Human Sexual Development

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Stable URL:
http://links.jstor.org/sici?sici=0022-4499%28200202%2939%3A1%3C10%3AHSD%3E2.0.CO%3B2-0

The Journal of Sex Research is currently published by Lawrence Erlbaum Associates (Taylor & Francis Group).
Empirical research by scholars from several disciplines provides the basis for an outline of the process of sexual development. The process of achieving sexual maturity begins at conception and ends at death. It is influenced by biological maturation/aging, by progression through the socially-defined stages of childhood, adolescence, adulthood, and later life, and by the person’s relationships with others, including family members, intimate partners, and friends. These forces shape the person’s gender and sexual identities, sexual attitudes, and sexual behavior. Adults display their sexuality in a variety of lifestyles, with heterosexual marriage being the most common. This diversity contributes to the vitality of society. Although changes in sexual functioning in later life are common, sexual interest and desire may continue until death.

Human beings are sexual beings throughout their entire lives. At certain points in life, sexuality may manifest itself in different ways. Each life stage brings with it pressures for change and sexual development milestones to be achieved if sexual health is to be attained or maintained. The stages of sexual development are a human developmental process involving biological and behavioral components.

**CHILDHOOD (BIRTH TO 7 YEARS)**

The capacity for a sexual response is present from birth. Male infants, for example, get erections, and vaginal lubrication has been found in female infants in the 24 hours after birth (Masters, Johnson, & Kolodny, 1982). Infants have been observed fondling their genitals. The rhythmic manipulation associated with adult masturbation appears at ages 2 1/2 to 3 (Martinson, 1994). This is a natural form of sexual expression (Friedrich, Fisher, Broughton, Houston, & Shafran, 1998). Children engage in a variety of sexual play experiences while very young; this play becomes increasingly covert as the child ages (ages 6 to 9) and becomes aware of cultural norms (Reynolds, Herbenick, & Bancroft, in press). Infants and young children have many other sexual experiences, including sucking on their fingers and toes, and being rocked and cuddled. These experiences may establish preferences for certain kinds of stimulation that persist throughout life.

The quality of relationships with parents is also very important to the child’s capacity for sexual and emotional relationships later in life. Typically, an attachment or bond forms between the infant and parent(s) (Bowlby, 1965). It is facilitated by positive physical contact. If this attachment is stable, secure, and satisfying, positive emotional attachments in adulthood are more likely (Goldberg, Muir, & Kerr, 1995).

Early childhood is also the period during which each child forms a gender identity, a sense of maleness or femaleness. This identity is typically formed by age 3. The child is simultaneously being socialized according to the gender-role norms of the society, learning how males and females are expected to behave (Bussey & Bandura, 1999).

Between the ages of 3 and 7, there is a marked increase in sexual interest and activity. Children form a concept of marriage or long-term relationships; they practice adult roles as they “play house.” They also learn that there are genital differences between males and females (Goldman & Goldman, 1982), and show interest in the genitals of other children and adults as part of their natural curiosity about the world. Children may engage in heterosexual play, including “playing doctor.” There is little impact of childhood sex play on sexual adjustment at ages 17 and 18 (Okami, Olmstead, & Abramson, 1997). In response to such play, some parents teach children not to touch the bodies of others, and restrict conversation about sex. As a result, children turn to their peers for information about sex (Martinson, 1994).

**PREADOLESCENCE (8 TO 12 YEARS)**

In this period, children have a social organization that is homosocial; that is, the social division of males and females into separate groups (Thorne, 1993). One result of this is that sexual exploration and learning at this stage is likely to involve persons of the same gender.

During this period, more children gain experience with masturbation. About 40% of the women and 38% of the men in a sample of college students recall masturbating before puberty (Bancroft, Herbenick, & Reynolds, in press). Adolescents report that their first experience of sexual attraction occurred at age 10 to 12 (Bancroft et al., in press; Rosario et al., 1996), with first experience of sexual fantasies occurring several months to 1 year later.

