers also tend to change over time (Figure 1A).

Within the discipline of psychology, some fields have given sex a central role. Most famously, Sigmund Freud put sexuality at the center of human psychology: he posited children’s and adolescents’ psychosexual development as the critical determinant of adult personality and mental health (for a summary, see Freud, 1909/1995). Later, evolutionary psychology asserted that psychological phenomena, like other biological phenomena, are underlain by genetic traits transmitted from one generation to the other and selected by long-term pressures from the environment. As the way to transmit genes to offspring, sex is once again of central importance: preferences for sexual partners are a dominant topic in evolutionary psychology (Buss, 1988).

Most sex research in the early 21<sup>st</sup> century is not conducted within such totalizing perspectives (i.e., macrotheories) as psychoanalysis and evolution. Characteristic of contemporary psychology, microtheories (Lykken, 1991) are developed to account for each phenomenon of interest. On the one hand, psychologists aim to understand and control forms of

sexuality that are deemed unhealthy, illegal, or socially unacceptable. On the other hand, they aim to promote desirable outcomes such as lower incidence for sexually-transmitted infections and higher levels of sexual satisfaction and wellbeing. They do all of this in a world with shifting and conflicting views on what needs to be reduced and what needs to be promoted. Just like sex, health can be defined in many ways: different people may understand it in biomedical terms, as everyday functioning, or as wellbeing (Bishop & Yardley, 2010). Moreover, recent reflections have contested both the value of health concept (see, e.g., Metzl & Kirkland, 2010), and the credibility of much psychological research (Open Science Collaboration, 2015). The intellectual, socio-political, and material conditions under which psychologists produce sexual knowledge are covered in the final section, "Sex Science and Society."

As both sexual health and sexual behavior are conceptually broad, this article cannot aim to be exhaustive. Instead, it covers areas in which psychological research is abundant, and to which psychology has made notable theoretical or empirical contributions. For this reason, particular attention is given to the wellbeing of sexual minorities and the effectiveness of sex education, as opposed to sexual practices such as BDSM, on which psychological research is much sparser (for a scoping review, see Brown, Barker, & Rahman, 2019). Those areas are also in focus where psychology has undergone its most relevant shifts, tensions, and controversies: therefore, the (de)pathologization of homosexuality, trans experiences, and pornography and masturbation are granted particular attention. At the beginning of the 21<sup>st</sup> century, psychology's relative neglect of some groups and issues (women, working-class people, ethnic minorities, gender minorities etc.) is actively confronted by many psychologists, but it is far from being solved (Hegarty, Parslow, Ansara, & Quick, 2013).

## From Pathology to Normality (and Back)

Some forms of sexuality have been described as pathological, i.e., not normal or healthy. Sexual pathologies, like other phenomena identified as diseases, have been the object of diagnosis and treatment by medical practitioners, research on their causes and cures by scientists, and various policies by lawmakers. As of 2019, sexual and other mental health issues are classified in such manuals as the 5<sup>th</sup> edition of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*; first edition published in 1952) and the 11<sup>th</sup> edition of the World Health Organization's *International Statistical Classification of Diseases and Related Health Problems (ICD-11)*; first edition published in 1949).

However, the exact thoughts, feelings, and behaviors considered to be pathological have changed greatly. For example, masturbation was seen as unhealthy and outright dangerous in the late 19<sup>th</sup> and early 20<sup>th</sup> century, to such an extent that devices were proposed to prevent it. It was later accepted as normal to some extent (Ellis & Symonds, 1897), but remained pathologized when “excessive” (e.g., within compulsive sexual behavior, a category of ICD-11; or a symptom of other disorders). However, in the late 20<sup>th</sup> and early 21<sup>st</sup> century, masturbation has become part of the treatment of some sexual disorders (e.g., as a way of learning and experimenting with sexual techniques; e.g., Zamboni & Crawford, 2003).

As opposed to masturbation, identifying with a gender other than the one assigned at birth is still pathologized. There is some change in the way ICD-11 describes “gender incongruence” compared to previous editions, most notably in the language it uses: it removes some already outdated terms (“transsexualism”) and subjective descriptions (“profound disturbance”); and it speaks of one’s “experienced gender” instead of “preferred sex” (see Table 1). Nevertheless, being trans remains a psychiatric diagnosis focused on negative emotions

towards one's biological characteristics ("dysphoria") and a desire to undergo medical transition and perform one's experienced gender. While the ICD itself qualifies these criteria ("usually," "often"), trans people are required in many countries to undergo medical transitioning (esp., sterilization) in order to have their gender legally recognized (for a global report, see Chiam, Duffy, & Gil, 2017). (Other forms of sexuality also face pathologization and legal discrimination even in countries where gay and/or rights are enshrined in law: for example, this is the case of people practicing BDSM in the US; Wright, 2018.)

### *From Pathological to Normal: Sexual Orientation*

Psychology and related professions have sometimes hindered rather than helped the wellbeing of sexual minorities. Homosexuality was classified as a mental disorder by the American Psychiatric Association until 1971, and by the World Health Organization until 1991. As such, efforts have been made within all major directions in psychotherapy to "cure" homosexuality: psychoanalysis, behavioral therapy (esp. aversion therapy; Feldmann, 1966), and cognitive therapies (e.g., Ellis, 1965) have all been used in attempts to change sexual orientation. Even after major organizations have changed their position, many psychologists, psychiatrists, and priests have been trying to make people straight through a set of practices known as "conversion therapy" or "reparative therapy" (for a history, see Waidzunus, 2015).

