

Social Cognitive Theory of Gender Development and Differentiation

Kay Bussey
Macquarie University

Albert Bandura
Stanford University

Human differentiation on the basis of gender is a fundamental phenomenon that affects virtually every aspect of people's daily lives. This article presents the social cognitive theory of gender role development and functioning. It specifies how gender conceptions are constructed from the complex mix of experiences and how they operate in concert with motivational and self-regulatory mechanisms to guide gender-linked conduct throughout the life course. The theory integrates psychological and sociostructural determinants within a unified conceptual structure. In this theoretical perspective, gender conceptions and roles are the product of a broad network of social influences operating interdependently in a variety of societal subsystems. Human evolution provides bodily structures and biological potentialities that permit a range of possibilities rather than dictate a fixed type of gender differentiation. People contribute to their self-development and bring about social changes that define and structure gender relationships through their agentic actions within the interrelated systems of influence.

The present article addresses the psychosocial determinants and mechanisms by which society socializes male and female infants into masculine and feminine adults. Gender development is a fundamental issue because some of the most important aspects of people's lives, such as the talents they cultivate, the conceptions they hold of themselves and others, the sociostructural opportunities and constraints they encounter, and the social life and occupational paths they pursue are heavily prescribed by societal gender-typing. It is the primary basis on which people get differentiated with pervasive effects on their daily lives. Gender differentiation takes on added importance because many of the attributes and roles selectively promoted in males and females tend to be differentially valued with those ascribed to males generally being regarded as more desirable, effectual, and of higher status (Berscheid, 1993). Although some gender differences are biologically founded, most of the stereotypic attributes and roles linked to gender arise more from cultural design than from biological endowment (Bandura, 1986; Beall & Sternberg, 1993; Epstein, 1997). This article provides an analysis of gender role development and functioning within the framework of social cognitive theory and distinguishes it from other theoretical formulations.

Theoretical Perspectives

Over the years, several major theories have been proposed to explain gender development. The theories differ on several impor-

tant dimensions. One dimension concerns the relative emphasis placed on psychological, biological, and sociostructural determinants. Psychologically oriented theories tend to emphasize intrapsychic processes governing gender development (Freud, 1905/1962; Kohlberg, 1966). In contrast, sociological theories focus on sociostructural determinants of gender role development and functioning (Berger, Rosenholtz, & Zelditch, 1980; Eagly, 1987a; Epstein, 1988). According to biologically oriented theories, gender differences arising from the differential biological roles played by males and females in reproduction underlie gender role development and differentiation (Buss, 1995; Trivers, 1972).

A second dimension concerns the nature of the transmission models. Psychological theories typically emphasize the cognitive construction of gender conceptions and styles of behavior within the familial transmission model. This model was accorded special prominence mainly as a legacy of Freud's emphasis on adoption of gender roles within the family through the process of identification. Behavioristic theories also have accorded prominence to parents in shaping and regulating gender-linked conduct. In theories favoring biological determinants, familial genes are posited as the transmission agent of gender differentiation across generations (Rowe, 1994). Sociologically oriented theories emphasize the social construction of gender roles mainly at the institutional level (Lorber, 1994). Social cognitive theory of gender role development and functioning integrates psychological and sociostructural determinants within a unified conceptual framework (Bandura, 1986, 1997). In this perspective, gender conceptions and role behavior are the products of a broad network of social influences operating both familiarly and in the many societal systems encountered in everyday life. Thus, social cognitive theory favors a multifaceted social transmission model rather than mainly a familial transmission model.

The third dimension concerns the temporal scope of the theoretical analyses. Most psychological theories treat gender development as primarily a phenomenon of early childhood rather than one that operates throughout the life course. However, rules of

Preparation of this article was facilitated by grants from the Grant Foundation, the Spencer Foundation, and the Australian Research Council. We thank Laura Carstensen and Jeffrey Wine for their helpful comments on an earlier version of this article.

Correspondence concerning this article should be addressed to Albert Bandura, Department of Psychology, Stanford University, Jordan Hall Building 420, Stanford, California 94305-2130 or Kay Bussey, Department of Psychology, Macquarie University, Sydney, New South Wales 2019, Australia. Electronic mail may be sent to bandura@psych.stanford.edu or kay.bussey@mq.edu.au.

gender role conduct vary to some degree across social contexts and at different periods in life. Moreover, sociocultural and technological changes necessitate revision of preexisting conceptions of what constitutes appropriate gender conduct. Gender role development and functioning are not confined to childhood but are negotiated throughout the life course. Most theories of gender development have been concerned with the early years of development (Freud, 1916/1963; Kohlberg, 1966) or have focused on adults (Deaux & Major, 1987), whereas sociocognitive theory takes a life-course perspective. Therefore, in the following sections, the analysis of the sociocognitive determinants of gender orientations will span the entire age range. Nor is the theory restricted predominantly to cognitive or social factors. Rather, cognitive, social, affective, and motivational processes are all accorded prominence. Before we present the sociocognitive perspective on gender development, we briefly review the main psychological, biological and sociological perspectives on gender differentiation.

Psychoanalytic Theory

Psychoanalytic theory posits different processes to explain gender development in boys and girls. Initially, both boys and girls are believed to identify with their mothers. However, at between 3 and 5 years of age this changes, and children identify with the same-sex parent. Identification with the same-sex parent is presumed to resolve the conflict children experience as a result of erotic attachment to the opposite-sex parent and jealousy toward the same-sex parent. This attachment causes children much anxiety as they fear retaliation from the same-sex parent. The lack of a visible genitalia in girls fuels boys' castration anxieties. Girls face a more complex situation. They feel resentment over being deprived of a penis, inferior, and fear retaliation from the mother for their designs on their father. The conflicting relationship is resolved through identification with the same-sex parent.

The process of identification is depicted as one in which children undertake wholesale adoption of the characteristics and qualities of the same-sex parent. Through this process of identification, children become sex-typed. Because identification with the same-sex parent is stronger for boys than girls, boys are expected to be more strongly sex-typed.

Although psychoanalytic theory had a pervasive early influence in developmental psychology, there is little empirical evidence to support it. A clear relationship between identification with the same-sex parent and gender role adoption has never been empirically verified (Hetherington, 1967; Kagan, 1964; Payne & Mussen, 1956). Children are more likely to model their behavior after nurturant models or socially powerful ones than after threatening models with whom they have rivalrous relationships (Bandura, Ross, & Ross, 1963a).

Lack of empirical support for classic psychoanalytic theory has led to a variety of reformulations of it. In the gender domain, Chodorow (1978) offered a notable recasting. In this view, gender identification begins in infancy rather than during the later phallic stage as proposed by Freud. Both male and female infants initially identify with their mothers. However, because the mother is of the same sex as her daughter, identification is expected to be stronger between mothers and their daughters than between mothers and their sons. During the course of development, girls continue to

identify with their mothers, and they also psychologically merge with her. As a consequence, the daughter's self-concept is characterized by mutuality and a sense of relatedness that orients her toward interpersonal relationships. This interpersonal orientation is the main reason why women engage in mothering. They seek to reestablish a sense of interpersonal connectedness that is reminiscent of their relationships with their mothers but absent in their adult relationships with men. This pattern of development contrasts with that of boys, who increasingly separate themselves from their mothers and define themselves in terms of difference from females. They begin to denigrate femininity in an attempt to establish their own separateness and individuation.

The empirical findings, however, are no more supportive of Chodorow's (1978) theory than of classic psychoanalytic theory. There is no evidence that the attachment bond is any stronger between mothers and daughters than mothers and sons (Sroufe, 1985). Nor is there any evidence that women's relational needs and sense of well-being are fulfilled only by being mothers. Bernard (1972) noted that women whose sole role is one of mother-wife have higher rates of mental dysfunction than childless married and single women and working mothers. Finally, this theory is at odds with women who strive for greater independence and equality between the sexes (Sayers, 1986).

Cognitive-Developmental Theory

According to cognitive-developmental theory, gender identity is postulated as the basic organizer and regulator of children's gender learning (Kohlberg, 1966). Children develop the stereotypic conceptions of gender from what they see and hear around them. Once they achieve gender constancy—the belief that their own gender is fixed and irreversible—they positively value their gender identity and seek to behave only in ways that are congruent with that conception. Cognitive consistency is gratifying, so individuals attempt to behave in ways that are consistent with their self-conception. Kohlberg posited the following cognitive processes that create and maintain such consistency: "I am a boy, therefore I want to do boy things, therefore the opportunity to do boy things (and to gain approval for doing them) is rewarding" (Kohlberg, 1966, p. 89). In this view, much of children's conduct is designed to confirm their gender identity. Once children establish knowledge of their own gender, the reciprocal interplay between one's behavior (acting like a girl) and thoughts ("I am a girl") leads to a stable gender identity, or in cognitive-developmental theory terms, the child achieves gender constancy.

Kohlberg defined *gender constancy* as the realization that one's sex is a permanent attribute tied to underlying biological properties and does not depend on superficial characteristics such as hair length, style of clothing, or choice of play activities (Kohlberg, 1966). Development of gender constancy is not an all-or-none phenomenon. Three discrete levels of gender understanding compose gender constancy (Slaby & Frey, 1975). From the least to most mature forms of gender understanding, these are designated as the gender identity, stability, and consistency components of gender constancy. *Gender identity* requires the simple ability to label oneself as a boy or girl and others as a boy, girl, man, or woman. *Gender stability* is the recognition that gender remains constant over time; that is, one's sex is the same now as it was when one was a baby and will remain the same in adulthood. The

final component of gender constancy, *gender consistency*, is mastered at about age 6 or 7 years. The child now possesses the added knowledge that gender is invariant despite changes in appearance, dress, or activity. Children are not expected to adopt gender-typed behaviors consistently until after they regard themselves unalterably as a boy or a girl, which usually is not achieved until about 6 years of age.

Although Kohlberg's (1966) theory attracted much attention over the decades, its main tenets have not fared well empirically. Studies generally have failed to corroborate the link between children's attainment of gender constancy and their gender-linked conduct (Huston, 1983). Long before children have attained gender constancy, they prefer to play with toys traditionally associated with their gender (Carter & Levy, 1988; Emmerich & Shepard, 1984; Levy & Carter, 1989; Lobel & Menashri, 1993; Marcus & Overton, 1978; Martin & Little, 1990), to model their behavior after same-sex models (Bussey & Bandura, 1984), and to reward peers for gender-appropriate behavior (Bussey & Bandura, 1992; Lamb & Roopnarine, 1979). Moreover, a growing awareness of gender constancy does not increase children's preferences for same-gender roles and activities (Marcus & Overton, 1978; Smetana & Letourneau, 1984).

The findings of other lines of research similarly fail to support the major tenets of this theory. Although stable gender constancy is not attained until about 6 years of age, 2-year-olds perform remarkably well in sorting pictures of feminine and masculine toys, articles of clothing, tools, and appliances in terms of their typical gender relatedness (Thompson, 1975). Children's ability to classify their own and others' sex and some knowledge of gender role stereotypes is all that is necessary for much early gender typing to occur. These categorization skills are evident in most 3- and 4-year-olds. It is clear that gender constancy is not a prerequisite for gender development. Factors other than gender constancy govern children's gender-linked conduct.

In response to the negative findings, the gender constancy measure was modified to demonstrate that the assessment procedure, rather than the theory, is at fault for the lack of linkage of gender constancy to gender conduct. The modifications included altering the inquiry format, the use of more realistic stimuli, the elicitation of constancy explanations, and less reliance on verbal responses (Bem, 1989; Johnson & Ames, 1994; Martin & Halverson, 1983; Siegal & Robinson, 1987; Szkrybalo & Ruble, 1999). Although some of these modifications showed that children understand gender constancy earlier than Kohlberg (1966) had suggested, most children younger than 4 years do not fully understand the concept of *constancy* regardless of the form of its assessment (Bem, 1989; Frey & Ruble, 1992; Slaby & Frey, 1975). More important, there is no relationship between children's understanding of gender constancy and their preference for gender-linked activities, preference for same-gender peers, or emulation of same-gender models, regardless of how gender constancy is assessed (Bussey & Bandura, 1984, 1992; Carter, 1987; Carter & Levy, 1988; Huston, 1983; Martin & Little, 1990).

Gender Schema Theory

Several gender schema theories have been proposed to explain gender development and differentiation. The social-psychological approaches advanced by Bem and Markus and her associates have

centered mainly on individual differences in gender schematic processing of information (Bem, 1981; Markus, Crane, Bernstein, & Siladi, 1982). Martin and Halverson's (1981) approach emphasized the developmental aspects of schema development and functioning. This theory has many similarities to cognitive-developmental theory but departs from it in several ways. Rather than requiring the attainment of gender constancy for development of gender orientations, only the mastery of *gender identity*, the ability of children to label themselves and others as males or females, is considered necessary for gender schema development to begin (Martin & Halverson, 1981). Once formed, it is posited that the schema expands to include knowledge of activities and interests, personality and social attributes, and scripts about gender-linked activities (Levy & Fivush, 1993; Martin, 1995; Martin & Halverson, 1981). The schema is presumably formed from interactions with the environment, but the process by which gender features that constitute the knowledge structure of the schema are abstracted remain unspecified.

Once the schema is developed, children are expected to behave in ways consistent with traditional gender roles. The motivating force guiding children's gender-linked conduct, as in cognitive-developmental theory, relies on gender-label matching in which children want to be like others of their own sex. For example, dolls are labeled "for girls" and "I am a girl" which means "dolls are for me" (Martin & Halverson, 1981, p. 1120). However, in addition to the lack of specification of the gender-abstraction process, empirical efforts to link gender schema to gender-linked conduct in young children have not fared well.

Results of empirical tests call into question the determinative role of gender schema. The evidence linking gender labeling to activity and peer preferences is mixed at best. A few studies have found a link (Fagot & Leinbach, 1989), others report conflicting results across different measures of gender-linked conduct (Martin & Little, 1990), and still others have failed to find any link at all (Fagot, 1985; Fagot, Leinbach, & Hagen, 1986). Even in the studies that report a relationship, it remains to be determined whether gender labeling and gender-linked preferences are causally linked or are merely effects of social influences and cognitive abilities. Parents who react evaluatively to gender-linked conduct have children who are early gender labelers (Fagot & Leinbach, 1989). Hence, gender labeling and preference may both be products of parental influence.

Knowledge of *gender stereotypes*, which are generalized preconceptions about the attributes of males and females, is similarly unrelated to gender-linked conduct (Huston, 1983; Martin, 1993; Signorella, 1987). Children's preferences for gendered activities emerge before they know the gender linkage of such activities (Blakemore, Larue, & Olejnik, 1979; Martin, 1993; Perry, White, & Perry, 1984; Weinraub et al., 1984). A gender schema represents a more generic knowledge structure about maleness and femaleness. Gender schema theory would predict that the more elaborate the gender knowledge children possess, the more strongly they should show gender-linked preferences. However, this hypothesized relationship receives no empirical support (Martin, 1991). Adults, for example, may be fully aware of gender stereotypes, but this does not produce incremental prediction of gender-linked conduct as such knowledge increases. These various results fail to confirm gender knowledge as the determinant of gender-linked conduct.

Gender schema theory has provided a useful framework for examining the cognitive processing of gender information once gender schemas are developed. In particular, it has shed light on how gender-schematic processing affects attention, organization, and memory of gender-related information (Carter & Levy, 1988; Ruble & Martin, 1998). Other models of gender schema that focus on adults have similarly demonstrated gender biases in information processing (Bem, 1981; Markus et al., 1982). The more salient or available the schema, the more individuals are expected to attend to, encode, represent, and retrieve information relevant to gender. However, gender-schematic processing is unrelated to either children's or adult's gender conduct or the findings are inconsistent across different measures of gender schematization (Bem, 1981; Carter & Levy, 1988; Edwards & Spence, 1987; Signorella, 1987).

A gender schema is not a monolithic entity. Children do not categorize themselves as "I am girl" or "I am a boy" and act in accordance with that schema invariantly across situations and activity domains. Rather, they vary in their gender conduct depending on a variety of circumstances. Variability is present at the adult level as well. A woman may be a hard-driving manager in the workplace but a traditionalist in the functions performed in the home. Some students of gender differentiation, drawing on Lifton's (1994) "protean self," explain contradictory gender role behavior in terms of subselves doing their separate things (Epstein, 1997). The problems with a multiple-self theory have been addressed elsewhere and will be mentioned only briefly here (Bandura, 1997, 1999). It requires a regression to a superordinate self who has to manage the inharmonious subselves. There is really only one self that can do diverse things, including discordant ones on different occasions and under different circumstances. The selective engagement and disengagement of self-regulatory mechanisms by the same being predict variation in conduct, including contradictory styles of behavior (Bandura, 1986, 1991b).

A further limitation of gender schema theory is that it cannot explain the asymmetry in findings between boys and girls. Boys and girls differ in the extent to which they prefer same-gender activities, emulate same-gender models, and play with same-gender peers, yet most studies find no differences in girls' and boys' gender stereotypic knowledge (Reis & Wright, 1982; Serbin, Powlishta, & Gulko, 1993).

Both cognitive-developmental theory and gender schema theory have focused on gender conceptions, but neither devotes much attention to the mechanisms by which gender-linked conceptions are acquired and translated to gender-linked conduct. Nor do they specify the motivational mechanism for acting in accordance with a conception. Knowing a stereotype does not necessarily mean that one strives to behave in accordance with it (Bandura, 1986). For example, self-conception as an elderly person does not enhance valuation and eager adoption of the negative stereotypic behavior of old age. Evidence that gender conception is insufficient to explain variations in gender-linked conduct should not be misconstrued as negation of cognitive determinants. As will be explained in subsequent sections, social cognitive theory posits a variety of motivational and self-regulatory mechanisms rooted in cognitive activity that regulate gender development and functioning. These include, among other things, cognitions concerning personal efficacy, evaluative standards, aspirations, outcome expectations rooted in a value system, and perception of sociostructural opportunities and constraints.

Biological Theories

Biologically oriented theories have also been proposed to explain gender development and differentiation. Evolutionary psychology is one such theory that views gender differentiation as ancestrally programmed (Archer, 1996; Buss, 1995; Simpson & Kenrick, 1997). The ancestral origin of differences in gender roles is analyzed in terms of mate preferences, reproductive strategies, parental investment in offspring, and the aggressive nature of males. Viewed from this perspective, contemporary gender differences originated from successful ancestral adaptation to the different reproductive demands faced by men and women. Men contributed less to their offspring's chances of survival, so they sought multiple partners and were less choosy with whom to mate. In addition, uncertainty of paternity raised the risk of investing resources in children who were not their own. In contrast, women have to carry the fetus and care for their offspring years after their birth. Women adapted to their greater imposed role in reproduction and parenting by preferring fewer sexual partners and favoring those who would be good long-term providers of the basic necessities of life for themselves and their offspring. Men, in contrast, attempted to maximize the likelihood of paternity by reproducing with numerous young and physically attractive females, suggestive of high fertility. Because of their size and strength advantage, males resolved problems arising from conflicting reproductive interests by exercising aggressive dominance over females. Coercive force enables males to control female's sexuality and to mate with many females (Smuts, 1992, 1995). As a legacy of this evolutionary history, women have come to invest more heavily than men in parenting roles (Trivers, 1972). Males, in turn, evolved into aggressors, social dominators, and prolific maters because such behavior increased their success in propagating their genes. According to evolutionary psychology, many current gender differences, such as the number of sexual partners preferred, criteria for selecting sexual partners, aggression, jealousy, and the roles they fulfill originated from the ancestral sex-differentiated reproductive strategies (Buss & Schmitt, 1993). For example, the findings that men prefer women who are young and physically attractive and women prefer men who are financially well resourced as mates are considered supportive of biological selection.

