

# Theoretical perspectives relevant to developmental psychology



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A discussion of the structural, information processing, and developmental dimensions approaches to the analysis of age/development/life course trends. Developmental psychology, as a discipline, is currently undergoing a paradigmatic/world view change. Consequently, several different theoretical approaches to the study of development and the life course have been proposed and advocated. The three primary approaches currently being debated include the structural, information processing/cognitive, and life-span developmental/developmental dimensions approaches.

The purpose of this paper is to examine the differences and similarities between these three broad approaches. However, this exposition would be incomplete without a discussion of the concept of world views (Kuhn, 1970; Pepper, 1942). An individual's theoretical position is affected by their world views. This world view not only affects how an individual conceptualizes a particular field of study but also influences the questions they ask within that field of study.

Therefore, this paper will also include a discussion of the three major world views influencing developmental psychology: the organismic, mechanistic,, and contextual world views (Pepper, 1942). World Views There are three major world views which influence developmental psychology. They are the organismic, mechanistic, and contextual world views (Pepper, 1942). Each of these world views will be briefly discussed below. This will be followed by an analysis of five developmental issues as they relate to the concept of world view. The first world view to be discussed is the organismic world view (Pepper, 1942).

The basic metaphor of this world view is the biological organism (Fischer & Silvern, 1985; Reese & Overton, 1970). According to this metaphor, the organism is composed of interconnected, interrelated parts which constitute a complex, organized system. This system, while composed of parts, can only be understood as a whole. In other words, only by examining the system as a whole does it have meaning; the whole is equal to more than the sum of the parts.

Additionally, the biological organism is seen as active rather than passive. Thus, according to this world view, change and movement come from within rather than in response to environmental or external influences. The influence of the organismic world view on the conceptualization of the individual in relation to developmental psychology can be described as follows: First, according to this view, the individual can be conceptualized and understood only as a whole entity; a gestalt. A developmental psychologist operating from an organismic world view would examine individual as a whole and the parts as they relate to the whole. Second the individual is seen as the source of their acts. Development comes from within as opposed to being in response to external forces; development is genetically prewired.

Third, change is qualitative and unidirectional. Developmental psychologists operating from this perspective define development as a series of progressive changes in structure. This structural change is assumed to be directed toward some end point or goal; a teleological perspective. The structuralist approach is an example of the influence of the organismic world view on developmental psychology (Fischer & Silvern, 1985). Specific <https://assignbuster.com/theoretical-perspectives-relevant-to-developmental-psychology/>

theoretical perspectives would include Piaget's early structuralist approach, and Gessell's theory of infant development. The basic metaphor for the mechanistic world view is the machine (Fischer & Silvern, 1985; Reese & Overton, 1970).

According to this metaphor, the organism is primarily reactive by nature; the organism does not serve as the source of its own acts. The computer metaphor is a good example. The computer does not create its own output but rather only responds to the input of data or, in other words external forces. Thus, according to the mechanistic world view, the organism is passive. In addition, the mechanistic world view examines the specific parts that make up the whole as opposed to the whole.

This view assumes that the whole is equal to the sum of the parts. For example, if one were examining the basis of a computer output, one would study the initial program. One would look at each line of input data separately to determine the effect on the whole. Thus, the mechanistic world view maintains that through the study of the individual parts, the individual as a whole can be understood. The influence of the mechanistic world view on the conceptualization of the individual in relation to developmental psychology can be described as follows: First, the individual can be conceptualized and understood only by understanding the parts which make up the whole.

For example, a developmental psychologist would study a behavior or emotional response by reducing it to its most simple elements. Second the individual is described principally as a passive-reactive entity. Development

does not occur from within the individual but rather is in response to external forces. Essentially, the individual is as Newton describes, a “tabula rasa”; “nothing is in the intellect which is not first in the senses” (cited in Reese & Overton, 1970).

