SOCIAL COGNITIVE THEORY

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Many theories have been proposed over the years to explain the developmental changes that people undergo over the course of their lives. These theories differ in the conceptions of human nature they adopt and in what they regard to be the basic causes and mechanisms of human motivation and behavior. The present chapter analyzes human development from the perspective of social cognitive theory (Bandura, 1986). Since development is a life- long process (Baltes & Reese, 1984), the analysis is concerned with changes in the psychosocial functioning of adults as well as with those occurring in childhood. Development is not a monolithic process. Human capabilities vary in their psychobiologic origins and in the experiential conditions needed to enhance and sustain them. Human development, therefore, encompasses many different types and patterns of changes. Diversity in social practices produces substantial individual differences in the capabilities that are cultivated and those that remain underdeveloped.

Triadic Reciprocal Determinism

Before analyzing the development of different human capabilities, the model of causation on which social cognitive theory is founded is reviewed briefly. Human behavior has often been explained in terms of one-sided determinism. In such modes of unidirectional causation, behavior is depicted as being shaped and controlled either by environmental influences or by internal dispositions. Social cognitive theory favors a model of causation involving triadic reciprocal determinism. In this model of reciprocal causation, behavior, cognition and other personal factors, and environmental influences all operate as interacting determinants that influence each other bidirectionally (Figure 1). Reciprocal causation does not mean that the different sources of influence are of equal strength. Some may be stronger than others. Nor do

the reciprocal influences all occur simultaneously. It takes time for a causal factor to exert its influence and activate reciprocal influences.

Insert Figure 1 about here

Let us consider briefly the major interactional links between the different subsystems of influence. The P ↔ B of reciprocal causation reflects the interaction between thought, affect and action. Expectations, beliefs, self- perceptions, goals and intentions give shape and direction to behavior. What people think, believe, and feel, affects how they behave (Bandura, 1986; Bower, 1975; Neisser, 1976). The natural and extrinsic effects of their actions, in turn, partly determine their thought patterns and emotional reactions. The personal factor also encompasses the biological properties of the organism. Physical structure and sensory and neural systems affect behavior and impose constraints on capabilities. Sensory systems and brain structures are, in turn, modifiable by behavioral experiences (Greenough, Black, & Wallace, 1987).

The E ↔ P segment of reciprocal causation is concerned with the interactive relation between personal characteristics and environmental influences. Human expectations, beliefs, emotional bents and cognitive competencies are developed and modified by social influences that convey information and activate emotional reactions through modeling, instruction and social persuasion (Bandura, 1986). People also evoke different reactions from their social environment by their physical characteristics, such as their age, size, race, sex, and physical attractiveness, quite apart from what they say and do (Lerner, 1982). People similarly activate different social reactions depending on their socially conferred roles and status. For example, children who have a reputation as tough aggressors will elicit different reactions from their peers

than those reputed to be unassertive. Thus, by their social status and observable characteristics people can affect their social environment before they say or do anything. The social reactions so elicited affect the recipients' conceptions of themselves and others in ways that either strengthen or alter the environmental bias (Snyder, 1981).

The B ↔ E segment of reciprocal causation in the triadic system represents the two-way influence between behavior and the environment. In the transactions of everyday life, behavior alters environmental conditions and is, in turn, altered by the very conditions it creates. The environment is not a fixed entity that inevitably impinges upon individuals. When mobility is constrained, some aspects of the physical and social environment may encroach on individuals whether they like it or not. But most aspects of the environment do not operate as an influence until they are activated by appropriate behavior. Lecturers do not influence students unless they attend their classes, hot stove tops do not burn unless they are touched, parents usually do not praise their children unless they do something praiseworthy. The aspect of the potential environment that becomes the actual environment for given individuals thus depends on how they behave.

Because of the bidirectionality of influence between behavior and environmental circumstances, people are both products and producers of their environment. They affect the nature of their experienced environment through selection and creation of situations. People tend to select activities and associates from the vast range of possibilities in terms of their acquired preferences and competencies (Bandura & Walters, 1959; Bullock & Merrill, 1980; Emmons & Diener, 1986). Through their actions, people create as well as select environments. Aggressive persons produce hostile environments wherever they go, whereas those who act in a more friendly manner generate an amiable social milieu (Raush, 1965). Thus, behavior determines

which of the many potential environmental influences will come into play and what forms they will take. Environmental influences, in turn, partly determine which forms of behavior are developed and activated. The growing recognition of reciprocal causation has altered the way in which socialization is viewed. One-sided developmental analyses of how parents influence their children have given way to transactional analyses of how parents and children influence each other (Bell & Harper, 1977; Cairns, 1979; Lewis & Rosenblum, 1974).

Determinants of Life Paths

Psychological theories of human development focus heavily on the growth of capabilities, especially during the earlier formative years when changes occur rapidly. However, the fundamental issue of what determines human life paths has received little attention. Knowledge of the level to which various capabilities have developed does not, in itself, tell us much about the course personal lives will take.

When human development is viewed from a lifespan perspective, the influential determinants include a varied succession of life events that vary in their power to affect the direction lives take (Brim & Ryff, 1980; Hultsch & Plemons, 1979). Many of these determinants include age-graded social influences that are provided by custom within familial, educational, and other institutional systems. Some involve biological conditions that exercise influence over person's futures. Others are unpredicatable occurrences in the physical environment. Still others involve irregular life events such as career changes, divorce, migration, accidents, and illness.

Social and technological changes alter, often considerably, the kinds of life events that become customary in the society. Indeed, many of the major changes in social and economic life are ushered in by innovations of technology. Life experiences under the same sociocultural conditions at a given period will differ for people who encounter them at different points in their

lifespan (Elder, 1981). Thus, for example, economic depression will have different effects on those entering adulthood than on those who pass through such adverse conditions at a young age. Major sociocultural changes that make life markedly different such as economic adversities that alter livelihoods and opportunity structures, military conflicts, cultural upheavals, new technologies and political changes that modify the character of the society can have strong impact on life courses.

Whatever the social conditions might be, there is still the task of explaining the varied directions that personal lives take at any given time and place. This requires a personal, as well as a social, analysis of life paths. Analysis of behavioral patterns across the lifespan reveals that, in addition to the prevailing sociocultural influences, fortuitous events often exert an important influences on the course of human lives (Bandura, 1982b). There are many fortuitous elements in the events people encounter in their daily lives. They are often brought together through a fortuitous constellation of events, when their paths would otherwise never be crossed. In such chance encounters, the separate paths in which people are moving have their own chain of causal determinants, but their intersection occurs fortuitously rather than through deliberate plan. The profusion of separate chains of events provides innumerable opportunities for fortuitous intersections. It is such chance encounters that often play a prominent role in shaping the course of career pursuits, forming marital partnerships, and altering the future direction of other aspects of human lives (Bandura, 1982b). To cite but a single example, an editor arrives for a talk on the psychology of chance encounters and grabs a seat that happens to be next to a woman psychologist as the lecture hall rapidly fills up. This chance meeting eventually led to their marriage. With only a slight change of time of entry, seating constellations would have altered and this particular social intersect would probably not have occurred. A marital partnership was

thus fortuitously formed at a talk devoted to fortuitous determinants of life paths! As this incident illustrates, some of the most important determinants of life paths often arise through the most trivial of circumstances.

Many chance encounters touch people only lightly, others leave more lasting effects, and still others thrust people into new trajectories of life. Psychology cannot foretell the occurrences of fortuitous encounters, however sophisticated its knowledge of human behavior. The unforeseeability and branching power of fortuitous influences make the specific course of lives neither easily predictable nor easily controllable. Fortuity of influence does not mean that behavior is undetermined. Fortuitous influences may be unforeseeable, but having occurred they enter as evident factors in causal chains in the same way as prearranged influences do.

A science of psychology does not have much to say about the occurrence of fortuitous intersections, except that personal attributes and particular social affiliations and milieus make some types of encounters more probable than others. The everyday activities of delinquent gangs and college enrollees will bring them into fortuitous contact with different types of persons. However, psychology can provide the basis for predicting the nature, scope, and strength of the impact such encounters will have on human lives. The power of fortuitous influences to inaugurate enduring change is determined by the reciprocal influence of personal proclivities and social factors. These interactive determinants have been extensively analyzed elsewhere (Bandura, 1982b).

Knowledge of the factors, whether planned or fortuitous, that can alter the course of life paths provides guides for how to foster valued futures. At the personal level, it requires cultivating the capabilities for exercising self-directedness. These include the development of competencies, self-beliefs of efficacy to exercise control, and self-regulatory capabilities for

influencing one's own motivation and actions. Such personal resources expand freedom of action, and enable people to serve as causal contributors to their own life course by selecting, influencing, and constructing their own circumstances. With such skills, people are better able to provide supports and direction for their actions, to capitalize on planned or fortuitous opportunities, to resist social traps that lead down detrimental paths, and to disengage themselves from such predicaments should they become enmeshed in them.

To exercise some measure of control over one's developmental course requires, in addition to effective tools of personal agency, a great deal of social support. Social resources are especially important during formative years when preferences and personal standards are in a state of flux, and there are many conflicting sources of influence with with to contend. To surmount the obstacles and stresses encountered in the life paths people take, they need social supports to give incentive, meaning, and worth to what they do. When social ties are weak or lacking, vulnerability to deleterious fortuitous influences is increased (Bandura, 1982b). The life paths that realistically become open to individuals are also partly determined by the nature of societal opportunity structures. To the extent that societal systems provide aidful means and resources they increase people's opportunities to influence the course of their lives.

In social cognitive theory, people are neither driven by inner forces nor automatically shaped and controlled by the environment. As we have already seen, they function as contributors to their own motivation, behavior, and development within a network of reciprocally interacting influences. Persons are characterized within this theoretical perspective in terms of a number of basic capabilities, to which we turn next.

SYMBOLIZING CAPABILITY

The remarkable capacity to use symbols provides humans with a powerful tool for understanding and managing their environment. Most external influences affect behavior through cognitive processes. Cognitive factors partly determine which environmental events will be observed, what meaning will be conferred on them, whether they leave any lasting effects, what emotional impact and motivating power they will have, and how the information they convey will be organized for future use. People process and transform passing experiences by means of verbal, imaginal and other symbols into cognitive models of reality that serve as guides for judgment and action. It is through symbols that people give meaning, form, and continuity to the experiences they have had. Symbols serve as the vehicle of thought. Cognitive representations of experiences in knowledge structures provide the substance for thinking. And rules and strategies provide the cognitive operations for manipulating knowledge for different purposes. By symbolically manipulating the information derived from personal and vicarious experiences, people gain understanding of causal relationships and expand their knowledge.

Knowledge and thinking skills provide the substance and tools for cognitive problem solving. Rather than solve problems solely by performing actions and suffering the consequences of missteps, people usually test possible solutions in thought and discard or retain them on the basis of estimated consequences before plunging into action. The remarkable flexibility of symbolization also enables people to create novel and fanciful ideas that transcend their sensory experiences. One can easily think of cows jumping over the moon and elephants riding on flies, even though these feats are physically impossible. Through the medium of symbols they can communicate with others at any distance in time and space. Other distinctive human characteristics to be discussed shortly depend on symbolic capability.

To say that people base many of their actions on thought does not necessarily mean they are always objectively rational. Rationality depends on reasoning skills which are not always well developed or used effectively. Even if people know how to reason they make faulty judgments when they base their reasoning on incomplete or erroneous information, or they fail to consider the full consequences of different choices. They often misread events through cognitive biases in ways that give rise to faulty beliefs about themselves and the world around them. When they act on their misconceptions, which appear subjectively rational to them, they are viewed by others as behaving in an unreasonable or foolish manner. Moreover, people often know what they ought to do but are swayed by compelling circumstances or emotional factors to behave otherwise.

Although the capacity to think vastly expands human capabilities, if put to faulty use, it can also serve as a major source of personal distress. Many human dysfunctions and torments stem from problems of thought. This is because, in their thoughts, people often dwell on painful pasts and on perturbing futures of their own invention. They burden themselves with stressful arousal through anxiety-provoking rumination. They debilitate their own efforts by self-doubting and other self-defeating ideation. They constrain and impoverish their lives through phobic thinking. They drive themselves to despondency by harsh self-evaluation and dejecting modes of thinking. And they often act on misconceptions that get them into trouble. Thought can thus be a source of human failings and distress as well as human accomplishment.

Analysis of how thought enters into the determination of behavior touches on fundamental issues concerning the mind-body relationship. In social cognitive theory, thoughts are brain processes rather than separate psychic entities. The view that cognitive events are brain processes does not mean that psychological laws regarding cognitive functioning must be

reduced to neurophysiological ones. Quite the contrary. One must distinguish between cortical systems and the personal and social means by which they can be orchestrated for different purposes. Mapping the neural circuitry subserving particular skills does not explain the environmental influences that structure those skills or the functional uses to which they will be put. For example, knowing how cortical neurons function in learning does not tell one much about how best to present and organize instructional material, how to code the material to remember it, and how to motivate learners to attend to, process, and rehearse what they are learning. Nor does understanding of how the brain works provide rules on how to construct conditions to produce successful parents, teachers, students or politicians. The influences needed to produce the neural occurrences underlying complex behavior are either external to the organism or act together with cognitively generated ones. The laws of psychology tell us how to structure environmental influences and to enlist cognitive activities to achieve given purposes.

To view cognitions as brain processes raises the intriguing question of how people come to be producers of thoughts that may be novel, inventive, visionary, or that take complete leave of reality, as in flights of fancy. One can get oneself to imagine several novel acts, and then choose to perform one of them. Cognitive production involves intention, creation and exercise of personal agency. The question of interest is not how mind and body act on each other as though they were separate entities, but how people can, through exercise of personal agency, bring into being cognitive or cortical productions and translate them into actions.

Discrete Global Structures or Specialized Cognitive Competencies

Virtually all theories of cognitive development assume that children become more skilled at abstract reasoning as they grow older. The issue in dispute concerns the nature of cognitive development. According to Piagetian theory, thinking changes in an invariant stage sequence

from one uniform way of thinking to another (Piaget, 1970). Cognitive conflict, arising from discrepancies between internal schemata and perceived events, serves as the motivating force for changing from concrete modes of thinking to more abstract forms.

Progression from concrete to abstract reasoning certainly characterizes some aspects of cognitive development. However, cognitive changes are much more diversified and depend on more than intrapsychic conflict. Flavell (1978b) summed up this diversity well when he said, "However much we may wish it to believe otherwise, human cognitive growth may simply be too contingent, multiform, and heterogeneous--too variegated in developmental mechanisms, routes, and rates--to be accurately categorized by any stage theory of the Piagetian kind" (p. 187). Cognitive development is better analyzed in terms of specialized cognitive competencies than discrete uniform ways of thinking.

Cognitive functioning involves knowledge, much of it specialized, and cognitive skills for operating on it. Hence, cognitive attainments require the acquisition of domain-relevant knowledge along with the judgmental rules that apply to that area of activity (Feldman, 1980). For example, the knowledge and rules for reasoning about biological processes will differ from those about mechanical systems or the workings of social relationships. The sequences in which complex cognitive competencies are acquired vary because different domains of activity have different structures.

Within the social cognitive perspective, social factors play an influential role in cognitive development and there are many motivators of the pursuit of competence. Maturational factors and the information gained from exploratory experiences contribute to cognitive growth. However, most valuable knowledge is imparted socially. Those who figure prominently in children's lives serve as indispensable sources of knowledge that contribute to what and how

children think about different matters. Indeed, children's intellectual self-development would be stunted if they could not draw on this heritage of knowledge in each realm of functioning and, instead, had to rediscover it, bit by bit, through their own trial-and-error activity. Guided instruction and modeling that effectively conveys abstract rules of reasoning promote cognitive development in children (Bandura, 1986; Brainerd, 1978; Rosenthal & Zimmerman, 1978). Socially-guided learning also encourages self-directed learning by providing children with the conceptual tools needed to gain new knowledge and to deal intelligently with the varied situations they encounter in their everyday life.

With increasing age, human judgment and problem solving depends more heavily on specialized knowledge domains. In efforts to develop their cognitive competencies, people draw on their own experiences and turn to others who are well informed on the matters of concern. Because of the complexity and rapid growth of knowledge, human acquisition of specialized cognitive competencies relies increasingly on modeled expertise. In this process, the knowledge and reasoning strategies for sound judgment are gleaned from those who are highly knowledgeable and skilled in the relevant domain of activity. Development of cognitive competencies can be accelerated by symbolically modeling the reasoning strategies for particular domains in systematic and highly informative ways (Coombs, 1984).