Not all evolutionary theorists speak with one voice, however. Psychological evolutionists often take a more extreme deterministic stance regarding the rule of nature (Archer, 1996; Buss, 1995) than do many biological evolutionists (Dobzhansky, 1972; Fausto-Sterling, 1992; Gould, 1987; Gowaty, 1997). Psychological evolutionists are also quick to invoke evolved behavioral traits as cultural universals, whereas biological evolutionists emphasize functional relations between organism and situated environment that underscores the diversifying selection influence of variant ecological contexts (Capra, 1997). It should also be noted that evolutionary psychology grounds gender differences in ancestral mating strategies, but it does not address at all the developmental changes that occur in gender conceptions and gendered conduct. Nor does it specify the determinants and mechanisms governing developmental changes across the life course.

Natural selection shapes for proximate utility, not for future purpose (Gould, 1987). Bodily structures and biological potencies are shaped by the aimless forces of natural selection acting on random mutations or new gene recombinations. Depiction of

ancestral males as seeking to maximize paternity and of ancestral females as looking for good providers suggest that they are acting on deliberate or tacit purpose. Strategies subserve goals. Such appending of purpose to mating patterns and calling them "strategies," which are designed to bring about some goal, sounds more like a teleological explanation than a Darwinian functional explanation. Disclaimers that the strategies are not always in awareness still leaves them undertaken for some particular end. Moreover, it is conceptually and methodologically problematic to use mindful self-ratings as the indicants of mating preferences to which the individuals supposedly have no conscious access. The claim that evolutionary psychology provides the solution to the origin of gender differences in social behavior simply raises the regress problem. For example, evolutionary explanations that attribute mating practices to strategies rather than to the work of blind selection forces beg the question of why males should seek to maximize paternity.

Evolutionary psychology is proposed as a superior alternative to more socially oriented explanations of gender differentiation (Archer, 1996). However, this view, which attributes overriding power to biology, is not without serious problems. It is mainly a descriptive and post hoc explanatory device that lacks the scientific rigor required of evolutionary analyses (Cornell, 1997). What were the environmental pressures operating during the ancestral era when the differential reproductive strategies were allegedly developed? Neither molecular evidence from fossilized human remains nor detailed archaeological artifacts are provided to support the evolutionary storytelling about ancestral environmental selection pressures and the accompanying changes in genetic make-up (Fausto-Sterling, 1997; Latour & Strum, 1986). The genetic variation on which selection forces could have operated in the past, of course, remains unknown; however, is there any evidence of genetic differences between present-day philanderers and monogamists? What empirical evidence is there that males prefer young, fertile-looking females and females prefer richly resourced males because of different genes?

Psychological evolutionism does not provide the mechanisms responsible for social patterns of behavior (Banaji, 1993; Fausto-Sterling, Gowaty, & Zuk, 1997), nor does it specify the nature of the interactional relationship between genetic and environmental influences for disentangling their impact. Contrary to the claims of its adherents, predictions from psychological evolutionism are not consistently supported in comparative tests of evolutionary and sociostructural theories (Glenn, 1989; Wallen, 1989) or by the attributes males and females prefer in their mates (Angier, 1999; Hartung, 1989; Nur, 1989; Russell & Bartrip, 1989). Some theorists (Leonard, 1989) even question the evolutionary validity of some of the predictions made from evolutionary biology by psychological evolutionists. Others challenge universalized predictions that are evolutionarily relevant but portray organisms as disembodied from variant ecological conditions under which they live that present quite different selection pressures (Dickemann, 1989; Smuts, 1989). Variations in ecologically selective forces promote different adaptational patterns of behavior. To add to the cultural diversity, belief systems about how reproduction works perpetuate distinctive mating patterns. For example, in societies where people believe it requires cumulative insemination by multiple partners to produce a baby, women have sexual intercourse

with different men without attendant sexual jealousy (Caprael, 1997).

According to evolutionary psychology, the biological basis of gender differentiation has changed little since the ancestral era. Since prehistoric times, there have been massive cultural and technological innovations that have drastically altered how people live their lives. A theory positing genetic fixedness over this evolutionary period has major explanatory problems given that contemporary women are markedly different in preferences, attributes, and social and occupational roles from the ancestral ones in the hunter-gatherer era. Indeed, for the most part, present-day lifestyle patterns and reproduction practices run counter to the speculative scenarios of psychological evolutionism. Birthrates have declined markedly. Males are not fathering numerous offspring to ensure continuance of copies of their genes. Quite the contrary. Contraceptive devices have disjoined sex from procreation and provided control over the number and timing of childbearing. Consequently, males are putting their inherited copulatory mechanism to frequent use but relying on contraceptive means to prevent paternity! They are seeking nonreproductive sexual gratification and other sources of satisfactions, not reproductive success, which is the prime driving force for heterosexual and intermale relations in psychological evolutionism. In short, through contraceptive ingenuity, humans have outwitted and taken control over their evolved reproductive system. Given the prevalence of contraceptive sexuality, the claim that male preference for multiple physically attractive females is evolutionarily driven to maximize paternity sounds more like social justification for male philandering. The heavy biologizing of gender roles also seems divorced from the changing roles of females in contemporary society. Most are combining occupational pursuits with homemaking rather than being confined to childbearing domesticity. The substantial modification in reproduction practices and attendant lifestyle changes were ushered in by technological innovations in contraception, not by the slow biological selection.

Aggressive skill may have had reproductive advantage in ancient times when males could lay claim to females at will, but cultural evolution of social norms and sanctions has essentially stripped it of reproductive benefit. Some males rule females by physical force, but most do not. Physical and sexual aggressors are more likely to populate prisons than the gene pool. Reproduction rates are governed mainly by sociocultural norms, socioeconomic status, religious beliefs, and adoption of contraceptive methods rather than by aggressive proclivities and skill in intermale aggression.

The methods and data used by psychological evolutionists to link ancestral gender differentiation to current gendered preferences, attributes, and roles have also come under fire. The research relies mainly on survey studies using rating scales (Caprael, 1989; Dickemann, 1989) without the type of detailed analysis of genetic make-up and genetic transmission mechanisms conducted in the evolutionary tradition (Clutton-Brock, Guinness, & Albon, 1982). It is surprising to note that mating behavior is rarely measured. For example, evidence for gender differences in the types of partners selected is based mainly on self-reported preferences rather than on actual choices (Buss, 1989). Evolutionary processes are governed by what people do, not by what they say. Sprecher (1989) has shown that in their self-reports of what attracts them, males are more influenced than females by their

partners' physical attractiveness, but, in actual choices, both sexes are equally influenced by physical attractiveness. Zohar and Guttman (1989) likewise reported very similar preferences by males and females in mate selections. If physically attractive females are the objects of sexual pursuit, what evidence is there that the attractive ones are selectively impregnated at higher rates than those regarded as less attractive, according to the prevailing cultural standards? Preference ratings cannot substitute for impregnation rates. Contrary to the view that parenting is the prime investment of women (Trivers, 1972), men in long-term partnerships invest extensively in their offspring and are quite selective in their choice of mates (Kenrick, Sadalla, Groth, & Trost, 1990). The conversion of typicality ratings into proclivitive universalities is another major problem. Small gender differences in the statistical average of self-reported preferences for a spread of ratings that overlap markedly across the genders get invoked as universal biological proclivities ascribed to males and females as though they all behaved alike as dichotomously classified. The substantial diversity within gender groups, which an adequate theory must explain, is simply ignored.

Survey reports in which males say that, on average, they would like about 18 sexual partners, whereas women would settle for about 4 or 5 mates, are cited as corroborating evolutionary psychological theory (Buss & Schmitt, 1993). There is a big difference between verbalized preference and action. The more relevant data regarding male mating are what males do rather than what they say, and the variation in sexual practices among men. Widerman (1997) found that lifetime incidence of extramarital affairs was 23% for males and 12% for females, but affairs did not differ by gender for those under 40. The explanatory challenge for psychological evolutionism is why most males mate monogamously, and relatively few roam around impregnating young fertile females to populate the gene pool for subsequent generations. If prolific uncommitted sexuality is a male biological imperative, it must be an infirm one that can be easily overridden by psychosocial forces. Why married women would get sexually involved with multiple men, and thereby risk jealous assaults and loss of resources provided by the long-term mate is also problematic for the mating scenarios proposed in psychological evolutionism. An explanation in terms of seeking socioemotional satisfaction and nonreproductive sexual pleasure is more plausible than ad hoc explanations that they are seeking better genes, supplemental resources, or richer providers.

One can, of course, construct evolutionary scenarios of evolved genetic dispositions for males behaving as uncommitted sexual freelancers, but then as committed monogamists, and homebody females as straying into infidelity (Buss & Schmitt, 1993). However, such temporally flexible explanations, in which biological dispositions suddenly reverse direction from promoting philandering to upholding monogamy, are more like ad hoc theorizing (i.e., whatever gendered patterns appear currently must be products of natural selection) than as derivations from an integrated core theory. Evolutionary psychology fails to specify a mechanism governing the posited dispositional reversal, what triggers it, and when the reversal should occur. Not all males necessarily go through a philandering phase before settling down to a monogamous life. This casts serious doubt on the inherentness of the posited temporal sequencing of reproductive strategies. How does the genetically driven disposition know when a heterosexual rela-

tionship is a short-term affair or the beginning of what will become an enduring monogamous relationship? Many of the human characteristics that are sexually arousing—corpulence or skinniness; upright breasts or long pendulous ones; shiny white teeth or black pointed ones; distorted ears, noses, or lips; light skin color or dark—not only vary markedly across societies (Ford & Beach, 1951), but bear no relevance to "good genes" or reproductive fertility and value. Human sexual arousal is driven more by the mind through cultural construction of attractiveness than by physical universals.

As indicated in the preceding comments, there is often selective inattention to discordant aspects of the very type of evidence marshaled in support of psychological evolutionism. Human aggression provides a further example. In response to meta-analytic studies showing small gender differences in aggression, Archer (1996) cited higher homicide rates in males as evidence that an evolved disposition is animating the homicidal behavior. In fact, only a minute fraction of humans ever commit a homicide. Given the stiff competition for desirable mates, the explanatory challenge for psychological evolutionism is why an intermale assaultive disposition that is considered so central in mate access and control is so rarely manifested. Nor can evolutionary factors explain large fluctuations in homicide rates over short periods, which are largely tied to level of drug activities rather than to reproduction battles (Blumstein, 1995). Of the small number of people who happen to kill, they do so for all sorts of reasons, the least of which may be a drive to maximize paternity. With regard to intergender violence, sexual assaults against women are prevalent in societies where male supremacy reigns, aggressive sexuality is valued as a sign of manliness, and women are treated as property. In contrast, sexual assaults are rare in societies that repudiate interpersonal aggression, endorse sexual equality, and treat women respectfully (Sanday, 1981, 1997). The extensive cross-cultural and intracultural variability in male-female power relations and physical and sexual violence toward women (Smuts, 1992, 1995) disputes the view that using physical force against women is the rule of nature.

Ancestral origin and the determinants governing contemporary social practices are quite different matters. Because evolved potentialities can serve diverse purposes, ancestral origin dictates neither current function nor singular sociostructural arrangements. Did ancestral mating pressures really create a biological imperative to deny women voting rights until 1926 in the United States; disallow women property rights; give men custody of children even though child caretaking is supposedly not men's inherent nature; curtail women's educational opportunities; bar them from entry into prestigious academes such as Yale University until 1969; deny them equal pay for comparable work; impede their efforts to secure occupational advancements at upper-organizational ranks; and refuse them membership in clubs where social networking and business transactions spawn occupational successes? We present evidence later that suggests that the inequitable gender differentiation just described reflects, in large part, the constraints of custom and gender power and privilege imbalances in how the societal subsystems that preside over gender development are structured and operate. We return to some of these issues shortly when we consider the role of evolutionary factors in a social cognitive theory of gender role development.

Other analyses of gender differences from a biological perspective have centered on hormonal influences and estimates of heri-

tability. Hormones affect the organization of the neural substrates of the brain, including lateralization of brain function. It has been reported that females show less lateral brain specialization than do males, but the differences are small and some studies find no such difference (Bryden, 1988; Halpern, 1992; Kinsbourne & Hiscock, 1983). Difference in degree of brain lateralization is assumed to produce gender differences in cognitive processing. Although girls generally do better on verbal tasks, and boys do better on some types of mathematical tasks, the differences are small (Hyde, Fennema, & Lamon, 1990; Hyde & Linn, 1988). Moreover, the gender differences have been diminishing over the past decade, which is much too short a time to be genetically determined. However, there are clear and reliable differences in spatial skills favoring males (Halpern, 1992). But this difference has also been diminishing in recent years, most likely as a function of social changes. Although hormones may play a part in spatial ability, the evidence suggests that environmental factors play a central role in the observed differences. Compared with girls, boys grow up in more spatially complex environments, receive more encouragement for outdoor play, and engage extensively in activities that foster the development of spatial skills. In accord with a social source, gender differences in spatial ability are not found in cultures where women are granted greater freedom of action (Fausto-Sterling, 1992).

The search for a hormonal basis for gender differences in social behavior has produced highly conflicting results. Despite considerable research, the influence of hormones on behavioral development and cognitive functioning remains unclear. Drawing on atypical populations in which the developing fetus is exposed to high levels of prenatal male or female hormones, the findings show that girls increase engagement in traditionally male- and female-related activities, respectively (Berenbaum & Hines, 1992; Berenbaum & Snyder, 1995; Ehrhardt, Meyer-Bahlburg, Feldman, & Ince, 1984; Money & Ehrhardt, 1972; Zussman, Zussman, & Dalton, 1975). The causal link between hormones and behavior, however, has not been established. Because these children often look different from other children of their own sex and parents are very much aware of their atypical condition, hormonal influences cannot be disentangled from social ones (Bleier, 1984; Fausto-Sterling, 1992; Huston, 1983). In addition, the lack of relationship between prenatal hormones and gender-linked behavior for boys raises further questions about whether hormonal factors could be the basis for gender-differentiated conduct.

Because of the empirical inconclusiveness and methodological problems associated with research on atypical populations, researchers have turned to studying conduct as a function of variations in hormonal levels where no abnormality exists prenatally. However, these findings not only fail to support those from atypical populations, but contradict them. For example, girls with naturally high levels of male hormones prenatally show low spatial ability in childhood, but girls with elevated male hormones prenatally occurring either artificially or from a genetic defect show high spatial ability (Finegan, Niccols, & Sitarénios, 1992; Jacklin, Wilcox, & Maccoby, 1988). However, boys' spatial ability is unaffected by their prenatal hormone levels. To add to the conflicting findings, male hormones in late adolescence and adulthood are weakly related to aggressive and antisocial conduct for males but not for females, whereas in childhood and early adolescence male hormones predict aggression for girls but not for boys

(Buchanan, Eccles, & Becker, 1992; Dabbs & Morris, 1990; Inoff-Germain et al., 1988; Olweus, Mattison, Schalling, & Low, 1988; Susman et al., 1987). If the conditions governing this variability are identified, it would still remain to be determined whether hormonal levels are the cause or the effect of aggressive conduct (Brooks-Gunn, Petersen, & Compas, 1995; Buchanan et al., 1992) or whether they operate only indirectly by lowering tolerance of frustration (Olweus, 1984).

Researchers working within the framework of behavioral genetics examine gender differences in terms of the relative contribution of environmental and genetic factors to variation in given attributes. Identical and fraternal twins reared apart in different environments are tested for differences on a variety of cognitive abilities and personality characteristics. On the basis of the results of such studies, it is concluded that genetic factors make low-to-moderate contribution to personality attributes. Most of the remaining variance is ascribed to nonshared environments unique to individual family members, with little of it left to shared environments common to all members of the family (Bouchard, Lykken, McGue, Segal, & Tellegen, 1990; Plomin, Chipuer, & Neiderhiser, 1994; Plomin & Daniels, 1987; Scarr, 1992). Although most of this research has focused on individual differences in general, several studies of children's gender-linked personality characteristics, namely masculinity and femininity, also report heritability estimates ranging from small to moderate. Mitchell and her colleagues report a higher genetic contribution to attributes traditionally sex-typed as masculine than to those sex-typed as feminine (Mitchell, Baker, & Jacklin, 1989). However, Rowe (1982) neither found any significant genetic contribution to femininity, nor could specify any biological processes that would render masculine-typed characteristics more heritable than feminine-type characteristics. The findings reveal a substantial contribution of nonshared environmental influences to these gendered personality characteristics.

The above results have led to downgrading parental influences on children's development and upgrading the impact of peers as a nonshared environment (Harris, 1995). However, this conclusion relies for its plausibility on a disputable environmental dualism and highly questionable assumptions on how social subsystems function. As will be shown later, parental and peer subsystems operate interdependently, not as disjointed entities. Parents play an active role in structuring peer associations, fostering peer ties that are to their liking and discouraging those they disfavor. Children who adopt parental values and standards choose friends on the basis of parental values (Bandura & Walters, 1959). Consequently, the peer group serves to reinforce and uphold parental values. In discordant families, children may pick peer associates who bring them into conflict with their parents. Even in the latter case, parents also exert influence on peer selection, albeit through a rebuffing rather than adoptive process.

Parents are also linked interdependently to the peer group through their children's communication about their activities with peers outside the home (Caprara et al., 1998). Parents, in turn, offer social support and guidance on how to manage predicaments that arise in peer relations. Given the complex interplay of personal, familial, peer, and other social influences, dichotomous partitioning of social environments into segregated shared and nonshared entities distorts rather than clarifies causal processes. It should also be noted that the estimates of the environment are almost always based on cursory self-reports rather than on actual observation of

familial and extrafamilial interactions and social practices and the degree of bidirectionality of influence.

Studies of the heritability of personality attributes rely almost exclusively on questionnaires that construe personality as global, decontextualized entities. In fact, personal proclivities are multi-faceted, characterized by domain specificity, and manifested contextually and conditionally (Bandura, 1999). These global subdivisions of collections of ecologically stripped behavior represent neither the nature nor structure of personal determinants, and say nothing about the self-regulatory mechanisms governing their conditional expression. The heritability of multifaceted dispositions that better capture the dynamic nature of personality remains to be determined.