Third, change is quantitative. Changes in behavior are viewed as differences in degree as opposed to differences in kind and as such can be operationally defined and measured. Last, as individuals are reactive, passive beings, there is no overall purpose to human activity – no teleology. Thus, development and change are not directed towards some end point or goal. The information processing and learning perspectives are examples of the influence of the mechanistic world view on developmental psychology (Fischer & Silvern, 1985).

The contextual world view represents the third world view which is relevant to the field of developmental psychology (Baltes, Reese, & Lipsitt, 1980; Datan & Reese, 1977). This world view uses the historic event or the dialectic as its metaphor. One is reminded of Heraclitus’s maxim of “One can never step in the same river twice”. The contextual world view defines reality as an ongoing and dynamic event. Therefore, the event is active. However, the event is also reactive; it occurs within the context of other events that are also dynamic and ongoing.

In this sense, they share a reciprocally active and reactive interrelationship. Thus, one can not examine a single isolated event; an organism can only be understood by examining the parts of the organism within the context of the entire system within which the organism is a part. The influence of the

contextual world view on the conceptualization of the individual in relation to developmental psychology can be described as follows: First, the individual is seen as constantly changing. In addition, the change that occurs is viewed as an interaction of the individual and the context within which they live. Thus, a developmental psychologist operating from this perspective would examine the interaction of biological, psychological, historical, and sociological factors on an individual's development; the gestalt including not only the individual but also the context/culture within which the individual develops.

Therefore, this perspective takes a holistic/ecological view of development. Second, the individual is seen as both active and reactive. Development comes from within the individual but is also responsive to environmental influences. Third, change is both quantitative and qualitative. Development and change are due to differences in degree as well as in kind. And last, as external forces do play a role in development, development is not presumed to be directed toward some endpoint or goal.

The life-span developmental approach would be an example of the influence of the contextual world view on developmental psychology (Baltes, Reese, & Lipsitt, 1980). Five corollary developmental issues have been proposed with respect to the world views described above. They have been identified by Reese and Overton (1970) as the following: Holism vs. elementarism, structure-function vs. antecedent-consequent, structural vs.

behavioral change, continuity vs. discontinuity, and the issue of stages. Each of these will be discussed below. The first developmental issue to be

discussed is that of holism versus elementarism. This dichotomy represents two ways with which to view the individual.

The basic premise underlying holism is that the whole is greater than the sum of the parts. According to this view, one must examine the system of parts interacting with each other. This interaction gains meaning only through the examination of the whole system. For example, if a holist wanted to study visual processing, they would need to examine the functioning of the visual system as an interacting whole as opposed to separately examining the function of the cornea or retina. It should be noted, however, that a holistic viewpoint does not preclude a study of the individual parts. For example, a holist could study retinal or corneal functioning.

However, a holist position does necessitate that the parts be examined in relation to how they fit with the organized whole. Thus, a holist would examine how retinal functioning fits with the organized whole of the individual visual processing system. Elementarism is based upon the assumption that the whole is equal to the sum of the parts. Thus, to understand a behavior one needs only to break down the system to its most simple elements; it is reductionistic. As elementarism is associated with a reactive viewpoint, these simple elements are to be found in the environment. The holistic viewpoint distinguishes internal structures from external forces.

The holistic viewpoint is associated with both the organismic world view and the contextual world view. The contextual world view extends the holistic perspective to include one's context. The elementarism viewpoint is

associated with the mechanistic world view. The second developmental issue to be discussed is that of structure-function versus antecedent-consequent. The concept of structure-function is based upon the biological metaphor. The organism according to this metaphor has a definite structure, and each part of the organism has a function in relation to the whole.

For example, the human biological organism is inherently structured. Each structure (ie. stomach, liver) within this organism has a definite function without which the organism as a whole could not function. In addition, the organism is active and change comes from within the organism. All change is directed towards some end point or goal. For example, the human body is said to be directed toward health and maturity.