Group dating and heterosexual parties emerge at the end of this period. These experiences begin the process of developing the capacity to sustain intimate relationships.
ADOLESCENCE (13 TO 19 YEARS)

Biological Development

The biological changes associated with puberty, the time during which there is sudden enlargement and maturation of the gonads, other genitalia, and secondary sex characteristics (Tanner, 1967), lead to a surge of sexual interest. These changes begin as early as 10 years of age to as late as 14 years of age, and include rises in levels of sex hormones, which may produce sexual attraction and fantasies. Bodily changes include physical growth, growth in genitals and girls’ breasts, and development of facial and pubic hair. These changes signal to the youth and to others that she or he is becoming sexually mature.

Whereas biological changes, especially increases in testosterone levels, create the possibility of adult sexual interactions, social factors interact with them, either facilitating or inhibiting sexual expression (Udry, 1988). Permissive attitudes regarding sexual behavior and father absence for girls are associated with increased masturbation and heterosexual intercourse, whereas church attendance and long-range educational and career plans are associated with lower levels of sexual activity. Many males begin masturbating between ages 13 and 15, whereas the onset among females is more gradual (Bancroft et al., in press).

Sexual Behavior

Toward the middle and end of adolescence, more young people engage in heterosexual intercourse. In 1999, 48% of females and 52% of males in grades 9 to 12 reported engaging in intercourse (CDC, 2000). Women today are engaging in intercourse for the first time at younger ages, compared with young women 30 years ago (Trussell & Vaughan, 1991). Patterns of premarital intercourse vary by ethnic group. African Americans have sex for the first time, on average, at 15.5 years; Cuban Americans and Puerto Ricans at 16.6 years, and Mexican Americans and Whites at 17 years; in each group, men begin having intercourse at younger ages than women (Day, 1992). These variations reflect differences between these groups in family structure (intact family), church attendance, and socioeconomic opportunities (parents’ education, neighborhood employment rates).

These rates of premarital heterosexual intercourse are connected to two long-term trends. First, the age of menarche has been falling steadily since the beginning of the twentieth century. The average age today is 12.5 years for Blacks and 12.7 years for Whites (Hofferth, 1990). Second, the age of first marriage has been rising—in 1960, first marriages occurred at age 20.8 for women and 22.8 for men; in 1998, it was 25 for women and 26.7 for men (U.S. Bureau of the Census, 1999). The effect is a substantial lengthening of the time between biological readiness and marriage; the gap is typically 12 to 14 years today. Thus, many more young people are having sex before they get married than in 1960. Since many do not consistently use birth control, there was a corresponding rise in the rate of pregnancy among single adolescents from the 1970s to 1991; however, from 1991 to 1997 the rate of teen pregnancy declined 18%. This decline reflects increased attention in society to the importance of pregnancy prevention, increased access for teens to birth control, and increased economic opportunities for teenagers (Ventura, Mosher, Curtin, Abma, & Henshaw, 1998).

Between 5% and 10% of adolescent males report having sexual experiences with someone of the same gender, compared with 6% of adolescent females (Bancroft et al., in press; Turner et al., 1998). These adolescents usually report that their first experience was with another adolescent. In some cases the person has only one or a few such experiences, partly out of curiosity, and the behavior is discontinued.

Developmental Tasks

Several psychosocial developmental tasks face adolescents. One is resolving the conflict between identity and role confusion, developing a stable sense of who one is in the midst of conflicting social influences (Erikson, 1968). Gender identity is a very important aspect of identity; in later adolescence, the young person may emerge with a stable, self-confident sense of manhood or womanhood, or alternatively, may feel in conflict about gender roles. A sexual identity also emerges—a sense that one is heterosexual, homosexual, or bisexual, and a sense of one’s attractiveness to others.

Another task of adolescence is learning how to manage physical and emotional intimacy in relationships with others (Collins & Sroufe, 1999). Youth ages 10 to 15 most frequently name the mass media, including movies, TV, magazines, and music, as their source of information about sex and intimacy. Smaller percentages name parents, peers, sexuality education programs, and professionals as sources (Kaiser Family Foundation, 1997).