Language Development

A great deal of human thought is linguistically based. Hence, the processes by which language develops are of major interest. Initially, children acquire knowledge about objects and about the relationships between them through nonlinguistic processing of direct and vicarious experience. Such understanding helps to impart meaning to linguistic symbols. By relating the utterances they hear to what they understand to be going on at the time, children begin to grasp

what the different linguistic forms signify (Bowerman, 1973; Macnamara, 1972). The establishment of the linguistic system creates an intricate bidirectional influence between cognitive development and language acquisition (Schlesinger, 1982). After children learn the names for things and how to represent conceptual relationships in words, language can influence how children perceive, organize, and interpret events. Language thus becomes not only a means of communication but also shapes the form of thought. The rules for encoding semantic relations in words are originally learned from discourses regarding concrete events of high interest and meaning to children. As they master linguistic competencies, language becomes more abstract and is no longer dependent on the co-occurrence of actual events. This greatly extends the power of language as a tool of thought.

Generative language is unique to humans. Chimpanzees can be taught signs representing objects and be prompted to string a few of them together in a loose order, but this rudimentary communication bears little resemblance to the generative characteristics of human speech. People are endowed with information-processing capacities for extracting linguistic rules and using them to encode and convey information. The inherent capability to categorize, to abstract general characteristics from particular instances, to generalize across features of similarity, and to discriminate by features of dissimilarity provides the basic apparatus for discerning the regularities in language. These basic perceptual facilities aid recognition of similarities and differences in speech sounds and in segmenting the flow of speech into recognizable units (Jusczyk, 1981).

Language is the product of multiple determinants operating through a number of mediating processes. One set of determinants concerns the cognitive skills that children need to process linguistic information. This requires capabilities to perceive the essential elements of

speech, to recognize and remember sequential structures, to abstract rules from diverse utterances, and to select the appropriate words and production rules to generate intelligible utterances. These all involve intricate cognitive subskills. In trying to decipher speech, children have to figure out how the arrangement of spoken words relates to what they know about what is going on at the time. Thus, the second set of determinants of language acquisition pertains to children's fund of nonlinguistic knowledge in different areas of discourse. Such knowledge provides the notions about what the words mean and how they have to be arranged to convey the child's understood conceptual relations.

Linguistic knowledge is hard to come by, unless notions about words and their structures are considered and then put to the social test. As in other areas of functioning, the rate of language acquisition is better predicted from a person's knowledge that is most pertinent to the area of discourse than from global cognitive structures. The complexity of linguistic input and concrete accompaniments to what is being talked about constitutes the third set of factors governing language acquisition. Interpersonal factors, which govern the communicative functions of speech, serve as a further source of influence on language development. These various determinants will be examined in the sections that follow. When viewed from the broader perspective of communication, the process of language acquisition involves much more than syntactic analysis. Cognitive and social factors are an integral part of the process. However, in the concern over the form of speech, its social function was long neglected.

The contribution of social factors to language development has been downplayed for a long time on the basis of widely shared erroneous assumptions about social learning processes. These misconceptions have been addressed elsewhere and will not be reviewed here (Bandura, 1986). It is mainly through observational learning that children extract syntactic rules from the

speech they hear around them. Once they acquire syntactic rules they can generate new sentences they have never heard. In learning to communicate symbolically, children must acquire appropriate verbal symbols for objects and events and syntactic rules for representing relationships among them. The process of acquiring language involves not only learning grammatical relations between words, but also correlating the linguistic forms with the events to which they apply. This requires integrating two relational systems--linguistic and perceptual--both relying on a common base of understanding. Language learning, therefore, depends extensively on nonlinguistic understanding of the events to which the utterances refer. For this reason, it is difficult to transmit linguistic forms that children do not already know by verbal modeling alone.

Adults, of course, do not converse abstractly with young children who have a poor grasp of speech. Verbal expressions that convey grammatical relations are usually matched to meaningful ongoing activities about which children already have some knowledge. Grammatical features of speech are more informative and distinguishable when the semantic referents to the utterances are present than when they are absent. Young children, for example, are helped to comprehend plural forms if they hear singular and plural labels applied to single and multiple objects, respectively. Acquisition of language rules is greatly facilitated by linking linguistic modeling to ongoing activities to which the speech refers (Brown, 1976; Stewart & Hamilton, 1976; Whitehurst, 1977). Seeing things happen provides informative cues to the meaning of accompanying utterances.

The rate of language acquisition is affected by the complexity of the model's language relative to the children's cognitive capabilities. Children can gain little from modeled speech that exceeds their ability to process what they hear. Linguistic rules must be initially modeled in

simplified, as well as in semantically enriched forms to make them more easily learnable. Indeed, parents usually adjust their speech to their children's linguistic competence in an effort to facilitate language acquisition. When addressing young children, parents use utterances that are shorter, more repetitive, and grammatically simpler, than when they speak to older children (Baldwin & Baldwin, 1973; Moerk, 1986; Snow, 1972). Parents also speak slower, which eases the processing of linguistic input, and they use exaggerated intonation as an attention-focusing device. The linguistic environment, of course, is not populated solely with adults. Young children frequently model the language of their peers (Hamilton & Stewart, 1977). Even young children simplify their speech when they are talking to younger children (Shatz & Gelman, 1973). Children master words and linguistic forms at a very early age if provided with enriched language stimulation that matches their cognitive level (Swenson, 1983).

Parents use other modeling devices to promote language development. One method is to expand their children's previous utterances by replacing deletions or adding more complex linguistic elements. Through this process, young children pick up new linguistic forms from the modeled expansions and use them in their own speech (Bloom, Hood, & Lightbown, 1974; Kemp & Dale, 1973; Nicolich & Raph, 1978). The more parents engage in reciprocal modeling, which enhances it social function, the more readily children adopt their parents' modeled expansions (Folger & Chapman, 1978). Children's utterances represent efforts to communicate about meaningful activities that command their attention. Perhaps because of the greater attentional involvement of the children, parental linguistic modeling, which expands children's utterances, increases their spontaneous use of the selected linguistic forms more effectively than does similar parental modeling that is not linked to children's prior speech (Hovell, Schumaker, & Sherman, 1978). Another form of linguistic modeling that accelerates language acquisition

involves replying to children's speech by recasting it into a new syntactic form without altering the meaning of what is said. By using modeled recastings, Nelson (1977a, b) selectively promoted children's mastery of advanced syntactic forms they had lacked. Like modeled expansions, recastings address children's immediate communicative concerns and are thus well suited to catch attention and enlist motivation to improve one's linguistic competence.

In summary, modeling, supplemented with semantic aids and devices to focus attention on key linguistic features, is a highly effective way of promoting language acquisition. Sequential analyses of verbal interchanges between parents and their young children show that parents are active language teachers (Moerk, 1986). Their instructive and corrective strategies include repetitive modeling of more advanced linguistic forms, restructuring and elaborating the child's constructions in modeled feedback, simplifying linguistic structures, varying the content around the same structure, rephrasing utterances, prompting, questioning, informing, answering, labeling, pictorial structuring of what is being talked about, and accenting grammatically significant speech elements. Parents tailor their language to the children's level of cognitive and linguistic capabilities. It is not as though children are inundated with speech, but are left otherwise to their own devices to ferret out the rules of grammar from the verbal morass. Rather, parents do much of the abstraction for them by structuring linguistic information in ways that make grammatical rules more easily learnable (Moerk, 1986). As children increase their linguistic competence, parents diminish their instructive activities. Variations in the instructive aspects of parental speech correlate with the rate of children's language development.

Much of the preceding discussion has been concerned with how modeled speech is structured and semantically enriched to enhance language acquisition. Children adopt language because they can do useful and wondrous things with it. Intelligible speech provides many

benefits which function as incentives for acquiring communicative competence. In the initial prelinguistic phase, vocal expressions mainly serve interpersonal purposes--it is an effective way for infants to maintain positive interactions. When adults repeat the infants' vocal expressions, the infants' rate of spontaneous vocalizations increases substantially (Haugan & McIntire, 1972). Experience with this type of verbal interplay can enhance the infants' responsiveness to parental linguistic modeling for later language acquisition.

As children begin to recognize the communicative function of speech, their expressive language is influenced by different modes of feedback. We have already seen how language skills can be improved by elaborative and corrective modeling in adult response to incomplete or ungrammatical utterances by children. If children possess sufficient linguistic knowledge, even signs of noncomprehension by adults lead children to correct their own speech in the direction of more accurate forms of language (Kasermann & Foppa, 1981).

Children's language is affected more strongly by its natural consequences than by arbitrary, extrinsic ones. The most effective natural consequences are the benefits derived from influencing the social environment. Success in getting others to do things that bring one different benefits is better achieved by grammatical speech than by unintelligible utterances. The demands for communicative accuracy, although minimal initially, increase as children grow older.

Changes in children's expressive language have been studied when elaborated forms of speech are made highly useful in securing valued outcomes (Hart & Risley, 1978). In these naturalistic studies, young children with limited language skills can get attractive things they want, or assistance with tasks, provided they ask for things in informative ways using appropriate sentence structures. If they do not know the speech forms, they are initially modeled for them in the context of the requests for assistance, whereupon they are encouraged to use the

elaborated speech forms. Children readily adopt advanced speech forms when they can get what they want that way. Moreover, they generalize these elaborated styles of speech across settings, occasions, activities, and people, and they continue to use them after conditions have changed so that simpler speech would do (Hart & Risley, 1975; 1980). Hart and Risley attribute the effectiveness of this motivational system to the fact that language is developed through natural interactions initiated by the children relating to activities that arouse their interest and provide strong incentives to improve their communicative skills. They receive modeled guidance if needed. These are the optimal conditions for learning.

Children use language to gain needed information about things, as well as to gain access to them. Their interest in information grows as they begin to perceive relationships between environmental events and between their actions and outcomes. It is not long before they learn that knowledge which enables them to predict and control events can be very useful. Transmission of information about the workings of the environment requires elaborated language to represent the events of interest. This provides additional incentive for children to enlarge their communicative skills, so they can ask about things and understand what people tell them. They also find language useful in guiding their actions, and in explaining their own behavior to themselves and to others. This can make a big difference in how others treat them. The consequences of verbally-guided action further underscore the many benefits of linguistic competencies. Acting on misunderstandings of what other people say can have adverse effects, as can miscommunications that lead others astray. The outcomes of actions create informative feedback for improving one's understanding and use of speech.

VICARIOUS CAPABILITY

The advanced capability for vicarious learning is another distinctive human quality that receives considerable emphasis in social cognitive theory. Psychological theories have traditionally emphasized learning through the effects of one's actions. If knowledge and skills could be acquired only by direct experience, the process of cognitive and social development would be greatly retarded, not to mention exceedingly tedious and hazardous. A culture could never transmit its language, mores, social practices, and requisite competencies if they had to be shaped tediously in each new member by response consequences without the benefit of models to exemplify the cultural patterns. The abbreviation of the acquisition process is vital for survival as well as for human development because natural endowment provides few inborn skills. Because mistakes can produce costly, or even fatal consequences, the prospects of survival would be slim indeed if one had to rely solely on trial and error experiences. Moreover, the constraints of time, resources, and mobility impose severe limits on the situations and activities that can be directly explored for the acquisition of new knowledge.

Humans have evolved an advanced capacity for observational learning that enables them to expand their knowledge and skills on the basis of information conveyed by modeling influences. Indeed, virtually all learning phenomena resulting from direct experience can occur vicariously by observing people's behavior and its consequences for them (Bandura, 1986; Rosenthal & Zimmerman, 1978). Much social learning occurs either deliberately or inadvertently by observing the actual behavior of others and the consequences for them. However, a great deal of information about behavior patterns and the effects they have on the environment is gained from models portrayed symbolically through verbal or pictorial means.

A major significance of symbolic modeling lies in its tremendous multiplicative power. Unlike learning by doing, which requires altering the actions of each individual through repeated trial-and-error experiences, in observational learning a single model can transmit new ways of thinking and behaving simultaneously to many people in widely dispersed locales. There is another aspect of symbolic modeling that magnifies its psychological and social effects. During the course of their daily lives, people have direct contact with only a small sector of the environment. Consequently, their conceptions of social reality are greatly influenced by vicarious experiences--by what they see and hear--without direct experiential correctives. The more people's images of reality depend upon the media's symbolic environment, the greater is its social impact.

Most psychological theories were cast long before the advent of enormous advances in the technology of communication. As a result, they give insufficient attention to the increasingly powerful role that the symbolic environment plays in present-day human lives. The video system has become the dominant vehicle for disseminating symbolic environments both within and across societies. Whereas previously, modeling influences were largely confined to the behavior patterns exhibited in one's immediate environment, television has vastly expanded the range of models to which members of society are exposed day in and day out. By drawing on these modeled patterns of thought and behavior, observers can transcend the bounds of their immediate environment. New ideas and social practices are now being rapidly diffused by symbolic modeling within a society and from one society to another. Whether it be thought patterns, values, attitudes, or styles of behavior, life increasingly models the media (Bandura, 1986; Pearl, Bouthilet, & Lazar, 1982). Because television occupies a large part of people's lives,

the study of acculturation in the present electronic era must be broadened to include electronic acculturation.

Modeling influences can have diverse psychological effects. First, they foster acquisition of new competencies, cognitive skills, and behavior patterns. Second, they affect level of motivation and restraints over behavior that has been previously learned. Modeling influences also serve as social prompts that actuate and channel behavior in social transactions. In addition, models often express emotional reactions that tend to elicit emotional arousal in observers. Through such vicarious arousal, people acquire attitudes, values, and emotional dispositions toward persons, places, and things. In sum, modeling influences can serve as instructors, motivators, inhibitors, disinhibitors, social facilitators, and emotion arousers. The determinants and mechanisms governing these diverse modeling effects are addressed in considerable detail elsewhere (Bandura, 1986), and will be reviewed only briefly here.

Observational Learning

Learning from models may take varied forms, including new behavior patterns, judgmental standards, cognitive competencies, and generative rules for creating new forms of behavior. Observational learning is governed by four component subfunctions which are depicted in Figure 2. Attentional processes determine what people observe in the profusion of modeling influences and what information they extract from what they notice.

Insert Figure 2 about here

People cannot be much influenced by observed events if they do not remember them. A second major subfunction governing observational learning concerns retention processes.

Retention involves an active process of transforming and restructuring the information conveyed by modeled events into rules and conceptions for memory representation. In the third subfunction in modeling--the behavioral production process--symbolic conceptions are translated into appropriate courses of action. This is achieved through a conception-matching process in which behavioral enactments are adjusted until they match the internal conception of the activity.

The fourth subfunction in modeling concerns motivational processes. Social cognitive theory distinguishes between acquisition and performance because people do not perform everything they learn. Performance of observationally learned behavior is influenced by three major types of incentive motivators--direct, vicarious, and self-produced. People are more likely to exhibit modeled behavior if it results in valued outcomes than if it has unrewarding or punishing effects. The observed cost and benefits accruing to others influence the performance of modeled patterns in much the same way as do directly experienced consequences. People are motivated by the successes of others who are similar to themselves, but are discouraged from pursuing courses of behavior that they have seen often result in adverse consequences. Personal standards of conduct provide a further source of incentive motivation. The evaluation reactions people generate to their own behavior regulate which observationally learned activities they are most likely to pursue. They express what they find self-satisfying and reject what they personally disapprove.

Abstract Modeling

Modeling is not merely a process of behavioral mimicry. Highly functional patterns of behavior, which constitute the proven skills and established customs of a culture, may be adopted in essentially the same form as they are exemplified. There is little leeway for

improvisation on how to drive automobiles or to perform arithmetic operations. However, in many activities, subskills must be improvised to suit varying circumstances. Modeling influences can convey rules for generative and innovative behavior as well. This higher-level learning is achieved through abstract modeling. Rule-governed behavior differs in specific content and other details but it contains the same underlying rule. For example, the modeled statements, "The dog is being petted," and "the window was opened" refer to different things but the linguistic rule--the passive form--is the same. In abstract modeling, observers extract the rule embodied in the specific behavior exhibited by others. Once they learn the rule, they can use it to generate new instances of behavior that go beyond what they have seen or heard. Much human learning is aimed at developing cognitive skills on how to gain and use knowledge for future use. Observational learning of thinking skills is greatly facilitated by modeling thought processes in conjunction with action strategies (Meichenbaum, 1984). Models verbalize their thought strategies as they engage in problem-solving activities. The ordinarily covert thoughts guiding the actions of the models are thus made observable and learnable by others.

Modeling has been shown to be a highly effective means of establishing abstract or rule-governed behavior. On the basis of modeled information, people acquire, among other things, judgmental standards, linguistic rules, styles of inquiry, information-processing skills, and standards of self-evaluation (Bandura, 1986; Rosenthal & Zimmerman, 1978). Evidence that generative rules of thought and conduct can be created through abstract modeling attests to the broad scope of observational learning.

Development of Modeling Capabilities

Because observational learning involves several subfunctions that evolve with maturation and experiences, it depends upon prior development. When analyzed in terms of its constituent

subfunctions, facility in observational learning is not primarily a matter of learning to imitate. Nor is it a discrete skill. Rather, developing adeptness in observational learning involves acquiring multiple subskills in selective attention, cognitive representation, symbolic transformation, and anticipatory motivation.