Some attributes, such as height, are more heritable than others, such as aesthetic preferences. High heritability does not mean unmodifiability by environmental means. For example, although height is highly heritable, it can vary substantially as a function of quality of nutrition. Cooper and Zubek (1958) placed genetically bred bright and dull learning rats in enriched or impoverished environments. Dull rats placed in an enriched environment performed as well as the bright ones reared normally, and bright rats placed in an impoverished environment performed as poorly as dull rats reared normally. Clearly, heritability does not ordain destiny. The partitioning of behavioral variance into percent biology and percent environment flies in the face of their interdependence. *Heritability* refers to degree of genetic contribution to group variance not to individual causation. To explain individual behavior, which is typically the product of multicausality, one must specify how the relevant constellation of determinants operate in concert within the causal structure rather than try to compute the percentage of the behavior due to nature and the percentage due to nurture.

Sociological Theories

In sociological theories, gender is a social construction rather than a biological given. The sources of gender differentiation lie more in social and institutional practices than in fixed properties of the individual. Drawing on diverse bodies of research, Geis (1993) documented masterfully the social construction and perpetuation of stereotypic gender differentiation. Gender stereotypes shape the perception, evaluation, and treatment of males and females in selectively gendered ways that beget the very patterns of behavior that confirm the initial stereotypes. Many gender differences in social behavior are viewed as products of division of labor between the sexes that get replicated through sociostructural practices governed by disparate gender status and power (Eagly, 1987b).

Many sociologists reject the dichotomous view of gender, in that the similarities between men and women in how they think and behave far exceed the differences between them (Epstein, 1988; Gerson, 1990; West & Zimmerman, 1991). With social changes in opportunity structures and constraining institutional arrangements, gender differences have declined over time (Connell, 1987; Eagly, 1987a). Gender is not a unitary monolith. The homogeneous gender typing disregards the vast differences among women and the similarly vast differences among men depending on their socioeconomic class, education, ethnicity, and occupation. The practice of lumping all men and women into dichotomous gender

categories, with men preordained for agentic functions and women for expressive and communion functions similarly comes in for heavy criticism. With regard to the emotionality stereotype, Epstein (1997) reminded us that, although women are supposedly more emotional than men, in Middle Eastern cultures, such as Iran, it is men who express emotions most fervently. She maintained that gender theorists who contend that males and females are basically different in their psychological makeup (Gilligan, 1982) are contributing to gender stereotyping and polarization.

The exaggeration of the nature and extent of gender differences, the theorists argue, promotes the social ordering of gender relations and serves to justify gender inequality, occupational stratification and segregation, and the situating of women in positions of predominately lower status. Viewed from this sociological perspective, the pattern of opportunity structures and formal and informal constraints shape gendered styles of behavior and channel men and women into different life paths. The coupling of gender roles to biological sex status legitimates social arrangements as accommodations to differences attributed to inherent nature (West & Zimmerman, 1991).

Not all people of the same socioeconomic status, and who live under the same opportunity structures, social controls, familial, educational and community resources, and normative climate, behave in the same way. The challenge is to explain adaptational diversity within sociostructural commonality. As we show later, social cognitive theory (Bandura, 1986, 1999) adopts an integrated perspective in which sociostructural influences operate through self-system mechanisms to produce behavioral effects. However, the self system is not merely a conduit for external influences. People are producers as well as products of social systems. Social structures are created by human activity (Bandura, 1997, 1999; Giddens, 1984). The structural practices, in turn, impose constraints and provide resources and opportunity structures for personal development and functioning.

Social Cognitive Theory

Social cognitive theory acknowledges the influential role of evolutionary factors in human adaptation and change but rejects one-sided evolutionism in which social behavior is the product of evolved biology, but social and technological innovations that create new environmental selection pressures for adaptiveness have no effect on biological evolution (Bandura, 1999). In the bidirectional view of evolutionary processes, evolutionary pressures fostered changes in bodily structures and upright posture conducive to the development and use of tools, which enabled an organism to manipulate, alter, and construct new environmental conditions. Environmental innovations of increasing complexity, in turn, created new selection pressures for the evolution of specialized biological systems for functional consciousness, thought, language, and symbolic communication.

Social cognitive theory addresses itself to a number of distinctive human attributes (Bandura, 1986). The remarkable capability for symbolization provides a powerful tool for comprehending the environment and for creating and regulating environmental conditions that touch virtually every aspect of life. Another distinctive attribute is the advanced capability for observational learning that enables people to expand their knowledge and skills rapidly through information conveyed by modeling influences without

having to go through the tedious and hazardous process of learning by response consequences. The self-regulatory capability, rooted in internal standards and self-reactive influence, provides another distinctive attribute for the exercise of self-directedness. The self-reflective capability to evaluate the adequacy of one's thinking and actions, and to judge one's agentic efficacy to produce effects by one's actions also receive prominent attention in social cognitive theory. The evolved information processing systems provide the capacity for the very characteristics that are distinctly human—generative symbolization, forethought, evaluative self-regulation, reflective self-consciousness, and symbolic communication. Evolved morphology and special purpose systems facilitate acquisitional processes. Social cognitive theory does not assume an equipotential mechanism of learning (Bandura, 1986). In addition to biological biases, some things are more easily learnable because the properties of the events can facilitate or impede acquisitional processes through attentional, representational, productional, and motivational means.

Human evolution provides bodily structures and biological potentialities, not behavioral dictates. Sociostructural influences operate through these biological resources in the construction and regulation of human behavior in the service of diverse purposes. Having evolved, the advanced biological capacities can be used to create diverse cultures—aggressive ones, pacific ones, egalitarian ones, or autocratic ones. As Gould (1987) noted, biology sets constraints that vary in nature, degree, and strength across different spheres of functioning; however, in most domains the biology of humans permits a broad range of cultural possibilities. He argued cogently that evidence favors a potentialist view over a determinist view of nature. He made the further interesting point that biological determinism is often clothed in the language of interactionism: The bidirectional biology–culture coevolution is acknowledged, but then the major causation of human behavior is ascribed to evolved biology. The cultural side of this two-way causation, in which genetic makeup is shaped by the adaptational pressures of socially constructed environments, receives little notice. Biological determinism is also often clothed in the language of changeability: The malleability of evolved proclivities is acknowledged, but determinative potency is then ascribed to them with caution against efforts to change existing sociostructural arrangements and practices allegedly ruled by evolved dispositions because such efforts are doomed to failure. The conception of the operational nature of human nature affects the relative explanatory weight given to genetic mismatch and to the counterforce of entrenched vested interests for resistance to sociostructural changes. Biological determinists favor heavily the rule of nature, whereas biological potentialists see human nature as permitting a range of possibilities that gives greater saliency to the rule of distributed opportunities, privileges, and power.

Theories that heavily attribute human social behavior to the rule of nature are disputed by the remarkable cultural diversity. Consider aggression, which is presumably genetically programmed as a biological universal and more so for males than for females. We will see later that gender differences in aggression are much smaller than claimed and further shrink under certain environmental conditions. As explained elsewhere (Bandura, 1999), there are three types of cultural diversity that challenge the view that people

are inherently aggressive. The first concerns intercultural diversity. There are fighting cultures that breed aggression by modeling it pervasively, attaching prestige to it, and according it functional value for gaining social status, material benefits, and social control. There are pacific cultures in which interpersonal aggression is a rarity because it is devalued, rarely modeled, and has no functional value (Allard, 1972; Bandura, 1973). Is the genetic makeup of the Germans who perpetrated unprecedented barbarity during the Nazi regime really different from the genetic makeup of peaceable Swiss residing in the German canton of Switzerland? People possess the biological potentiality for aggression, but the answer to the differential aggressiveness in the latter example lies more in ideology than in biology.

The second form of variability concerns intracultural diversity. Ours is a relatively violent society but American Quakers and Hutterites, who adopt pacifism as a way of life, eschew aggressive conduct. The third form of variability involves rapid transformation of warring societies into peaceful ones. For ages, the Vikings plundered other nations. After a prolonged war with Russia that exhausted Sweden's resources, the populace rose up and collectively forced a constitutional change that prohibited kings from starting wars (Moerk, 1991). This political act promptly transformed a fighting society into a peaceable one that has served as a mediator for peace among warring nations. Sweden ranks at the very bottom of all forms of violence, with virtually no incidence of domestic violence.

A biologically deterministic view has problems not only with cultural diversity, but with the rapid pace of social change. The process of biological selection moves at a snail's pace, whereas societies have been undergoing major changes in sexual mores, family structures, social and occupational roles, and institutional practices. In the past, a great deal of gender differentiation arose from the biological requirement of women bearing children and caring for them over a good part of their lives. With marked reductions in infant mortality and family size, and technical innovations of household labor-saving devices, women spend only a small portion of their expanded life spans in childbearing and rearing. Contraceptive devices provide them with considerable control over their reproductive lives. For these and other reasons, educational and occupational pursuits are no longer thwarted by prolonged childbearing demands as they did in the past. Inequitable social constraints and opportunity structures are being changed by social means rather than by reliance on the slow, protracted process of biological selection. Dobzhansky (1972) reminded us that the human species has been selected for learnability and plasticity of behavior adaptive to diverse habitats and socially constructed environments, not for behavioral fixedness. The pace of social change gives testimony that biology, indeed, permits a range of possibilities.

The sections that follow present the basic structure of social cognitive theory, the main determinants it posits, and the mechanisms through which they operate. Later sections address the applications of the theory to the various aspects of gender role development and functioning. In social cognitive theory, gender development is neither totally shaped and regulated by environmental forces or by socially nonsituated intrapsychic processes. Rather, gender development is explained in terms of triadic reciprocal causation.

Causal Structure

In the model of triadic reciprocal causation, personal factors in the form of cognitive, affective, and biological events, behavior patterns, and environmental events all operate as interacting determinants that influence each other bidirectionally (Bandura, 1986). The *personal* contribution includes gender-linked conceptions, behavioral and judgmental standards, and self-regulatory influences; *behavior* refers to activity patterns that tend to be linked to gender; and the *environmental* factor refers to the broad network of social influences that are encountered in everyday life.

In this model of triadic causation, there is no fixed pattern for reciprocal interaction. Rather, the relative contribution of each of the constituent influences depends on the activities, situations, and sociostructural constraints and opportunities. Under low environmental dictates, as in egalitarian social systems, personal factors serve as major influences in the self-regulation of developmental paths. Under social conditions in which social roles, lifestyle patterns, and opportunity structures are rigidly prescribed, personal factors have less leeway to operate. Bidirectional causation does not mean that the interacting factors are of equal strength. Their relative impact may fluctuate over time, situational circumstances, and activity domains.

The model of triadic reciprocity differs from those favored by cognitive–developmental theory and gender schema theory in that factors apart from cognitive ones are accorded considerable importance. Motivational, affective, and environmental factors are included as determinants of gender development and functioning as well as a broader array of cognitive factors than gender schematic and stereotypic knowledge. Moreover, which cognitions come into play and the strength of their influence on gender-linked behavior is dependent on the particular constellation of environmental influences operating in a given situation.

Environmental Structures

The environment is not a monolithic entity disembodied from personal agency. Social cognitive theory distinguishes among three types of environmental structures (Bandura, 1997). They include the imposed environment, selected environment, and constructed environment. Gradations of environmental changeability require the exercise of increasing levels of personal agency. In the case of the imposed environment, certain physical and sociostructural conditions are thrust on people whether they like it or not. Although they have little control over its presence, they have leeway in how they construe it and react to it. Thus, for example, school attendance and academic curricula are mandated for children regardless of their personal preferences. Some of the environmental impositions involve constraints, as when women were disenfranchised and prohibited from certain social, educational, and occupational pursuits or membership in certain social organizations.

There is a major difference between the potential environment and the environment people actually experience. For the most part, the environment is only a potentiality with different rewarding and punishing aspects that do not come into being until the environment is selected and activated by appropriate courses of action. Which part of the potential environment becomes the actual experienced environment thus depends on how people behave. This

constitutes the selected environment. The choice of associates, activities, and educational pursuits are examples of environmental selectivity that affect developmental pathways (Bandura & Walters, 1959; Bullock & Merrill, 1980; Lent, Brown, & Hackett, 1994).

The environments that are created do not exist as potentialities waiting to be selected and activated. Rather, people construct social environments and institutional systems through their generative efforts. For example, much early role learning occurs in children's symbolic play. By their choice of playmates and creative structuring of play activities, children construct their symbolic environments (Maccoby, 1990). The selection and construction of environments affect the reciprocal interplay between personal, behavioral, and environmental factors.

Sociocognitive Modes of Influence

Gendered roles and conduct involve intricate competencies, interests, and value orientations. A comprehensive theory of gender differentiation must, therefore, explain the determinants and mechanisms through which gender-linked roles and conduct are acquired. In social cognitive theory, gender development is promoted by three major modes of influence and the way in which the information they convey is cognitively processed. The first mode is through modeling. A great deal of gender-linked information is exemplified by models in one's immediate environment such as parents and peers, and significant persons in social, educational, and occupational contexts. In addition, the mass media provides pervasive modeling of gendered roles and conduct. The second mode is through enactive experience. It relies on discerning the gender linkage of conduct from the outcomes resulting from one's actions. Gender-linked behavior is heavily socially sanctioned in most societies. Therefore, evaluative social reactions are important sources of information for constructing gender conceptions.

People have views about what is appropriate conduct for each of the two sexes. The third mode of influence is through direct intuition. It serves as a convenient way of informing people about different styles of conduct and their linkage to gender. Moreover, it is often used to generalize the informativeness of specific modeled exemplars and particular behavioral outcome experiences.

The relative impact of the three modes of influence varies depending on the developmental status of individuals and the social structuring of experiences. Therefore, some modes of influence are more influential at certain periods of development than at others. Modeling is omnipresent from birth. Infants are highly attentive to modeling influences and can learn from them, especially in interactive contexts (Bandura, 1986; Uzgiris & Kuper, 1992). As children gain mobility and competencies to act on the environment, they begin enacting behavior that is socially linked to gender and experiencing social reactions. They regulate their behavior accordingly. As they acquire linguistic skills, people begin to explain to children what is appropriate gendered conduct for them.

The rate of acquisition varies depending on mode of influence. Learning conceptions through modeling is faster than from enactive experience (Bandura, 1986; Debowski, Wood, & Bandura, 1999). In modeling, the gendered attributes are already clustered in a structured form. In enactive learning, response outcomes serve as an unarticulated way of informing performers what constitutes

appropriate patterns of behavior. This is a much more laborious attribute abstraction process. In the enactive mode, conceptions of gendered conduct must be constructed gradually by observing the differential outcomes of one's actions. When people fail to recognize the effects their actions produce or inadequately process the outcome information provided by variations in actions over time and social contacts, they do not learn much, although the consequences repeatedly impinge on them.

Tuition also presents the role behavior in integrated form, but its instructional function is weakened by the abstractness and the complexity of language, especially for young children. Verbal instruction alone, therefore, has less impact on conception acquisition than does modeling (Rosenthal & Zimmerman, 1978). However, as previously noted, tuition can help to generalize the impact of modeling and enactive experiences by adding generic significance to particular exemplars and outcomes.

These different modes of influence operate in complexly interactive ways. For the most part, they are oriented toward promoting the traditional forms of gendered conduct. However, because of the changing views on gender in some quarters, there is increasing diversity in the different sources of influence, which do not always operate in concert (Bandura, 1986; Lorber, 1994). There are differences within and between parents, peers, teachers, and the media in the gendered styles of behavior they promote and between what they preach and practice. Gender development is straightforward under conditions of high social consensus concerning gendered conduct and roles. Disparity of influence complicates the development of personal standards of conduct (Bandura, 1986; McManis & Liebert, 1968; Rosenhan, Frederick, & Burrowes, 1968).

The different forms of social influence affect four major aspects of gender-role development and functioning. They affect the development of gender-linked knowledge and competencies, and the three major sociocognitive regulators of gendered conduct. These include outcome expectations concerning gendered conduct and roles, self-evaluative standards, and self-efficacy beliefs.

Modeling Influences in Gender Development

Modeling is one of the most pervasive and powerful means of transmitting values, attitudes, and patterns of thought and behavior (Bandura, 1986; Rosenthal & Zimmerman, 1978). Modeling is not simply a process of response mimicry, as is commonly believed. Modeled activities convey the rules and structures embodied in the exemplars for generative behavior. This higher level of learning is achieved through abstract modeling. Rule-governed action patterns differ in specific content and other details, but they embody the same underlying rule. Once observers extract the rules and structure underlying the modeled activities, they can generate new patterns of behavior that conform to the structural properties but go beyond what they have seen or heard. Hence, social cognitive theory characterizes learning from exemplars as modeling rather than imitation, which has come to mean just mimicking the particular action exemplified. Modeling serves a variety of functions in gender development. Consider first the vicarious acquisition function.

Acquisition of Gender Conceptions and Competencies

In the social cognitive analysis of observational learning (Bandura, 1986), modeling influences operate principally through their informative function. Observational learning is governed by four constituent processes (Figure 1). *Attentional processes* determine what is selectively observed in the profusion of modeled activities and what information is extracted from ongoing modeled events. Numerous factors influence the exploration and construal of what is modeled in the social and symbolic environment. As shown in Figure 1, some of these determinants concern the cognitive skills, preconceptions, and value preferences of observers. Others are related to the salience, attractiveness, and functional value of modeled activities themselves.

Models exemplify activities considered appropriate for the two sexes. Children can learn gender stereotypes from observing the

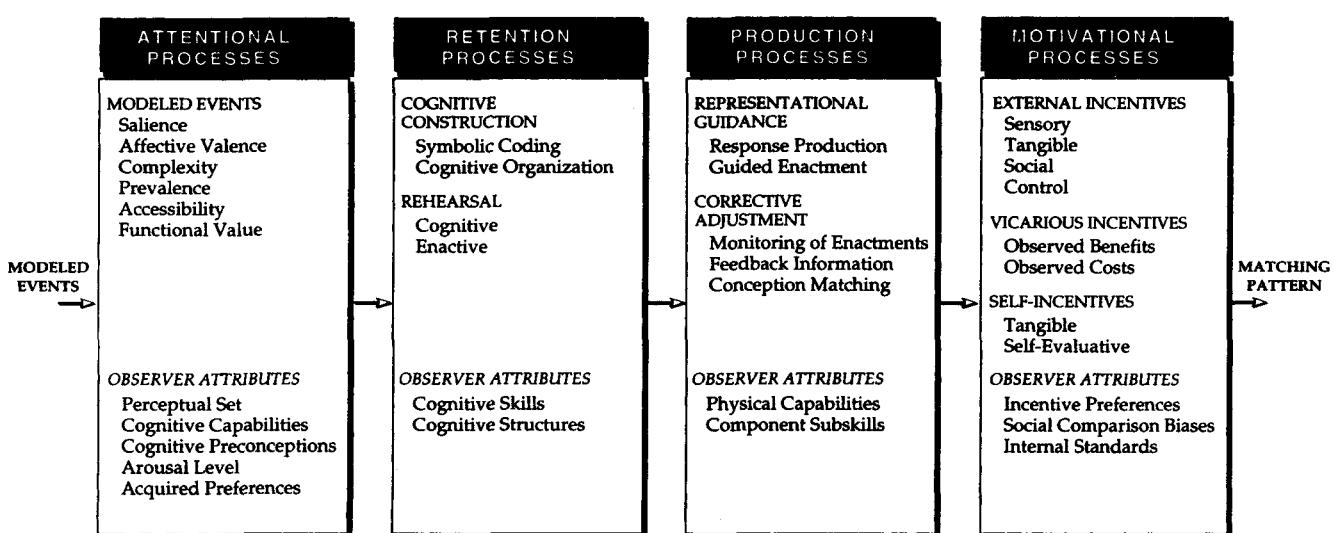


Figure 1. Four subprocesses governing observational learning. From *Social Foundations of Thought and Action: A Social Cognitive Theory* (p. 52), by A. Bandura, 1986, Englewood Cliffs, NJ: Prentice Hall. Copyright 1986 by Prentice Hall. Reprinted with permission.

differential performances of male and female models. Given comparable access, both sexes learn male and female stereotypes from observing models (Bussey & Bandura, 1984, 1992). However, the extent to which they learn the details of the styles of behavior and become proficient at them depend on their perceived efficacy to master the modeled activities, opportunities to put them into practice, and the social reactions they produce.