ADULTHOOD

The process of achieving sexual maturity continues in adulthood. One task in this life stage is learning to communicate effectively with partners in intimate relationships; this is difficult for many persons, in part because there are few role models in our society showing us how to engage in direct, honest communication in such relationships. A second task is developing the ability to make informed decisions about reproduction and prevention of sexually transmitted infections, including HIV infection.

Sexual Lifestyle Options

Adults have several options with regard to sexual lifestyle. Some plan to remain single. They may remain celibate, participate in one long-term monogamous relationship, participate in sexual relationships with several persons, or engage in serial monogamy—a series of two or more relationships involving fidelity to the partner for the duration of each
relationship. Among single persons, 26% of the men and 22% of the women report having sexual intercourse two or more times per week; 22% of the men and 30% of the women report not having sex in the preceding year (Laumann, Gagnon, Michael, & Michaels, 1994). Black men and women are more likely to remain single than their White counterparts; in 1999, 41% of Black men and 38% of Black women were never married, compared with 20% of White men and 16% of White women (U.S. Bureau of the Census, 2000). In part this reflects choice, but it also reflects the economic position of Blacks in American society. It is difficult for many Black men to find a job that provides the wages and benefits needed to support a family. Among Hispanics, 33% of men and 25% of women are never married (U.S. Bureau of the Census, 2000).

Living together is an option chosen by increasing numbers of couples. It is an important step in development not only because it represents commitment but because it is a public declaration of a sexual relationship. For some couples, cohabitation is an alternative to marriage. In 1999, 7% of all women were cohabiting (U.S. Bureau of the Census, 1999). These relationships tend to be shortlived; one third last less than 1 year, and only 1 out of 10 lasts 5 years (Bumpass et al., 1991).

Marriage is the most common sexual lifestyle in the United States. In 1999, 73% of men and 80% of women had been married at least once; by age 45, 95% of all women have married at least once (U.S. Bureau of the Census, 1999). Marriage is the social context in which sexual expression is thought to be most legitimate. The average couple engages in sexual intercourse 2 or 3 times per week (Laumann et al., 1994). At the same time, there is great variability in frequency. For example, 7% of couples report that they have not had coitus in the preceding year (Smith, 1994). Sexual frequency in marriage reflects the joint influence of biological and social factors. There is a decline in the frequency of intercourse with age (Smith, 1994). Biological factors include physical changes that affect sexual frequency, and chronic illnesses. Social factors include habituation to sex with the partner, and unhappiness with the relationship (Call, Sprecher, & Schwartz, 1995).

Couples report engaging in a variety of sexual activities in addition to vaginal intercourse, including oral-genital sexuality (70% of married men and 74% of married women), anal intercourse (27% and 21%), and hand-genital stimulation. Many adults continue to masturbate even though they are in a long-term relationship; 17% of married men and 5% of married women masturbate at least once a week (Laumann et al., 1994).

Sexual Satisfaction

Satisfaction with one’s sexual relationship is an important component of sexual health. While many factors may contribute to satisfaction, three that differentiate people who are happy from those who are not are (a) accepting one’s own sexuality, (b) listening to one’s partner and being aware of the partner’s likes and dislikes, and (c) talking openly and honestly (Maurer, 1994). In other words, successfully completing the developmental tasks of adolescence and young adulthood are keys to sexual health.

Most couples will experience fundamental changes in their sexual experience at least once over the course of the relationship. The change may result from developing greater understanding of oneself or partner, changes in communication patterns, accidents or illnesses that interfere with one’s sexual responsiveness, or major stressors associated with family or career. Some couples will need professional support to enable them to successfully cope with these forces. Some relationships will not survive.

Extramarital sexual activity is reported by 25% of married men and 15% of married women (Laumann et al., 1994). Many of these persons will only engage in this activity once while they are married. The incidence varies by ethnicity; 27% of Blacks report extramarital sexual activity, compared with 14% of Whites (Smith, 1994). Hispanics have the same incidence as Whites (Laumann et al., 1994). Several reasons have been suggested for extramarital relationships, including dissatisfaction with marital sexuality, dissatisfaction with or conflicts in the marriage, and placing greater emphasis on personal growth and pleasure than on fidelity (Lawson, 1988).