Neonates possess greater modeling capabilities than is commonly believed. By several months of age, infants can and do model behavior with some consistency (Kaye, 1982; Meltzoff & Moore, 1983; Valentine, 1930). The development of proficiency in observational learning is grounded in social reciprocation. Infants possess sufficient rudimentary representational capacities and sensorimotor coordination to enable them to imitate elementary sounds and acts within their physical capabilities. Parents readily imitate a newborn's gestures and vocalizations from the very beginning, often in expressive ways that have been shown to facilitate modeling (Papousek & Papousek, 1977; Pawlby, 1977).

The newborn, whose means of communication and social influence are severely limited, learns that reciprocal imitation is an effective way of eliciting and sustaining parental responsiveness. Uzgiris (1984) has given considerable attention to the social function of imitation in infancy. Mutual imitation serves as a means of conveying interest and sharing experiences. Initially, parents tend to model acts that infants spontaneously perform. After the reciprocal imitation is established, parents are quick to initiate new response patterns for imitative sequences that help to expand their infant's competencies (Pawlby, 1977). Successful modeling of these more complicated patterns of behavior require development of the major subfunctions that govern observational learning. It is to the developmental course of these subfunctions that we turn next.

Attentional Processes

Young children present certain attentional deficiencies that limit their proficiency in observational learning. They have difficulty attending to different sorts of information at the same time, distinguishing pertinent aspects from irrelevancies, and maintaining attention to ongoing events long enough to acquire sufficient information about them (Cohen & Salapatek, 1975; Hagen & Hale, 1973). They are easily distracted. With increasing experience, children's attentional skills improve in all these respects.

In promoting observational learning, adults alter the behavior they model to compensate for the attentional limitations of children. With infants, parents gain their attention and give salience to the behavior they want to encourage by selectively imitating them. Parents tend to perform the reciprocated imitations in an exaggerated animated fashion that is well designed to sustain the child's attentiveness at a high level during the mutual modeling sequences (Papousek & Papousek, 1977). The animated social interplay provides a vehicle for channeling and expanding infants' attention in activities that go beyond those they have already mastered.

The attention-arousing value of the modeled acts, themselves, also influences what infants are likely to adopt. Infants are more attentive to, and imitate more often, modeled acts when they involve objects and sound accompaniments than when they are modeled silently and without objects to draw attention (Abravanel et al., 1976; Uzgiris, 1979). The more attention infants pay to the modeled activities, the more likely they are to adopt them. As infants attentional capabilities increase, parents exhibit developmentally progressive activities for them to model.

Representational Processes

In developing representational memory skills, children have to learn how to transform modeled information into symbolic forms and to organize it into easily remembered structures. They also have to learn how to use timely rehearsal to facilitate the retention of activities that are vulnerable to memory loss. It takes time for children to learn that they can improve their future performances by symbolizing and rehearsing their immediate experiences.

In the earliest period of development, experiences are probably retained mainly in imaginal modes of representation. Infants will model single acts, but they have difficulty reproducing coordinated sequences that require them to remember how several actions are strung together (McCall, Parke, & Kavanaugh, 1977). They often start the sequence right and simply forget what comes next. With experience, they become more skilled at delayed modeling. Indeed, infants even as young as 18 months will enact behavior learned from televised models after some time has elapsed. Delayed performances of this type require symbolic memory.

As children begin to acquire language they can symbolize the essential aspects of events in words for memory representation. It is not until children acquire some cognitive and linguistic skills that they can extract rules from modeled performances and make effective use of the more complex linguistic transformations (Rosenthal & Zimmerman, 1978). Children can improve their memory by instruction to anticipate, verbally code, and rehearse what they observe (Brown & Barclay, 1976). The vicarious memorial subskills can also be acquired through modeling. By observing the memory feats of others, children learn what information is worth coding, how events should be categorized, and more general strategies for processing information (Lamal, 1971; Rosenthal & Zimmerman, 1978).

Production Processes

Converting conceptions to appropriate actions requires development of transformational skills in intermodal guidance of behavior. Information in the symbolic mode must be translated into corresponding action modes. This involves learning how to organize action sequences, to monitor and compare behavioral enactments against the symbolic model, and to correct evident mismatches (Carroll & Bandura, 1985; 1987). When children must depend on what others tell them, because they cannot observe fully all of their own actions, detecting and correcting mismatches requires linguistic competencies. Deficiencies in any of these production subskills can create a developmental lag between comprehending and performing.

Motivational Processes

Motivational factors that influence the use to which modeled knowledge is put undergo significant developmental changes. During infancy, imitation functions mainly to secure interpersonal responsiveness. Through mutual modeling with adults, infants enjoy playful intimacy and gain experience in social reciprocation. Before long parents cease mimicking their infant's actions, but they remain responsive to instances of infants adopting modeled patterns that expand their competencies. What continues to serve a social function for young infants changes into an instructional vehicle for parents. This transition requires infants to cognize, on the basis of observed regularities, the social effects their different imitations are likely to produce. To help infants to learn the functional value of modeling the parents make the outcomes salient, recurrent, consistent, and closely tied to the infant's actions (Papousek & Papousek, 1977). With increasing cognitive development, children become more skilled at judging probable outcomes of their actions. Such outcome expectations serve as incentives for observational learning.

What has incentive value for children also changes with experience. At the earliest level, infants and young children are motivated primarily by the immediate sensory and social effects of their actions. In the course of development, symbolic incentives signifying achievements, the exercise of mastery and self-evaluative reactions assume increasing motivational functions. Children soon learn that models are not only sources of social reward but also valuable sources of competencies for dealing effectively with the environment. The benefits of efficacious action and the personal satisfaction it brings become powerful incentives for modeling. Development thus increases the range and complexity of incentives that motivate children to gain knowledge through modeling and to use what they have learned.

When viewed from the developmental perspective of social cognitive theory, observational learning is part of a more general process of cognitive and social development. But observational learning is also one of the basic means by which cognitive competencies are developed and expanded. A comprehensive theory must, therefore, examine not only the cognitive mechanisms of observational learning, but also the social learning determinants of cognition.

Vicarious Affective Learning

Both children and adults are easily aroused by the emotional expressions of others. Although people are endowed with the receptive and expressive capacity for vicarious arousal, social experience largely determines the level and pattern of emotional activation. Expressive displays acquire arousing capacity mainly through correlated social experiences (Bandura, 1986). This is, when individuals are in good spirits they treat others amiably, which produces positive affect. As a result of such occurrences, smiles and other expressions of happiness come to signify a positive state of affairs. Conversely, when individuals are dejected, ailing, distressed,

or angry, the people around them are likely to suffer as well in one way or another. Expressive signs of anger or despondency come to forebode aversive experiences.

Research varying the degree to which emotions are experienced jointly confirms the importance of correlated experience in the development of vicarious affective responsivity (Miller, Caul & Mirsky, 1967; Church, 1959; Englis, Vaughan & Lanzetta, 1982). To have functional use of the capacity for vicarious arousal determined by experience provides substantial benefits. If people's affective reactions were automatically triggered by innate signals, they would be emotionally burdened much of the time by the expressions of pain, joy, grief, fear, anger, sadness, frustration, and disgust emitted by anyone and everyone in sight.

Vicarious arousal operates mainly through an intervening self-arousal process. That is, seeing others react emotionally to instigating conditions activates emotion-arousing thoughts and imagery in observers. As children develop their capacity for cognitive self-arousal, they can generate emotional reactions to cues that are only suggestive of a model's emotional experiences (Wilson & Cantor, 1985). Conversely, they can neutralize or attenuate the emotional impact of modeled distress by thoughts that transform threatening situations into nonthreatening ones (Cantor & Wilson, 1987; Dysinger & Ruckmick, 1933).

Cognitive self-arousal can take two forms--by personalizing the experience of another, or by taking the perspective of another. In the personalizing form, observers get themselves emotionally aroused by imagining things happening to themselves that are either similar to the model's experiences or have been generalized from previous positive and aversive experiences. In the perspective-taking form, observers come to experience the emotional states of others by putting themselves in their place and imagining how they might feel. What little evidence exists suggests that observers gain better understanding of other's emotions and react more emotionally

to another's affective experiences if the observers imagine how they themselves would feel in that situation than if they try to imagine how the other person might feel (Hughes, Tingle, & Swain, 1981; Stotland, 1969).

If the affective reactions of models only aroused observers fleetingly, it would be of some interest as far as momentary communication is concerned, but of limited psychological import. Thus, if modeled affectivity got children to avoid a threat, but they learned nothing from that experience, they would require the presence of an emoting model to tell them how to behave in every future encounter with the same threat. What gives significance to vicarious influence is that observers can acquire lasting attitudes, emotional reactions, and behavioral proclivities toward persons, places, or things that have been associated with the model's emotional experiences. Thus, observers learn to fear the things that frightened models, to dislike what repulsed them, and to like what gratified them (Bandura, 1988b; Duncker, 1938; Mineka, 1987). Fears and intractable phobias are ameliorated by modeling influences that convey information about coping strategies for exercising control over the things that are feared. The stronger the instilled sense of coping self- efficacy, the bolder the behavior (Bandura, 1982). Values can similarly be developed and altered vicariously by repeated exposure to modeled preferences.

Gender-Role Development

Many aspects of human functioning, such as the interests and competencies people cultivate, the occupational paths they pursue, and the conceptions they hold of themselves and others are prescribed by cultural sex typing. The stereotypic gender conceptions that people adopt have lasting effects on how they perceive and process experiences and how they use their capabilities (Bem, 1981; Betz & Hackett, 1986; Spence & Helmreich, 1978). Because so much of human experience is affected by gender differentiation, the processes of sex typing have been

the subject of much developmental theorizing and research. The kinds of attributes and social roles that are culturally linked to masculine and feminine gender should be distinguished from biological sex differences. Although biological characteristics form a basis for gender differentiation, many of the social roles that get tied to gender are not ordained by biological differences. Gender-role development is largely a psychosocial phenomenon.

Sex typing is promoted through a vast system of socialization practices beginning at birth with infants clothed in pink or blue apparel depending on their sex. Before long boys are attired in rugged trousers, girls in pastel skirts, and given different hair styles as well. Children come to use differential physical attributes, hair styles, and clothing as indicants of gender (Thompson & Bentler, 1971). As soon as young 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 categorized into boys and girls, and adults into mothers and fathers, women and men. Gender labeling gives salience not only to sorting people on the basis of gender, but also to the features and activities that characterize each gender. Children begin to develop a sense of their own gender identity from such experiences.

Gender-role learning requires broadening gender conceptions to include behavioral, social, and vocational aspects. Knowledge about gender roles is more difficult to grasp than is gender identity for several reasons. Firstly, children must achieve gender differentiation before they can organize knowledge about what roles are appropriate for males and females. Secondly, the stylistic and role behaviors that traditionally typify male and female orientations are not uniformly sex-linked. Not all males are aggressive, nor are all females unassertive. As a result, children have to rely on the relative prevalence of the social examples they observe. If children routinely see women performing homemaking activities, while males only occasionally try their

hand at it, homemaking readily gets sex-typed as a woman's role. But if they often observe both men and women gardening, it is not as easily sex-typeable.

Much early role learning occurs in play. The forms play takes is not untouched 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 (Rheingold & Cook, 1975). The sex-typed play materials with which children are provided channel their spontaneous play into traditionally feminine or masculine roles. Even during the first year of a child's life, fathers promote stereotypically sex-appropriate play, although they are stricter in sex-role differentiation for sons than daughters (Snow, Jacklin, & Maccoby, 1983). Not surprisingly, even very young children believe their parents expect them to conform to stereotypic gender roles (Albert & Porter, 1982).

Socializing agencies outside the home add their influence to the gender-role stereotying. Peers are sources of much social learning. In the social structuring of activities, children selectively associate with same-sex playmates pursuing gender- typed interests and activities (Huston, 1983). In these interactions children reward each other for gender-appropriate activities and punish gender-inappropriate behavior (Lamb, Easterbrooks, & Holden, 1980). The sanctions work their effects. Children also get criticized by their teachers for engaging in play activities considered inappropriate for their sex, and this is especially true for boys (Fagot, 1977).

The differentiation of the sexes extends beyond the realms of attire, make-believe play, and free activities. Whenever appropriate occasions arise, parents and others instruct children in the kinds of behavior expected of girls and boys. While obviously not all parents are inflexible sex stereotypers in all activities, most accept, model, and teach the sex roles traditionally favored by the culture. In the development of career interests and pursuits, cultural practices encourage a

wider range of career options for males than for females (Betz & Hackett, 1986). Such differential practices constrict the career pursuits for which women judge themselves to be efficacious.

Superimposed on this differential tuition, that leaves few aspects of children's lives untouched, is a pervasive cultural modeling of stereotypic sex roles. Modeling serves as a major conveyer of sex-role information. Children are continually exposed to models of sex-typed behavior in the home, in schools, on playgrounds, in readers and storybooks, and in representations of society on the television screens of every household (Courtney & Whipple, 1974; Jacklin & Mischel, 1973; Miller & Reeves, 1976). Males are generally portrayed as directive, venturesome, enterprising, and pursuing engaging occupations and recreational activities. In contrast, women are usually cast in subordinate roles, either tending the household or performing lower status jobs, and otherwise acting in dependent, unambitious, and emotional ways. Heavy viewers of the media display more stereotypic sex-role conceptions than do light viewers (McGhee & Frueh, 1980). Nonstereotypic modeling expands children's aspirations and the range of role options they consider appropriate for their sex (Ashby & Wittmaier, 1978; O'Bryant & Corder-Bolz, 1978). Repeated symbolic modeling of egalitarian role pursuits by males and females enduringly reduces sex role stereotyping in young children (Flerx, Fidler, & Rogers, 1976).

In everyday life, children have ample opportunities to observe how many members of each sex behave. Perry and Bussey (1979) show that several models displaying the same behavior within each sex is a stronger conveyor of gender-linked rules of conduct than is divergent modeling. The propensity for children to pattern their preferences after models of the same sex increases as the percentage of same-sex models displaying the same preferences

increases. That multiple modeling serves as a basic mechanism in the sex-typing process is further corroborated by other studies encompassing varied activities, preferences, and stylistic behaviors (Bussey & Bandura, 1984).

Based on these multiple sources of gender-role information, young children form a conception of the attributes that typify masculinity and femininity and the behaviors appropriate for their own sex. In identifying the determinants of gender-role learning, it is essential to distinguish between the acquisition of gender-typed behaviors and their spontaneous performance. Children do not suspend observational learning of sex-typed activities until the time they discover whether they are girls or boys. Rather, they learn many of the things that typify gender roles from the male and female models around them before they have formed a clear gender identity and have fully comprehended the social significance attached to sexual status. Nor do children watch and gain knowledge only from same-sex models, even after they have developed a clear conception of their own sex.

Children observe and learn extensively from models of both sexes, but they are selective in what they express behaviorally. In tests for acquisition, which encourage children to reveal all they have learned observationally, they display many modeled activities they have acquired but ordinarily do not express, because they judge them inappropriate for their sex (Bandura, 1965; Bussey & Bandura, 1984; Dubanoski & Parton, 1971). Developmental research may confuse, rather than inform, when theories about sex-typed learning are tested with measures of sex-typed performance, rather than of learning.

Numerous factors govern the performance of sex-typed behavior. Prevailing social sanctions make outcomes partly dependent on the sex-appropriateness of actions. Hence, children soon learn to use sex-typing information as a predictive guide for action. The negative

sanctions for cross-sex behavior are generally more severe for males than for females. Boys are therefore more likely than girls to use the sex stereotyping of the activity as a guide for action (Serbin, Connor, & Citron, 1981).

Knowledge about the sex appropriateness of behavior patterns does not depend entirely on directly experienced sanctions. Observing what consequences befall others also conveys knowledge of gender-roles for regulating conduct. As children begin to adopt standards of behavior through precept and example, much sex-typed behavior is further regulated through internal standards and self-evaluative reactions to their own conduct. They perform gender-role behaviors that bring them self-pride and eschew those that violate their own standards.

In the cognitive-developmental theory articulated by Kohlberg (1966), children infer stereotypic conceptions of gender from what they see and hear around them. Once they achieve gender constancy--a conception of their own gender as fixed and irreversible--they positively value, and seek to adopt, only those behaviors congruent with the gender concept they have acquired. A major problem for a theory that makes the understanding of gender constancy a prerequisite for gender- linked modeling is that children clearly differentiate and prefer sex-typed objects and play patterns, long before they view themselves as unchangeably boys or girls (Huston, 1983; Maccoby & Jacklin, 1974). Moreover, growing awareness of gender constancy does not increase children's preferences for same-sex roles, activities, and peers (Marcus & Overton, 1978; Smetana & Letourneau, 1984). Nor is attainment of gender constancy a precondition for same-sex modeling (Bussey & Bandura, 1984). Same-sex modeling seems to rely on classifying males and females into distinct groups, recognizing personal similarity to one group of models, and tagging that group's behavior patterns in memory as the ones to be used to

guide behavior (Bussey & Bandura, 1984). Gender labeling and differential structuring of social experiences teach children to use the sex of the model as a guide for action (Huston, 1983).