Perceptions are guided by preconceptions. Observers' cognitive competencies and perceptual sets dispose them to look for some things but not others. The greater cognitive skills and prior knowledge observers have, the more subtleties observers will perceive. Once children can differentiate the sexes, they prefer to attend more to same-gender than to other-gender models (Bussey & Bandura, 1984, 1992). Observers pay greater attention to and learn more about modeled conduct that they regard as personally relevant (Kanfer, Duerfeldt, Martin, & Dorsey, 1971). Because adherence to gender roles is socially stressed more for boys than for girls across the life span, boys tend to pay more attention to same-gender models than do girls (Slaby & Frey, 1975).

Observers' selective attention to models is partly dependent on the conditions under which the observation takes place. Under forced exposure to a single model, as is usually the case in laboratory studies, children attend to and learn equally the behavior of the same-gender and other-gender models. However, when children are exposed simultaneously to male and female models and must choose to attend to one or the other, then selective attention to, and learning about, same-gender models is likely to occur (Bussey & Bandura, 1984). When children can select the models with whom to associate, the selective association produces even greater differences in what is learned observationally (Bandura, 1986). In laboratory tests of factors hypothesized to affect modeling, children often have no choice but to observe the models presented to them. Studies using forced exposure may yield highly misleading results when the factors being examined actually affect what is acquired by means of modeling through their influence on associational preferences.

Other factors that affect what people attend to and learn pertain to the structural arrangements of human interactions and associative networks. These social arrangements largely determine the types of models to which people have ready access. Societies vary in the extent to which gender is a salient category, whether traditional gender conduct dominates, and the degree of stratification and segregation along gender lines. A social universe stratified and segregated by gender limits the opportunities to learn diverse styles of conduct and roles.

In most Western societies organized around gender, there is no shortage of models displaying traditional gender conduct. The extent to which egalitarian roles are modeled varies in different societies and subgroups within them. In most societies, high social differentiation between the sexes makes differences in gender-typed behavior readily observable. Although the immediate models that observers are exposed to can exert considerable impact, televised modeling has vastly expanded the range of models available to children and adults alike. As we show later, not only are the sexes sharply differentiated in the media, but their roles tend to be even more traditional than is actually the case.

The discussion thus far has focused on factors that regulate attentional orientations and processes. People cannot be much influenced by modeled events if they do not remember them. A

second major subfunction governing observational learning concerns cognitive representational processes. Retention involves an active process of transforming and restructuring information about events for memory representation in the form of rules and conceptions of styles of behavior. Retention is greatly enhanced by symbolic transformations of modeled information into memory codes and cognitive rehearsal of the representations (Bandura & Jeffery, 1973; Carroll & Bandura, 1990; Gerst, 1971). Preconceptions and affective states exert biasing influences on these representational processes as well. Similarly, recall involves a process of reconstruction rather than simply retrieval of registered events.

Symbolic representation and rehearsal of modeled activities not only enhance acquisition of competencies but they raise perceived self-efficacy to execute the activities successfully (Bandura & Adams, 1977; Clark, 1960; Kazdin, 1979). Such boosts in perceived self-efficacy improve performance by reducing self-impairing thought processes and by enlisting and sustaining the motivation needed to succeed.

The third subfunction governing observational learning involves behavioral production processes, whereby symbolic conceptions are translated into appropriate courses of action. This is achieved through a conception-matching process in which conceptions guide the construction and execution of styles of behavior and the adequacy of the behavior is judged through comparison against the conceptual model (Carroll & Bandura, 1990). The behavior is then modified, if necessary, on the basis of the comparative information to achieve close fit of conception to action.

The mechanism for translating conception to appropriate action involves both transformational and generative operations. Execution of a skill must be constantly varied to fit changing circumstances. Adaptive functioning, therefore, requires a generative conception rather than a one-to-one mapping between conception and action. This enables people to produce many variations on the skill. The more extensive the subskills that people possess, the easier it is to integrate them into complex patterns of behavior.

The fourth subfunction in modeling concerns motivational processes. Social cognitive theory distinguishes between acquisition and performance of given styles of conduct because people do not perform everything they learn. For example, boys learn a lot about the homemaking role through repeated maternal modeling but rarely adopt such activities in their everyday life. When children are exposed to aggressive models, boys adopt that style of behavior more extensively than do girls. But tests of acquisition reveal few, if any, sex differences in the degree to which they learned the modeled patterns of behavior (Bandura, 1965).

Performance of observationally learned behavior is regulated by three major types of incentive motivators: direct, vicarious, and self-evaluative. People are more likely to adopt modeled styles of behavior if they produce valued outcomes than if they have unrewarding or punishing effects (Bandura & Barab, 1971; Hicks, 1968). The observed costs and benefits accruing to others influence the adoption of modeled patterns vicariously in much the same way as do directly experienced consequences (Bandura, 1965). People are motivated by the success of others who are similar to themselves, but they are discouraged from pursuing courses of behavior that they have seen often result in aversive consequences. The evaluative reactions people generate to their own conduct also regulate which observationally learned activities

they are most likely to pursue. They express what they find self-satisfying and reject what they personally disapprove.

The distinction between acquisition and adoption is critical in evaluating whether given factors exert their effects on spontaneous adoption of modeled gender patterns of behavior or on their acquisition. When exposed to multiple male and female models who command power or not, children model their behavior after social power and same-sex status of the model (Bussey & Bandura, 1984). However, when instructed to reenact the various behaviors displayed by the male and female models, there were no gender differences in acquisition as a function of either sex status of the model or power differential. Developmental research may be misleading rather than informative when propositions about development of gender-typed behavior are tested with measures of spontaneous performance rather than acquisition, as is usually the case.

Motivational, Emotional, and Valuational Effects of Modeling

In addition to promoting differential styles of behavior, modeling influences can alter incentive motivation (Bandura, 1986). Seeing others achieve valued outcomes by their efforts can instill motivating outcome expectancies in observers that they can secure similar benefits for comparable performances. Modeled performance outcomes thus create incentives and disincentives for action. By the same token, seeing others punished for engaging in certain activities can instill negative outcome expectations that serve as disincentives. These motivational effects rest on observers' judgments that they have the efficacy to produce the modeled performances and that comparable behavior will bring them similar outcomes.

People are easily aroused by the emotional expressions of others. What gives significance to vicarious emotional influence is that observers can acquire lasting attitudes and emotional and behavioral proclivities toward persons and activities that have been associated with modeled emotional experiences (Bandura, 1992; Berger, 1962; Duncker, 1938). They learn to fear things that frightened the models, dislike what repulsed them, and like what gratified them. Fears and behavioral restraints are reduced by modeling influences that convey information about coping strategies for exercising control over threats. The stronger the instilled sense of coping efficacy, the bolder the behavior (Bandura, 1997; Williams, 1992). Values can similarly be developed and altered vicariously by repeated exposure to modeled preferences (Bandura, 1986).

The actions of models can also serve as social prompts for previously learned behavior. The influence of models in activating, channeling, and supporting social behavior is abundantly documented in both laboratory and field studies (Bandura, 1986; Rosenthal, 1984). Thus, the types of models that prevail in a given social milieu partly determine which personal qualities, from among many alternatives, are selectively expressed.

Most theories of gender development assign a major role to modeling in gender role learning (Bandura, 1969; Kohlberg, 1966; Mischel, 1970). However, Maccoby and Jacklin (1974) questioned whether modeling is influential in the development of gender-linked roles. They pointed to findings that, in laboratory situations, children do not consistently pattern their behavior after same-gender models. In everyday life, of course,

children observe multiple exemplars in both their immediate environments and media representations of gender roles. The power of modeling is enhanced by typicality and similarity in role behavior within sex status. Indeed, in a set of studies by Bussey and Perry (1982; Perry & Bussey, 1979) that varied the degree of modeled consensus they found that the propensity of children to pattern their behavior after same-gender models increases as the percentage of same-gender models displaying the same conduct increases (Figure 2).

We noted earlier that according to cognitive-developmental theory, it is only after children have achieved gender constancy that they prefer to emulate models of the same gender. Gender constancy is viewed as an antecedent of modeling, rather than as a product of it. In social cognitive theory, repeated modeling of gender-typed behavior in the home, in schools, in workplaces, and in televised portrayals serves as a major conveyer of gender role information. Through modeling and the structuring of social activities, children learn the prototypic behaviors associated with each of the sexes. In this view, gender constancy is the product rather than an antecedent of the emulation of same-sex models. Support for this position was found by Bussey and Bandura (1984). When children observe models of their gender collectively exhibit stylistic behaviors that diverge from those displayed by other-gender models, children pattern their behavior more after same-gender than other-gender models. This preference for same-gender models occurs irrespective of children's level of gender constancy. After a more abstract conception of gender coupled with conditional outcome dependencies is formed, gender conceptions and gender-typed learning operate as bidirectional influences.

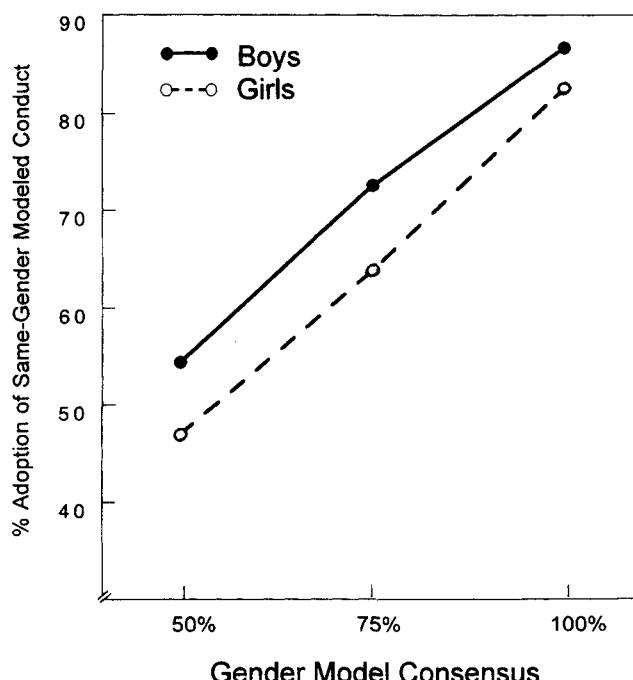


Figure 2. Progressively higher adoption of behavior modeled by same-gender models, with increases in the percentage of same-gender models displaying the behavior. Data are from Perry and Bussey (1979).

Social modeling operates at the collective level as well as individually. Modeling is a major social mechanism through which behavioral patterns, social roles, and sociostructural arrangements get replicated across generations (Bandura, 1986). However, modeling contributes to cultural evolution as well as to cultural transfer. When exposed to models who differ in their styles of thinking and behavior, observers rarely pattern their behavior exclusively after a single source, nor do they adopt all the attributes even of preferred models. Rather, observers typically combine various aspects of different models into new amalgams that differ from the individual sources (Bandura, Ross, & Ross, 1963a). Because observers vary in what they adopt from the social diversity they observe, different observers create new blends of characteristics.

Boyd and Richerson (1985) analyzed the mechanisms of cultural evolution from a population view of social learning. Within their conceptual framework, multiple modeling influences, environmental conditions, and personal experiences operate interactively to change the distribution of cultural behavioral variants over time and to foster convergence toward variants that are especially efficacious in particular milieus. The different ways in which social learning influences favor some behavioral variants over others receive detailed consideration in the social cognitive theory of social diffusion of innovations (Bandura, 1986). Moreover, symbolic modeling is an influential vehicle of rapid social change in contrast to the slower pace of incremental change (Bandura, 1997; Braithwaite, 1994). Challengers of inequitable social practices are enabled and motivated by the modeled successes of others who, under subordinating conditions, altered institutional practices by concerted collective action that changed their lives for the better.

Enactive Experience

People differ in how they respond to the same gender-linked conduct displayed by children. They can develop and refine gendered orientations by observing the positive and negative consequences accompanying different patterns of behavior. Moreover, some people are more concerned and reactive to gender-linked conduct. Fathers, for example, react more negatively than mothers to their sons' feminine toy play (Idle, Wood, & Desmarais, 1993). The wider the array of people and social systems that children are exposed to and interact with, the more diverse the array of outcomes they experience for various types of gender-linked conduct. The same behavior can meet with different reactions from different people and in different contexts within the child's social milieu. Children extract, weigh, and integrate this diverse outcome information in constructing guides for conduct.

Direct Tuition

Gender roles and conduct can be affected by direct tutoring as well as through modeling and social evaluative reactions. In this mode of influence, gender conceptions are drawn from the tutelage of persons in one's social environment. As in other forms of influence, direct tuition is most effective when it is based on shared values and receives widespread social support. Models, of course, do not often practice what they preach. The impact of tuition is weakened when what is being taught is contradicted by what is modeled (Hildebrandt, Feldman, & Ditrichs, 1973; McManis &

Liebert, 1968; Rosenhan et al., 1968). Discordances between the style of behavior modeled by adults and peers adds further to the complexity of modeling processes (Bandura, Grusec, & Menlove, 1967). Children vary in the relative weight they give to the divergent sources of influence.

As is evident from the preceding analysis, people do not passively absorb gender role conceptions from whatever influences happen to impinge on them. Rather, they construct generic conceptions from the diversity of styles of conduct that are modeled, evaluatively prescribed and taught by different individuals or by even the same person for different activities in different contexts. The development of gender role conceptions is a construction rather than simply a wholesale incorporation of what is socially transmitted.

Regulators of Gendered Conduct and Role Behavior

The discussion thus far has centered on the acquisition of gender conceptions and competencies. This is only part of the theoretical framework. Social cognitive theory also addresses the factors that regulate gender-linked conduct and how their relative influence changes developmentally. These factors include self-regulatory mechanisms rooted in social sanctions and self sanctions (Bandura, 1986). In addition, self-efficacy beliefs play a pivotal role in both the acquisition and regulation of gendered roles and styles of conduct.

Gender-Linked Social Sanctions

Children have to gain predictive knowledge about the likely social outcomes of gender-linked conduct in different settings, toward different individuals and for different pursuits. The three basic modes of influence reviewed above similarly promote learning about the incentive structures of the social environment. Children acquire predictive outcome knowledge from observing the outcomes experienced by others, from the outcomes they experience firsthand, and what they are told about the likely consequences of behaving in different ways for their sex.

In the gender domain, most gender-linked outcomes are socially prescribed rather than intrinsic to the action. They include socially based consequences such as approval, praise, and reward for activities traditionally linked to the same gender, and disapproval or even punishment for those linked to the other gender. It is not naturally foreordained that the same behavior enacted by females should produce different outcomes than when enacted by males.

In sociocognitive theory, evaluative social outcomes influence behavior mainly through their informational and motivational functions (Bandura, 1986). First, outcomes convey information about the social norms and the system of sanctions governing gender-linked behavior. The second function that anticipated outcomes serve is as incentives and disincentives for action. Forethought converts foreseeable outcomes into current motivators of behavior (Bandura, 1991a). People pursue courses of action they believe will bring valued outcomes and refrain from those they believe will give rise to aversive outcomes.

The sociocognitive conception of incentive motivation, which combines the informational and motivational functions of social sanctions, differs from gender schema theory, which concerns only

information about gender-linked stereotypes and gender identity (Signorella, Bigler, & Liben, 1993). As noted earlier, simply knowing the stereotypes, which increase with age, does not necessarily motivate children to act in accordance with them. Indeed, a meta-analytic study showed that as children become increasingly knowledgeable about gender role stereotypes, they believe less strongly, especially girls, that those stereotypes should exist (Signorella et al., 1993). Therefore, a comprehensive theory of gender development must consider not only knowledge about what is considered acceptable for the two sexes, but the motivation to act on that knowledge. We soon examine the influential role of outcome expectations rooted in social sanctions in the development and regulation of gender-linked conduct.

Regulatory Self-Sanctions

Social cognitive theory posits that, in the course of development, the regulation of behavior shifts from predominately external sanctions and mandates to gradual substitution of self-sanctions and self-direction grounded in personal standards (Bandura, 1986, 1991b). After self-regulatory functions are developed, children guide their conduct by sanctions they apply to themselves. They do things that give them self-satisfaction and a sense of self-worth. They refrain from behaving in ways that violate their standards to avoid self-censure. The standards provide the guidance; the anticipatory self-sanctions provide the motivators. Self-sanctions thus keep conduct in line with personal standards.

Self-regulation operates through a set of psychological subfunctions that must be developed and mobilized for self-directed in-

fluence (Bandura, 1986). These subfunctions include self-monitoring of gender-linked conduct, judgment of conduct in relation to personal standards and environmental circumstances, and self-reactive influence (Figure 3).

To exercise self-influence, people have to monitor their behavior and the situational circumstances in which they find themselves enmeshed. As children become aware of the social significance attached to gender, they increasingly attend to this aspect of their behavior (Serbin & Sprafkin, 1986). In mixed-sex groups, children are more likely to monitor behavior according to its gender linkage. Compared with girls, boys monitor their behavior on the gender dimension more closely because, as already noted, they are more likely to be reproached for conduct that deviates from their gender (Martin, 1993). Moreover, boys have a strong incentive to oversee male-linked behavior because it usually carries higher status and power than female-linked behavior (Fagot, 1985; Fagot & Leinbach, 1993). Social power has a strong influence on modeling (Bandura et al., 1963a; Bussey & Bandura, 1984). Although boys clearly favor male models, when females command power over rewarding resources boys adopt their behavior. Power, of course, plays a highly influential role in adult pursuits. For example, in the occupational sphere, men earn more than women and male-dominated occupations tend to be more highly paid and valued than female-dominated ones (Reskin, 1991). Even on the athletic field, the media is considerably more attentive to, and broadcasts more widely, men's athletic contests than those of women.