Conversion therapy has been shown to be unsafe in a seminal study by Shidlo and Schroeder (2002): in a large sample of users, it has led to depression, anxiety, and even suicidal ideation. Moreover, Robert Spitzer, the author of one of a widely publicized study supporting conversion therapy (Spitzer, 2003), admitted the flaws of his research and apologized for its consequences (Spitzer, 2012). Many professional organizations have condemned conversion

therapy (see, e.g., the official statements of the World Health Organization, the American Psychological Association, the British Psychological Society, the Indian Psychiatric Society, the South African Society of Psychiatrists etc.). Also, it is illegal for minors in a few countries (e.g., Malta) and some subnational jurisdictions (within the US, Canada, and Australia). Nevertheless, the practice is gaining support in areas where homosexuality is still illegal, e.g., in some countries of sub-Saharan Africa (Waidzun, 2015).

In the meantime, therapeutic and counseling approaches have emerged that are supportive of clients who are not heterosexual. “Affirmative therapy” refers to therapeutic practice that incorporates awareness of sexual minority issues, as well as a supportive attitude. Research on affirmative counseling and therapy has found that practitioners’ knowledge and attitudes are important for the outcome, even more so than a match between the client’s and the practitioner’s sexual identity (King, Semlyen, Killaspy, Nazareth, & Osborn, 2007; O’Shaughnessy & Speir, 2018). Indeed, clients have indicated negative experiences with practitioners who were either ignorant of LGB issues, expecting their clients to educate them, or outright promoted conversion therapy (King et al., 2007). While the stress created by experiences of homophobia is not the most common presenting complaint (King et al., 2007), affirmative therapy can help relieve the effects of minority stress (O’Shaughnessy & Speir, 2018). Unsurprisingly, affirmative practice is proposed by most major professional organizations (e.g., the American Psychological Association, British Psychological Society etc.).

### *Exploring New Pathologies: Pornography and Online Sexual Behavior*

While some forms of sexuality are being accepted, others face increasing scrutiny. From the early days of the Internet in the late 1980s and early 1990s, the presence of erotica and pornography, and sex-themed chatrooms has prompted staunch moral judgments from society

and researchers alike. (In the 18th century, the availability of written erotica occasioned similar anxieties about masturbation and sexual phantasies; Laqueur, 2003.) On the one hand, some clinicians tried to argue the addictive potential of online sexual material (e.g., Cooper, 1998) On the other hand, some have speculated on the potential for the Internet to provide sexual freedom to marginalized individuals, such as people with disabilities (see, e.g., Löfgren-Mårtenson, 2008). Both the “dangerous peril” and the “brave new frontier” approaches (O’Brien & Shapiro, 2004) were built around researchers’ values more than evidence: dozens of theoretical conjectures shaped an early literature with almost no empirical work (Binik, 2001).

Twenty years on, systematic reviews of the empirical literature still point out inconsistent definitions and suboptimal designs. Thus, research on “porn addiction” and other ill effects of online sex, such as aggression, is still inconclusive. A review of definitions and measures has shown that many studies failed to define pornography and used idiosyncratic measures for the amount of usage (Short, Black, Smith, Wetterneck, & Wells, 2011). A systematic review of the association between pornography and risky sexual behavior had mixed results (Harkness, Mullen, & Blaszczyński, 2015). A recent systematic review of the association between pornography use and convictions for sexual offenses failed to find a clear relationship, which the authors attributed to a lack of consistent definitions (Mellor & Duff, 2019). Similar definitional inconsistencies trouble research on “porn addiction”: while a high level of usage and some form of negative consequences are common elements of a definition, these two aspects are measures inconsistently (Duffy, Dawson, & Das Nair, 2016).

Research on the effects of pornography has rendered complex results. In a systematic review, Wright, Tokunaga, Kraus, and Klan (2017) examined the relationship between pornography use and such variables as relational satisfaction, sexual satisfaction, and bodily



satisfaction: the associations were weak, heterogeneous, and dependent on the research design. While the method did not seem to make a difference, most studies they reviewed were cross-sectional surveys, and thus causality could not be inferred. Two longitudinal studies found an adverse effect of pornography on Dutch adolescents' interpersonal satisfaction (Doornwaard, Bickham, Rich, Vanweenbeeck, van den Eijnden, & ter Bogt, 2014; Peter & Valkenburg, 2009). However, one similar study found no effect in Croatian adolescents (Milas, Wright, & Stulhofer, 2019), while an American study found that the effect of pornography on sexual behavior could be inferred in white teenagers but not in other ethnic groups (Hennessy, Bleakley, Fishbein, & Jordan, 2009).

However, some researchers have found the addiction model useful. At least two systematic reviews have found limited but promising results for CBT and ACT with patients who present with complaints about their pornography use (de Alarcón, de la Iglesia, Casado, & Montejo, 2019; Sniewski, Farvid, & Carter, 2018). However, given the complex and contradictory evidence, it is unsurprising that alternative accounts of pornography have emerged. Grubbs & Perry (2018) accept that clinicians' patients may present with problems related to the use of pornography, but suggest an explanation alternative to addiction: many people use pornography while morally disapproving of it, which leads to moral incongruence. More radically, Ley, Prause, and Finn (2013) contrasted the weak research evidence for "porn addiction" to the burgeoning treatment industry, suggesting that the popularity of the concept is driven by socio-economic rather than scientific considerations. Interestingly, cultural historian Thomas Laqueur formulated a similar argument that 18<sup>th</sup>-century worries about masturbation were promoted by physicians selling "cures" (Laqueur, 2003).