Young children thus learn to use gender as an important characteristic for classifying persons and activities, and to use gender features as a guide for selective modeling, without having to wait until they realize that their gender is permanent and irreversible. Simple awareness of gender identity--that one is a boy or girl--is sufficient to foster the acquisition of information and competencies traditionally linked to one's own sex.

The view that same-sex modeling can proceed on the basis of gender identity alone, and that social factors also exert selective influence on what characteristics are adopted accord with Spence's (1984) formulation. She posits that gender indentity facilitates the adoption of prototypic gender-congruent attributes, but interacting social and personal factors determine what particular constellations of gender-related characteristics are developed. When long hair and culinary skill are in vogue, men with long flowing locks who perfect cooking skills perceive themselves as masculine, just as do men with closely cropped hair who eschew the skillet. Thus, people within each sex can develop heterogeneous patterns of gender-related attributes while retaining a confirmed personal sense of masculinity and femininity.

It is not as though the environment provides the grist for ascertaining one's gender, but after the self-categorization as a boy or girl occurs the development of educational, occupational, avocational, and social competencies is motivated intrapsychically by a drive to match one's gender conception. Social realities bear hard throughout the lifespan on the kinds of lives men and women pursue in a given society. Over the years, women have had to emancipate themselves from inequitable and constraining social systems rather than from their concept of gender. In centering their theory on gender conceptual learning, cognitive theorists neglect the

social realities of gender-role functioning, which are of considerable import. Gender conception is a contributing factor but it does not dictate the course of self-development oblivious to social reality. A comprehensive theory of how roles get linked to gender must extend well beyond gender conception to a social analysis of how institutional systems and sanctions shape gender roles. The social determinants of gender roles, which are largely ignored in cognitivistic approaches, receive considerable attention in social cognitive theory (Bandura, 1986).

FORETHOUGHT CAPABILITY

A third distinctive human characteristic is the capability for forethought. People do not simply react to their immediate environment, nor are they steered by implants from their past. Most human behavior, being purposive, is regulated by forethought. The future time perspective manifests itself in many different ways. People anticipate the likely consequences of their prospective actions, they set goals for themselves, and they otherwise plan courses of action that are likely to produce desired outcomes. Through exercise of forethought, people motivate themselves and guide their actions anticipatorily.

The capability for intentional and purposive action is rooted in symbolic activity. Future events cannot be causes of current motivation and action. However, by being represented cognitively in the present, foreseeable future events are converted into current motivators and regulators of behavior. Thoughts of desirable future events tend to foster the behavior most likely to bring about their realization. Forethought is translated into incentives and action through the aid of self- regulatory mechanisms, which will be reviewed later.

Anticipatory Outcomes as Motivators and Guides

Human behavior is extensively regulated by its effects. Behavior patterns that produce positive outcomes are readily adopted and used, whereas those that bring unrewarding or

punishing outcomes are generally discarded. But external consequences, as influential as they often are in guiding selection of behavior, are not the only kind of outcomes that influence human behavior. People partly guide their actions by observed consequences. This enables them to profit from the successes and mistakes of others as well as from their own experiences. As a general rule, they are inclined to do things they have seen succeed and avoid those they have seen fail. However, observed outcomes exert their influence through judgments that one is likely to experience similar outcomes for similar courses of action. Such judgments are affected by perceived similarity to those undergoing the experiences and belief about one's capabilities to achieve similar levels of performance (Bandura, 1986). People also influence their own motivation and behavior by the positive and negative consequences they produce for themselves. This mode of self-regulation will be considered later in some detail.

Outcomes affect motivation and action largely by creating beliefs about the effects actions are likely to have under different circumstances. Because outcomes exert their influence through forethought, they have little or no impact until people discover how and when actions affect the occurrence of outcomes (Brewer, 1974). In everyday life, actions usually produce mixed effects, they may occur immediately or far removed in time, and many factors influence how actions affect the environment. Such bewildering patterns of determinants provide a fertile ground for misjudgment. When belief about the effects of actions differs from actuality, behavior is weakly controlled by its actual consequences until repeated experience instills realistic beliefs. But it is always one's beliefs that change in the direction of social reality. Acting on erroneous beliefs can alter how others behave, thus shaping the social reality in the direction of the misbeliefs (Snyder, 1981).

Ambiguity and Variability of Outcome Information

Constructing conceptions of how the environment operates on the basis of response outcomes alone can be a slow and difficult process. This is because the information conveyed by response outcomes is often variable and ambiguous, especially when the outcomes are socially mediated. Usually, many factors enter into determining what effects, if any, given actions will have. The same behavior may, therefore, produce diverse effects depending on when and where it is performed and the persons toward whom it is directed. Multiple determinants create ambiguity about how given actions will affect the environment.

In addition to multiple causation, some of the important outcomes occur long after the behavior has been performed. Intervening happenings create confusion about what caused what. Gaining knowledge about the environment from the diverse effects of one's actions, therefore, requires careful sorting out of personal and vicarious experiences. In constructing a cognitive model of how to affect their environment, people must vary their actions and observe the differences in the immediate and later results it produces in different situations, at different times, and toward different persons. Much of this information is gained vicariously.

Developmental Changes in Forethought

The ability to envision the likely outcomes of actions undergoes developmental changes. Infants have difficulty recognizing that what they do has effects and representing such predictive knowledge symbolically. During the first few months of life, infants do not possess the attentional and memorial capabilities to profit much from contingent experiences, even when the effects of their actions are delayed only briefly (Millar, 1972; Watson, 1979). There is some evidence to suggest that, during the initial months of life, infants' ability to foresee response outcome is developed better by providing them with opportunities to effect changes in the

physical environment than to influence the social environment (Gunnar, 1980). This is because manipulation of physical objects usually produces immediate, conspicuous, predictable effects. After shaking a rattle repeatedly and hearing the resultant sound, infants cannot help but notice that their actions produce environmental effects. However, younger infants have difficulty learning, even from the physical effects of their actions if the effects are displaced in time and space (Millar & Schaffer, 1972). Their problem stems more from inadequate attention to events than from cognitive incapacities to link actions to outcomes.

The social effects of infants' behavior, depending as they do on the availability and vagaries of others, are not only more delayed and variable, but they often occur independently of the infants' behavior. That is, others frequently attend to, and initiate activities with infants, regardless of what the infants may be doing at the time. A cry may bring others instantly, some time later, or not at all. Others often appear in the absence of crying. It is difficult to learn from such mixed social experiences, in which actions do not always produce social reactions, and social reactions often occur on their own through the initiative of others (Watson, 1979).

Parents often structure contingent experiences in ways that help infants discover how their actions affect the environment and the behavior of others (Papousek & Papousek, 1979). Parents establish close eye contact with the infant to ensure adequate attentiveness. They react quickly in animated ways to their infant's actions to create highly noticeable immediate effects. To aid the perception that actions produce outcomes, the social transactions are enacted repeatedly. These types of social interactions create a cognitive set to look for causal relationships in instances where behavior is more complexly related to its effects. When infants are provided with many salient opportunities to observe that they can produce environmental

effects, they become more skilled in foreseeing the likely outcomes of actions (Finkelstein & Ramey, 1977).

Discerning rules for predicting the effects of actions requires several cognitive subskills that develop with experience. To begin with, rule induction partly depends on preexisting level of knowledge, which can be used to discover the factors governing response outcomes. The discovery process is further aided by the use of focusing strategies for narrowing down different possibilities to the appropriate rules. This is achieved by a verification process in which notions are tested by acting on them and seeing whether they produce the expected effects. The outcomes of action under different circumstances must, therefore, be closely monitored and the information synthesized and retained over a series of experiences. Moreover, learners have to remember what ideas they tried and how well they worked. Deficits in any of these component skills--formulating notions from a knowledge base, applying efficient rule induction strategies, monitoring situational factors and response outcomes, remembering outcome information, and matching ideas to action effects--can retard rule learning.

Improvement of cognitive subskills can enhance adeptness at foreseeing the effects of actions. When deficiencies in rule learning stem from inadequate perception of ongoing events, attentional skills must be developed that expand children's use of the situational and outcome information available to them. If they quickly forget what they have observed, they do not have much relevant information to process. The development of memory skills helps children to remember what actions in what situations produced what outcomes, so they have available the information needed to formulate rules of behavior. Additional problems may arise from what they make of the outcome information they have perceived and retained. Development of reasoning skills can teach children how to apply decision rules to the information they gain to

come up with appropriate solutions. These component skills are best developed initially on simpler activities involving minimal delay of effects and then extended to more complex ones requiring greater attentional, organizational, and memorial demands.

Learning from consequences is improved if young children are taught the required cognitive skills for processing outcome information (Brainerd, 1977; Eimas, 1970). Such findings indicate that it is more fruitful to explore the cognitive skills that underlie learning than to ascribe learning difficulties to global cognitive deficiencies. Adults also vary in the extent to which they have mastered the constituent skills for extracting rules of behavior from outcome information. Those who are inept in ferreting out what is relevant in their experiences or who use faulty inferential reasoning do not profit much from experience. When they are taught how to process outcome information more effectively, they learn rules of behavior more effectively from the outcomes of their actions (Eimas, 1970).

Role of Forethought in Social and Technical Change

Analysis of the role of forethought in human development and well-being must be extended beyond the processes governing acquisition of outcome rules for individual behavior. Forethought takes more complex forms in judging probable distal outcomes of social practices and technologies. Many technical innovations that provide current benefits also entail hazards that can take a heavy future toll on human beings and the environment.

The capacity to extrapolate future consequences from known facts enables people to take corrective actions that avert disastrous futures. It is the expanded time perspective and symbolization of futures afforded by cognition that increases the prospects of human survival. Had humans been ruled solely by immediate consequences, they would have long destroyed most of the environmental supports of life. Threats to human welfare arise repeatedly because

the ability to create new technologies outstrips the knowledge of their likely full effects. In such instances, people know not what they are unleashing by their creations.

Development of risk-analysis methods for estimating the likelihood and severity of harmful effects of modern technologies has become a matter of considerable interest (Rasmussen, 1981). They are used to bring estimated future consequences to bear on protective current behavior. In the health field, for example, toxicological methods, which speed up the cumulative effects in animals with concentrated dosages, are used to identify potentially injurious substances before the public has suffered the consequences of extensive exposure to them. The carcinogenicity of the things people consume and the environmental conditions to which they are exposed are assessed in this way. Biochemical methods have been devised for assessing the capacity of different substances to cause injury to microorganisms and cell cultures (Ramel & Rannug, 1980). Computers provide a ready means for estimating the effects of technical and social changes through computational enactments without having to carry out actual trials. After a sound model of the system has been developed, it permits the user to vary factors and to observe the effects of the simulated changes. Computers can serve as a tool to greatly extend human ability to manipulate, test, redesign, and refine physical and social systems for desired purposes and to gauge their long-term effects.

Structuring Behavior by Response Outcomes

The discussion so far has been concerned with learning rules for predicting the likely outcomes of actions. New patterns of behavior can also be formed by response outcomes. In learning by doing, outcomes serve as an unarticulated way of informing performers about the characteristics of appropriate behavior. By observing which actions work and which do not,

people eventually construct conceptions of new behavior patterns and when it is appropriate to perform them.

In social cognitive theory, learning from the effects of actions is a special case of observational learning. In learning by direct experience, people construct conceptions of behavior from observing the effects of their actions; in learning by modeling, they derive the conceptions from observing the structure of the behavior being modeled. Conceptions of complex behavior can be learned faster from observing the behavior patterns displayed in an already integrated form than from attempting to construct them bit by bit by trying different actions and examining how well they work. Another limitation to learning from the effects of action is that it does not ensure that the best solutions will be developed. This is because, in most domains of activity, different solutions are possible which vary in adequateness. Once people hit upon a solution that is sufficient, they keep using it without considering other alternatives, even though better ones exist (Schwartz, 1982). Sufficing outcomes can thus operate as barriers to discovery.

SELF-REGULATORY CAPABILITIES

Parental guidance and sanctions greatly influence the socialization process. However, neither parents nor other significant adults can be continuously present to guide children's behavior. Successful socialization, therefore, requires the gradual substitution of internal controls and direction for external sanctions and mandates. Once the capability for self-direction is achieved, self-demands and self-sanctions serve as major guides, motivators and deterrents. In the absence of internal standards and self-sanctions, individuals would behave like weathervanes, constantly shifting direction to conform to whatever momentary influence happened to impinge upon them. Theories that seek to explain human behavior as solely the

product of external rewards and punishments present a truncated image of human nature because people possess self- directive capabilities that enable them to exercise some control over their thoughts, feelings, and actions by the consequences they produce for themselves. Psychosocial functioning is, therefore, regulated by an interplay of self-produced and external sources of influence.

Motivational Standards

Self-regulation of motivation and behavior through internal standards distinguishes between aspirational standards and social and moral standards. The capacity to exercise self-influence by personal challenge and evaluative reaction to one's own attainments provides a major cognitive mechanism of motivation and self-directedness. Motivation based on aspirational standards involves a cognitive comparison process between internal standards and personal attainments. The motivational effects do not stem from the standards themselves, but rather from several self-reactive influences. These include affective self-evaluation of one's attainments, perceived self-efficacy to fulfill one's standards, and adjustment of personal standards to keep them within attainable bounds (Bandura, 1988a; Bandura & Cervone, 1983).

Standards motivate by enlisting self-evaluative involvement in the activity. People seek self-satisfactions from fulfilling valued goals, and are prompted to intensify their efforts by discontent with substandard performances. Perceived self- efficacy is another cognitive factor that plays an influential role in the exercise of personal control over motivation. Whether negative discrepancies between internal standards and attainments are motivating or discouraging is partly determined by people's beliefs that they can attain the goals they set for themselves. Those who harbor self-doubts about their capabilities are easily dissuaded by failure. Those who are assured of their capabilities intensify their efforts when they fail to achieve what

they seek and they persist until they succeed. The standards people set for themselves at the outset of an endeavor are likely to change, depending on the progress they are making. They may maintain their original standard, lower their sights, or adopt an even more challenging standard. Thus, the third constituent, self-influence, in the ongoing regulation of motivation, concerns the readjustment of personal standards in light of one's attainments. Csikszentmihalyi (1979) examined what it is about activities that fosters continuing deep engrossment in life pursuits. The common factors found to be conducive to enduring self-motivation include adopting personal challenges in accordance with one's perceived capabilities and seeing oneself make progress toward the hoped for goal.

The effectiveness of aspirational standards in regulating motivation and action depends partly on how far into the future they are projected. A proximate standard serves to mobilize self-influences and direct what one does in the here and now. Distal standards alone are too far removed in time to provide effective incentives and guides for present action. There are usually too many competing influences at hand for distant cognized events to exert much control over current behavior. Subgoals not only enlist self-reactive motivators, they also help to develop self-efficacy and intrinsic interest (Bandura & Schunk, 1981). Without standards against which to measure their performances, people have little basis for gauging their capabilities. Subgoal attainments provide rising indicants of mastery for enhancing one's sense of efficacy. People display enduring interest in activities at which they feel self- efficacious and from which they derive self- satisfaction. Challenging standards enlist sustained involvement in tasks needed to build competencies that foster interest. When people aim for and master valued levels of performance, they experience a sense of satisfaction. The satisfactions derived from goal attainments build intrinsic interest.

Many theories of self-regulation are founded on a negative feedback control system. The system functions as a motivator and regulator of action through a discrepancy reduction mechanism. Perceived discrepancy between performance and the reference standard triggers action to reduce the incongruity. Discrepancy reduction clearly plays a central role in any system of self- regulation. However, in the negative feedback control system, if performance matches the standard the person does nothing. A regulatory process in which matching a standard begets inertness does not characterize human self-motivation. Such a feedback control system would produce circular action that leads nowhere. Nor could people be stirred to action until they receive feedback that their performance is discrepant from the standard.

Human self-motivation relies on discrepancy production as well as on discrepancy reduction. It requires feedforward control as well as feedback control. People initially motivate themselves through feedforward control by adopting performance standards that create a state of disequilibrium and then exert themselves on the basis of anticipatory estimation of how much effort would be required to succeed. Feedback control comes into play in subsequent adjustments of effort expenditure to achieve desired results. After people attain the standard they have been pursuing, they generally set a higher standard for themselves. The adoption of further challenges creates new motivating discrepancies to be mastered. Similarly, surpassing a standard is more likely to raise aspiration than to lower subsequent performance to conform to the surpassed standard. Self- motivation thus involves a dual cyclic process of disequilibrating discrepancy production followed by equilibrating discrepancy reduction.

Cognitive motivation has been explained by some theorists in terms of an inborn automotivator. According to Piaget (1960), discrepancies between the cognitive schemata children already possess and perceived events create internal conflict that motivates exploration

of the source of discrepancy until the internal schemata are altered to accommodate to the contradictory experiences. Empirical tests of this type of automotivator reveal that discrepancy of experience alone does not guarantee cognitive learning. Indeed, if disparities between perceived events and mental structure were, in fact, automatically motivating, everyone should be highly knowledgeable about the world around them and continually progressing toward ever higher levels of reasoning. The evidence does not seem to bear this out.