Self-monitoring is the first step toward exercising influence over one's behavior; however, in itself, such information provides little

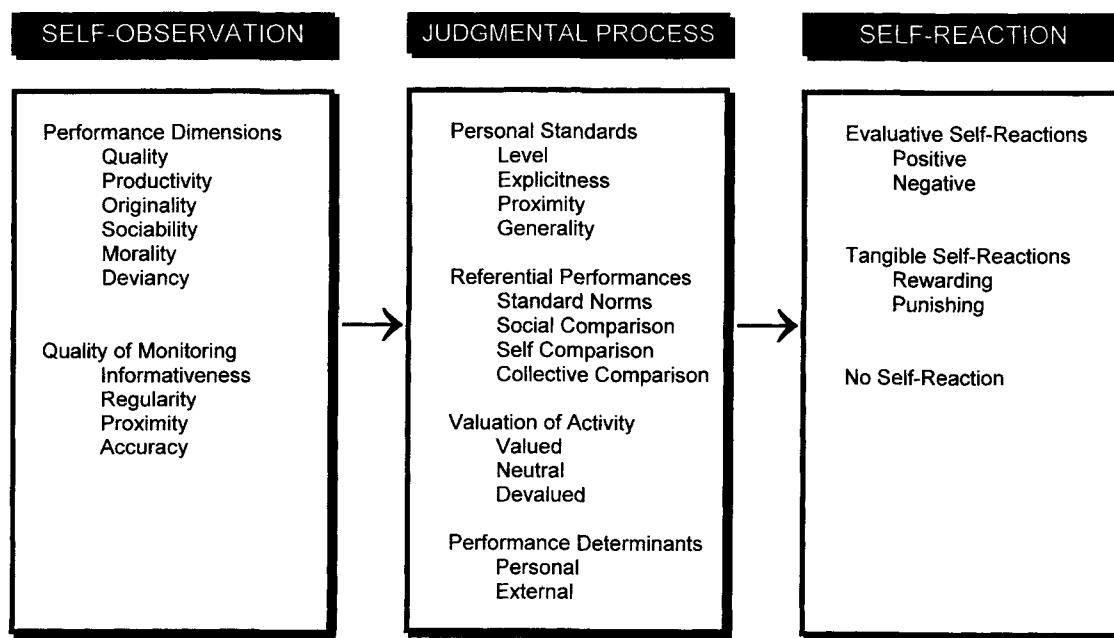


Figure 3. Structure of the system of self-regulation of motivation and action through internal standards and self-reactive influence. From *Social Foundations of Thought and Action: A Social Cognitive Theory* (p. 337), by A. Bandura, 1986, Englewood Cliffs, NJ: Prentice Hall. Copyright 1986 by Prentice Hall. Reprinted with permission.

basis for self-evaluative reactions. Actions give rise to self-reactions through a judgmental function in which the appropriateness of the behavior is evaluated against gender-linked standards and the circumstances under which it occurs.

Personal standards are developed from information conveyed by the three principal modes of influence (Bandura, 1986). People form personal standards partly on the basis of how significant persons in their lives have reacted evaluatively to their behavior. Sociological theories of the self tend to emphasize this particular mode of influence (Cooley, 1902; McCall, 1977). Standards are also drawn from the tutelage of influential persons in one's social environment or from the standards prescribed by them. Advocating certain standards of behavior, even if they are widely shared, does not ensure their adoption. Thus, if parents preach gender egalitarianism but model traditional roles, the precepts soon lose their force. Effective tuition requires some social validation through supportive behavioral feedback (Bandura, 1986; Drabman, Spitalnik, & O'Leary, 1973).

People not only teach and evaluatively prescribe standards for others, they also exemplify them in their evaluative reactions to their own conduct. They respond with self-satisfaction and self-approval when they fulfill their personal standards but negatively when they fall short of, or violate, their standards. Children's own self-evaluative standards are affected by modeled ones to which they have been exposed (Bandura, 1986).

People construct their standards through reflective processing of these multiple sources of direct and vicarious influences, which may vary across individuals and even within individuals in what they practice for themselves and prescribe for others. From such diverse experiences, children learn the evaluative significance of gender in a wide variety of contexts. These include familial roles, peer interactions, and occupational and leisure pursuits. Added to this diversity is the need to consider the changing and conflicting messages about the value of traditional gender roles. Therefore, the standards people construct for themselves are not merely facsimiles of what they have been taught, evaluatively prescribed, or have seen modeled.

With increasing cognitive capabilities, children become more aware of the variability and diversity of gender role behavior. Widespread cultural changes add further to the heterogeneity and changeability of gender conceptions and standards (Spence, 1984). When long hair and culinary skill became in vogue for men, those who were adorned with flowing locks and cultivated their cooking skills viewed themselves as masculine as did men with cropped hair who eschewed the kitchen. Similarly, with the rebirth of the women's movement in the 1960s, women sought to redefine their roles beyond homemaking and childcare. Their struggle for equal rights and opportunities has increased the numbers of women entering a wide variety of occupations including male-dominated ones. Although the workforce remains extensively gender segregated and men tend to dominate the higher status positions, it now is more acceptable for women to combine occupational pursuits with family responsibilities through choice rather than need (Almquist, 1989; Fleming, 1988).

Judgments of one's behavior against personal standards sets the occasion for self-reactive influence. Self-evaluative reactions provide the mechanism through which standards regulate courses of action. Self-approving reactions for behavior that measures up to personal standards, and self-censure for behaving in ways that

violate those standards give direction to behavior and provide motivators for it. Both gender constancy and gender schema theory emphasize conception matching as the primary regulative process. Social cognitive theory posits both the standard-matching function and the motivating self-reactive function. Research conducted in different domains has revealed that both functions are necessary in the motivation and regulation of conduct (Bandura, 1991a).

The power of self-reactive regulation has been verified in major domains of functioning including academic development (Zimmerman, 1989; Zimmerman, Bandura, & Martinez-Pons, 1992); creativity (Zimmerman & Bandura, 1994); health behavior (Bandura, 1998); organizational functioning (Bandura 1991c; Wood & Bandura, 1989); transgressive conduct (Bandura, 1991b; Caprara et al., 1998; Grusec & Kuczynski, 1977; Perry, Perry, Bussey, English, & Arnold, 1980); and aggressive patterns of behavior (Perry & Bussey, 1977). The regulative role of self-reactive influence through personal standards in gender-related behavior will be examined in sections that follow.

After self-regulatory capabilities have been developed, behavior usually produces two sets of outcomes: self-evaluative reactions and social reactions. They may operate as complementary or as opposing influences on behavior. The way in which gender roles are orchestrated is largely determined by the interplay between personal and social sources of influence.

Role of Perceived Self-Efficacy in the Development and Regulation of Gender Role Conduct

In the agentic sociocognitive view (Bandura, 1997, 1999), people are self-organizing, proactive, self-reflective, and self-regulating, and not just reactive organisms shaped and shepherded by external events. The capacity to exercise control over one's thought processes, motivation, affect, and action operates through mechanisms of personal agency. Among the mechanisms of agency, none is more central or pervasive than people's beliefs in their capabilities to produce given levels of attainments. Unless people believe they can produce desired effects by their actions, they have little incentive to act or to persevere in the face of difficulties. Perceived efficacy is, therefore, the foundation of human agency.

The theoretical analysis and growing body of research on how efficacy beliefs are formed, the processes through which they operate, their diverse effects and their modification have been extensively reviewed elsewhere and will only be summarized briefly here because of space limitations (Bandura, 1995, 1997; Maddux, 1995; Schwarzer, 1992). Meta-analyses conducted across age levels and spheres of functioning attest to the psychosocial impact of beliefs of personal efficacy (Holden, 1991; Holden, Moncher, Schinke, & Barker, 1990; Multon, Brown, & Lent, 1991; Stajkovic & Luthans, 1998). Developmental analyses reveal that perceived self-efficacy is a common pathway through which different forms of social influence affect the quality of human functioning throughout the life course (Bandura, 1997).

People's beliefs in their efficacy can be developed in four major ways. The most effective way of instilling a strong sense of efficacy is through graded mastery experiences. Successes build a robust belief in one's personal efficacy. Failures undermine it. A resilient sense of efficacy requires experience in overcoming obstacles through perseverant effort. The second way of creating and

strengthening self-efficacy is by social modeling. Models transmit knowledge, skills, and strategies for managing environmental demands. Seeing people similar to oneself succeed by sustained effort raises observer's beliefs in his or her own capabilities. The failures of others instill self-doubts about one's own ability to master similar activities.

Social persuasion is the third mode of influence. Expressing faith in people's capabilities raises their beliefs that they have what it takes to succeed; however, effective efficacy builders do more than convey positive appraisals. They structure activities in ways that bring success and do not place people prematurely in situations likely to bring failure. People also rely partly on inferences from their physical and emotional states in judging their capabilities. The fourth way of modifying efficacy beliefs is to reduce people's stress and depression, build their physical strength, and change misinterpretations of their physical states.

Efficacy beliefs exert their effects through their impact on cognitive, motivational, and affective processes and on selection of activities and environments (Bandura, 1997). Perceived personal efficacy influences the choices people make, their aspirations, how much effort they mobilize in a given endeavor, how long they persevere in the face of difficulties and setbacks, whether their thought patterns are self-hindering or self-aiding, the amount of anxiety and stress they experience in coping with taxing and threatening environments, their vulnerability to depression, and their resilience to adversity.

Efficacy beliefs play a pivotal role in the exercise of personal agency because they not only operate on behavior in their own right but also through their impact on other classes of motivators. The effects of goals, outcome expectations, causal attributions, and perceived environmental opportunities and impediments on motivation are partly governed by beliefs of personal efficacy (Bandura, 1991a, 1997). The outcomes people anticipate depend largely on their beliefs of how well they can perform in given situations. Those of high efficacy expect to gain favorable outcomes; those who expect poor performances of themselves conjure up negative outcomes. It is partly based on efficacy beliefs that people choose what goal challenges to undertake, how much effort to invest in the endeavor, and how long to persevere in the face of difficulties. When faced with obstacles, setbacks, and failures, those who doubt their abilities slacken their efforts, give up, or settle for mediocre solutions. Those who have a strong belief in their abilities redouble their efforts to master the challenges. Efficacy beliefs influence causal attributions. People who regard themselves as highly efficacious ascribe their failures to insufficient effort, inadequate strategies, or unfavorable circumstances. Those of low efficacy attribute their failures to low ability. Efficacy beliefs also play an influential role in how formidable obstacles appear. People of high perceived efficacy view impediments as surmountable; those of low efficacy view them as daunting obstacles over which they can exert little control. In judging their environmental circumstances, people who are assured in their efficacy focus on the opportunities worth pursuing rather than dwell on risks, and take a future time perspective in structuring their lives (Eppel, Bandura, & Zimbardo, 1999; Krueger & Dickson, 1993, 1994).

Research in diverse activity domains has furthered understanding of how efficacy beliefs enable children and adults to contribute to their accomplishments and well-being through the exercise of self-regulatory influences (Bandura, 1997). People are partly the

product of their environment. Hence, they can also have a hand in what they become by the types of activities they choose to get into. In efficacy-guided self-development through choice processes, personal destinies are shaped by selection of environments known to cultivate valued potentialities and lifestyles.

The power of efficacy beliefs to affect the life paths of men and women through selection processes is most clearly revealed in studies of career choice and development (Bandura, 1997; Hackett, 1995). Occupational choices are of considerable importance because they structure a major part of people's everyday reality, provide them with a source of personal identity and determine their satisfaction and the quality of their worklife. Efficacy beliefs set the slate of options for serious consideration. For example, people rapidly eliminate from consideration entire classes of vocations on the basis of perceived efficacy, regardless of the benefits they may hold. Those who have a strong sense of personal efficacy consider a wide range of career options, show greater interest in them, prepare themselves better for different careers, and have greater staying power in their chosen pursuits (Lent et al., 1994).

Occupational pursuits are extensively gendered. The pervasive stereotypic practices of the various societal subsystems, which we examined earlier, eventually leave their mark on women's beliefs about their occupational efficacy. Male students have a comparable sense of efficacy for both traditionally male-dominated and female-dominated occupations. In contrast, female students judge themselves more efficacious for the types of occupations traditionally held by women but have a weaker sense of efficacy that they can master the educational requirements and job functions of traditionally male-gendered occupations, even though they do not differ in actual verbal and quantitative ability (Betz & Hackett, 1981). The disparity in perceived efficacy for male-dominated and female-dominated occupations is greatest for women who view themselves as highly feminine, distrust their quantitative capabilities, and believe there are few successful female models in traditionally male-dominated occupations (Matsui, Ikeda, & Ohnishi, 1989). Although efficacy beliefs contribute more heavily to occupational preferences than beliefs about the benefits attainable by different pursuits, women base their occupational preferences even more heavily on their perceived efficacy than on the potential benefits the vocations yield (Wheeler, 1983).

Gender differences disappear, however, when women judge their efficacy to perform the same activities in everyday situations in stereotypically feminine tasks than in the context of male-dominated occupations (Betz & Hackett, 1983; Junge & Dretzke, 1995; Matsui & Tsukamoto, 1991). Such findings suggest that gender-related efficacy impediments arise from stereotype linkage rather than actual capabilities. Gender stereotyping of pursuits that suggests lesser ability diminishes judgments of personal efficacy.

Women's beliefs about their capabilities and their career aspirations are shaped by undermining social practices within the family, the educational system, peer relationships, the mass media, the occupational system, and the culture at large (Bandura, 1997; Betz & Fitzgerald, 1987; Dweck, Davidson, Nelson & Enna, 1978; Eccles, 1989; Gettys & Cann, 1981; Hackett & Betz, 1981; Jacobs, 1989; McGhee & Frueh, 1980; Phillips & Zimmerman, 1990; Signorielli, 1990). We examine the practices of these societal subsystems in greater detail later in this article.

Because quantitative abilities are essential entry skills for scientific and technical occupations, a low sense of mathematical

self-efficacy operates as a major barrier to a whole range of occupational pursuits requiring quantitative skills. Research conducted by Hackett (1985) provides evidence that perceived efficacy is a central mediator through which socialization practices and past experiences affect educational and career choices. Gender affects perceived mathematical efficacy through mathematical preparation in high school, mathematical achievement, and masculine gender role orientation. Masculine gender role orientation and level of mathematical achievement foster math-related educational and career choices through their effects on perceived mathematical efficacy rather than directly. Perceived mathematical efficacy promotes selection of mathematically oriented educational and career pursuits both directly and by lowering vulnerability to anxiety over mathematical activities. Gender and prior mathematical preparation also have a direct effect on choice of academic major.

As in selection of quantitatively oriented course work, the effect of gender on mathematical performance is mediated through perceived self-efficacy rather than operating directly (Pajares & Miller, 1994). Simply invoking the gender stereotype can undermine women's efficacy to make good use of the mathematical competencies they possess (Steele, 1997). Women's lowered sense of mathematical efficacy is, of course, changeable. Mastery experiences eliminate gender differences (Schunk & Lilly, 1984).

Computer systems are playing an increasing role in educational development and serving as a major information management and decision-making tool in the modern workplace. Through their association with mathematics and electronic technology, computers have become masculinized. As a result, boys receive encouragement from an early age by parents and teachers to develop computer literacy. As a consequence, they regard computer skills as more important to their career development than do girls (Hess & Miura, 1985; Lockheed, 1985; Ware & Stuck, 1985). Societal practices that breed perceived inefficacy in the use of computer tools is thus creating new occupational impediments for women. Even at an early age, girls express a lower sense of computer efficacy than do boys (Miura, 1987b). Gender differences in perceived computer efficacy extend to the college level as well (Miura, 1987a; Murphy, Coover, & Owen, 1989). Those of low perceived efficacy show less interest in acquiring computer competencies, are less inclined to pursue computer coursework, and see computer literacy as less relevant to their future careers. Thus, men are benefiting much more than women from these technological advancements (Gallie, 1991).

In focusing on the influential role of perceived efficacy in gender differences in career aspirations and pursuits, one should not lose sight of the earlier discussion that cultural constraints, inequitable incentive systems, and truncated opportunity structures shape women's career development. These social realities form an important part of the triadic model of causation. It should also be noted that the variability within sexes exceeds the differences between them. Therefore, modal sex characteristics in perceived efficacy should not be imputed to all members within each sex group. Indeed, women who take a more egalitarian view toward the role of women display a higher sense of efficacy for traditionally male occupations and are more oriented toward such careers in high school and pursue them in college (Hackett, 1985; O'Brien & Fassinger, 1993). They construct different identities and fu-

tures for themselves. Perceived self-efficacy predicts career nontraditionality.

The self-efficacy component of social cognitive theory does more than identify a contributory factor to career development. The theory provides the means for enhancing the personal source of control over the course of one's self-development. For example, at the elementary school level, girls' mathematical self-efficacy and skills can be raised to the level of boys' by guided mastery experiences (Schunk & Lilly, 1984). Similarly, at the occupational level, programs combining modeling with enabling feedback, build perceived self-efficacy and skill in using financial software for varied business functions in women who harbored strong self-doubts about their efficacy to use computerized systems (Gist, Schwoerer, & Rosen, 1989). The same set of factors posited by social cognitive theory to explain and predict behavior inform and guide effective interventions as well across diverse spheres of functioning (Bandura, 1997).

Gender differences are also evident in the way in which beliefs of personal efficacy affect emotional well-being. For example, women are generally more prone to depression than men, a difference that emerges in late adolescence (Culbertson, 1997; Nolen-Hoeksema & Girgus, 1994). Because of its prevalence and impairment of functioning, children's depression can have an important impact on the course of gender development.

Perceived inefficacy to control things one values contributes to depression in several ways. One route is through unfulfilled aspirations (Bandura, 1991a; Kanfer & Zeiss, 1983). People who self-impose standards of self-worth they judge they cannot attain drive themselves to depression. A second route to depression is through a low sense of social efficacy to develop social relationships that bring satisfaction to one's life and make chronic stressors easier to bear (Holahan & Holahan, 1987a, 1987b). Social support, in turn, produces beneficial effects only to the extent that it raises perceived coping efficacy (Cutrona & Troutman, 1986; Major, Mueller, & Hildebrandt, 1985). The third route to depression is through thought-control efficacy. Much human depression is cognitively generated by dejecting, ruminative thought (Nolen-Hoeksema, 1991). A low sense of efficacy to control ruminative thought contributes to the occurrence, duration, and recurrence of depressive episodes (Kavanagh & Wilson, 1989).