Persons who lose their partner through divorce or death have the option of postmarital sexual relationships. Most divorced women, but fewer widows, develop an active sex life; 28% of divorced women and 81% of the widowed reported being sexually abstinent in the preceding year (Smith, 1994). By gender, 46% of divorced and widowed men and 58% of divorced and widowed women reported engaging in sexual intercourse a few times or not at all in the preceding year (Laumann et al., 1994). There is a higher probability of being sexually active postmaritally for those who are under 35 and those who have no children in the home (Stack & Gundlach, 1992).

Divorced persons, especially women, face complex problems of adjustment. These problems may include reduced income, lower perceived standard of living, the demands of single parenthood, and reduced availability of social support (Amato, 2001). These problems may increase the motivation to quickly reestablish a relationship with a partner.

Some adults engage in sexual activities that involve risks to their physical health, such as STIs and HIV infection. Examples of such activities include engaging in vaginal or anal intercourse without using condoms, engaging in sexual activity with casual partners, and engaging in sex with multiple partners. Since 1985 there has been substantial publicity about these risks. Have adults changed their sexual behavior to reduce their risk? Between 1981 and 1991, men who have sex with men reported reducing the number of partners, having fewer anonymous encounters, and engaging less often in anal intercourse or using condoms consistently (Ehrhardt, Yingling, & Warne, 1991). Among heterosexuals, the number of single adults who report having multiple partners has declined (Smith, 1991), and con-
Sexuality and Aging

Biological Changes

Biology, a major influence in childhood and adolescence, again becomes a significant influence on sexual health at midlife.

In women, menopause—the cessation of menstruation—is associated with a decline in the production of estrogen; this occurs, on the average, over a 2-year period beginning around age 50 (it can begin at any age from 40 to 60). The decline in estrogen is associated with several changes in the sexual organs. The walls of the vagina become thin and inelastic. Further, the vagina shrinks in both width and length. These changes may make penile insertion more difficult, and intercourse uncomfortable. By 5 years after menopause, the amount of vaginal lubrication often decreases noticeably. Intercourse may become more difficult and painful. There are a number of ways to deal with these changes successfully, including estrogen-replacement therapy, supplemental testosterone, and use of a sterile lubricant.

As they age, men experience andropause (Lamberts, van den Beld, & van der Lely, 1997) or ADAM - androgen decline in the aging male (Morales, Heaton, & Carson, 2000), a gradual decline in the production of testosterone; this may begin as early as age 40. Erections occur more slowly. The refractory period, the period following orgasm during which the person cannot be sexually aroused, lengthens. These changes may be experienced as problems; on the other hand, they may be experienced as allowing the man greater control over orgasm.

These biological changes in women and men do not preclude satisfying sexual activity. Among older people who are healthy and active and have regular opportunities for sexual expression, sexual activity in all forms—including masturbation and same-gender behavior—continues past 74 years of age (AARP, 1999).

Social Influences

An important influence on sexuality is the attitudes of others, especially those attitudes that define specific behaviors as acceptable or unacceptable. This is especially evident with regard to older persons. American society has a negative attitude toward sexual expression among the elderly. It seems inappropriate for two 75-year-old people to engage in intercourse, and especially inappropriate for persons of that age to masturbate. These negative attitudes are particularly obvious in nursing homes and care facilities where rules prohibit or staff members frown upon sexual activity among the residents. These attitudes affect the way the elderly are treated, and the elderly may hold such attitudes themselves. These attitudes may be a more important reason why many elderly people are not sexually active than the biological changes they experience.

Summary

Human sexual development is a process that begins at conception and ends at death. The principal forces are biological maturation/aging; progression through the socially defined stages of childhood, adolescence, adulthood, and later life; and one’s social relationships during each of these stages. These forces interact to influence the person’s sexual identity, sexual attitudes, and sexual behavior. While similarities can be identified in the lives and sexual expression of many people, there is wide variation in sexual attitudes, behaviors, and lifestyles. This diversity contributes to the vitality of society.

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