In the social cognitive view, people function as active agents in their own motivation. Self-motivation through cognitive comparison requires distinguishing between standards of what one knows and standards of what one desires to know. It is the latter standards, together with perceived self-efficacy, that exert selective influence over which of many activities will be actively pursued. Aspirational standards determine which discrepancies are motivating and which activities people will strive to master. Strength of self-motivation varies curvilinearly with the level of discrepancy between standards and attainments: Relatively easy standards are insufficiently challenging to arouse much interest or effort; moderately difficult ones maintain high effort and produce satisfactions through subgoal achievements; standards set well beyond a person's reach can be demotivating by fostering discouragement and a sense of inefficacy.

Social and Moral Standards

In areas of functioning involving achievement strivings and cultivation of competencies, the internal standards that are selected as a mark of adequacy are progressively altered as knowledge and skills are acquired and challenges are met. In many areas of social and moral behavior the internal standards that serve as the basis for regulating one's conduct have greater stability. That is, people do not change from week to week what they regard as right or wrong or good or bad. In the course of socialization, people develop moral standards from a variety of

influences (Bandura, 1986). These include direct instruction in the precepts of moral conduct, the approving and disapproving reactions to their conduct by significant persons in their lives, and the moral standards modeled by others. People do not passively absorb moral standards from whatever influences happen to impinge upon them. Rather, they construct for themselves generic standards from the evaluative rules that are prescribed, modeled, and taught. This process is complicated because those who serve as socialization influencers, whether designedly or unintentionally, often display inconsistencies between what they practice and what they preach. Moreover, people usually differ in the standards they model, and even the same person may model different standards in different social settings and domains of conduct.

Evaluative self-reactions provide the mechanism by which standards regulate conduct. The anticipatory self-pride and self-criticism for actions that match or violate personal standards serve as the regulatory influencers. Individuals do things that give them self-satisfaction and a sense of self- worth. They refrain from behaving in ways that violate their moral standards because it will bring self-disapproval. Self- sanctions thus keep conduct in line with internal standards.

Self-directed influences are not governed solely by moral standards. Actions give rise to self-reactions through a process of moral reasoning in which conduct is evaluated in relation to environmental circumstances as well as personal standards. Situations with moral implications contain many decisional ingredients that not only vary in importance but may be given lesser or greater weight depending upon the particular constellation of events in a given moral predicament. Thus, for example, judgments of the reprehensibility of conduct will vary depending upon the nature of the transgression; the degree of norm violation; the contexts in which it is performed; the perceived situational and personal motivators for it; the immediate and

long-range consequences of the action; whether it produces personal injury or property damage; and the characteristics of those toward whom the action is directed and their perceived blameworthiness. In dealing with moral dilemmas people must, therefore, extract, weight, and integrate morally relevant information in the situations confronting them. Factors that are weighed heavily under some combinations of circumstances may be disregarded or considered of less importance under a different set of conditions. This process of moral reasoning is guided by multifaceted rules on how to combine different sorts of information to judge the morality of conduct (Bandura, 1988d; Lane & Anderson, 1976; Surber, 1985).

Development of Moral Standards

There are some universal features to the development of standards of conduct. These commonalities arise from basic uniformities in the types of biopsychosocial changes that occur with increasing age in all cultures. People vary in what they teach, model, and sanction with children of differing ages. At first, guidance of behavior in children who have a poor command of language is necessarily external and highly dependent on physical sanctions. As children mature, social and verbal sanctions increasingly replace physical ones as influential guides for how to behave in different situations. Parents and other adults explain standards of conduct and the reasons for them. Social sanctions that disapprove transgressive acts and commend valued conduct add substance to the standards. It is not long before children learn to discriminate between approved and disapproved forms of conduct and to regulate their actions on the basis of anticipated social consequences (Bandura & Walters, 1959; Sears, Maccoby, & Levin, 1957).

As moral standards are gradually internalized, they begin to serve as guides and deterrents to conduct by the self-approving and self-reprimanding consequences children produce for themselves. Not only do the sanctions change from a social to a personal locus, but

with advancing age the range of moral considerations expands. As the nature and seriousness of possible transgressions change with age, parents and other significant adults in the child's life add new aspects to the moral persuasion. For example, they do not appeal to legal arguments when handling preschoolers' misconduct, but they do explain legal codes and penalties to preadolescents to influence future behavior that can have serious legal consequences. An expanding social reality requires more generalized and complex moral standards.

Children model the rules their parents use to integrate information in judging the morality of transgressive conduct (Leon, 1984). Parents react differently to their children's misconduct at different ages (Denny & Duffy, 1974). They increase the complexity of their moral reasoning as their children get older. The more complex the parent's moral reasons in dealing with misconduct, the more elaborate is their children's moral reasoning. Variation in social influences contributes to developmental changes in what factors are considered to be morally relevant and the relative weight they are given. Parents, of course, are not the exclusive source of childrens' standards of moral judgments and conduct. Other adults, peers, and symbolic models play influential roles as well. Children exposed to adult and peer models who exemplify conflicting standards adopt different standards of conduct than if adults alone set the standard, or if adults and peer models subscribe to the same standards (Bandura, Grusec, & Menlove, 1967; Brody & Henderson, 1977). To the developing child, televised modeling influences the development of moral judgments by what it portrays as acceptable or reprehensible conduct, and by the sanctions and justifications applied to it. As the preceding comments indicate, a varied array of interacting societal influences contribute to the development of moral perspectives.

Adoption of internal standards does not necessarily encompass every domain of activity or completely supplant other forms of control. Even the most principled individuals may, in

some domains of activity and under some circumstances, regulate their behavior mainly by anticipated social or legal consequences. Moreover, during the course of development, children learn how to get around moral consequences of culpable behavior that can gain them personal benefits. They discover that they can reduce the likelihood of reprimands by invoking extenuating circumstances for their misdeeds (Bandura & Walters, 1959). As a result, different types of vindications become salient factors in moral judgments. Even very young children are quite skilled in using mitigating factors to excuse wrongdoing (Darley, Klosson, & Zanna, 1978). Later they learn to weaken, if not completely avoid, self-censure for reprehensible conduct by invoking self-exonerating justifications. A theory of moral reasoning must, therefore, be concerned as well with how cognitive processes can make the immoral inconsequential or even moral.

The self-regulation of conduct in not entirely an intrapsychic affair. Rather, it involves a reciprocity of influence between thought, conduct, and a network of social influences. Under social conditions in which transgressive behavior is not easily self-excusable, conduct is likely to be congruent with more standards. But self-regulation of moral conduct can be weakened or nullified by exonerative moral reasoning and social circumstances. The forms that these mechanisms of moral disengagement take are analyzed in the following section.

Selective Activation and Disengagement of Internal Control

Moral standards do not function as fixed internal regulators of conduct. Self-regulatory mechanisms do not operate unless they are activated, and there are many processes by which moral reactions can be disengaged from inhumane conduct (Bandura, 1986; 1988c). Selective activation and disengagement of internal control permits different types of conduct with the

same moral standards. Figure 3 shows the points in the self-regulatory process at which internal moral control can be disengaged from censurable conduct.

Insert Figure 3 about here

One set of disengagement practices operates on the construal of the behavior itself by moral justification. People do not ordinarily engage in reprehensible conduct until they have justified to themselves the morality of their actions. What is culpable is made personally and socially acceptable by portraying it in the service of moral purposes. Moral justification is widely used to support self-serving and otherwise culpable conduct. Moral judgments of conduct are also partly influenced by what it is compared against. Self-deplored acts can be made righteous by contrasting them with more flagrant transgressions. The more outrageous the comparison activities, the more likely are one's reprehensible acts to appear trifling. Since examples of human culpability abound, they lend themselves readily to cognitive restructuring of transgressive conduct by advantageous comparison. Activities can take on a very different appearance depending on what they are called. Euphemistic labeling provides another convenient device for masking reprehensible activities or even conferring a respectable status upon them. Through convoluted verbiage, reprehensible conduct is made benign and those who engage in it are relieved of a sense of personal agency.

Cognitive restructuring of behavior through moral justifications and palliative characterizations is the most effective psychological mechanism for promoting transgressive conduct. This is because moral restructuring not only eliminates self-deterrents but engages self-

approval in the service of transgressive exploits. What was once morally condemnable becomes a source of self-valuation.

Another set of dissociative practices operates by obscuring or distorting the relationship between actions and the effects they cause. People will behave in ways they normally repudiate if a legitimate authority sanctions their conduct and accepts responsibility for its consequences (Diener et al., 1975; Milgram, 1974). Under conditions of displacement of responsibility, people view their actions as springing from the dictates of others rather than their being personally responsible for them. Since they are not the actual agent of their actions, they are spared self-prohibiting reactions. The deterrent power of self-sanctions is also weakened when the link between conduct and its consequences is obscured by diffusion of responsibility for culpable behavior. Through division of labor, diffusion of decision making, and group action, people can behave detrimentally without any one person feeling personally responsible (Kelman, 1973). People behave more injuriously under diffused responsibility than when they hold themselves personally accountable for what they do (Bandura, Underwood, & Fromson, 1975).

Additional ways of weakening self-deterring reactions operate through disregard or distortion of the consequences of action. When people pursue detrimental activities for personal gain or because of social inducements, they avoid facing the harm they cause or they minimize it. They readily recall the possible benefits of the behavior but are less able to remember its harmful effects (Brock & Buss, 1962, 1964). In addition to selective inattention and cognitive distortion of effects, the misrepresentation may involve active efforts to discredit evidence of the harm they cause. As long as the detrimental results of one's conduct are ignored, minimized, distorted, or disbelieved there is little reason for self-censure to be activated.

The final set of disengagement practices operates at the point of recipients of detrimental acts. The strength of self- evaluative reactions to injurious conduct partly depends on how the perpetrators view the people toward whom the behavior is directed. To perceive another as human enhances empathetic or vicarious reactions through perceived similarity (Bandura, 1988c). As a result, it is difficult to mistreat humanized persons without risking self-condemnation. Self-sanctions against cruel conduct can be disengaged or blunted by dehumanization, which divests people of human qualities or attributes bestial qualities to them. While dehumanization weakens self-restraints against cruel conduct (Diener, 1977; Zimbardo, 1969), humanization fosters considerate, compassionate behavior (Bandura, Underwood, & Fromson, 1975).

Attribution of blame to one's antagonists is still another expedient that can serve self-exonerative purposes. Deleterious interactions usually involve a series of reciprocally escalative actions, in which the antagonists are rarely faultless. One can always select from the chain of events an instance of the adversary's defensive behavior and view it as the original instigation. Injurious conduct thus becomes a justifiable defensive reaction to belligerent provocations. Others can, therefore, be blamed for bringing suffering on themselves. Self-exoneration is similarly achievable by viewing one's detrimental conduct as forced by circumstances rather than as a personal decision. By blaming others or circumstances, not only are one's own actions excusable but one can even feel self- righteous in the process.

Because internalized controls can be selectively activated and disengaged, marked changes in moral conduct can be achieved without changing people's personality structures, moral principles, or self-evaluative systems. It is self-exonerative processes rather than character

flaws that account for most inhumanities. The massive threats to human welfare stem mainly from deliberate acts of principle rather than from unrestrained acts of impulse.

SELF-REFLECTIVE CAPABILITY

If there is any characteristic that is distinctively human, it is the capability for reflective self-consciousness. This enables people to analyze their experiences and to think about their own thought processes. By reflecting on their varied experiences and on what they know, they can derive generic knowledge about themselves and the world around them. People not only gain understanding through reflection, they evaluate and alter their own thinking by this means. In verifying thought through self-reflective means, they monitor their ideas, act on them or predict occurrences from them, judge from the results the adequacy of their thoughts, and change them accordingly.

Modes of Thought Verification

Judgments concerning the validity and functional value of one's thoughts are formed by comparing how well thoughts match some indicant of reality. Four different modes of thought verification can be distinguished. They include enactive, vicarious, persuasory, and logical forms. Enactive verification relies on the adequacy of the fit between thought and the results of one's actions. Good matches corroborate thoughts; mismatches tend to refute them. In the vicarious mode of thought verification, observing the effects produced by somebody else's actions serves as a way of checking the correctness of one's own thinking. Vicarious thought verification is not simply a supplement to enactive experience. Symbolic modeling greatly expands the range of verification experiences that cannot otherwise be attained by personal action. A related mode of thought verification relies on comparing one's thoughts to the judgments of others. When experiential verification is either difficult or impossible, people

evaluate the soundness of their beliefs by comparing them to the judgments of others. In the course of development, people acquire rules of inference. By reasoning from what is already known, they can derive knowledge about things that extend beyond their experience and check the validity of their reasoning.

Such metacognitive activities usually foster veridical thought (Flavell, 1978a), but they can produce faulty thought patterns as well. Forceful actions arising from erroneous beliefs often create social effects that confirm the misbeliefs (Snyder, 1980). Verification of thought by comparison with distorted televised versions of social reality can foster shared misconceptions (Hawkins & Pingree, 1982). Social verification can foster bizarre views of reality if the shared beliefs of the reference group with which one affiliates are peculiar (Winfrey, 1979). Deductive reasoning will be flawed if the propositional knowledge on which it is based is faulty or biases intrude on reasoning processes (Falmagne, 1975).

Self-Efficacy Appraisal

Among the types of thoughts that affect action, none is more central or pervasive than people's judgments of their capabilities to exercise control over events that affect their lives. The self-efficacy mechanism plays a central role in human agency (Bandura, 1982; 1986). Self-judgments of operative capabilities function as one set of proximal determinants of how people behave, their thought patterns, and the emotional reactions they experience in taxing situations. In their daily lives, people continuously have to make decisions about what courses of action to pursue and how long to continue those they have undertaken. Because acting on misjudgments of personal efficacy can produce adverse consequences, accurate appraisal of one's own capabilities has considerable functional value.

It is partly on the basis of judgments of personal efficacy that people choose what to do, how much effort to invest in activities and how long to persevere in the face of obstacles and failure experiences. People's judgments of their capabilities additionally influence whether their thought patterns are self- hindering or self-enhancing, and how much stress and despondency they experience during anticipatory and actual transaction with the environment.

Judgments of self-efficacy, whether accurate or faulty, are based on four principal sources of information. These include performance mastery experiences; vicarious experiences for judging capabilities in comparison with performances of others; verbal persuasion and allied types of social influences that one possesses certain capabilities; and physiological states from which people partly judge their capableness, strength, and vulnerability. In the self-appraisal of efficacy these different sources of efficacy information must be processed and weighed through self-referent thought. Acting on one's self-efficacy judgment brings successes or missteps requiring further self- reappraisals of operative competencies. The self-knowledge which underlies the exercise of many facets of personal agency is largely the product of such reflective self-appraisal.

Self-reflectivity entails shifting the perspective of the same agent rather than reifying different internal agents or selves regulating each other. Thus, in their daily transactions people act on their thoughts and later analyze how well their thoughts have served them in managing events. But it is the one and the same person who is doing the thinking and later evaluating the adequacy of one's knowledge, thinking skills, and action strategies. The shift in perspective does not transform one from an agent to an object. One is just as much an agent reflecting on one's experiences as in executing the original courses of action.

Developmental Analysis of Self-Efficacy

As previously noted, accurate appraisal of one's own capabilities is highly advantageous and often essential for effective functioning. Very young children lack knowledge of their own capabilities and the demands and potential hazards of different situations. They would repeatedly get themselves into dangerous predicaments were it not for the guidance of others. Adult watchfulness and guidance sees young children through this early formative period until they gain sufficient knowledge of what they can do and what different situations require in the way of skills. With development of cognitive self-reflective capabilities, self-efficacy judgment increasingly supplants external guidance.

Beginnings of Perceived Causal Efficacy

Children's exploratory experiences and observation of the performances of others provide the initial basis for developing a sense of causal efficacy. However, newborns' immobility and limited means of action upon the physical and social environment restrict their domain of influence. The initial experiences that contribute to development of a sense of personal agency are tied to infants' ability to control the sensory stimulation from manipulable objects and the attentive behavior of those around them. Infants behave in certain ways, and certain things happen. Shaking a rattle produces predictable sounds, energetic kicks shake their cribs, and screams bring adults.

Realization of causal efficacy requires both self- observation and recognition that one's actions are part of oneself. By repeatedly observing that environmental events occur with action, but not in its absence, infants learn that actions produce effects. Infants who experience success in controlling environmental events become more attentive to their own behavior and more competent in learning new efficacious responses, than are infants for whom the same

environmental events occur regardless of how they behave (Finkelstein & Ramey, 1977; Ramey & Finkelstein, 1978).

Development of perceived self-efficacy requires more than simply producing effects by actions. Those actions must be perceived as part of oneself. The self becomes differentiated from others through dissimilar experience. Thus, if self action causes pain, whereas seeing similar actions by others does not produce experienced pain, one's own activity becomes distinct from that of all others. Infants acquire a sense of personal agency when they begin to perceive environmental events as being personally controlled--a growing realization that they can make events occur.