This perspective is therefore teleological. This can be contrasted with the antecedent-consequent perspective. According to this perspective, the organism is reactive. One can study behavior, for example, in terms of stimulus/response. As all change comes in response to external forces, there is no need to examine or presume the existence of internal structures that are relevant to psychological functioning and development.

In addition, no end point or goal is assumed with this perspective. Thus change is not seen as purposeful or goal-directed. The structure-function perspective is best exemplified by the organismic world view. For example, early Piaget argued that cognitive change (functional change) resulted from structural change within the developing neurological system.

The antecedent-consequent viewpoint is associated with the mechanistic world view. The contextual world view is based upon neither of these

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perspectives. Rather, it is associated with the viewpoint that change can best be explained by the interaction between the organism and the context. In particular, change occurs as a result of continual contradictions within or between the interactions of the individual and the context; this can be seen in the historic event and dialectic models for this world view. Structural change versus behavioral change represents the third developmental issue to be discussed. This particular developmental issue is a direct extension of the structure-function versus antecedent-consequent developmental issue.

Essentially, this developmental issue addresses the question, " What changes and what direction does it change? ". Structural change refers to change within the organism. The organism according to this viewpoint is active and change occurs and is directed towards some end point or goal. Change is also viewed as qualitative or structural and as such it is only unidirectional. Conversely, behavioral change is seen as primarily reactive. Change is determined by external forces outside of the organism.

Change is also quantitative in that it represents a difference in degree as opposed to kind. As change is simply a matter of degree, it is considered multidirectional. The organismic world view is associated with the structural (qualitative) change perspective. One is distinctly different as they move through qualitatively different, structurally based stages of development. Conversely, the mechanistic world view is associated with the behavioral (quantitative) change perspective. One's development is simply reactive to the environment and consists of additions/subtractions to an individual's measurable behaviors.

The contextual world view, however, views changes in behavior as due to both differences in degree (quantitative) and kind (qualitative) depending on the behavior, individual, and context. This change in behavior and structure is dependent on asynchronies and interactions between the individual and their context. The fourth developmental issue to be discussed is discontinuity versus continuity. Discontinuity is associated with qualitative change. As change is qualitative, it is not reducible to prior forms.

For example, what a child knows about the world in Piaget's sensorimotor stage is very different from what that child knows during the formal operations stage. Due to integration and equilibration what the child knows at the later stage is qualitatively different than at the earlier stage. One can not simply reduce what is known to prior forms for understanding. Conversely, the continuity position is based upon the premise that change is continuous.

All novel behaviors are the result of antecedent events. To understand these behaviors, one can simply reduce the behaviors to their most simple components and examine how these have changed quantitatively. The organismic world view is associated with the position of discontinuity (as often marked by stages of development). The mechanistic world view is associated with that of continuity. As change, according the contextual world view, can be both qualitative and quantitative, change is also viewed as multidirectional or unidirectional depending on the change being viewed.

Thus, some change may be structural and unidirectional, and some change just due to differences in degree and thus multidirectional. Of course, all

change results from an interaction of the individual with their context. The final developmental issue to be discussed is that concerning the concept of stages. The concept of stages is based upon the premise that change is discontinuous; various levels of organization are possible for the organism.

The concept further proposes that these levels of organization or stages progress toward an end point or goal, thus there is a teleological perspective to this approach. A theory based upon the premise of continuous change would not advocate the concept of stages. As the organism does not change qualitatively, the organism itself does not change. Thus, differing levels of organization or stages do not occur.

However, the concept of stages is sometimes used descriptively as opposed to theoretically. The organismic world view accepts and utilizes the concept of stages. The mechanistic world view does not. The contextual world view also does not use the concept of stages but rather views development as the result of the interaction between individual and context. As the context is continuously changing, stages can not be strictly defined.