Microanalyses reveal that the self-efficacy pathways to childhood depression differ across gender (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999). A low sense of social efficacy contributes more heavily to depression in girls than in boys. Moreover, girls are more likely to get depressed over beliefs about academic inefficacy even though they surpass their male counterparts in their academic work. Gender differences also appear in perceived efficacy for affect regulation (Caprara, Scabini, Barbaranelli, Pastorelli, & Bandura, in press). A strong sense of efficacy to manage positive emotions is accompanied by high prosocialness similarly for males and females. In contrast, a low sense of efficacy to manage negative emotions is highly depressing for females but not for males. The heavier involvement of social and affective facets of perceived self-efficacy for girls may help to explain their greater proneness to depression in late adolescence and adulthood. Preexisting perceived self-inefficacy in more aspects of their lives makes it more difficult to manage heightened transitional stressors and new role demands without experiencing despondency. Indeed, Nolen-Hoeksema and Girgus (1994) built a strong case that the

interaction of preexisting gender differences in sociocognitive depressogenic factors with more stressors linked to the female role accounts for the emergence of gender differences in late adolescence.

Perceived Collective Efficacy and Sociostructural Change

Social cognitive theory extends the analysis of human agency to collective agency (Bandura, 1997, 1999). Personal and collective efficacy differ in the unit of agency; however, both forms of efficacy beliefs serve similar functions and operate through similar processes. People's shared beliefs in their efficacy influence the type of futures they seek to achieve collectively, how much effort they put into their group endeavors, their staying power when collective efforts fail to produce quick results or meet forcible opposition, their vulnerability to discouragement, and the social changes they are able to realize.

Beneficial gender-role development is a social matter, not just a personal one. Handicapping practices that are built into the social order require social remedies. The collective social efforts must address the expectations, belief systems, and social practices in the home, school, mass media, and the workplace that not only diminish personal efficacy and aspirations but erect institutional impediments to making the most of one's talents. The exercise of collective efficacy for social and policy initiatives is aimed at raising public awareness of inequitable practices, educating and influencing policymakers, and mobilizing public support for warranted social changes (Bandura, 1997; Wallack, Dorfman, Jernigan, & Themba, 1993). Women gained voting rights after a prolonged struggle through the forcible collective action of the women's suffrage movement. In contemporary efforts in the political arena, through the organized collective power of its political network, Emily's List is elevating women to positions of legislative power by providing financial support, building winning campaigns, and mobilizing women voters.

Social Cognitive Analysis of Gender Role Development and Functioning

The earlier analyses of extant conceptions of gender development document the need for an alternative theory of gender development and functioning. To recap briefly the major conceptual and empirical problems, although gender identity and constancy were posited as the factors governing gender development, the mechanisms by which they come into being remain unspecified. They are simply assumed to be products of interaction with the environment. However, this deficiency is the least of the problems because it is conceptually remediable. The nonpredictiveness of the posited cognitive factors seriously question the viability of the major tenets of the theories themselves. None of gender identity, gender constancy, nor gender stereotypic knowledge predicts gender-linked conduct. Young children exhibit preferences long before they acquire gender conceptions or understand the gender linkage of their preferences. Nor does knowledge of gender stereotypes predict gender-linked conduct in older children or adults. Virtually all of them know the stereotypes but vary in their behavior.

Cognitive-developmental and schema theories posited knowledge of gender identity or constancy as the intrapsychic automo-

tivator of gender-linked conduct. That is, attainment of gender self-knowledge leads one to emulate and do "girl things" or "boy things." The behavioral nonpredictiveness of gender self-knowledge alone calls into question the regulatory tenets of the theory as well. Clearly, other motivational and regulatory mechanisms govern gender-linked conduct.

Differentiation of gender roles is a sociostructural phenomenon, rather than merely an intrapsychic one. Human development and functioning operate within a broad network of social influences rather than within a socially insulated cognitivism. If doing "girl things" and "boy things" had no differential social effects, gender labeling would lose its significance. Gender typing remains highly salient because it makes a big difference in one's life experiences. The constellation of gender attributes and roles people adopt is a socially propagated matter not just an intrapsychic one.

Sociostructural theories and psychological theories are often viewed as rival conceptions of human behavior or as representing different levels of causation. Human functioning cannot be fully understood solely in terms of sociostructural factors or psychological factors. A full understanding requires an integrated perspective in which social influences operate through psychological mechanisms to produce behavioral effects. When analyzed within a unified causal structure, sociostructural influences produce behavioral effects largely through self-processes rather than directly (Baldwin, Baldwin, Sameroff, & Seifer, 1989; Bandura, Barbaranelli, Caprara, & Pastorelli, 1996b; Bandura, Barbaranelli, Caprara, & Pastorelli, 1999; Elder & Ardelet, 1992). The effects of sociostructural influences on the functioning of social systems are also in large part mediated through the collective agency of the operators of the systems (Bandura, 1997).

The preceding sections reviewed the main tenets of social cognitive theory concerning the determinants and mechanisms governing the acquisition, motivation, and regulation of conduct especially relevant to the gender domain. The succeeding sections specifically apply the sociocognitive principles to gender role development and functioning.

Pregender Identity Regulation of Gender Conduct

Even before children can label themselves and others by gender, which does not occur until shortly after the second year of life, they can differentiate the sexes and act in ways consistent with traditional gender-linked practices. During the first year of life, infants can distinguish between the two sexes and by the second year they engage in gender-linked conduct and prefer activities associated with their own gender (Blakemore et al., 1979; Fagot, 1974; Fein, Johnson, Kosson, Stork, & Wasserman, 1975).

Because gender is such a significant category for societal organization, it takes on special importance from birth. Children learn to categorize people on the basis of their gender from a very early age. By 7 months, infants can discriminate between male and female faces (Cornell, 1974; Fagan, 1976; Fagan & Sheperd, 1982; Fagan & Singer, 1979) and between male and female voices (Miller, 1983; Miller, Younger, & Morse, 1982). Hair length and voice pitch are distinguishing features for such discriminations (Leinbach, 1990). By 9 months, infants begin to show intermodal gender knowledge (Poulin-Dubois, Serbin, Kenyon, & Derbyshire, 1994). When presented with pairs of male and female pictures they attend more to female faces when they hear female voices, and

by 12 months they attend more to male than female faces when they hear male voices.

Consider the pervasive social forces that are brought to bear on the development of gender orientation from the very beginning of life. Parents do not suspend influencing gender orientations until children can identify themselves as girls and boys. On the contrary, parents begin the task at the very outset of development. They do so by the way they structure the physical environment and by their social reactions around activities. From the moment of birth, when infants are categorized as either male or female, many of the social influences that impinge on them are determined by their gender (Rheingold & Cook, 1975). Parents reveal strong gendered beliefs about their newborns even when there are no objective differences in size or activity. Parents of newborn girls rate them as finer featured, weaker, softer, and more delicate than parents rate their newborn boys (Karraker, Vogel, & Lake, 1995; Rubin, Provenzano, & Luria, 1974). For most children, both their physical and social environments are highly gendered. Names, clothing, and decoration of infants' rooms are all influenced by their categorization as either female or male. Boys are adorned in blue and girls in pink. Boys are attired in rugged trousers, girls in pastel jeans or skirts. They are given different hairstyles as well (Lorber, 1994; Shakin, Shakin, & Sternblitz, 1985). Children come to use differential physical attributes, hairstyles, and clothing as indicants of gender (Katcher, 1955; Thompson & Bentler, 1971).

Much early role learning occurs in play. The forms play takes are structured and channeled by social influences. Parents stereotypically stock their sons' rooms with educational materials, machines, vehicles, and sports equipment, and their daughters' rooms with baby dolls, doll houses, domestic items, and floral furnishings (Pomerleau, Bolduc, Malcuit, & Cossette, 1990; Rheingold & Cook, 1975). Boys are provided with a greater variety of toys than girls. These play materials orient boys' activities and interests to gender roles usually performed outside the home. By contrast, girls are given toys directed toward domestic roles such as homemaking and child care. Parents are also more likely to purchase gender-traditional than gender-nontraditional toys requested by their children (Etaugh & Liss, 1992). The amount of time spent playing with toys traditionally linked to one's gender or the other gender is highly related to the types of toys parents provide (Eisenberg, Wolchik, Hernandez, & Pasternack, 1985). Thus, the gender-linked play materials arranged for children channels their spontaneous play into traditionally feminine or masculine roles (Etaugh & Liss, 1992).

The differentiation of the sexes extends beyond the realm of attire, make-believe play, and other playful activities. Whenever appropriate occasions arise, parents and adults instruct children in the kinds of behavior expected of girls and boys and provide evaluative feedback when it is performed. Mothers respond more negatively when their children engage in gender-atypical than gender-typical activities (Leaper, Leve, Strasser, & Schwartz, 1995). Although not all parents are inflexible gender stereotypers in all activities, most accept, model, and teach the sex roles traditionally favored by the culture.

Social sanctions bear heavily on gender-linked conduct even in the earliest years. Parents convey to their children positive and negative sanctions through affective reactions and evaluative comments. Affective communication through intonation patterns, smiles, and frowns are highly salient events that direct infants'

behavior when their verbal skills are limited. Positive affective reactions promote approach behavior, whereas negative affective reactions promote avoidant forms of behavior (Feinman, 1992). For preverbal children, the intonation of maternal comments has more impact on their behavior than does the semantic content (Fernald, 1989).

Although preverbal children cannot label their own sex or that of others, or even the gender linkage of objects, parental affective reactions and communications about the objects are sufficient to sway their children's play. Parents are excited, smile, and comment approvingly when their children engage in activities considered appropriate for their gender, but they are likely to show and voice disapproval when their children take up activities deemed appropriate for the other gender. These affective reactions, depending on their nature, create positive and negative orientations to gender-linked objects and activities (Caldera, Huston, & O'Brien, 1989; Fagot & Leinbach, 1991). These findings are in accord with a great deal of evidence from other spheres of functioning on parental affective regulation of children's approach and avoidance reactions to ambiguous and novel objects (Bandura, 1992; Feinman, 1992). Modeled affective reactions not only shape behavioral orientations but alter the valence of the activities themselves (Bandura, 1986). Objects and activities thus get gendered through such reactive, instructive, and modeled social means.

Even during the early years, fathers are more stereotypic socializers than are mothers (Langlois & Downs, 1980; Siegal, 1987; Snow, Jacklin, & Maccoby, 1983). One father, when he discovered trucks in a box of toys for his daughter in a gender-typing experiment, remarked, "Oh, they must have boys in this study" (Caldera et al., 1989). The father's intonation probably alerted the child to avoid the "masculine" toys as much as what he said. Starting in infancy and continuing through to middle childhood, fathers are more encouraging of physically active play for sons than for daughters (Jacklin, DiPietro, & Maccoby, 1984; Lindsey, Mize, & Pettit, 1997; MacDonald & Parke, 1986).

Apart from parental evaluative reactions and direct tutelage concerning gender-linked conduct, children also notice the various activities modeled by their parents and peers. Modeling influences are important even in children's early gender development. Because gender is a category carrying consequential outcomes, girls attend closely to female models and boys to male models before they can label themselves or others according to gender (Kujawski & Bower, 1993; Langlois, Ritter, Roggman, & Vaughn, 1991; Lewis & Brooks-Gunn, 1979).

The ability to differentiate the two sexes and to link them to different activities and their associated social sanctions is all that is necessary for children to begin to learn gender role stereotypes. The children choose activities consistent with gender-linked stereotypes from having observed certain activities occur correlatively with the two sexes before they have a conception of gender. This level of gender understanding precedes gender self-identity, which already involves abstraction of a set of gender attributes integrated into a more general knowledge structure. When exposed to a female model engaging in male- and female-stereotyped activities, boys of 25 months emulated male-stereotyped activities to a greater extent than female-stereotyped ones. In contrast, girls of this age showed no differential emulation of the female- and male-stereotyped sequences. It is evident that the stronger gender-typing pressures for boys leads them to favor male-stereotypical

activities, even before they had acquired gender stereotypical knowledge (Bauer, 1993).

Self-Categorization and Acquisition of Gender Role Knowledge

As children become more cognitively adept, their knowledge of gender extends beyond nonverbal categorization of people and objects, to explicit labeling of people, objects, and styles of behavior according to gender. As children begin to comprehend speech, they notice that verbal labeling in masculine and feminine terms is used extensively by those around them. It does not take them long to learn that children are characterized as boys and girls, and adults as mothers and fathers, women and men. Gender labeling gives salience not only to sorting people on the basis of gender but also aggregates the features and activities that characterize each gender.

We mentioned earlier that gender labeling takes on considerable importance because a great deal depends on it. It highlights gender not only as an important category for viewing the world but also as the basis for categorizing oneself. Once such self-categorization occurs, the label takes on added significance, especially as children increasingly recognize that the social world around them is heavily structured around this categorical differentiation. One's gender status makes a big difference. It carries enormous significance not only for dress and play, but the skills cultivated, the occupations pursued, the functions performed in family life, and the nature of one's leisure pursuits and social relationships.

Social cognitive theory posits that, through cognitive processing of direct and vicarious experiences, children come to categorize themselves as girls or boys, gain substantial knowledge of gender attributes and roles, and extract rules as to what types of behavior are considered appropriate for their gender. However, unlike the gender constancy and schema theories, it does not invest gender conceptions with automatic directive and motivating properties. Acquiring a conception of gender and valuing the attributes defining that conception are separable processes governed by different determinants. In the preceding sections we have demonstrated how self-regulatory mechanisms operate through perceived self-efficacy, anticipated social sanctions, self-sanctions, and perceived impediments rather than gender labeling itself motivating and guiding gender-linked conduct.

Just as having a conception of one's own gender does not drive one to personify the stereotype it embraces, nor does the self-conception of gender necessarily create positive valuation of the attributes and roles traditionally associated with it. Both the valuation of certain attributes and roles and the eagerness to adopt them are influenced by the value society places on them. Societies that subordinate women may lead many of them to devalue their own gender identity. Boys clearly favor male models, but girls, who are fully cognizant of their gender constancy, do not display the exclusive same-gender modeling as the cognitivistic theories would have one believe (Bussey & Bandura, 1984, 1992; Frey & Ruble, 1992; Luecke-Aleksa, Anderson, Collins, & Schmitt, 1995; Slaby & Frey, 1975). For boys, there is little conflict between their own valuation of their gender and societal valuation of it. For girls, however, although they may value being a girl and gender-linked activities, they very early recognize the differential societal valuation of male and female roles (Kuhn, Nash, & Brucken, 1978;

Meyer, 1980). Consequently, women have some incentive to attempt to raise their status by mastering activities and interests traditionally typed as masculine. Even at the preschool level, girls show greater modeling after the other gender than do boys.

In the social sphere, there are large gender differences in the modeling of aggression, which is widely regarded as a principal attribute of maleness. The heavy aggressive modeling by males is not lost on boys. Even at the very early age preschool boys are higher adopters of modeled styles of aggression than girls, and even more so if it is modeled by males than by females (Bandura, Ross, & Ross, 1961, 1963b). In their spontaneous comments in the latter studies, the children expressed in no uncertain terms the inappropriateness of a woman behaving aggressively:

Who is that lady? That's not the way for a lady to behave. Ladies are supposed to act like ladies . . . You should have seen what that girl did in there. She was just acting like a man. I never saw a girl act like that before. She was punching and fighting but no swearing. (p. 581)

In contrast, the man's aggressiveness was admired by both the boys ("Al's a good sucker, he beat up Bobo. I want to sock like Al.") and the girls ("That man is a strong fighter, he punched and punched and he could hit Bobo right down to the floor and if Bobo got up he said, 'Punch your nose.' He's a good fighter like Daddy.") (Bandura et al., 1961, p. 581). It is not as though boys are preordained for aggressive modeling, however. When exposed to male models behaving nonaggressively in the presence of provocative cues, boys decrease their aggressiveness (Bandura et al., 1961).

Although boys are more inclined than girls to adopt modeled aggressive styles of behavior, the differences reflect primarily differential restraint rather than differential acquisition. When girls are offered positive incentives to reproduce the novel patterns of aggression they saw modeled, the results show that girls learn just about as much as boys from the aggressive models (Bandura, 1965).

In their analyses of the mass media, Gerbner and his colleagues documented that televised dramas reflect the ideological orientations and power relations in the society (Gerbner, Gross, Morgan, & Signorielli, 1986). The basic messages they convey shape public images of reality. In the gendered portrayals of aggression in adult relationships, men are usually the aggressors, whereas women are more often helpless victims (Gerbner, 1972; Milkie, 1994). When women are aggressive, they are more likely to get punished for it than are men. Gerbner suggested that repeated exposure to such power scenarios reinforces public views that can contribute to the subordination of women.

In the televised world, men wield aggressive power extensively, but in the everyday world most people do not go around assaulting each other. Of those who resort to aggressive conduct, males are generally more directly aggressive than females, although the difference is much smaller than is commonly believed and further diminishes with age, under conditions of provocation, and in the presence of aggressive cues (Bettencourt & Kernahan, 1997; Bettencourt & Miller, 1996; Hyde, 1984). In accord with social cognitive theory (Bandura, 1973; Perry, Perry & Boldizar, 1990), gender differences vary depending on the anticipated consequences of aggression. Both the anticipated personal and social sanctions for aggression differ depending on sex status (Eagly & Steffen, 1986). Girls expect stronger parental and peer disapproval

for aggression and greater self-censure for such conduct (Perry, Perry, & Weiss, 1989). As a consequence, girls make greater use than boys of indirect means of aggression (Crick & Grotpeter, 1995; Lagerspetz, Björkqvist, & Peltonen, 1988).

Gender differences in aggressiveness also partly reflect differences in perceived self-regulatory efficacy. Girls exhibit a significantly higher sense of efficacy to resist peer pressure to engage in untoward conduct, a difference that is replicated cross-nationally (Caprara et al., in press; Pastorelli et al., 1999). Moreover, boys are more facile in disengaging moral self-sanctions from injurious conduct than are girls (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996a; Kwak & Bandura, 1997). The higher the moral disengagement and the weaker the self-regulatory efficacy, the heavier the involvement in antisocial conduct (Kwak & Bandura, 1997).

From Social Sanctions to Self-Sanctions

The developmental changes posited by social cognitive theory are concerned not only with attributes and activities that get gendered, but with the mechanisms through which such conduct is regulated (Bandura, 1986, 1991a). With development of self-reactive capabilities, the regulation of conduct gradually shifts from external direction and sanctions to self-sanctions governed by personal standards. On the basis of direct and vicarious experiences, young children gain increasing knowledge about the likely outcomes of gender-linked conduct and regulate their actions accordingly. Through the acquisitional processes reviewed earlier, children eventually adopt personal standards linked to self-reactive guides and motivators that enable them to exercise influence over their own conduct.

Research by Bussey and Bandura (1992) provides confirmatory evidence for socially guided control of gender-linked conduct in early development with emergence of self-regulatory control with increasing age. Nursery school children at four levels of gender conception (i.e., no gender identity but accurate gender labeling, gender identity, gender stability, gender constancy) were assessed for their gender knowledge, social reactions to gender-typed conduct by peers, personal standards and self-evaluative reactions to gender-typed conduct, and their actual gender-linked conduct under diverse situational conditions. They were tested for their spontaneous play when they had a variety of gender-typed toys to choose from and when only toys linked to the other gender were available. They were also tested for their approving and disapproving reactions to peers on videotape engaging in activities linked to the other gender, their judgments of how friends of the videotaped peers would respond to their conduct, and their self-approving and self-critical reactions to engaging in same-gender activities and those considered appropriate to the other gender.