During the initial months of life, the exercise of influence over the physical environment may contribute more to the development of a child's sense of causal efficacy than does influence over the social environment (Gunnar, 1980). This is because manipulating physical objects produces quick, predictable, and easily observable effects. Highly noticeable correlation between actions and effects facilitates perception of personal agency in infants whose attentional and representational capabilities are limited. In contrast, causal agency is more difficult to discern in noisier social contingencies, where actions have variable social effects, and some of them occur independently of what the infants are doing. However, with the development of representational capabilities infants can begin to learn from probabilistic and more distal outcomes of personal actions. Before long the exercise of control over the social environment begins to play an important role in the early development of self-efficacy.

Familial Sources of Self-Efficacy

Children must gain self-knowledge of their capabilities in broadening areas of functioning. They have to develop, appraise and test their physical capabilities, their social

competencies, their linguistic skills, and their cognitive skills for comprehending and managing the many situations they encounter daily. Development of sensorimotor capabilities greatly expands the infants' available environment and the means for acting upon it. These early exploratory and play activities, which occupy much of their waking hours, provide opportunities for enlarging their repertoire of basic skills.

While developing their capabilities during this initial period of immaturity, most of the infants' gratifications and well-being must be mediated by adults. Because of this physical dependency, infants quickly learn how to influence the actions of those around them by their social and verbal behavior. Many of these transactions involve the exercise of proxy control in which young children get adults to effect changes that the children themselves cannot bring about. Efficacy experiences in the exercise of personal control are central to the early development of social and cognitive competence. Parents who are responsive to their infants' communicative behavior, and who create opportunities for efficacious actions by providing an enriched physical environment and permitting freedom of movement for exploration, have infants who are relatively accelerated in their social and cognitive development (Ainsworth & Bell, 1974; Yarrow, Rubenstein, & Pedersen, 1975). Parental responsiveness increases cognitive competence, and infant capabilities elicit greater parental responsiveness in a process of reciprocal causation (Bradley, Caldwell, & Elardo, 1979). Acquisition of language provides children with the symbolic means to reflect on their experiences and what others tell them about their capabilities and, thus, to begin to gain self-knowledge of what they can and cannot do.

The initial efficacy experiences are centered in the family, but as the growing child's social world rapidly expands, peers assume an increasingly important role in children's developing self-knowledge of their capabilities. It is in the context of peer interactions that social

comparison processes come most strongly into play. At first, the closest comparative age-mates are siblings. Families differ in number of siblings, how far apart in age they are, and in their sex distribution. Different family structures, as reflected in family size, birth order, and sibling constellation patterns, create different social references for comparative self-efficacy appraisal.

Comparative appraisals of efficacy require not only evaluation of one's own performances, but also knowledge of how others do, cognizance of nonability determinants of their performances, and some understanding that it is others who are slightly better than oneself, who provide the most informative social criterion for comparison. With development, children become increasingly discriminative in their use of comparative efficacy information. Developmental analyses conducted by Morris and Nemcek (1982) show that effective use of social comparative information for self-efficacy appraisal lags behind perception of ability rankings.

Peers and the Broadening and Validation of Self-Efficacy

Children's efficacy-testing experiences change substantially as they move increasingly into the larger community. It is in peer relationships that they broaden and particularize self-knowledge of their capabilities. Peers serve several important efficacy functions. Those who are most experienced and competent provide models of efficacious styles of thinking and behavior. A vast amount of social learning occurs among peers. In addition, age-mates provide the most informative points of reference for comparative efficacy appraisal and verification. Children are, therefore, especially sensitive to their relative standing among the peers with whom they affiliate in activities that determine prestige and popularity.

Peers are neither homogeneous nor selected indiscriminately. Children tend to choose close associates who share similar interests and values. Selective peer association will promote

self-efficacy in directions of mutual interest, leaving other potentialities underdeveloped (Bandura & Walters, 1959; Ellis & Lane, 1963; Krauss, 1964). The influences are undoubtedly bidirectional--affiliation preferences affect the direction of efficacy development, and self-efficacy, in turn, partly determines choice of peer associates and activities. Because peers serve as a major agency for the development and validation of self-efficacy, disrupted or impoverished peer relationships can adversely affect the growth of personal efficacy. Perceived social inefficacy can, in turn, create internal obstacles to favorable peer relationships (Wheeler & Ladd, 1982). Development of personal efficacy in coercive styles of behavior may likewise be socially alienating. Thus, children who readily resort to aggression perceive themselves as highly efficacious in getting things they want by aggressive means (Perry, Perry, & Rasmussen, 1985).

School as an Agency for Cultivating Cognitive Self-Efficacy

During the crucial formative period of children's lives, the school functions as the primary setting for the cultivation and social validation of cognitive competencies. School is the place where children develop the cognitive competencies and acquire the knowledge and problem-solving skills essential for participating effectively in society. Here their knowledge and thinking skills are continually tested, evaluated, and socially compared.

As children master cognitive skills, they develop a growing sense of their intellectual efficacy. Many social factors, apart from the formal instruction, such as peer modeling of cognitive skills, social comparison with the performances of other students, motivational enhancement through proximal goals and positive incentives, and instructors interpretations of children's successes and failures in ways that reflect favorably or unfavorably on their ability also affect children's judgments of their intellectual efficacy (Schunk, 1984; 1987). Enhanced perceived self-efficacy fosters persistence in seeking solutions, cognitive skill development and

intrinsic interest in academic subject matters (Bandura & Schunk, 1981; Schunk, 1984; Relich, Debus, & Walker, 1986).

The task of creating learning environments conducive to development of cognitive skills rests heavily on the talents and self-efficacy of teachers. Those who are well-versed in their subject matter and have a high sense of efficacy about their teaching capabilities can motivate low achievers and enhance their cognitive development (Ashton & Webb, 1986; Gibson & Dembo, 1984). The staffs of successful schools, whether they serve predominantly advantaged or disadvantaged students, have a strong group sense of efficacy to fulfill their academic purpose and resiliency of perceived efficacy in the face of social realities strewn with frustrations (Lightfoot, 1983).

There are a number of school practices that, for the less talented or ill prepared, tend to convert instructional experiences into education in inefficacy. These include lock- step sequences of instruction, which lose many children along the way; ability groupings which further diminish the perceived self-efficacy of those in the lower ranks; and competitive practices where many are doomed to failure for the success of a relative few.

Classroom structures affect perceptions of cognitive capabilities, in large part, by the relative emphasis they place on social-comparative versus self-comparative appraisal. Self-appraisals of less able students suffer most when the whole group studies the same material and teachers make frequent comparative evaluations (Rosenholtz & Rosenholtz, 1981). Under such a monolithic structure, which highlights social comparative standards, students rank themselves according to capability with high consensus. Once established, reputations are not easily changed. In a personalized classroom structure, individualized instruction tailored to students' knowledge and skills enables all of them to expand their competencies and provides less basis

for demoralizing social comparison. As a result, students are more likely to compare their rate of progress to their personal standards than to the performance of others. Self-comparison of improvement in a personalized classroom structure raises perceived capability. Educational practices should be gauged not only by the skills and knowledge they impart for present use, but also by what they do to children's beliefs about their capabilities, which affects how they approach the future. Students who develop a sense of self-efficacy are well equipped to educate themselves when they have to rely on their own initiative.

Growth of Self-Efficacy Through Transitional Experiences of Adolescence

Each period of development brings with it new challenges for coping efficacy. As adolescents approach the demands of adulthood, they must learn to assume full responsibility for themselves in almost every dimension of life. This requires mastering many new skills and the ways of adult society. Learning how to deal with sexual relationships and partnerships becomes a matter of considerable importance. The task of choosing what lifework to pursue also looms large during this period. Self-judged capabilities influence the range of career options seriously considered, the degree of interest shown in them, and the vocational paths that are pursued (Betz & Hackett, 1986; Lent & Hackett, 1987). These are but a few of the areas in which new competencies have to be acquired.

With growing independence during adolescence some experimentation with risky behavior is not all that uncommon (Jessor, 1984). Adolescents expand and strengthen their sense of efficacy by learning how to deal successfully with potentially troublesome matters in which they are unpracticed as well as with advantageous life events. Development of resilient self-efficacy requires some experience in mastering difficulties through perseverant effort. Triumphs over difficulties instill a strong belief in one's capabilities that provides the staying power in the

face of difficulties. Insulation from problematic situations leaves one ill-prepared to cope with adversities. Impoverished high-risk environments present harsh realities with minimal resources and social supports for culturally-valued pursuits, but extensive modeling, incentives and social supports for transgressive styles of behavior. Such environments severely tax the coping efficacy of youth enmeshed in them to make it through adolescence in ways that do not irreversibly foreclose many beneficial life paths.

Adolescence has often been characterized as a period of psychosocial turmoil. While no period of life is ever free of problems, contrary to the stereotype of "storm and stress," most adolescents negotiate the important transitions of this period without undue disturbance or discord (Bandura, 1964; Petersen, 1988; Rutter, Graham, Chadwick, & Yule, 1976). Indeed, transitional school experiences generally sustain or even increase a sense of personal competence (Nottelmann, 1987). However, youngsters who enter adolescence beset by a disabling sense of inefficacy transport their vulnerability to distress and debility to the new environmental demands. The ease with which the transition from childhood to the demands of adulthood is made similarly depends, in no small measure, on the strength of personal efficacy built up through prior mastery experiences.

Self-Efficacy Concerns of Adulthood

Young adulthood is a period when people have to learn to cope with many new demands arising from lasting partnerships, marital relationships, parenthood, and careers. As in earlier mastery tasks, a firm sense of self-efficacy is an important contributor to the attainment of further competencies and success. Those who enter adulthood poorly equipped with skills and plagued by self-doubts find many aspects of their adult life stressful and depressing. The lower

their sense of parenting efficacy, the more vulnerable they are to despondency (Cutrona & Troutman, 1986).

By the middle years, people settle into established routines that stabilize their self-appraised efficacy in the major areas of functioning. However, the stability is a shaky one because life does not remain static. Rapid technological and social changes constantly require adaptations calling for self- reappraisals of capabilities. In their occupations, the middle- aged find themselves pressured by younger challengers. Situations in which people must compete for promotions, status, and even work itself, force constant self-appraisals of capabilities by means of social comparison with younger competitors (Suls & Mullen, 1982).

Reappraisals of Self-Efficacy With Advancing Age

The self-efficacy problems of the elderly center on reappraisals and misappraisals of their capabilities. Discussions of aging focus extensively on declining abilities. Many physical capacities do decrease as people grow older, thus, requiring reappraisals of self-efficacy for activities in which the mediating biological functions have been significantly affected. However, gains in knowledge, skills, and expertise compensate some loss in physical capacity. When the elderly are taught to use their intellectual capabilities, their improvement in cognitive functioning more than offsets the average decrement in performance over two decades (Baltes & Willis, 1982). Because people rarely exploit their full potential, elderly persons who invest the necessary effort can function at the higher levels of younger adults. By affecting level of involvement in activities, perceived self-efficacy can contribute to the maintenance of cognitive functioning over the adult life span.

Major life changes in later years are brought about by retirement, relocation, and loss of friends or spouses. Such changes place demands on interpersonal skills to cultivate new social

relationships that can contribute to positive functioning and personal well-being. Perceived social inefficacy increases older person's vulnerability to stress and depression both directly and indirectly by impeding development of social supports which serve as a buffer against life stressors (Holahan & Holahan, 1987a; 1987b).

Much variability exists across behavioral domains and educational and socioeconomic levels, and there is no uniform decline in beliefs in personal efficacy in old age (Baltes & Baltes, 1986). Whom the elderly compare themselves against contributes much to the variability in perceived self-efficacy. Those who measure their capabilities against people their age are less likely to view themselves as declining in capabilities than if younger cohorts are used extensibly in comparative self- appraisal. There is evidence that perceived cognitive inefficacy is accompanied by lowered intellectual performances (Lachman, Steinberg, & Trotter, 1987). A declining sense of self-efficacy, which often may stem more from disuse and negative cultural expectations than from biological aging, can thus set in motion self-perpetuating processes that result in declining cognitive and behavioral functioning. People who are beset with uncertainties about their personal efficacy not only curtail the range of their activities but undermine their efforts in those they undertake. The result is a progressive loss of interest and skill. In societies that emphasize the potential for self- development throughout the lifespan, rather than psychophysical decline with aging, the elderly lead productive, self-fulfilling lives.

FAMILIAL AND SOCIAL TRANSMISSION MODELS

Psychological theories have traditionally assumed that values, standards and behavioral patterns are transmitted via parent-child relationships. In a provocative paper, Reiss (1965) contrasts theories based on the familial transmission model with those emphasizing transmission by broader social systems. He offers several reasons why the familial transmission model cannot

adequately explain socialization processes and outcomes. Assuming, at least, a 20-year procreation difference between generations, a long time intervenes between parents' imparting values and standards to their children and when they can, in turn, pass on those values to their own offspring. The long time lag between succeeding descendants would produce a very slow rate of social change, whereas, in fact, extensive society-wide shifts in standards and normative behavior often occur within a single generation. The marked change in sexual standards and practices and cohabitation patterns within a relatively short time span is but one example. Reiss, therefore, argues that the parent-child relationship cannot be the major agency of cultural transmission. Rather, standards of behavior are primarily disseminated by institutionally organized systems (e.g., educational, mass media, religious, political, and legal agencies) and regulated by collectively enforced sanctions. In Reiss' view, psychosocial changes originate primarily at the social systems level, whereas changes emerging within the family are of lesser social impact. Thus, for example, racial segregation in public accommodations and infringement of voting rights were changed more rapidly by collective protest and Supreme Court decisions than by waiting for prejudiced parents to inculcate in their children more acceptant attitudes which they would display toward minority groups when they became restaurateurs and motel operators thirty or forty years later.

In accord with Reiss' main thesis, social cognitive theory assumes that values and behavior patterns arise from diverse sources of influence and are promoted by institutional backing. Because social agencies possess considerable rewarding and punishing power, collectively enforced sanctions can produce rapid and widespread societal changes. However, a social systems' theory alone is insufficient to explain why there is often substantial variation in values and behavior patterns, even within the same subcultures. Differences arise partly because

institutional prescriptions for the youth of a society must be implemented by parents, teachers and community members. Those who, for whatever reason, do not subscribe to the institutional codes will undermine the broader social transmission effort. Barring strong sanctions, parents often find new values discordant and resist adopting them for some time. Families who are estranged from the mainstream social systems also pay little or no heed to institutional values.

A comprehensive theory of social transmission must also explain what produces and sustains the values, standards and behavior patterns promulgated by the cultural institutions. They are products of influences wielded by members of the society. Changes in social systems are often initiated by determined dissenters acting on values modeled largely from individuals who have opposed prevailing social practices (Bandura, 1973; Keniston, 1968; Rosenhan, 1970). Dissenters create their own subsystems to support their efforts to reform social systems (King, 1958).

In discussing the limitations of personality theories of socialization, Reiss states that, in such approaches, social change can arise only when there is a breakdown in transmission between generations. This type of criticism is applicable to theories assuming that parental values are introjected by children in toto and then are later passed on unmodified to their progeny. In social cognitive theory, the adoption of values, standards and attributes is governed by a much broader and more dynamic social reality. Social learning is a continuous process in which acquired standards are elaborated and modified, and new ones are adopted. Children repeatedly observe and learn the standards and behavior patterns not only of parents, but also of siblings, peers, and other adults (Bandura, Grusec, & Manlove, 1967; Davidson & Smith, 1982). Moreover, the extensive symbolic modeling provided in the mass media serves as another prominent extra-familial source of influence (Liebert, Sprafkin, & Davidson, 1982). Hence,

children's values and attributes are likely to reflect amalgams of these diverse sources, rather than simply the unaltered familial heritage. Even if psychosocial patterns arose solely from familial sources, significant changes could emerge across generations through familial transmission. This is because the attributes and standards of the two parents are rarely identical and siblings add further variety to what is modeled in the familial environment. The attributes children develop are composites of different features of parental and sibling values at each generation. Thus, children within the same family can develop somewhat different composite systems of attributes and values that are neither solely those of the parents nor of the siblings (Bandura, Ross, & Ross, 1963).

Some of the criticisms levied by Reiss against the familial transmission model are debatable, but his contention that social institutions often play a heavier role in perpetuating and changing psychosocial patterns than do familial influences is well taken. However, an interactional theory that treats human development as a product of both familial and social system influences holds greater promise of furthering our understanding of the process than does a dichotomized view that pits one system against the other. This broader transmission model provides the vehicle for cultural evolution and the transmission of cultural patterns both within generations and from one generation to the next. Boyd and Richerson (1985) analyze the mechanisms of cultural evolution from a population view of social learning. In their analysis, environmental conditions, multiple modeling influences, and personal experiences operate interactively to change the frequency of behavioral variants in the population. Social learning influences shape the form of cultural evolution by favoring behavioral variants that are efficacious in particular milieus.

