

ELEMENTS OF CHANGE

2. DEVELOPMENTAL PSYCHOLOGY

2.1. Historical Antecedents & Scope

John Locke and Jean-Jacques Rousseau are typically cited as providing the foundations of modern form of developmental psychology. In the mid-18th century Jean Jacques Rousseau described three stages of childhood: infans (infancy), puer (childhood) and adolescence in 'Emile: Or, On Education'. Rousseau's ideas were taken up strongly by educators at the time. In the late 19th century, psychologists familiar with the evolutionary theory of Charles Darwin began seeking an evolutionary description of psychological development; prominent here was the pioneering psychologist G. Stanley Hall, who attempted to correlate ages of childhood with previous ages of mankind. Also, James Mark Baldwin was heavily involved in the theory of developmental psychology. Sigmund Freud, whose concepts were developmental, had a significant impact on public perceptions.

Developmental psychology is the scientific study of changes that occur in human beings over the course of their life. Originally concerned with infants and children, the field has expanded to include adolescence, adult development, aging, and the entire lifespan. This field examines change across a broad range of topics including motor skills and other psychophysiological processes; cognitive development involving areas such as problem solving, moral understanding, and conceptual understanding; language acquisition; social, personality, and emotional development; and self-concept and identity formation. Developmental psychology examines issues such as the extent of development through gradual accumulation of knowledge versus stage-like development and the extent to which children are born with innate mental structures, versus learning through experience. Many researchers are interested in the interaction between personal characteristics, the individual's behavior, and environmental factors including social context, and their impact on development; others take a more narrowly-focused approach. Developmental psychology informs several applied fields, including: educational psychology, child psychopathology, and forensic developmental psychology. Developmental psychology complements several other basic research fields in

psychology including social psychology, cognitive psychology, ecological psychology, and comparative psychology.

Developmental psychology is concerned not only with describing the characteristics of psychological change over time, but also seeks to explain the principles and internal workings underlying these changes. Psychologists have attempted to better understand these factors by using models. Developmental models are sometimes computational, but they do not need to be. A model must simply account for the means by which a process takes place. This is sometimes done in reference to changes in the brain that may correspond to changes in behavior over the course of the development. Computational accounts of development often use either symbolic, connectionist (neural network), or dynamical systems models to explain the mechanisms of development.

2.2. Nature and Nurture

A significant issue in developmental psychology is the relationship between innateness and environmental influence in regard to any particular aspect of development. This is often referred to as nature and nurture or nativism versus empiricism. A nativist account of development would argue that the processes in question are innate, that is, they are specified by the organism's genes. An empiricist perspective would argue that those processes are acquired in interaction with the environment. Today developmental psychologists rarely take such polarized positions with regard to most aspects of development; rather they investigate, among many other things, the relationship between innate and environmental influences. One of the ways this relationship has been explored in recent years is through the emerging field of evolutionary developmental psychology.

One area where this innateness debate has been prominently portrayed is in research on language acquisition. A major question in this area is whether or not certain properties of human language are specified genetically or can be acquired through learning. The empiricist position on the issue of language acquisition suggests that the language input provides the necessary information required for learning the structure of language and that infants acquire language through a process of statistical learning. From this perspective, language can be acquired via general learning methods that also apply to other aspects of development, such as perceptual learning. The nativist position argues that the input from language is too impoverished for infants and children to acquire the structure of language.

Linguist Noam Chomsky asserts that, evidenced by the lack of sufficient information in the language input, there is a universal grammar that applies to all human languages and is pre-specified. This has led to the idea that there is a special cognitive module suited for learning language, often called the language acquisition device. Chomsky's critique of the behaviorist model of language acquisition is regarded by many as a key turning point in the decline in the prominence of the theory of behaviorism generally.