Both 3- and 4-year-old children reacted in a gender stereotypic manner to conduct by peers that did not conform to their gender. They disapproved of boys feeding, diapering, and comforting dolls and girls driving dump trucks. They also expected the peer's friends to react in the same disapproving way. However, the 3-year-olds did not exhibit differential self-evaluative reactions to engaging in masculine-typed and feminine-typed activities (Figure 4). Nor did their self-reactions predict their gender-linked conduct. By contrast, the 4-year-olds exhibited substantial self-regulatory guidance on the basis of personal standards. They expressed an-

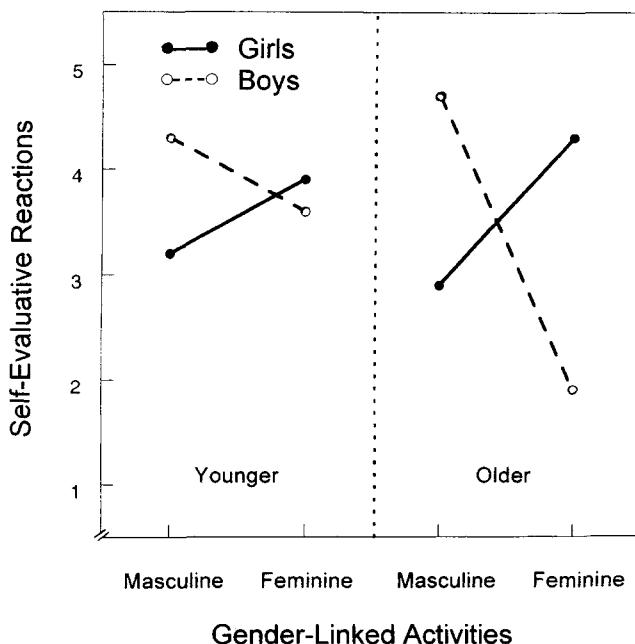


Figure 4. Mean self-reactions toward gender-linked conduct as a function of age, gender, and gender-linked activity. From "Self-Regulatory Mechanisms Governing Gender Development," by K. Bussey and A. Bandura, 1992, *Child Development*, 63, p. 1243. Copyright 1992 by the Society for Research in Child Development. Reprinted with permission.

ticipatory self-approval for conduct linked to their gender but self-criticism for conduct deemed appropriate to the other gender. Moreover, their anticipatory self-sanctions predicted their actual gender-linked conduct.

The children's spontaneous comments when confined to a play environment containing only material considered appropriate for the other gender give graphic testimony that stereotypic gender orientations are already ingrained at this early tender age. Some boys tried to have the stereotypic "feminine" toys promptly removed. For example, when it became apparent that they were being left only with feminine toys, one boy hastily announced to the departing experimenter, "No, I'm finished with those toys," even though he had completely shunned them during the prior period. They were not at all hesitant in expressing their displeasure with the selections they were left with: "I don't like baby dolls." During the session they tried to do anything but play with the feminine toys. One boy flung the doll across the room and turned his back on it, getting it at least out of sight, if not out of mind. Some sought to restructure their constrained options by sticking to moderately feminine toys and transforming them into masculinized tools, as, for example, using an eggbeater in the cooking set as guns or drills. Although girls expressed much weaker self-evaluative reactions to "masculine" activities, some of their comments were most revealing. In expressing her self-sanctions against playing with a truck, one girl explained, "My mommy would want me to play with this, but I don't want to." In this case it would be interesting to know whether the mother was modeling a gender role that conflicted with the one she was prescribing, or whether the daughter's personal standards had come under the sway of extrafamilial influences.

The findings of this study also have important bearing on gender constancy and gender schema theories. Children who had not even attained gender identity, let alone gender constancy, demonstrated clear preference for engaging in same-gender rather than other-gender activities. Although they could not label objects as gender-linked, they were quite aware of the social standards associated with gender-linked objects and disapproved of peers' conduct that did not conform to their gender. Even the youngest children behaved toward peers in a gender-stereotypic manner, despite their limited gender-linked knowledge. They regulated their own conduct by the reactions they expected from others, pursuing same-gender activities but shunning activities linked to the other gender. Neither children's gender identity, stability, constancy, nor gender classificatory knowledge predicted gender-linked conduct.

From Gender Categorization to Gender Role Learning

Gender role learning requires broadening gender conceptions to include not only appearances but clusters of behavioral attributes and interests that form lifestyle patterns and social and occupational roles as well. Knowledge about gender roles involves a higher level of organization and abstraction than simply categorization of persons, objects, and activities in terms of gender. To complicate matters further, the stylistic and role behaviors that traditionally typify male and female orientations are not uniformly gender linked. Many men are mild mannered and some females are aggressive. As a result, children have to rely on the relative prevalence of exemplars and the extent to which given activities covary with gender. If children routinely see women performing homemaking activities, and males only occasionally try their hand at it, homemaking readily gets gender typed as a woman's role. However, if children often observe both men and women gardening, it is not as easily linked to gender.

As children mature, not only are they more cognitively adept at discerning the gender linkage of interests and activities and integrating diverse information into more composite conceptions, but their social worlds expand. They are increasingly exposed to a broader range of social influences outside the home. Before examining how this expanded range of social influences affects children's gender development and functioning, we analyze the changing role of parents in gender differentiation over the course of development.

Parental Impact on Subsequent Gender Development

In an earlier section, we showed that parents play an active role in setting the course of their children's gender development by structuring, channeling, modeling, labeling and reacting evaluatively to gender-linked conduct. As children's verbal and cognitive capabilities increase, parents broaden the conception of gender by instructing their children about gender-linked styles of conduct and roles that extend beyond merely classifying objects, people, and discrete activities into male and female categories. Behavioral styles represent clusters of attributes organized in a coherent way. Girls are encouraged to be nurturant and polite and boys to be adventuresome and independent (Huston, 1983; Zahn-Waxler, Cole, & Barrett, 1991).

Parental conversations with children are extended to emotions, and these discussions take different forms for sons and daughters

(Dunn, Bretherton, & Munn, 1987). Not only do mothers talk more to their daughters than to their sons, but they use more supportive forms of speech with their daughters than with their sons. Conversations with daughters include more emotional references, particularly in discussions about interpersonal relationships (Flanagan & Perese, 1998). In addition, they are more likely to encourage daughters when they make affiliative and supportive remarks to others (Leaper, Anderson, & Sanders, 1998; Leaper, Leve, Strasser, & Schwartz, 1995). In contrast, mothers are more likely to encourage autonomy and independence in their sons than their daughters (Pomerantz & Ruble, 1998). Mothers rarely discuss anger with their daughters but often do so with their sons and are quick to attribute this emotional state to them (Fivush, 1989). It is interesting to note in passing that emotiveness is regarded as a prime characteristic of women; however, anger, which men emote freely quite often, gets ignored in the gender comparisons of emotional proneness.

We have seen in the previous analysis that parents promote sharper differentiation of gendered conduct with boys than with girls. This extends to cross-gender conduct, which is more negatively regarded for boys than for girls (Sandnabba & Ahlberg, 1999). Parents view feminine toys and activities as more gender stereotypical than masculine toys and activities, which also contributes to their greater acceptance of cross-gender conduct by girls than by boys (Campenni, 1999). This gender dichotomization and asymmetry is stronger for fathers, who continue this differential treatment throughout childhood (Bradley & Gobbart, 1989; Fagot & Hagen, 1991; Langlois & Downs, 1980; Maccoby, 1998; Siegel, 1987).

Despite the above findings and the extensive ones reported earlier, the influence of parents on children's gender development and functioning has been the subject of empirical dispute. Maccoby and Jacklin (1974) concluded that there was little support for parents' differential treatment of boys and girls. More recently, Lytton and Romney (1991) came to the same view on the basis of meta-analytic findings. This conclusion did not go unchallenged by other theorists (Block, 1976, 1978, 1983; Collins & Russell, 1991; Siegal, 1987). The issue in contention requires conceptual, empirical and methodological analysis.

The claim that parents do not treat the gender-linked conduct of their sons and daughters differently is most puzzling given the substantial evidence cited that many parents, in fact, actively create highly gendered learning environments in the home. The studies documenting the early parental structuring and channeling of gender orientations were excluded, for unexplained reasons, from Lytton and Romney's (1991) meta-analysis. All too often, parental influence is treated as a homogenous monolith. Families, of course, differ in the types of gender attributes and roles they model and promote in their children. In a similar way, children differ in the degree to which they adopt traditional or egalitarian styles of behavior. Evaluation of parental influence requires tests of covariation between parental practices regarding gendered conduct and their children's gender conduct. If parents who practice equality in social, educational, and other pursuits have children who are egalitarian in their gender orientation, the lack of parental gender differentiation does not mean that they have had no impact on their children. Quite the contrary. They have been highly successful in their egalitarian efforts. Parents who espouse traditional gender orientations actively encourage and reward tradi-

tional gender-linked activities and pursuits in their sons and daughters (Blakemore, 1998; Caldera et al., 1989; Fagot, Leinbach, & O'Boyle, 1992; Katz, 1996; Katz & Boswell, 1986; Weisner & Wilson-Mitchell, 1990).

Lytton and Romney (1991) did not differentiate between parents who socialize their children along traditional gender lines from those who foster more egalitarian gender roles, nor did they test the linkage between parental practices regarding gendered conduct and offspring conduct. The benefits of egalitarian orientations, such as better mental health and adjustment, higher self-esteem, and more satisfactory personal relationships (Bem, 1975; Helmreich, Spence, & Holahan, 1979; Ickes & Barnes, 1978), have been widely publicized. Cultural changes are easing sharp divisions in gender attributes and roles. Indeed, increasing numbers of parents are espousing an egalitarian ethic in their socialization practices (Weisner & Wilson-Mitchell, 1990).

Another factor that is ignored in evaluating parental impact on gender development (Lytton & Romney, 1991) is the level of consensus between mothers and fathers in their socialization practices. Fathers, more so than mothers, are more active in differentiating gender attributes and roles and more demanding of male orientations in their sons. To complicate matters further, gender encompasses a diverse array of attributes. Parents do not respond to all aspects of gender-linked conduct in the same way. The parent who is concerned about the gender-typedness of their child's clothing or hair style may be unconcerned about the gender typing of their academic pursuits. Within families, fathers and mothers often react differently to the same behavior in their child (Eisenberg et al., 1985; Langlois & Downs, 1980; Tauber, 1979). Yet, it is usually the mothers who are studied with methods that rely heavily on retrospective self-reports. Such data often reflect the prevailing societal views about parenting practices rather than the actual practices used (Robins, 1963). Lumping interfamilial diversity, intrafamilial diversity, and interdomain diversity in gender socialization into a homogeneous conglomerate can spawn a lot of misleading conclusions.

In addition, parents' self-reports often underestimate the extent of their differential treatment of boys and girls. Observational studies of parent-infant interactions show that parents tend to treat male and female infants differently and offer them gender-linked toys even when they say they do not behave differently on the basis of gender (Stern & Karraker, 1989; Will, Self, & Datan, 1976). The infants enlisted for these studies were arbitrarily dressed either as males or females and given male or female names so it is the attributed gender, not the infants' behavior, that activates the differential reactions in adults. Indeed, gender stereotypes are so deeply ingrained culturally that they can be activated automatically in people who profess gender nonbias (Banaji & Greenwald, 1995; Banaji & Hardin, 1996).

To understand parental influences, one must measure what they are modeling, teaching, and evaluatively encouraging and whether these differential modes of influence operate in concert or counteractively. Studies of parental impact on gender orientation rarely do so. Failure to measure a constituent mode of influence through which the parental impact is exerted can yield misleading findings. Analyses must also factor in the conditional nature of a given influence process. Social modeling is a good case in point. Modeling is a complex process rather than simple mechanistic mimicry, as it is often portrayed under the label of "imitation." The extent to

which exposure to an adult model will exert an effect on children is partly conditional on the quality of the relationship and the social status of the model, and the functional value of behavior being modeled among other things (Bandura, 1986). For example, children prefer to pattern their behavior after models who are nurturant (Bandura & Huston, 1961) and those who possess social power (Bandura et al., 1963a; Bussey & Bandura, 1984). Analyses that ignore important conditional factors can be misleading in their conclusions.

Family structures vary and are changing rapidly with single-parent families on the rise. The types of gender attributes and roles that are modeled and encouraged in single-parent families differ from those modeled and cultivated in dual-parent families (Leve & Fagot, 1997). By necessity, single-parent families model egalitarian gender roles to a greater extent than two-parent families because single parents have to assume both maternal and paternal functions. This is another familial factor that affects whether parents raise their sons and daughters similarly or differently. To lump families favoring egalitarian lifestyles with those promoting traditional differentiation as though they should all be earnest traditionalists confounds rather than clarifies issues concerning parental socialization practices.

Human development is influenced by the construed environment rather than mechanistically by the actual environment. For example, parents judge school to be more difficult for their daughters than for their sons even though they do not differ in actual academic achievement (Phillips & Zimmerman, 1990). Girls perceive their mothers as having lower academic expectations and lower achievement standards for them than for boys. In studies demonstrating that believing is seeing, children who had seen a female doctor working with a male nurse, produce stereotypically distorted remembrances in which they convert the male to the doctor and the female to the nurse (Cordua, McGraw, & Drabman, 1979; Signorella & Liben, 1984). Such findings underscore the importance of assessing the family environment as perceived and retained in memory by children when evaluating the impact of parents on their children's gender development.

An experimental analysis of modeling under different simulated family dynamics tested whether preschool children would pattern behavior after an adult who possessed power over rewarding resources or after the consumer of these resources (Bandura et al., 1963a). The children modeled their behavior after social power, except for the power constellation in which the female possessed the resources rather than the male. A number of the children dispossessed the female model of her power status by treating her as merely an intermediary of male ownership. As the preschoolers explained it in their unreserved way:

He's the man and it's all his because he's a daddy. Mommy never really has things belong to her. . . . He's the daddy so it's his but he shares nice with the mommy. . . . He's the man and the man always really has the money and he lets ladies play too. John's good and polite and he has very good manners. (Bandura et al., 1963a, p. 533)

These children modeled their behavior after attributed social power rather than actual power. In short, it is events as perceived that shape developmental courses. To clarify parental influences, one should also assess children's perceptions of their parents' status and practices rather than rely solely on a mechanistic model of direct environmental effects.

The final factor concerns the temporal ordering of parental influence. Parents play an active role during the early phase of gender development. With further development, family management practices change in form and locus of influence. After children adopt personal standards, parents lighten their socialization pressures because they are largely unnecessary (Bandura & Walters, 1959). Without analysis of changes in the balance of parental and self-directive influence as self-regulatory capabilities are developed, children appear fully gendered under the control of peers with seemingly inactive parents. For the many reasons given above, the view that parents exert no differential impact on their children's gender orientation is deeply problematic.

Impact of Peers on Gender Development

As children's social worlds expand outside the home, peer groups become another agency of gender development. Peers are sources of much social learning. They model and sanction styles of conduct and serve as comparative references for appraisal and validation of personal efficacy (Bandura, 1997; Schunk, 1987). In the social structuring of activities, children selectively associate with same-gender playmates pursuing gender-typed interests and activities (Huston, 1983). Gender segregation can increase the influence exerted by peers by creating highly differentiated environments for boys and girls. Some studies found that the segregation occurs earlier for girls than for boys (LaFreniere, Strayer, & Gauthier, 1984; Moller & Serbin, 1996; Yee & Brown, 1994), although other studies found no gender differences in when it begins (Fagot & Patterson, 1969; Jacklin & Maccoby, 1978; Maccoby & Jacklin, 1987). For school-age children, the segregation occurs not only in playgroups but in the choice of friends (Hayden-Thomson, Rubin, & Hymel, 1987).

In these peer interactions, children reward each other for gender-appropriate activities and punish gender conduct considered inappropriate for their gender (Lamb, Easterbrooks, & Holden, 1980). They apply the same negative sanctions for playing with peers of the other gender (Thorne, 1986). Consistent with parental practices, peers' negative sanctions for other-gender conduct and playmates are stronger for boys than for girls (Zucker, Wilson-Smith, Kurita, & Stern, 1995). Girls generally respond more positively to other girls than do boys regardless of the gender linkage of the activity in which they are engaged. Boys, like girls, also react more positively to members of their own sex but differ from girls in that they are less approving of boys who engage in female-linked conduct. Moreover, boys are much more likely to be criticized for activities considered to be feminine than are girls for engaging in male-typical activities (Fagot, 1985). Evaluative reactions from boys, such as "You're silly, that's for girls," "Now you're a girl," and "That's dumb, boys don't play with dolls," provide strong disincentives to do things linked to girls or spend much time playing with them.

In some of the current theorizing, the peer group is singled out as the prime socializing agency of gender development (Leaper, 1994; Maccoby, 1990, 1998). The view of the peer group as the ruling force is coupled with the disputable claim that parents do not differ in their gendered practices with sons and daughters (Lytton & Romney, 1991). The peer group is not an autonomous agency untouched by familial and other social influences. Indeed, the findings are quite consistent in showing that all of the social

subsystems—parents, teachers, peers, mass media, and the workplace—engage in a lot of gender differentiation and that the differential treatment is stronger for boys than for girls. Clearly, the peer group is neither the originator of societal gender stereotypes nor the unique player in the process of gender differentiation. Both the gender differentiation and stereotyping have a much earlier and socially pervasive source.

Peer affiliation does not disembody a child from the family. Parents encourage peer associations that uphold parental standards and support valued styles of behavior in contexts in which the parents are not present (Bandura & Walters, 1959; Elkin & Westley, 1955). Moreover, children who have developed their efficacy to manage peer influences talk with their parents about their social experiences when they are out on their own with their peers (Caprara et al., 1998). The parents, in turn, provide further guidance and support on how to deal with predicaments that arise with their peers. These findings support a transactional influence process rather than one in which gendering influence only flows unidirectionally from peers.

Theories that decouple peers from other societal influences confront the major task of explaining where the peers' views supporting gender differentiation come from. Gender constancy and gender labeling have been tested as explanatory factors but they have proven no more successful as predictors of peer segregation conduct than of individual gender conduct (Fagot et al., 1986; Moller & Serbin, 1996; Smetana & Letourneau, 1984; Yee & Brown, 1994). Another explanatory possibility is that boys and girls are, for some reason, attracted to different types of toys and activities. Differential attraction presumably fosters gender segregation that shapes differential gender conduct. This view begs the question of the source of the attraction. If it is innate, there is much discordant evidence in the variability and changeability of gender conduct that needs explaining. If the attraction is socially instilled, as the previous empirical analyses suggested, then the peer group is not the initiating agency of gender differentiation but rather the reflection of the normative orientation of the society at large.