THE NATURE OF HUMAN NATURE

Seen from the social cognitive perspective, human nature is characterized by a vast potentiality that can be fashioned by direct and vicarious experience into a variety of forms within biological limits. To say that a major distinguishing mark of humans is their endowed plasticity is not to say that they have no nature or that they come structureless (Midgley, 1978). The plasticity, which is intrinsic to the nature of humans, depends upon specialized neurophysiological mechanisms and structures that have evolved over time. These advanced neural systems, which are specialized for processing, retaining, and using coded information, provide the capacity for the very characteristics that are distinctly human--generative symbolization, forethought, evaluative self-regulation, reflective self-consciousness, and symbolic communication.

Plasticity does not mean that behavior is entirely the product of post-natal experience. Some innately organized patterns of behavior are present at birth; others appear after a period of maturation. One does not have to teach infants to cry or suck, toddlers to walk, or adolescents how to copulate. Nor does one have to create physiological motivators arising from hunger, thirst, and pain or somatically-based rewards. Infants come equipped with some attentional selectivity and interpretive predilections as well (von Cranach, Foppa, LePenies, & Ploog, 1979). The inborn programming for basic physiological functions is the product of accumulated ancestral experiences that are stored in the genetic code.

Most patterns of human behavior are organized by individual experience and retained in neural codes, rather than being provided ready-made by inborn programming. While human thought and conduct may be fashioned largely through experience, innately determined factors enter into every form of behavior to some degree. Genetic factors and neural systems affect

behavioral potentialities and place constraints on capabilities. Both experiential and physiological factors interact, often in intricate ways, to determine behavior. Even in behavioral patterns that are formed almost entirely through experience, rudimentary elements are present as part of the natural endowment. For example, humans are endowed with basic phonetic elements which may appear trivial compared to complex acquired patterns of speech, but the elements are, nevertheless, essential. Similarly, action patterns regarded as instinctual, because they draw heavily on inborn elements, require appropriate experience to be developed. Sensory systems and brain structures are alterable by environmental influences. The level of psychological and physiological development, of course, limits what can be acquired at any given time. Because behavior contains mixtures of inborn elements and learned patterns, dichotomous thinking, which separates activities neatly into innate and acquired categories, is seriously inaccurate.

Humans have an unparalleled capability to become many things. The qualities that are cultivated and the life paths that realistically become open to them are partly determined by the nature of the cultural agencies to which their development is entrusted. Social systems that cultivate generalizable competencies, create opportunity structures, provide aidful resources, and allow room for self-directedness increase the chances that people will realize what they wish to become.

REFERENCES

Abravanel, E., Levan-Goldschmidt, E., & Stevenson, M. B. (1976). Action imitation: The early phase of infancy. *Child Development, 47*, 1032-1044.

Ainsworth, M. D. S., & Bell, S. M. (1974). Mother-infant interaction and the development of competence. In K. Connolly & J. Bruner (Eds.), *The growth of competence* (pp. 97-118). London: Academic Press.

Albert, A. A., & Porter, J. R. (1982). Children's perception of parental sex-role expectations. The Journal of Genetic *Psychology, 140*, 145-146.

Ashby, M. S., & Wittmaier, B. C. (1978). Attitude changes in children after exposure to stories about women in traditional or nontraditional occupations. Journal of Educational *Psychology, 70*, 945-949.

Ashton, P. T., & Webb, R. B. (1986). *Making a difference: Teachers' sense of efficacy and student achievement.* White Plains, NY: Longman, Inc.

Baldwin, A. L., & Baldwin, C. P. (1973). The study of mother- child interaction. *American Scientist, 61*, 714-721.

Baltes, M. M., & Baltes, P. B. (Eds.). (1986). *The psychology of control and aging*. Hillsdale, NJ: Erlbaum.

Baltes, P. B., & Reese, H. W. (1984). The life-span perspective in developmental psychology. In M. H. Bornstein & M. E. Lamb (Eds.), *Developmental psychology: An advanced textbook* (pp. 493-531). Hillsdale, NJ: Erlbaum.

Baltes, P. B., & Willis, S. L. (1982). Plasticity and enhancement of intellectual functioning in old age: Penn State's adult development and enrichment project (ADEPT). In F. I. M. Craik & S. Trehub (Eds.), *Advances in the study of communication and affect (Vol. 8): Aging and cognitive processes* (pp. 353-389). New York: Plenum.

Bandura, A. (1964). The stormy decade: Fact or fiction? *Psychology in the Schools, 1*, 224-231.

Bandura, A. (1965). Influence of models' reinforcement contingencies on the acquisition of imitative responses. *Journal of Personality and Social Psychology,* 1, 589-595.

Bandura, A. (1973). *Aggression: A social learning analysis*. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1982a). Self-efficacy mechanism in human agency. *American Psychologist, 37*, 122-147.

Bandura, A. (1982b). The psychology of chance encounters and life paths. *American Psychologist, 37,* 747-755.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice- Hall, Inc.

Bandura, A. (1988a, in press). Self-regulation of motivation and action through goal systems. In V. Hamilton, G. H. Bower, & N. H. Frijda (Eds.), *Cognitive perspectives on emotion and motivation*. Dordrecht: Martinus Nijhoff.

Bandura, A. (1988b, in press). Social cognitive theory and social referencing. In S. Feinman (Ed.), *Social referencing and social construction of reality*. New York: Plenum.

Bandura, A. (1988c, in press). Mechanisms of moral disengagement in terrorism. In W. Reich (Ed.), *The psychology of terrorism: Behaviors, world-views, states of mind*. New York: Cambridge University Press.

Bandura, A. (1988d, in press). Social cognitive theory of moral judgment and action. In W. M. Kurtines & J. L. Gewirtz (Eds.), *Moral behavior and development: Advances in theory, research, and applications* (Vol. 1). Hillsdale, NJ: Erlbaum.

Bandura, A., & Cervone, D. (1983). Self-evaluative and self- efficacy mechanisms governing the motivational effects of goal systems. *Journal of Personality and Social Psychology, 45*, 1017-1028.

Bandura, A., Grusec, J. E., & Menlove, F. L. (1967). Some social determinants of self-monitoring reinforcement systems. *Journal of Personality and Social Psychology, 5*, 449-455.

Bandura, A., Ross, D., & Ross, S. A. (1963). A comparative test of the status envy, social power, and secondary reinforcement theories of identificatory learning. *Journal of Abnormal and Social Psychology, 67*, 527-534.

Bandura, A., & Schunk, D. H. (1981). Cultivating competence, self-efficacy and intrinsic interest through proximal self- motivation. *Journal of Personality and Social Psychology, 41*, 586-598.

Bandura, A., Underwood, B., & Fromson, M. E. (1975). Disinhibition of aggression through diffusion of responsibility and dehumanization of victims. *Journal of Research in Personality, 9*, 253-269.

Bandura, A., & Walters, R. H. (1959). *Adolescent aggression*. New York: Ronald Press.

Bell, R. Q., & Harper. L. V. (1977). *Child effects on adults*. Hillsdale, NJ: Erlbaum.

Bem, S. L. (1981). Gender schema theory: A cognitive account of sex typing. *Psychological Review, 88*, 354-364.

Betz, N. E., & Hackett, G. (1986). Applications of self-efficacy theory to understanding career choice behavior. *Journal of Social and Clinical Psychology, 4*, 279-289.

Bloom, L., Hood, L., & Lightbown, P. (1974). Imitation in language development: If, when, and why. *Cognitive Psychology, 6*, 380-420.

Bower, G. H. (1975). Cognitive psychology: An introduction. In W. K. Estes (Ed.), *Handbook of learning and cognition* (pp. 25-80). Hillsdale, NJ: Erlbaum.

Bowerman, M. (1973). Structural relationships in children's utterances: Syntactic or semantic? In T. E. Moore (Ed*.), Cognitive development and the acquisition of language* (pp. 197-213). New York: Academic Press.

Boyd, R., & Richerson, P. J. (1985). *Mechanisms of cultural evolution*. Chicago: University of Chicago Press.

Bradley, R. H., Caldwell, B. M., & Elardo, R. (1979). Home environment and cognitive development in the first two years: A cross-lagged panel analysis. *Developmental Psychology, 15*, 246-250.

Brainerd, C. J. (1978). The stage question in cognitive- development theory. *The Behavioral and Brain Sciences, 2*, 173-213.

Brewer, W. F. (1974). There is no convincing evidence for operant or classical conditioning in adult humans. In W. B. Weimer & D. S. Palermo (Eds.), *Cognition and the symbolic processes* (pp. 1-42). Hillsdale, NJ: Erlbaum.

Brim, O. G., Jr., & Ryff, C. D. (1980). On the properties of life events. In P. B. Baltes & O. G. Brim, Jr. (Eds.), *Life- span development and behavior* (Vol. 3, pp. 367-388). New York: Academic Press.

Brock, T. C., & Buss, A. H. (1962). Dissonance, aggression, and evaluation of pain. *Journal of Abnormal and Social Psychology, 65*, 197-202.

Brock, T. C., & Buss, A. H. (1964). Effects of justification for aggression and communication with the victim on postaggression dissonance. *Journal of Abnormal and Social Psychology, 68*, 403-412.

Brody, G. H., & Henderson, R. W. (1977). Effects of multiple model variations and rationale provision on the moral judgments and explanations of young children. *Child Development, 48*, 1117-1120.

Brown, A. L., & Barclay, C. R. (1976). The effects of training specific mnemonics on the metamnemonic efficiency of retarded children. *Child Development, 47*, 71-80.

Brown, I., Jr. (1976). Role of referent concreteness in the acquisition of passive sentence comprehension through abstract modeling. *Journal of Experimental Child Psychology, 22*, 185- 199.

Bullock, D., & Merrill, L. (1980). The impact of personal preference on consistency through time: The case of childhood aggression. *Child Development, 51*, 808-814.

Bussey, K., & Bandura, A. (1984). Gender constancy, social power, and sex-linked modeling. *Journal of Personality and Social Psychology, 47*, 1242-1302.

Cairns, R. B. (Ed.). (1979). *The analysis of social interactions: Methods, issues, and illustrations*. Hillsdale, NJ: Erlbaum.

Cantor, J., & Wilson, B. J. (1988, in press). Helping children cope with frightening media presentations. In B. Gunter (Ed.), *Current Psychological Research and Reviews*.

Carroll, W. R., & Bandura, A. (1985). Role of timing of visual monitoring and motor rehearsal in observational learning of action patterns. *Journal of Motor Behavior, 17*, 269-281.

Carroll, W. R., & Bandura, A. (1987). Representational guidance of action production in observational learning: A causal analysis. Manuscript submitted for publication.

Church, R. M. (1959). Emotional reactions of rats to the pain of others. *Journal of Comparative and Physiological Psychology, 52,* 132-134.

Cohen, L. B., & Salapatek, P. (1975). *Infant perception: From sensation to cognition: Vol. 1. Basic visual processes*. New York: Academic Press.

Coombs, M. J. (Ed.). (1984). *Developments in expert systems*. London: Academic Press.

Courtney, A. E., & Whipple, T. W. (1974). Women in TV commercials. *The Journal of Communication, 24*, 110-118.

Csikszentmihalyi, M. (1979). Intrinsic rewards and emergent motivation. In M. R. Lepper & D. Greene (Eds.), *The hidden costs of reward* (pp. 205-216). Morristown, NJ: Erlbaum.

Cutrona, C. E., & Troutman, B. R. (1986). Social support, infant temperament, and parenting self-efficacy: A mediational model of postpartum depression. *Child Development, 57*, 1507-1518.

Darley, J. M., Klosson, E. C., & Zanna, M. P. (1978). Intentions and their contexts in the moral judgments of children and adults. *Child Development, 49*, 66-74.

Davidson, E. S., & Smith, W. P. (1982). Imitation, social comparison and self-reward. *Child Development, 53*, 928-932.

Denny, N. W., Duffy, D. M. (1974). Possible environmental causes of stages in moral reasoning. *The Journal of Genetic Psychology, 125*, 277-284.

Diener, E. (1977). Deindividuation: Causes and consequences. *Social Behavior and Personality, 5,* 143-156.

Diener, E., Dineen, J., Endresen, K., Beaman, A. L., & Fraser, S. C. (1975). Effects of altered responsibility, cognitive set, and modeling on physical aggression and deindividuation. *Journal of Personality and Social Psychology, 31*, 328-337.

Dubanoski, R. A., & Parton, D. A. (1971). Imitative aggression in children as a function of observing a human model. *Developmental Psychology, 4*, 489.

Duncker, K. (1938). Experimental modification of children's food preferences through social suggestion. *Journal of Abnormal Social Psychology, 33*, 489-507.

Dysinger, W. S., & Ruckmick, C. A. (1933). *The emotional responses of children to the motion-picture situation*. New York: Macmillan.

Eimas, P. D. (1970). Effects of memory aids on hypothesis behavior and focusing in young children and adults. *Journal of Experimental Child Psychology, 10*, 319-336.

Elder, G. H. (1981). History and the life course. In D. Bertaux (Ed.), *Biography and society: The life history approach in the social sciences* (pp. 77-115). Beverly Hills: Sage.

Ellis, R. A., & Lane, W. C. (1963). Structural supports for upward mobility. *American Sociological Review, 28*, 743-756.

Emmons, R. A., & Diener, E. (1986). Situation selection as a moderator of response consistency and stability. *Journal of Personality and Social Psychology, 51*, 1013-1019.

Englis, B. G., Vaughan, K. B., & Lanzetta, J. T. (1982). Conditioning of counter-empathetic emotional responses. *Journal of Experimental Social Psychology, 18*, 375-391.

Fagot, B. I. (1977). Consequences of moderate cross-gender behavior in preschool children. *Child Development, 48*, 902- 907.

Falmagne, R. J. (1975). *Reasoning: Representation and process in children and adults*. Hillsdale, NJ: Erlbaum.

Feldman, D. H. (1980). *Beyond universals in cognitive development*. Norwood, NJ: Ablex.

Finkelstein, N. W., & Ramey, C. T. (1977). Learning to control the environment in infancy. *Child Development, 48*, 806-819.

Flavell, J. H. (1978a). Metacognitive development. In J. M. Scandura & C. J. Brainerd (Eds.), *Structural-process theories of complex human behavior* (pp. 213-245). Alphen a.d. Rijn, The Netherlands: Sijithoff and Noordhoff.

Flavell, J. H. (1978b). Developmental stage: Explanans or explanadum*? The Behavioral and Brain Sciences, 2*, 187-188.

Flerx, V. C., Fidler, D. S., & Rogers, R. W. (1976). Sex role stereotypes: Developmental aspects and early intervention. *Child Development, 47*, 998-1007.

Folger, J. P., & Chapman, R. S. (1978). A pragmatic analysis of spontaneous imitations. *Journal of Child Language, 5,* 25-38.

Gibson, S., & Dembo, M. H. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology, 76*, 569-582.

Greenough, W. T., Black, J. E., & Wallace, C. S. (1987). Experience and brain development. *Child Development, 58*, 539-559.

Gunnar, M. R. (1980). Contingent stimulation: A review of its role in early development. In S. Levine & H. Ursin (Eds.), *Coping and health* (pp. 101-119). New York: Plenum Press.

Hagen, J. W., & Hale, G. A. (1973). The development of attention in children. In A. D. Pick (Ed.), *Minnesota Symposium on Child Psychology* (Vol. 7, pp. 117-140). Minneapolis: University of Minnesota Press.

Hamilton, M. L., & Stewart, D. M. (1977). Peer models and language acquisition. *Merrill-Palmer Quarterly of Behavior and Development, 23*, 45-56.

Hart, B., & Risley, T. R. (1975). Incidental teaching of language in the preschool. *Journal of Applied Behavior Analysis, 8*, 411-420.

Hart, B., & Risley, T. R. (1978). Promoting productive language through incidental teaching. *Education and Urban Society, 10*, 407-430.

Hart, B., & Risley, T. R. (1980). In vivo language intervention: Unanticipated general effects. *Journal of Applied Behavior Analysis, 13*, 407-432.

Haugan, G. M., & McIntire, R. W. (1972). Comparisons of vocal imitation, tactile stimulation, and food as reinforcers for infant vocalizations. *Developmental Psychology, 6*, 201-209.

Hawkins, R. P., & Pingree, S. (1982). Television's influence on social reality. In D. Pearl, L. Bouthilet, & J. Lazar (Eds.), *Television and behavior: Ten years of scientific progress and*

implications for the eighties (Vol. II, pp. 224-247). Rockville, MD: National Institute of Mental Health.

Holahan, C. K., & Holahan, C. J. (1987a). Self-efficacy, social support, and depression in aging: A longitudinal analysis. *Journal of Gerontology, 42*, 65-68.

Holahan, C. K., & Holahan, C. J. (1987b, in press). Life stress, hassles, and self-efficacy in aging: A replication and extension. *Journal of Applied Social Psychology*.