## Sex and Wellbeing: Feelings, Behaviors, and Attitudes

As seen in the previous section, psychological research and practice are sometimes harmful to the (sexual) wellbeing of people. This section reviews a few lines of research that are concerned with understanding, safeguarding, and restoring wellbeing. For example, there has been much interest in the wellbeing of sexual minorities; in the sexual behavior of adolescents and young adults, and how it is influenced by sex education; and in the wellbeing of individuals and families who require medical assistance to conceive.

While these lines of research make strides in trying to help people, they may neglect some groups. For example, the sexual wellbeing of older adults (Sinković & Towler, 2019) or people with disabilities (Shildrick, 2007) is often neglected. In discussing sexual minority issues, bisexual people receive comparatively less attention (see, e.g., Kaestle & Ivory, 2012), while a research literature on asexuality is just emerging (see, e.g., Jones, Hayter, & Jomeen, 2017).

### *Stress, Resilience, and Health in Marginalized Groups*

Some people follow atypical developmental pathways, and their sexual development may also be different from the majority. For example, some children are born with genitals that do not fit into the male-female binary. Terms like *intersex* or DSD (Disorders of Sex Development; Hughes, Houk, Ahmed, Lee, & Lawson Wilkins Pediatric Endocrine Society, 2006) have been used to describe such characteristics and the people who have them, but the terminology is disputed (see, e.g., Lundberg, Hegarty, & Roen, 2018). Intersex children and adolescents are often subject to surgery and other medical procedures to make them better fit the expectations of either a male or a female body. Research conducted with intersex people, their parents, and their physicians have raised questions about physical and psychological traumas created by medical

examinations and interventions, about the parents' need for information, and physicians' decision making (Roen, 2019). On a different note, research with adolescent and adults on the autism spectrum differ very little from neurotypical peers when it comes to sexual feelings and behaviors (Dewinter, Graaf, & Begeer, 2017). Their subjective experiences also seem similar: the feelings and experiences of teenage boys with autism are fairly typical (Dewinter, Van Parys, Vermeiren, & Nieuwenhuizen, 2017).

A much larger literature covers the wellbeing of gay men, lesbians, and bisexual people. Several large-scale studies and systematic reviews have shown that they have poorer health and wellbeing outcomes than heterosexuals (e.g., Cochran, 2001). Gay and bisexual men report poor physical health compared to heterosexuals, both in the U.S. (Cochran & Mays, 2007) and Western Europe (Wang, Häusermann, Vounatsou, Aggleton, & Weiss, 2007). Lesbian and bisexual women have an increased prevalence of generalized anxiety disorder (Cochran et al., 2003). Also, gay men are at increased risk for eating disorders (Feldman & Meyer, 2007). Lesbians, gay men, and bisexual people also have a larger number of suicidal thoughts, plans, and attempts than their heterosexual peers (King, Semlyen, Killaspy, Osborn, Popelyuk et al., 2008), they have higher risks for chronic diseases, such as cancer and diabetes (Lick, Durso, & Johnson, 2013), and for substance abuse in adolescence (Marshall et al., 2008).

Ilan Meyer (1995, 2003) proposed the Minority Stress Model to explain the comparatively poorer health outcomes of people marginalized due to their sexuality and gender identity. He proposed that minority stressors, such as discriminatory laws and daily experiences with discrimination, were the cause of the health disparities described above. Cross-sectional studies widely document the association between discrimination and health problems. Those discriminated against tend to have poorer health than the general population (Pascoe & Richman,

2009). Experiences with discrimination partially explain the high prevalence of distress and psychiatric disorders in non-heterosexual people (Mays & Cochran, 2001). There is also an association between social exclusion and poorer mental health in trans people (Valentine & Shipherd, 2018). Perceived discrimination explains the increased emotional distress and suicidal ideation in lesbian, gay, bisexual, and trans teenagers (Almeida, Johnson, Corliss, Molnar, & Azrael, 2009). Also, gay and bisexual men who feel discriminated are more likely to report common illnesses (Huebner & Davis, 2007).

Several prospective studies support the hypothesis that the link between minority stressors and health outcomes is causal. In one study, depressive symptoms, substance abuse, and risky sexual behavior in gay men were better predicted by perceived discrimination than by bereavement-related stress (Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008). Another study found that the prevalence of affective, anxiety, and alcohol-related disorder increased significantly among lesbians, gay men, and bisexual people in states where laws were enacted against same-gender marriage (Hatzenbuehler, McLaughlin, Keyes, & Hazin, 2010). A third large-scale prospective study found that prejudice-related stress over a one-year period was related to worse physical health even when controlling for other stressors (Frost, Lehavot, & Meyer, 2015). As for interventions, a randomized controlled trial indicates that specialized psychotherapy may help mitigate the effects of minority stress (Pachankis, Hatzenbuehler, Rendina, Safren, & Parsons, 2015). It is also notable that the concept minority stress, while initially developed to understand the effects of homophobia, proved to be useful in studying other types of social exclusion (for the stress experienced by immigrants to the UK in the wake of the 2016 Brexit referendum, see Frost, 2019).

While many people discriminated against because of their sexuality have provided remarkable examples of resilience, being resilient to minority stress poses specific problems. Social support typically buffers the effects of external stressors on health and wellbeing (Cohen & Wills, 1985). However, in the case of sexual minorities, social support might mediate rather than moderate stress: discrimination affects health and wellbeing precisely by reducing social support (Hatzenbuehler, 2009). An overview of interview studies with sexual minorities suggests, indeed, that they often experience harm from those who are usually expected to shield the individual from stressors: the family, schools or workplace friends, and even helping professions such as psychologists or clergy (Bartos & Langdridge, 2019).