A related explanation is that boys and girls display differential interactional styles, with boys being assertively oriented and girls prosocially oriented. Neither the empirical tests of the task attraction hypothesis nor the behavior compatibility hypothesis provides evidence that children select play partners on the basis of task attraction or their interactional style (Moller & Serbin, 1996). Still another possibility, derived from social identity theory (Tajfel, 1978), posits that favoritism toward members of the same gender produces gender segregation. Here, too, same-gender favoritism fails to predict the extent of children's gender segregation (Powlishta, 1995; Thorne, 1986).

In social cognitive theory, the peer group functions as an interdependent subsystem in gender differentiation not a socially disembody one (Bandura, 1986; Bandura & Walters, 1959). Peers are both the product as well as the contributing producers of gender differentiation. Children learn at a very early age what gets socially linked to gender as well as the values and conditional outcome dependencies about the gendered conduct that is considered proper or inappropriate for their gender. The socially instilled orientations lead peers to instate the gender differentiation by favoring same-gender playmates and making sure that their peers conform to the conduct expected of their gender.

Once subgroups are formed, the group dynamics of mutual modeling, social sanctioning, activity structuring, and social and psychological territoriality come into play. Social influences from interdependent social systems are not only important in the initial subgroup formation, but in the maintenance of gender differentiation. The commercial stereotyping and exploitation of gender in the media pop culture, which holds great attraction for youth, is but one example of a promoting subsystem. Experimental and field studies graphically reveal that the group stereotyping dynamics can be activated through subgroup formation on the basis of even an arbitrary characteristic, socially invested with superior or inferior value (Elliott, 1977; Peters, 1971; Weiner & Wright, 1973).

Media Representations of Gender Roles

Superimposed on the differential tuition and social sanctioning by parents and peers, which leaves few aspects of children's lives untouched, is a pervasive cultural modeling of gender roles. Children are continually exposed to models of gender-linked behavior in readers, storybooks, video games, and in representations of society on the television screen of every household (Courtney & Whipple, 1974; Dietz, 1998; Harris & Voorhees, 1981; Jacklin & Mischel, 1973; Miller & Reeves, 1976; Thompson & Zerbinos, 1997; Turner-Bowker, 1996). Males are generally portrayed as directive, venturesome, enterprising, and pursuing engaging occupations and recreational activities. In contrast, women are usually shown as acting in dependent, unambitious, and emotional ways. These stereotypic portrayals of gender roles are not confined to North America. Similar stereotyping of gender roles has been reported in the televised fare of Great Britain, Australia, Mexico, and Italy (Bretl & Cantor, 1988; Furnham & Voli, 1989; Gilly, 1988; Mazzella, Durkin, Cerini, & Buralli, 1992). Male and female televised characters are also portrayed as differing in agentic capabilities. Men are more likely to be shown exercising control over events, whereas women tend to be more at the mercy of others, especially in the coercive relationships that populate the prime time fare (Hodges, Brandt, & Kline, 1981).

The exaggerated gender stereotyping extends to the portrayal of occupational roles in the televised world. Men are shown pursuing careers often of high status, whereas women are largely confined to domestic roles or employed in low-status jobs (Durkin, 1985). For both sexes, these occupational representations neither fit the common vocations of most men nor the heavy involvement of women in the workplace in real life (Seggar & Wheeler, 1973). In the modern computerized workplace, men appear as managers and experts, whereas women appear as clerical workers or as merely attractive attendants in computer work stations (Ware & Stuck, 1985).

The gender stereotypes are replicated in television and radio commercials as well. Women are usually shown in the home as consumers of advertised products. Men, in contrast, are more likely to be portrayed as authoritative salesmen for the advertised products (Gilly, 1988; Manstead & McCulloch, 1981; Mazzella et al., 1992). Even when men do not appear in commercials, they are often presiding over the depicted scenarios in the voice-overs (Furnham & Bitar, 1993). When women do make it into the televised and radio sales roles, they generally promote food and beauty care products rather than computers, stocks and bonds, or automobiles, as do their male counterparts (Allan & Coltrane,

1996; Furnham & Bitar, 1993; Furnham & Thomson, 1999). Although there have been some changes so that the gender occupational differentiation is less pronounced, much stereotyping still remains in the occupational roles of men and women portrayed in the televised and print media (Bretl & Cantor, 1988; Kang, 1997; Manstead & McCulloch, 1981; Mazzella et al., 1992).

In the social domain, some of the flagrant gender stereotypes in televised portrayals have been toned down. However, rather than modeling common capabilities, aspirations, and roles by both sexes, women are being portrayed as emulating the more abrasive features of the masculine stereotype (St. Peter, 1979). Efforts to close the gender gap in the televised world seem to be taking the form of promoting masculine caricatures.

From the early preschool years children watch a great deal of television day in and day out (Wright & Huston, 1983). Considering the media representations of gender in diverse spheres of life, heavy viewers of television are exposed to a vast amount of stereotypic gender role modeling. It is not surprising that those who have a heavy diet of the televised fare display more stereotypic gender role conceptions than do light viewers (McGhee & Frueh, 1980).

Studies in which females are portrayed in a counterstereotypic way attest to the influence of modeling on gender role conceptions. Nonstereotypic modeling expands children's aspirations and the range of role options they deem appropriate to their gender (Ashby & Wittmaier, 1978; O'Bryant & Corder-Bolz, 1978). Repeated symbolic modeling of egalitarian role pursuits by males and females enduringly reduces the gender role stereotyping in young children (Flerx, Fidler, & Rogers, 1976; Ochman, 1996; Thompson & Zerbinos, 1997).

Impact of Educational Practices on Gender Development

The school functions as another primary setting for developing gender orientations. With regard to shaping gendered attributes, teachers criticize children for engaging in play activities considered inappropriate for their gender (Fagot, 1977). As in the case of parents and peers, teachers foster, through their social sanctions, sharper gender differentiations for boys than for girls.

Teachers also pay more attention to boys than girls and interact with them more extensively (Ebbeck, 1984; Morse & Handley, 1985). From nursery school through to the early elementary school years, boys receive more praise as well as criticism from teachers than girls (Cherry, 1975; Simpson & Erickson, 1983). The nature of the social sanctions also differ across gender. Boys are more likely to be praised for academic success and criticized for misbehavior, whereas girls tend to be praised for tidiness and compliance and criticized for academic failure. This differential pattern of social sanctions, which can enhance the perceived self-efficacy of boys but undermine that of girls, continues throughout the school years (Eccles, 1987).

School is the place where children expand their knowledge and competencies and form their sense of intellectual efficacy essential for participating effectively in the larger society. The self-beliefs and competencies acquired during this formative period carry especially heavy weight because they shape the course of career choices and development. Even as early as middle school, children's beliefs in their occupational efficacy, which are rooted in their patterns of perceived efficacy, have begun to crystallize and

steer their occupational considerations in directions congruent with their efficacy beliefs (Bandura et al., 1999). Stereotypic gender occupational orientations are very much in evidence and closely linked to the structure of efficacy beliefs. Girls' perceived occupational efficacy centers on service, clerical, caretaking, and teaching pursuits, whereas boys judge themselves more efficacious for careers in science, technology, computer systems, and physically active pursuits.

The gender bias in the judgment and cultivation of competencies operates in classrooms as well as in homes. Teachers often convey in many subtle ways that they expect less of girls academically. Teachers are inclined to attribute scholastic failures to social and motivational problems in boys but to deficiencies of ability in girls (Dweck et al., 1978). Girls have higher perceived efficacy and valuation of mathematics in classrooms where teachers emphasize the usefulness of quantitative skills, encourage cooperative or individualized learning rather than competitive learning, and minimize social comparative assessment of students' ability (Eccles, 1989).

Even for teachers who do not share the gender bias, unless they are proactive in providing equal gender opportunities to learn quantitative and scientific subjects, the more skilled male students dominate the instructional activities, which only further entrenches differential development of quantitative competencies. Thus, for example, computer coursework for children designed to reduce gender differences in computer literacy superimposed on a pervading gender bias raises boys' self-efficacy about computer use but lowers girls' self-efficacy and interest in computers (Collis, 1985). Clearly, it requires concerted effort to counteract the personal effects of stereotypic gender role socialization and the social perpetuation of them.

Despite the lack of gender differences in intelligence, there are differences in the courses boys and girls select and how they judge their capabilities in these varied academic domains (Benbow & Stanley, 1980; Eccles, 1987; Halpern, 1992; Hogrebe, Nest, & Newman, 1985; Hyde, Fennema, & Lamon, 1990; Hyde & Linn, 1988; Raymond & Benbow, 1989; Steinkamp & Maehr, 1983; Walkerline, 1989). Females enroll in significantly fewer higher level mathematics, science and computer courses; have less interest in these subjects; and view them as less useful to their lives than do their male counterparts.

The channeling of interests into different academic domains has a profound impact on career paths. Inadequate preparation in mathematics is an especially serious barrier because it filters out a large number of career options requiring this competency (Sells, 1982). The differential precollege preparation stems, not from differences in ability, but from differences in support and encouragement from teachers, peers, and parents to pursue quantitative and scientific coursework.

Gender biases also creep into career guidance functions. School counselors encourage and support the interest of boys in scientific fields; however, many scale down girls' aspirations and steer them away from scientific and technical fields of study into vocational paths below their levels of ability (Betz & Fitzgerald, 1987; Fitzgerald & Crites, 1980). Even students' evaluations of college professors are gender biased. Male professors are evaluated as smart and knowledgeable, females professors as nice and sensitive to students' needs (Basow, 1995). These evaluations occur not only in field studies involving actual professors but also in exper-

imental studies of hypothetical professors given male or female names (Burns-Glover & Veith, 1995). The tendency to stereotype by gender is so deeply ingrained that even minimal disembodied gender cues activate stereotypically gendered evaluative judgments (Nass, Moon, & Green, 1997). Students rate a male-voiced computer tutor as more informative, competent, and friendlier in giving corrective feedback than a female-voiced computer tutor providing the identical instruction.

The family plays an influential role in children's success in school (Steinberg, 1996). Parents' sense of efficacy to promote their children's development and the aspirations they hold for them affect their children's beliefs in their efficacy, their academic aspirations, perceived occupational capabilities and scholastic achievement (Bandura et al., 1996b, 1999). In longitudinal studies, Eccles (1989) found that parents generally subscribe to the cultural stereotype that boys are more naturally endowed than girls for quantitative activities, despite equivalent achievement in mathematics. The more parents stereotype mathematics as a naturally male domain, the more they underestimate their daughters' math abilities, overestimate the difficulty of the subject for them, attribute their successes to dint of hard work, and discourage them from computer and mathematical activities.

Even in kindergarten, mothers expect their daughters to do well in reading and their sons to do well in math (Lummis & Stevenson, 1990). From elementary school through high school, parents continue to expect their sons to do better in math than their daughters (Entwistle & Baker, 1983). Mothers are more likely to accompany praise for academic achievements with attributions of competence to their sons than to their daughters (Pomerantz & Ruble, 1998). When boys and girls are equated for mathematical ability, mothers and fathers believe that their daughters are less talented than do the parents of boys (Yee & Eccles, 1988).

Boys and girls do not differ initially in their perceived mathematical capabilities, but girls begin to lose confidence in their math abilities and differ increasingly from boys in this regard as they move into high school. The prevailing socioeducational practices take a toll on personal efficacy. Girls have a lower sense of their mathematical efficacy than do boys, even though they perform as well as boys perform in this subject. Females not only lose faith in their mathematical capabilities but attach less usefulness to quantitative skills for their life pursuits. Avoidance of mathematical activities eventually creates the very gender differences that parents originally presumed to exist.

Negatively biased practices not only constrain career aspirations and options but undermine a sense of personal agency. Ancis and Phillips (1996) examined the extent to which college women experienced a negatively biased academic environment in which they are regarded to be less serious and capable than male students, are given fewer academic opportunities and less support and have fewer female academic models and mentors. White female students experience such academic inequities, and female students of color experience them to a greater degree. The more that the students perceive academic inequities, the lower they perceive their agentic self-efficacy to take proactive charge of their educational and occupational advancement. The impact of academic bias on agentic efficacy remains when the influence of egalitarian gender-role orientation, academic major, and race are controlled.

The Gendered Practices of Occupational Systems

Occupational activities make up a major part of daily living and serve as important sources of personal identity. The gendered practices of familial, educational, peer, and media subsystems are essentially replicated in organizational structures and practices. These include extensive segregation of jobs along gender lines, concentration of women in lower level positions, inequitable wages, limited opportunities for upper level mobility, and power imbalances in work relationships that erect barriers to equitable participation in organizational activities (Eccles & Hoffman, 1984; Stockard & Johnson, 1992).

Recall from earlier analyses that, on the basis of the patterning of perceived efficacy for different occupational pursuits, women tend to gravitate toward female-dominant occupations and shun male-dominated ones (Lent et al., 1994). The interplay of personal and sociostructural impediments creates disparity in the distribution of women and men across occupations that differ in prestige, status, and monetary return. All too often, this leads to devaluation not only of women's work but the "feminized" occupations as well (Reskin, 1991). When a wife and her husband work in tandem—now, a quite common pattern—the woman's occupational pursuits tend to be regarded as a secondary career designed mainly to supplement the household income.

The recent years have witnessed vast changes in the roles women perform, but the sociostructural practices lag far behind (Bandura, 1997; Riley, Kahn, & Foner, 1994). Low birthrate and increased longevity creates the need for purposeful pursuits that provide satisfaction to one's life long after the offspring have left home (Astin, 1984). Women are educating themselves more extensively, which creates a wider array of options than was historically available for women. Women are entering the workforce in large numbers not just for economic reasons but as a matter of personal satisfaction and identity. Many have the personal efficacy, competencies, and interests to achieve distinguished careers in occupations traditionally dominated by men. Although the constraints to gaining entry into such careers have eased, many impediments remain to achieving progress within them (Jacobs, 1989).

Social change in organizational practices does not come easily because beneficiaries build the privileges into protective organizational processes and structures (Bandura, 1997). We have previously noted that, in earlier phases of development, the social pressures for gender differentiation are stronger for boys than for girls. Hence, girls are more apt to pursue activities considered appropriate for boys than boys are willing to adopt activities socially linked to girls. However, women's efforts to gain full acceptance in the workplaces of high status have met substantial resistance. Women in traditionally male occupations are evaluated more negatively than women in traditional occupations or men in occupations dominated by women (Pfost & Fiore, 1990). They are not viewed as positively or as competent as men of comparable skill in the same positions (Alban-Metcalfe & West, 1991; Paludi & Strayer, 1985). They receive less support from peers and mentors than do male employees (Alban-Metcalfe & West, 1991; Davidson & Cooper, 1984). They are excluded from informal networks and activities where important information is exchanged and business transactions are conducted (Kanter, 1977). They experience more impediments to advancement to the higher man-

agerial ranks in the organizational structure (Jacobs, 1989). Reskin (1991) commented insightfully on the organizational processes through which those in positions of power thwart challenges to their advantaged positions. She noted that women often had to turn to courts to achieve a more equitable environment for their development and occupational advancement.

Changing gender roles pose challenges on how to strike a balance between family and job demands for women who enter the workforce. The effects of juggling dual roles are typically framed negatively on how competing interrole demands breed distress and discordance. Much has been written on the negative spillover that women's job pressures have on family life but little on how job satisfaction may enhance family life. Research by Ozer (1995) speaks to this issue. Married women who pursued professional, managerial, and technical occupations were tested before the birth of their first child for their perceived self-efficacy to manage the demands of their family and occupational life. Their physical and psychological well-being and the strain they experienced over their dual roles were measured after they had returned to work. Neither family income, occupational workload, nor division of child-care responsibility directly affected women's well-being or emotional strain over dual roles. These factors were contributors, but they operated through their effects on perceived self-efficacy. Women who had a strong sense of coping efficacy (i.e., that they can manage the multiple demands of family and work, exert some influence over their work schedules, and get their husbands to help with various aspects of child care) experienced a low level of physical and emotional strain, good health, and a more positive sense of well-being. Neither conceptual schemes nor empirical studies have given much attention to the positive spillover effects of women's satisfying work lives on their home lives.

Although the women in the Ozer (1995) study contributed approximately half the family income, they bore most of the homemaking and child-care responsibilities, as is the common organization of domestic life. The division of household labor and organizational arrangements to promote sharing of family responsibilities lag far behind the changing family pattern in which both spouses are employed. Gender differentiation shapes the research agenda on the management of dual roles. Numerous studies examine how social support of the home buffers working fathers against the stressors of the workplaces, but there is a glaring absence of research on how fathers juggle the dual demands of the workplaces and housework and child care. When men and women do share family responsibilities, the criticism they receive discourages nontraditional family life. Mothers report more criticism than fathers for too little involvement at home or too much involvement at work, whereas fathers report more criticism than mothers for too much involvement at home and too little involvement at work (Deutsch & Saxon, 1998).

More equitable systems require personal as well as sociostructural changes. Given the pervasive negative sanctions for males performing domestic activities from the symbolic play in childhood to adulthood, these gender socialization practices produce males with low perceived efficacy to manage competently the combined demands of job and parenthood (Stickel & Bonett, 1991). Most elude the difficulties of juggling these dual roles by staying clear of housework and childcare.

Human stress is widely viewed as the emotional strain that arises when perceived task demands exceed perceived capability to

manage them. Matsui and Onglatco (1992) show that what is experienced as an occupational stressor depends partly on level of perceived self-efficacy. Women employees who have a low sense of efficacy are stressed by heavy work demands and role responsibilities. By contrast, those with a high sense of efficacy are frustrated and stressed by limited opportunities to make full use of their talents. A worklife of blocked opportunities, thwarted aspirations, and personal nonfulfillment that takes up most of one's daily living can be a source of misery.

Interdependence of Gender-Socializing Subsystems

The research we reviewed in the preceding sections documents the influential role played by each of the various societal subsystems in the differentiation of gender attributes and roles. In social cognitive theory (Bandura, 1986, 1999), human development and functioning are highly socially interdependent, richly contextualized, and conditionally manifested. In everyday life, these different subsystem sources of influence operate interdependently rather than isolatedly. The multicausality and reciprocity of influences adds greatly to the complexity of disentangling functional dependencies and their changing dynamics over the course of development. Further progress in understanding the sources, social functions, and personal and social effects of gender differentiation will require greater effort to clarify the complex interplay of the various subsystems of influence within the larger societal context. However, people are not simply the products of social forces acting on them. In the triadic reciprocity posited by social cognitive theory, people contribute to their self-development and social change through their agentic actions within the interrelated systems of influence.

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Received February 20, 1998

Revision received January 28, 1999

Accepted January 29, 1999 ■

Call for Nominations

The Publications and Communications Board has opened nominations for the editorships of *Behavioral Neuroscience*, *JEP: Applied*, *JEP: General*, *Psychological Methods*, and *Neuropsychology* for the years 2002-2007. Michela Gallagher, PhD; Raymond S. Nickerson, PhD; Nora S. Newcombe, PhD; Mark I. Appelbaum, PhD; and Laird S. Cermak, PhD, respectively, are the incumbent editors.

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