Hovell, M. F., Schumaker, J. B., & Sherman, J. A. (1978). A comparison of parents' models and expansions in promoting children's acquisition of adjectives. Journal of Experimental *Child Psychology, 25*, 41-57.

Hughes, R., Jr., Tingle, B. A., & Swain, D. B. (1981). Development of empathic understanding in children. *Child Development, 52*, 122-128.

Hultsch, D. F., & Plemons, J. K. (1979). Life events and life- span development. In P. B. Baltes & O. G. Brim, Jr. (Eds.), *Life-span development and behavior* (Vol. 2, pp. 1-36). New York: Academic Press.

Huston, A. C. (1983). Sex typing. In P. H. Mussen (Ed.), *Handbook of child psychology* (Vol. 4., pp. 387-467). New York: Wiley.

Jacklin, C. N., & Mischel, H. N. (1973). As the twig is bent-- sex role stereotyping in early readers. *The School Psychology Digest, 2*, 30-38.

Jessor, R. (1984). Adolescent development and behavioral health. In J. D. Matarazzo, N. E. Miller, J. A. Herd, & S. M. Weiss (Eds.), *Behavioral health: A handbook of health enhancement and disease prevention* (pp. 69-90). Silver Spring, MD: Wesley.

Jusczyk, P. W. (1981). Infant speech perception: A critical appraisal. In P. D. Eimas & J. L. Miller (Eds.), *Perspectives on the study of speech* (pp. 113-164). Hillsdale, NJ: Erlbaum.

Kasermann, M. L., & Foppa, K. (1981). Some determinants of self correction: An interactional study of Swiss-German. In W. Deutsch (Ed.), *The child's construction of language* (pp. 97-104). London: Academic Press.

Kaye, K. (1982). *The mental and social life of babies: How parents create persons*. Chicago: University of Chicago Press.

Kelman, H. C. (1973). Violence without moral restraint: Reflections on the dehumanization of victims and victimizers. *Journal of Social Issues, 29*, 25-61.

Kemp, J. C., & Dale, P. S. (1973). Spontaneous imitations and free speech: A developmental comparison. Paper presented at the meeting of the Society for Research in Child Development, Philadelphia.

Keniston, K. (1968). *Young radicals*. New York: Harcourt, Brace and World.

King, M. L. (1958). *Stride toward freedom*. New York: Ballantine Books.

Krauss, I. (1964). Sources of educational aspirations among working-class youth. *American Sociological Review, 29*, 867- 879.

Lachman, M. E., Steinberg, E. S., & Trotter, S. D. (1987, in press). The effects of control beliefs and attributions on memory self-assessments and performance. *Psychology and Aging*.

Lamal, P. A. (1971). Imitation learning of information- processing. *Journal of Experimental Child Psychology, 12*, 223-227.

Lamb, M. E., Easterbrooks, M. A., & Holden, G. W. (1980). Reinforcement and punishment among preschoolers: Characteristics, effects and correlates. *Child development, 51*, 1230-1236.

Lane, J., & Anderson, N. H. (1976). Integration of intention and outcome in moral judgment. *Memory and Cognition, 4*, 1-5.

Lent, R. W., & Hackett, G. (1987). Career self-efficacy: Empirical status and future directions. *Journal of Vocational Behavior, 30*, 347-382.

Leon, M. (1984). Rules mothers and sons use to integrate intent and damage information in their moral judgments. *Child Development, 55*, 2106-2113.

Lerner, R. M. (1982). Children and adolescents as producers of their own development. *Developmental Review, 2*, 342-370.

Lewis, M., & Rosenblum, L. A. (Eds.). (1974). *The effect of the infant on its caregiver*. New York: Wiley.

Liebert, R. M., Sprafkin, J. N., & Davidson, E. S. (1982). *The early window: Effects of television on children and youth* (2nd ed.). Elmsford, NY: Pergamon.

Lightfoot, S. L. (1983). *The good high school*. New York: Basic Books.

Maccoby, E. E., & Jacklin, C. N. (1974). *The psychology of sex differences*. Stanford, CA: Stanford University Press.

Macnamara, J. (1972). Cognitive basis of language learning in infants. *Psychological Review, 79*, 1-13.

Marcus, D. E., & Overton, W. F. (1978). The development of cognitive gender constancy and sex role preferences. *Child Development, 49*, 434-444.

McCall, R. B., Parke, R. D., & Kavanaugh, R. D. (1977). Imitation of live and televised models by children one to three years of age. Monographs of the Society for Research in *Child Development, 42*(5, Serial No. 173).

McGhee, P. E., & Frueh, T. (1980). Television viewing and the learning of sex-role stereotypes. *Sex Roles, 6*, 179-188.

Meichenbaum, D. (1984). Teaching thinking: A cognitive- behavioral perspective. In R. Glaser, S. Chipman, & J. Segal (Eds.), *Thinking and learning skills (Vol. 2): Research and Open Questions* (pp. 407-426). Hillsdale, NJ: Erlbaum.

Meltzoff, A. N., & Moore, M. K. (1983). The origins of imitation in infancy: Paradigm, phenomena, and theories. In L. P. Lipsitt & C. K. Rovee-Collier (Eds.), *Advances in infancy research* (Vol. 2., pp. 266-301). Norwood, NJ: Ablex Publishing.

Midgley, M. (1978). *Beast and man: The roots of human nature*. Ithaca, NY: Cornell University Press.

Milgram, S. (1974). *Obedience to authority: An experimental view*. New York: Harper & Row.

Millar, W. S. (1972). A study of operant conditioning under delayed reinforcement in early infancy. Monographs of the *Society for Research in Child Development, 37*(2, Serial No. 147).

Millar, W. S., & Schaffer, H. R. (1972). The influence of spatially displaced feedback on infant operant conditioning. *Journal of Experimental Child Psychology, 14*, 442-453.

Miller, M. M., & Reeves, B. (1976). Dramatic TV content and children's sex role stereotypes. *Journal of Broadcasting, 20*, 35-50.

Miller, R. E., Caul, W. F., & Mirsky, I. A. (1967). Communication of affect between feral and socially isolated monkeys. *Journal of Personality and Social Psychology, 7*, 231-239.

Mineka, S. (1987). A primate model of phobic fears. In H. Eysenck & I. Martin (Eds.), Theoretical foundations of behavior therapy. New York: Plenum Press.

Moerk, E. L. (1986). Environmental factors in early language acquisition. In G. J. Whitehurst (Ed.), *Annals of child development*, (Vol. 3, pp. 191-236). Greenwich, CT: JAI Press.

Morris, W. N., & Nemcek, D., Jr. (1982). The development of social comparison motivation among preschoolers: Evidence of a stepwise progression. *Merrill-Palmer Quarterly of Behavior and Development, 28*, 413-425.

Neisser, U. (1976). *Cognition and reality: Principles and implications of cognitive psychology*. San Francisco: Freeman.

Nelson, K. E. (1977a). Aspects of language acquisition and use from age 2 to age 20. *Journal of American Academy of Child Psychiatry, 16*, 584-607.

Nelson, K. E. (1977b). Facilitating children's syntax acquisition. *Developmental Psychology, 13*, 111-117.

Nicolich, L. M., & Raph, J. B. (1978). Imitative language and symbolic maturity in the single-word period. *Journal of Psycholinguistic Research, 7*, 401-417.

Nottelmann, E. D. (1987). Competence and self-esteem during transition from childhood to adolescence. *Developmental Psychology, 23*, 441-450.

O'Bryant, S. L., & Corder-Bolz, C. R. (1978). The effects of television on children's stereotyping of women's work roles. *Journal of Vocational Behavior, 12*, 233-244.

Papousek, H., & Papousek, M. (1977). Mothering and the cognitive head-start: Psychobiological considerations. In H. R. Schaffer (Ed.), *Studies in mother-infant interaction*. London: Academic Press.

Papousek, H., & Papousek, M. (1979). Early ontogeny of human social interaction: Its biological roots and social dimensions. In M. von Cranach, K. Foppa, W. LePenies, & D. Ploog (Eds.), *Human ethology: Claims and limits of a new discipline* (pp. 456-478). Cambridge, England: Cambridge University Press.

Pawlby, S. J. (1977). Imitative interaction. In H. R. Schaffer (Ed.), *Studies in mother-infant interaction*. London: Academic Press.

Pearl, D., Bouthilet, L., & Lazar, J. (Eds.). (1982). *Television and behavior: Ten years of scientific progress and implications for the eighties*. Rockville, MD: National Institute of Mental Health.

Perry, D. G., & Bussey, K. (1979). The social learning theory of sex differences: Imitation is alive and well. *Journal of Personality and Social Psychology, 37*, 1699-1712.

Perry, D. G., Perry, L. C., & Rasmussen, P. (1986). Cognitive social learning mediators of aggression. *Child Development, 57*, 700-711.

Petersen, A. C. (1988, in press). Adolescent Development. In M. R. Rosenzweig & L. W. Porter (Eds.), *Annual Review of Psychology*. Palo Alto, CA: Annual Reviews, Inc.

Piaget, J. (1960). Equilibration and development of logical structures. In J. M. Tanner & B. Inhelder (Eds.), *Discussions on child development* (Vol. 4, pp. 98-115). New York: International Universities Press.

Piaget, J. (1970). Piaget's theory. In P. H. Mussen (General Ed.), W. Kessen (Vol. Ed.), *Handbook of child psychology* (4th ed., Vol. 1, pp. 103-128). New York: John Wiley & Sons.

Ramel, C., & Rannug, U. (1980). Short-term mutagenicity tests. *Journal of Toxicology and Environmental Health, 6*, 1065-1076.

Ramey, C. T., & Finkelstein, N. W. (1978). Contingent stimulation and infant competence. *Journal of Pediatric Psychology, 3*, 89-96.

Rasmussen, N. C. (1981). The application of probabilistic risk assessment techniques to energy technologies. *Annual Review of Energy,* 6, 123-138.

Raush, H. L. (1965). Interaction sequences. *Journal of Personality and Social Psychology, 2*, 487-499.

Reiss, A. J., Jr. (1965). Social organization and socialization: Variations on a theme about generations. Working paper 1, Center for Research on Social Organization, University of Michigan, Ann Arbor, MI.

Relich, J. D., Debus, R. L., & Walker, R. (1986). The mediating role of attribution and self-efficacy variables for treatment effects on achievement outcomes. *Contemporary Educational Psychology, 11*, 195-216.

Rheingold, H. L., & Cook, K. V. (1975). The context of boys' and girls' rooms as an index of parents' behavior. *Child Development, 46*, 459-463.

Rosenhan, D. L. (1970). The natural socialization of altruistic autonomy. In J. Macaulay & L. Berkowitz (Eds.), *Altruism and helping behavior: Social psychological studies of some antecedents and consequences* (pp. 251-268). New York: Academic Press.

Rosenholtz, S. J., & Rosenholtz, S. H. (1981). Classroom organization and the perception of ability. *Sociology of Education, 54*, 132-140.

Rosenthal, T. L., & Zimmerman, B. J. (1978). *Social learning and cognition.* New York: Academic Press.

Rutter, M., Graham, P., Chadwick, O. F. D., & Yule, W. (1976). Adolescent turmoil: Fact or fiction? *Journal of Child Psychology and Psychiatry, 17*, 35-56.

Schlesinger, I. M. (1982). *Steps to language: Toward a theory of native language acquisition*. Hillsdale, NJ: Erlbaum.

Schunk, D. H. (1984). Self-efficacy perspective on achievement behavior. *Educational Psychologist, 19,* 48-58.

Schunk, D. H. (1987). Peer models and children's behavioral change. *Review of Educational Research, 57,* 149-174.

Schwartz, B. (1982). Reinforcement-induced behavioral stereotype: How not to teach people to discover rules. *Journal of Experimental Psychology, 111*, 23-59.

Sears, R. R., Maccoby, E. E., & Levin, H. (1957). *Patterns of child rearing.* Evanston, IL: Row, Peterson.

Shatz, M., & Gelman, R. (1973). The development of communication skills: Modifications in the speech of young children as a function of listener. *Monographs of the Society for Research in Child Development, 38*(5, Serial No. 152).

Smetana, J. G., & Letourneau, K. J. (1984). Development of gender constancy and children's sex-typed free play behavior. *Developmental Psychology, 20*, 691-696.

Snow, C. E. (1972). Mothers' speech to children learning language. *Child Development, 43*, 549-565.

Snow, M. E., Jacklin, C. N., & Maccoby, E. E. (1983). Sex-of- child difference in father-child interaction at one year of age. *Child Development, 54*, 227-232.

Snyder, M. (1980). Seek, and ye shall find: Testing hypotheses about other people. In E. T. Higgins, C. P. Herman, & M. P. Zanna (Eds.), *Social cognition: The Ontario symposium on personality and social psychology* (Vol. 1, pp. 105-130). Hillsdale, NJ: Erlbaum.

Snyder, M. (1981). On the self-perpetuating nature of social stereotypes. In D. L. Hamilton (Ed.), *Cognitive processes in stereotyping and intergroup behavior* (pp. 182-212). Hillsdale, NJ: Erlbaum.

Spence, J. T. (1984). Gender identity and its implication for concepts of masculinity and femininity. In T. B. Sonderegger (Ed.), *Nebraska Symposium on Motivation* (Vol. 32). Lincoln: University of Nebraska Press.

Spence, J. T., & Helmreich, R. L. (1978). *Masculinity and femininity: Their psychological dimensions, correlates, and antecedents*. Austin: University of Texas Press.

Stewart, D. M., & Hamilton, M. L. (1976). Imitation as a learning strategy in the acquisition of vocabulary. *Journal of Experimental Child Psychology, 21*, 380-392.

Stotland, E. (1969). Exploratory investigations of empathy. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 4, pp. 271-314). New York: Academic Press.

Suls, J., & Mullen, B. (1982). From the cradle to the grave: Comparison and self-evaluation across the life-span. In J. Suls (Ed*.), Psychological perspectives on the self* (Vol. 1, pp. 97-125). Hillsdale, NJ: Erlbaum.

Surber, C. F. (1985). Applications of information integration to children's social cognitions. In J. B. Pryor & J. D. Day (Eds.), *The development of social cognition* (pp. 59-94). New York: Springer-Verlag.

Swenson, A. (1983). Toward an ecological approach to theory and research in child language acquisition. In W. Fowler (Ed.), *Potentials of childhood (Vol. 2). Studies in early developmental learning* (pp. 121-176). Lexington, MA: Lexington Books.

Thompson, S. K., & Bentler, P. M. (1971). The priority of cues in sex discrimination by children and adults. *Developmental Psychology, 5*, 181-185.

Uzgiris, I. C. (1979). The many faces of imitation in infancy. In L. Montada (Ed.), *Fortschritte der entwick lungpsychologie* (pp. 173-193). Stuttgart: Verlag W. Kohlhammer.

Uzgiris, I. C. (1984). Imitation in infancy: Its interpersonal aspects. In M. Perlmutter (Ed.), *The Minnesota symposia on child psychology* (Vol. 17, pp. 1-31). Hillsdale, NJ: Erlbaum.

Valentine, C. W. (1930). The psychology of imitation with special reference to early childhood. *British Journal of Psychology, 21*, 105-132.

von Cranach, M., Foppa, K., LePenies, W., & Ploog, D. (Eds.)(1979). *Human ethology: Claims and limits of a new discipline*. Cambridge, England: Cambridge University Press.

Watson, J. S. (1979). Perception of contingency as a determinant of social responsiveness. In E. B. Thoman (Ed.), *Origins of the infant's social responsiveness* (Vol. 1, pp. 33-64). New York: Halsted.

Wheeler, V. A., & Ladd, G. W. (1982). Assessment of children's self-efficacy for social interactions with peers. *Developmental Psychology, 18*, 795-805.

Whitehurst, G. J. (1977). Comprehension, selective imitation, and the CIP hypothesis. *Journal of Experimental Child Psychology, 23*, 23-38.

Wilson, B. J., & Cantor, J. (1985). Developmental differences in empathy with a television protagonist's fear. *Journal of Experimental Child Psychology, 39*, 284-299.

Winfrey, C. (1979, February 25). Why 900 died in Guyana. *The New York Times Magazine*, p. 39.

Yarrow, L. J., Rubenstein, J. L., & Pedersen, F. A. (1975). *Infant and environment: Early cognitive and motivational development*. New York: Halsted.

Zimbardo, P. G. (1969). The human choice: Individuation, reason, and order versus deindividuation, impulse, and chaos. In W. J. Arnold & D. Levine (Eds.), *Nebraska symposium on motivation, 1969* (pp. 237-309). Lincoln: University of Nebraska Press.

FIGURE CAPTIONS

Figure 1. Schematization of triadic reciprocal determinism. B signifies behavior; P the cognitive, biological and other internal events that can affect perceptions and actions; and E the external environment.

Figure 2. Subprocesses governing observational learning.

Figure 3. Mechanisms through which internal control is selectively activated and disengaged from detrimental conduct at different points in the regulatory process.

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