### *Safer Sex, Risk-Taking, and Sex Education*

Teenagers are understandably the focus of much research on psychosexual development. Research on adolescent sexuality tends to gravitate around risk and safety, and around interventions to manage risk. The National Longitudinal Study of Adolescent Health, conducted with over 14,000 US teenagers between 1994 and 2009, has generated some relevant data on sexuality. It supported the role of socio-economic deprivation in sexual risk-taking, as teens in less affluent areas had sex earlier and were less likely to use contraception (Cubbin, Santelli, Brindis, & Braveman, 2007). In turn, condom use when first having sex was associated with fewer sexual infections later on (Shafii, Stovel, & Holmes, 2007). The same study also followed the evolution of teenagers' self-described sexual orientation: stability was the most common, but many teenagers changed their identity, with all pathways of change possible (Savin-Williams, Joyner, & Rieger, 2012).

Sex education (of teenagers, but also adults) has been proposed as a solution to a series of public health issues, especially the HIV epidemic (which became known to the medical

community and society at large in the early 1980s) and unwanted pregnancies. As such, the efficiency and effectiveness of sex education programs is a relatively well-resourced area, with available evidence as advanced as meta-analyses of randomized controlled trials. The targeted outcomes are usually behaviors associated with a lower likelihood of infection or pregnancy, such as later sexual debut in adolescents, fewer sexual partners, and condom use.

Much research is optimistic about the effects of sex education. A review of systematic reviews (Denford, Abraham, Campbell, & Busse, 2017) found that programs were generally effective, especially when measuring attitudes and knowledge (rather than behavior). The same review identified a set of factors that contributed to the effectiveness of sex education, such as need assessments and long-term evaluations, a focus on knowledge and attitudes as well as skills, and a broad curriculum that goes beyond fear-mongering and discouraging sex. Nevertheless, many teenagers in the U.S. and other countries receive “abstinence-only” education, which promotes celibacy (until marriage) as the only reliable way to avoid infections and unwanted pregnancies. Such programs have mixed results, with no effect overall (Bennett & Assefi, 2002; Underhill, Montgomery, & Operario, 2007). However, research on sex education tends to focus on some populations more than others. Studies in the U.S. tend to cover Black teenagers but neglect Latinx ones (Goesling, Colman, Trenholm, Terzian, & Moore, 2014), and there is limited knowledge on effective sex education for people with intellectual disabilities (Schaafsma, Kok, Stoffelen, & Curfs, 2015).

Research in other countries and populations is not always optimistic. According to one systematic review, HIV prevention in low-to-medium-income countries seems to achieve improvements in knowledge, self-efficacy and condom use (Fonner, Armstrong, Kennedy, O'Reilly, & Sweat, 2014). However, multiple systematic reviews of HIV prevention programs in

sub-Saharan Africa have found inconsistent results, with programs difficult to implement on the ground (Michielsen, Chersich, Luchters, De Koker, Van Rossem, & Temmerman, 2010) and behavior change contingent on numerous factors (Foss, Hossain, Vickerman, & Watts, 2007; Paul-Ebhohimhen, Poobalan, & van Teijlingen, 2008).

While most studies focus on the sex education delivered to young people in schools, other areas of research are emerging. Online (Guse, Levine, Martins, Lira, Gaarde, Westmorland et al., 2012) and gamified (DeSmet, Shegog, Van Ryckeghem, Crombez, & De Bourdeaudhuij, 2015) interventions have promising results. Peer-led sex education increases knowledge (Sun, Miu, Wong, Tucker, & Wong, 2018), but it may not be as effective as expert-led instruction (Denford et al., 2017). Finally, developing parent-child communication may have a role in sex education (Sutton, Laswell, Lanier, & Miller, 2014).

### *Psychology and Reproductive Health*

While some individuals and families do not want (more) children, others struggle to conceive. Infertility is associated with a variety of negative emotions, such as anxiety, depression, guilt, and shame (Greil, Slanson-Blevins, & McQuillan, 2010; Luk & Loke, 2014). However, quantitative evidence for infertility-related distress is mixed: it may depend on the exact outcome being measured (Luk & Loke, 2015) and the availability of coping resources (Fisher & Hammarberg, 2012). Women may experience more distress than men (Chachamovich, Chachamovich, Ezer, Fleck, Knauth, & Passos, 2010), but the precise experience depends on the scientific, religious, or traditional framing of infertility in a given society (Greil, Slanson-Blevins, & McQuillan, 2010). Numerous psychological interventions have been proposed to help individuals and couples who struggle with infertility: A systematic review (Frederiksen, Farver-Vestergaard, Skovgård, Ingerslev, & Zachariae, 2014) has found that such interventions can both

improve psychological wellbeing and increase the chances of pregnancy. Indeed, psychological and behavioral factors may play a role in fertility: for example, smoking, alcohol, and stress may all decrease sperm quality (Li, Lin, Li, & Cao, 2011).

A series of assisted reproductive technologies exist for couples who cannot or will not conceive naturally, but the legal and economic accessibility of such treatments varies widely. Since the late 1970s, In-vitro fertilization (IVF) has been possible; as it involves long-term, potentially painful treatment with a high likelihood of failure, psychological responses to such treatment have been the focus of much research. Failed treatment tends to produce distress in both women (Verhaak, Smeenk, Evers, Kremer, Kraaimaat, & Braat, 2007) and men (Martins, Basto-Pereira, Pedro, Peterson, Almeida, Schmidt et al., 2016), but such distress is generally not intense. Better adjustment to the stress of IVF is associated with lower neuroticism, less avoidant coping, and more social support (but the research is mostly cross-sectional; Rockliff, Lightman, Rhidian, Buchanan, Gordon, & Vedhara, 2014). It is probably not surprising that many couples discontinue fertility treatment before succeeding. Some refer to the psychological and physical burden of fertility treatments or worry about long-term health effects; others may face financial obstacles, struggle with their healthcare provider, or be advised by their physician to stop; finally, many see the discontinuation as mere postponement (Gameiro, Boivin, Peronace, & Verhaak, 2012).