2.3. Theories

Attachment Theory - Attachment theory, originally developed by John Bowlby, focuses on the importance of open, intimate, emotionally meaningful relationships. Attachment is described as a biological system or powerful survival impulse that evolved to ensure the survival of the infant. A child who is threatened or stressed will move toward caregivers who create a sense of physical, emotional and psychological safety for the individual. Attachment feeds on body contact and familiarity. Later Mary Ainsworth developed the Strange Situation protocol and the concept of the secure base. There are four types of attachment styles: secure, anxious-avoidant, anxious-resistant, and disorganized. Secure attachment is a healthy attachment between the infant and the caregiver. It is characterized by trust. Anxious-avoidant is an insecure attachment between an infant and a caregiver. This is characterized by the infant's indifference toward the caregiver. Anxious-resistant is an insecure attachment between the infant and the caregiver characterized by distress from the infant when separated and anger when reunited. Disorganized is an attachment style without a consistent pattern of responses upon return of the parent.

Constructivism - Constructivism is a paradigm in psychology that characterizes learning as a process of actively constructing knowledge. Individuals create meaning for themselves or make sense of new information by selecting, organizing, and integrating information with other knowledge, often in the content of social interactions. Constructivism can occur in two ways: individual and social. Individual constructivism is when a person constructs knowledge through cognitive processes of their own experiences rather than by memorizing facts provided by others. Social constructivism is when individuals construct knowledge through an interaction between the knowledge they bring to a situation and social or cultural exchanges within that content.

Ecological Systems Theory - Ecological systems theory, originally formulated by Urie Bronfenbrenner, specifies four types of nested environmental systems, with bi-directional influences within and between the systems. The four systems are microsystem, mesosystem, exosystem, and macrosystem. Each system contains roles, norms and rules that can powerfully shape development. The microsystem is the immediate environment surrounding and influencing the individual. The mesosystem is the combination of two microsystems and how they influence each other. The exosystem is the interaction among two or more settings that are indirectly linked. The macrosystem is broader taking into account social economic status, culture, beliefs, customs and morals. Lastly, the chronosystem refers to the chronological nature of life events and how they interact and change the individual and their circumstances through transition .

Psychosexual Development - Sigmund Freud believed that we all had a conscious, preconscious, and unconscious level. In the conscious we are aware of our mental process. The preconscious involves information that, though not currently in our thoughts, can be brought into consciousness. Lastly, the unconscious includes mental processes we are unaware of. He believed there is tension between the conscious and unconscious, because the conscious tries to hold back what the unconscious tries to express. To explain this he developed three personality structures: the id, ego, and superego. The id, the most primitive of the three, functions according to the pleasure principle: seek pleasure and avoid pain. The superego plays the critical and moralizing role; and the ego is the organized, realistic part that mediates between the desires of the id and the superego.

Based on this, he proposed five universal stages of development, that each are characterized by the erogenous zone that is the source of the child's psychosexual energy. The first is the oral stage, which occurs from birth to 12 months of age. The second is the anal stage, from one to three years of age. The third is the phallic stage, which occurs from three to five years of age (most of a person's personality forms by this age). The fourth is the latency stage, which occurs from age five until puberty. Stage five is the genital stage, which takes place from puberty until adulthood.

Stages of Moral Development - Piaget claimed that logic and morality develop through constructive stages. Expanding on Piaget's work, Lawrence Kohlberg determined that the process of moral development was principally concerned with justice, and that it continued throughout the individual's lifetime. He suggested three levels of moral reasoning; pre-conventional moral reasoning, conventional moral reasoning, and post-conventional moral reasoning. Pre-conventional moral

reasoning is typical of children and is characterized by reasoning that is based on rewards and punishments associated with different courses of action. Conventional moral reason occurs during late childhood and early adolescence and is characterized by reasoning based on rules and conventions of society. Lastly, post-conventional moral reasoning is a stage during which the individual sees society's rules and conventions as relative and subjective, rather than as authoritative.