Families that conceive via IVF are not the only ones that depart from traditional models: some families may have single parents, same-gender couples as parents, they may conceive with the help of gamete donors or surrogate mothers, etc. The wellbeing and development of children raised in such “modern families” (Golombok, 2015) have been subject to much research. Despite some research is conducted with small samples and is over-reliant on self-report, well-designed



longitudinal studies are available (e.g., Golombok, Blake, Casey, Roman, & Jadva, 2013).

Children raised in non-traditional families have developmental outcomes equivalent to or better than those raised in traditional families (i.e., with two married heterosexual parents who conceive naturally). However, they also face some difficulties due to negative societal attitudes towards modern families, and due to poor communication within some families (esp. about assisted reproduction; Golombok, 2015).

## **Sex, Science, and Society**

Psychological research on sexual health and sexual behavior does not happen in a vacuum. Other disciplines also study sexuality, and there is plenty of non-academic knowledge on the subject. There are attempts by lawmakers and other institutions to regulate sexuality, and efforts by social movements to change or resist these regulations. These forces put pressure not only on people's experiences of sex, but also on researchers' efforts to study it.

### ***Sexual Knowledge Beyond Psychology***

Psychology does not have a monopoly on the understanding of sex. The way other academic disciplines and societal institutions view sex has had a great effect on psychological research. Firstly, neuroscience, genetics, endocrinology, and other biomedical disciplines significantly shape both the problems and the solutions faced by psychologists in the field of sexuality. For example, some research in the 1990s and early 2000s suggested a role for genetics in sexual orientation (e.g., Hamer, Hu, Magnusson, Hu, & Pattatucci, 1993), and advanced that public awareness of such an explanation could reduce homophobia (Haider-Markel & Joslyn, 2008). However, the genetic component proved less relevant as stronger research designs were

used (Fausto-Sterling, 2012), and the relationship between belief in biological explanations of sexuality and lower homophobia is unlikely to be causal (for a review, see Hegarty, 2018).

Secondly, the humanities have produced their own knowledge about sex. Most notably, Michel Foucault's work (see esp. Foucault, 1976/1990) explored the relationship of sexuality and power in a range of historical contexts, offering a theoretical framework for much scholarship in the following decades. Nevertheless, many scholars before and after Foucault explored the ways in which sexuality varied across cultures and historical eras. For example, European historians have pointed out the acceptance of certain relationships between men in Ancient Greece (e.g., Dover, 1978/2016), Ancient Rome (e.g., Veyne, 2005), and some early Christian communities (e.g., Boswell, 1980). Also, anthropologists have described socially-sanctioned relationships between women in pre-colonial Lesotho (Kendall, 1998) and women marrying multiple men in Tibet (Gielen, 1998). Finally, philosophers (especially feminist scholars and "queer theorists") have explored the logical inconsistencies of binary categories such as male-female, normal-pathological, homosexual-heterosexual, etc. (e.g., Butler, 1990). To some extent, this relativism and acceptance of complexity has been assimilated into psychology (see, e.g., Barker & Scheele, 2016; Clarke, Ellis, Peel, & Riggs, 2010).

Finally, popular culture also shapes people's understanding of sex. For example, fan forums of TV series may turn into spaces for sexual confessions and advice (Masanet & Buckingham, 2015). Sexual self-help books reach many readers, but generally offer a narrow vision: they assume that long-term relationships based (in part) on penetrative sex are necessary and desired by everyone (Barker, Gill, & Harvey, 2017). However, the advice such books offer on pleasure and technique may provide knowledge of a "sexual art" – something that "sexual science" often eschews in favor of public health issues and pathology (Foucault, 1976/1990).

## *Social and Political Pressure*

Social norms, laws, and political processes make a great impact on people's sexual attitudes, health, and wellbeing. There are important discrepancies between countries in terms of laws that regulate sexuality, and these discrepancies can affect people's sexual health and wellbeing. For example, same-gender couples can marry in some countries, while they risk the death penalty in others (ILGA, 2019). The criminalization of sex work may leave women vulnerable to violence from clients and police (Platt, Grenfell, Meiksin, Elmes, Sherman, Sanders et al., 2018), while stakeholders' varied and contradictory attitudes make legal changes difficult (Ma, Chang, Loke, 2018). Laws relating to sexuality are sometimes subject to public votes: there have been referenda for legalizing or prohibiting gay marriage in countries such as Ireland (2015), Australia (2017), and Romania (2018). There is emerging evidence that the campaigns preceding such referenda are stressful and damaging to the wellbeing of sexual minorities (Ecker, Riggle, Rostosky, & Byrnes, 2019; Frost & Fingerhut, 2016). Finally, most religions aim to control sexual behavior through their moral codes, and religious affiliation is a key factor in sexual attitudes (see, e.g., Herek & McLemore, 2013)

Social movements and activism also produce change in all areas of society, including psychology. The depathologization of homosexuality by the American Psychiatric Association in 1971 occurred in the wake of the Stonewall uprising in 1969, in the context of organizations such as the Mattachine Society and the Daughters of Bilitis fighting for gay rights, and with the help of a testimony from gay psychiatrists such as "Dr H. Anonymous" (the pseudonym of John E. Fryer, MD; Waidzunas, 2015). (Conversely, the International Day Against Homophobia is celebrated on May 17, the day in 1990 when the World Health Organization decided to remove homosexuality from its International Classification of Diseases.) On the other hand,

organizations such as Exodus International and the National Association for Research and Therapy of Homosexuality (NARTH) have been advocating for “conversion therapy” in the U.S., and spreading the practice to other countries, such as Uganda (Waidzunus, 2015). The effect of social movements is evident in the changes in the understanding of pathology (Table 1) and in terminology (Figure 1B).

### *In Lieu of a Conclusion: Doing Sex Research*

Politics and funding arguably shape research: around the time when homosexuality was removed from the DSM (in the early 1970s), emotional distress in sexual minority individuals was often underplayed to avoid it being interpreted as a sign of mental illness (Taylor, 2002). In the late 1980s and early 1990s, during the HIV/AIDS crisis, funding became available to do research on the wellbeing of sexual minorities, opening the path for the minority stress model (see also Figure 1A).

On a more pessimistic note, it has been proposed that sexuality research and counseling is a form of “dirty work,” i.e., a type of work that is recognized as necessary but still undervalued and even ridiculed. On the one hand, sex experts have a sustained media presence, and courts sometimes rely on scientific arguments, provided in amicus curiae briefs, to argue on the rights of sexual minorities (Diamond & Rosky, 2016). Educational interventions in schools and workplaces are often useful in reducing homophobia (Bartos, Berger, & Hegarty, 2014), but the perception of such education ranges from “eye-opening” to “turned my stomach” (Bartos & Hegarty, 2019). Anecdotal evidence suggests that such extreme duality in the reception of sexuality researchers is not new. Writer Christopher Isherwood, who lived in Magnus Hirschfeld’s house in Berlin in the early 1930s, recounted how Hirschfeld would be invited to a

session of the German Parliament and be assaulted in the street within one week – both due to his studies on sex.

Numerous personal accounts suggest that sexuality researchers may face stigma due to their field of work. Researchers may face disparaging comments about their research and unwarranted assumptions about their own sexuality (Coyle, 2004), as well as unwarranted scrutiny of their research by ethics committees and review boards (Irvine, 2012). A small survey of American sociologists found such incidents to be fairly common (Irvine, 2015).

Unsurprisingly, graduate students have difficulties finding mentorship in this area (Curtin, Hegarty, & Stewart, 2012), and are often advised to change the direction of their research (Biaggio, Orchard, Larson, Petrino, & Mihara, 2003). Admittedly, some valuable research is conducted despite an unfavorable climate: for example, much high-quality research on reducing homophobia has been conducted as part of unfunded, unpublished dissertations (Bartos et al., 2014).

Sex research has always been contested on methodological grounds as well. Karl Popper famously used Freud's psychoanalysis as an example of unscientific thinking. When Alfred Kinsey published his surveys of Americans' sexual behavior (Kinsey, Pomeroy, & Martin, 1948; Kinsey, Pomeroy, Martin, & Gebhard, 1953), his recruitment of participants was hotly contested (see, e.g., Cochran, Mosteller, & Tukey, 1953; Maslow & Sakoda, 1952). The very use of surveys and experiments in sex research has been contested: some feminist researchers (e.g., Unger, 1996) appreciated that quantitative methods were too entangled with the oppression (for examples, see the section "From Pathology to Normality"), and, in Audrey Lorde's oft-cited words, "the master's tools will never dismantle the master's house" (1984, p. 110; conference paper originally delivered in 1979). Other researchers strategically accept quantitative methods

as a path to social and political legitimacy (see, e.g., Coyle, 2000; Rivers, 2001), and yet others argue for their necessity: for example, statistics on sexual orientation have shown that a large proportion of non-heterosexual people identify as bisexual, even though bisexuality is often underrepresented in both science and politics (Rodriguez, 2016). As of 2019, there seems to be little need to worry about the quality or status of sex research. There are several outlets with good impact factors, such as the *Archives of Sexual Behavior* (3.116), *Journal of Sex Research* (3.059), and *Sex Roles* (2.277). These journals also seem to publish a comparatively low proportion of studies that are [unlikely to replicate](#) (for an introduction to psychology's replication crisis, see Open Science Collaboration, 2015). One can reasonably expect psychological research on sexual health and sexual behavior to thrive in the near future, political pressure, and funding policies allowing.