Stages of Psychosocial Development - Erik Erikson reinterpreted Freud's psychosexual stages by incorporating the social aspects of it. He came up with eight stages, each of which has two crisis (a positive and a negative). Stage one is trust versus mistrust, which occurs during infancy. Stage two is autonomy versus shame and doubt, which occurs during early childhood. Stage three is initiative versus guilt, which occurs during play age. Stage four is industry versus inferiority, which occurs during school age. Stage five is identity versus identity diffusion, which occurs during adolescence. Stage six is intimacy versus isolation which occurs during young adulthood. Stage seven is generativity versus self-absorption which occurs during adulthood. Lastly, stage eight is integrity versus despair, which occurs in old age. Each stage builds upon the successful completion of earlier stages. The challenges of stages not successfully completed may be expected to reappear as problems in the future. However, mastery of a stage is not required to advance to the next stage.

2.4. Research Methods and Designs

Developmental psychology employs many of the research methods used in other areas of psychology. However, infants and children cannot be tested in the same ways as adults, so different methods are often used to study their development. Developmental psychologists have a number of methods to study changes in individuals over time. Common research methods include systematic observation, including naturalistic observations or structured observations; self-reports, which could be clinical interviews or structured interviews; clinical or case study method; and ethnography or participant observation. These methods differ in the extent of control researchers impose on study conditions, and how they construct ideas about which variables to study. Every developmental investigation can be characterized in terms of whether its underlying strategy involves the experimental, correlational, or case study approach. The experimental method involves actual manipulation of various treatments, circumstances, or events to which the participant or subject is exposed; the experimental design points to cause-and-effect relationships. This method allows for strong inferences to be made of causal relationships between the

manipulation of one or more independent variables and subsequent behavior, as measured by the dependent variable. The advantage of using this research method is that it permits determination of cause-and-effect relationships among variables. On the other hand, the limitation is that data obtained in an artificial environment may lack generalizability. The correlational method explores the relationship between two or more events by gathering information about these variables without researcher intervention. The advantage of using a correlational design is that it estimates the strength and direction of relationships among variables in the natural environment; however, the limitation is that it does not permit determination of cause-and-effect relationships among variables. The case study approach allows investigations to obtain an in-depth understanding of an individual participant by collecting data based on interviews, structured questionnaires, observations, and test scores. Each of these methods have its strengths and weaknesses but the experimental method when appropriate is the preferred method of developmental scientists because it provides a controlled situation and conclusions to be drawn about cause-and-effect relationships.

Most developmental studies, regardless of whether they employ the experimental, correlational, or case study method, can also be constructed using research designs. Research designs are logical frameworks used to make key comparisons within research studies. In a longitudinal study, a researcher observes many individuals born at or around the same time (a cohort) and carries out new observations as members of the cohort age. This method can be used to draw conclusions about which types of development are universal (or normative) and occur in most members of a cohort. As an example, a longitudinal study of early literacy development examined in detail the early literacy experiences of one child in each of 30 families. Researchers may also observe ways that development varies between individuals, and hypothesize about the causes of variation in their data. Longitudinal studies often require large amounts of time and funding, making them unfeasible in some situations. Also, because members of a cohort all experience historical events unique to their generation, apparently normative developmental trends may in fact be universal only to their cohort.

In a cross-sectional study, a researcher observes differences between individuals of different ages at the same time. This generally requires less resources than the longitudinal method, and because the individuals come from different cohorts, shared historical events are not so much of a confounding factor. By the same token, however, cross-sectional research may not be the most effective way to study differences between participants, as these differences may result not from their different ages but from their exposure to different historical events. A third

study design, the sequential design, combines both methodologies. Here, a researcher observes members of different birth cohorts at the same time, and then tracks all participants over time, charting changes in the groups. While much more resource intensive, the format aids in a clearer distinction between what changes can be attributed to individual or historical environment from those that are truly universal.

Because every method has some weaknesses, developmental psychologists rarely rely on one study or even one method to reach conclusions by finding consistent evidence from as many converging sources as possible.