## Further Reading

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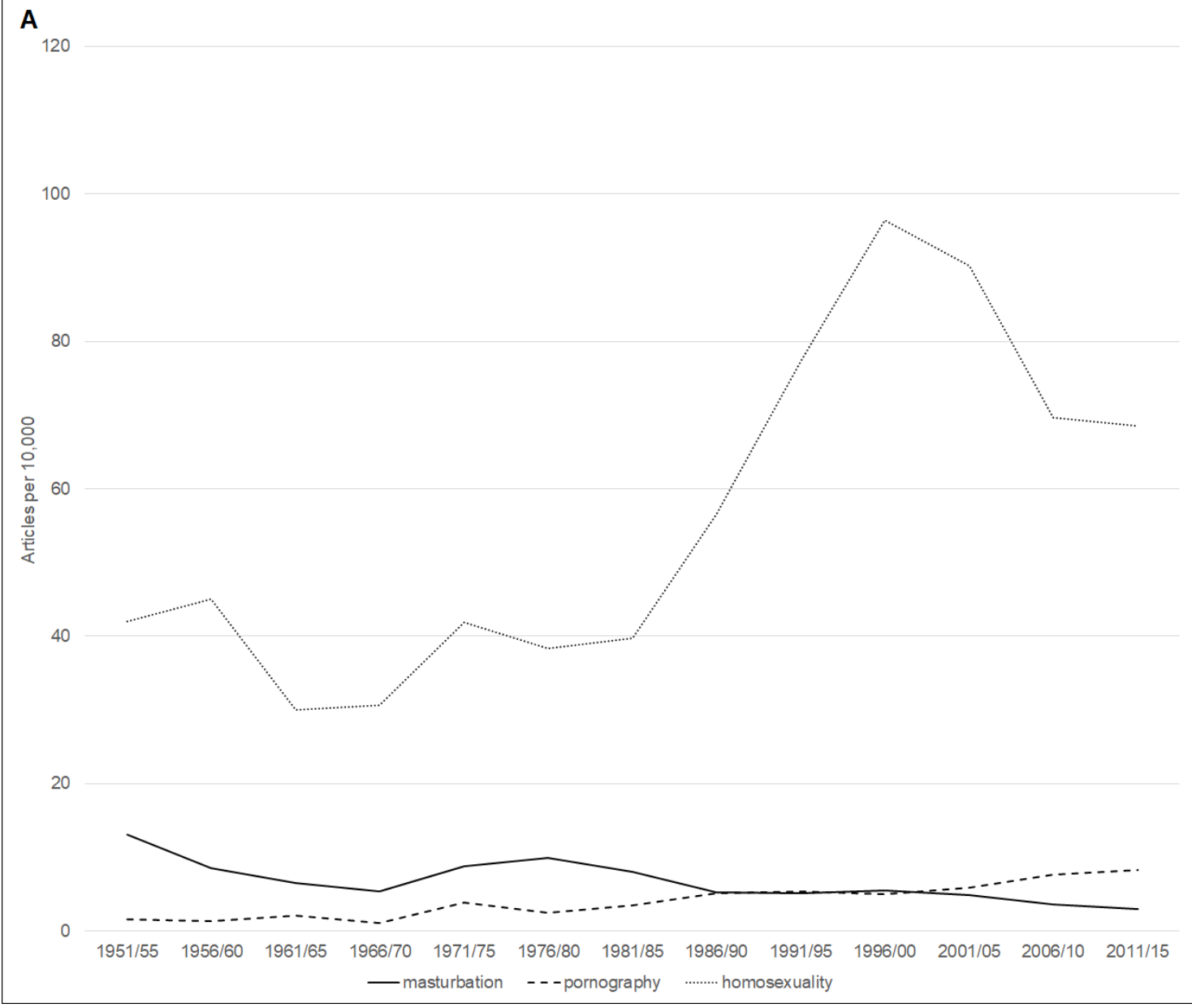
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## Figure 1

Changes of sexual topics and terminology in PsycINFO articles from the 1950s to the 2010s. Panel A shows the decreasing interest in masturbation, increasing interest in pornography, and the interest in homosexuality peaking in the 1990s (during the HIV/AIDS crisis). Panel B reflects how “homosexual” gave way to other terms in the 1960s and has continued to lose ground. More recently, the term “queer” has emerged.





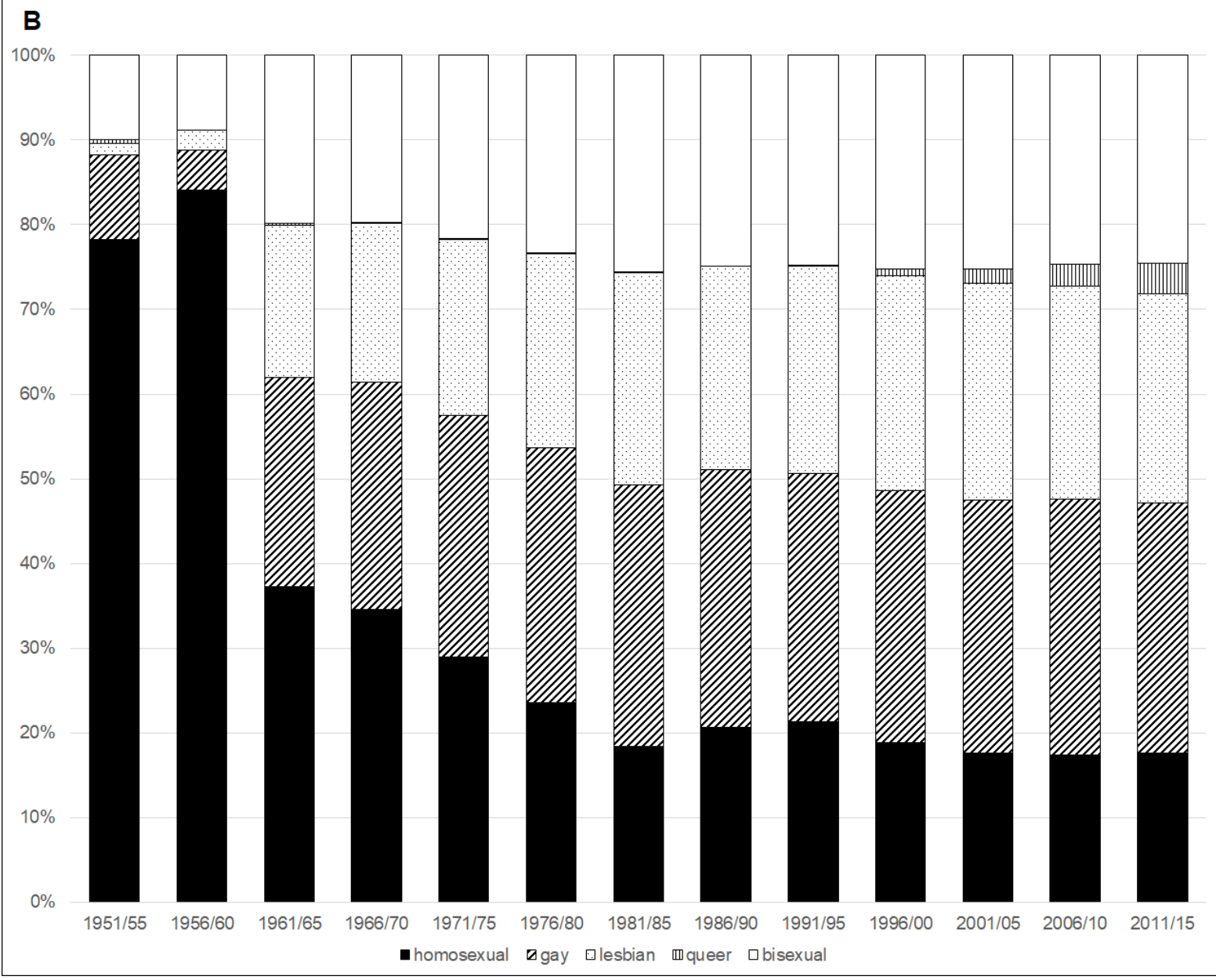


Table 1.

Comparison of selected sex-related diagnoses in the 2003 and 2019 editions of the International Classification of Disease (ICD). Note the diagnostic categories have become fewer and more narrowly defined in terms of diagnostic criteria. Also note the abandoning of some terms that have become loaded (e.g., impotence, nymphomania).

	ICD-10 (2003 version)		ICD-11 (version 4, 2019)	
	Diagnoses	Criteria	Diagnoses	Criteria
<b>Quantity and quality of sex</b>	<p><i>Sexual dysfunction, not caused by organic disorder or disease:</i></p> <p>Lack or loss of sexual desire (Frigidity, Hypoactive sexual desire disorder)</p> <p>Sexual aversion and lack of sexual enjoyment (Anhedonia [sexual])</p> <p>Failure of genital response (Female sexual arousal disorder, Male erectile disorder, Psychogenic impotence)</p> <p>Orgasmic dysfunction (Inhibited orgasm [male][female], Psychogenic anorgasm)</p>	<ul style="list-style-type: none"> <li>“an individual is unable to participate in a sexual relationship as he or she would wish”</li> </ul>	<p><i>Sexual dysfunctions:</i></p> <p>Hypoactive sexual desire dysfunction</p> <p>Sexual arousal dysfunctions</p> <p>Orgasmic dysfunctions</p> <p>Ejaculatory dysfunctions</p>	<ul style="list-style-type: none"> <li>“dysfunction must: 1) occur frequently, although it may be absent on some occasions; 2) have been present for at least several months; and 3) be associated with clinically significant distress.”</li> </ul>

	<p>Premature ejaculation</p> <p>Nonorganic vaginismus (Psychogenic vaginismus)</p> <p>Nonorganic dyspareunia (Psychogenic dyspareunia)</p> <p>Excessive sexual drive (Nymphomania, Satyriasis)</p>			
<p><b>Sexual interests and practices</b></p>	<p>Fetishism</p> <p>Fetishistic transvestism/ transvestic fetishism</p> <p>Exhibitionism</p> <p>Voyeurism</p> <p>Paedophilia</p> <p>Sadomasochism</p> <p>Other disorders of sexual preference (lists or describes: rubbing against others in public places, corpses, animals, asphyxiation, obscene phone calls)</p>	<ul style="list-style-type: none"> <li>• A “tendency” or “preference” for the object/activity</li> </ul>	<p>Paraphilic disorders</p>	<ul style="list-style-type: none"> <li>• Persistent or intense arousal related to those who cannot or will not consent</li> <li>• Either behavior or distress (related to more than expectations of rejection)</li> </ul>
<p><b>Gender identity</b></p>	<p>Transsexualism</p>	<ul style="list-style-type: none"> <li>• “A desire to live and be accepted as a member of the opposite sex”</li> </ul>	<p>Gender incongruence adolescence and adulthood</p>	<ul style="list-style-type: none"> <li>• “marked and persistent incongruence between an individual’s experienced gender and the assigned sex”</li> </ul>

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	<ul style="list-style-type: none"> <li>• Discomfort with “anatomical sex” (usually)</li> <li>• Desire for surgery and hormone therapy (usually) for “preferred sex”</li> </ul>		<ul style="list-style-type: none"> <li>• “often leads to a desire to ‘transition’”</li> <li>• Not merely “gender variant behavior”</li> </ul>
Gender identity disorder of childhood	<ul style="list-style-type: none"> <li>• “persistent and intense distress about assigned sex”</li> <li>• “desire to be (or insistence that one is) of the other sex”</li> <li>• Preoccupation with clothes and activities of the “opposite sex”</li> <li>• “a profound disturbance of the normal gender identity”</li> <li>• Not merely “tomboyishness” or “girlish behavior”</li> </ul>	Gender incongruence of childhood	<ul style="list-style-type: none"> <li>• “marked incongruence between an individual’s experienced/expressed gender and the assigned sex”</li> <li>• Desire to change</li> <li>• Distress about anatomy and anticipated puberty</li> <li>• Playing or fantasizing about the experienced gender</li> <li>• 2 years</li> <li>• Not merely “gender variant behavior”</li> </ul>

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