However, stages can be used descriptively within a particular context during a specific historical period. Theoretical Perspectives The world views were discussed first as to provide a framework with which to examine and describe three primary theoretical perspectives with developmental psychology: the structuralist perspective, the information processing/cognitive perspective, and the life-span developmental/developmental dimensions perspective. Each of these perspectives and their respective world view has generated a family of

theories. For example, the theories of Erikson (1982), Kohlberg (1963), and early Piaget (1950) are more consistent with the structuralist perspective (organismic world view); those of Bandura and Walters (1963) and Newell and Simon (1972) are consistent with the learning and information processing perspectives, respectively (mechanistic world view); and Riegel (1976) and Baltes et al.

, (1980) are consistent with the life-span developmental/developmental dimensions perspective (contextual world view). The structuralist perspective to the study of human development is consistent with the organismic world view. This can be seen by examining the five developmental issues described above. First, the structuralist perspective maintains that development consists of a series of stages through which the individual progresses.

Thus, the family of structuralist theories are often called stage theories. Second, these stages are qualitatively different than the previous stages. Development has resulted in a change in the structure as opposed to just behavioral change. Thus, the organism is viewed as active. Third, this change in structure results in a change of function. Change comes from within as opposed to being in response to external forces.

Fourth, change in the individual is described as discontinuous. The stages are qualitatively different and thus, they do not merely represent cumulative change. Lastly, the perspective is holistic. The individual as a whole is not equal to the sum of their parts.

Therefore, the structuralist perspective is consistent with the five developmental issues as they relate to the organismic world view. An example may be useful to help clarify this point. Early Piagetian theory (1950) can be described according to its structural aspects. The structural theory as outlined by Flavell (1977) is a stage model (criteria 1 - stages).

These general stages are sensorimotor, preoperational, concrete-operations, and formal operations. Progression through these stages is due to biological adaptation. The child's cognitive abilities evolve gradually in qualitatively different steps which are tied to neurological structural change. This is the result of countless assimilations and accommodations. As such, the mind is not passive but active (criteria 2 - structural change). Middle childhood and adolescence-adulthood can respectively be described, according to Piaget (1950), as concrete-operational and formal-operational.

The distinction between the two is not just age but includes differences in distinguishing the real versus the possible, the method adolescent versus the middle adult uses in solving problems (empirico-inductive versus the hypothetico-deductive, respectively), and the way children and adolescents construct representations of the external world (intrapositional vs. interpositional, respectively). Thus, structural change results in changes in how the individual functions in the world (criteria 3 - structure/function). It also demonstrates that the stages are qualitatively different as opposed to quantitatively different (criteria 4 - discontinuity). Lastly, Piaget was concerned with the entire structure of thought and how the individual parts related to the whole.

Thus, the theory is holistic (criteria 5 – holism). Early Piaget (1950) therefore represents an example of the relationship of the structuralist perspective to the organismic world view. The information processing perspective is consistent with the mechanistic world view. This can be demonstrated by an examination of the five developmental issues as they relate to information processing and the mechanistic world view. First, the information processing system does not support the concept of stages.

If used at all, it is only as a descriptive term. Second, change occurs in response to external forces and not due to changes in internal structure. Thus, the individual is viewed primarily as reactive as opposed to active. Third, change is viewed as quantitative in response to external forces.

No change in structure is theorized to occur. As change is quantitative it is also proposed to be multidirectional. Fourth, as change is quantitative and multidirectional, it is also proposed to be continuous. Last, the information processing perspective is an elementaristic perspective. It views the organism as a machine, with the whole being equal to the sum of the parts. Therefore, the information processing perspective is consistent with the mechanistic world view.

To further demonstrate this consistency, the information processing model of cognitive development will be described in greater detail below. The information processing model of cognitive development compares the complex cognitive system in humans to that of a computer (Newell & Simon, 1972). The computer consists of hardware (the machine itself) and software (the programs used to instruct the machine). This is comparable to

the mind as hardware and the learned strategies of processing information as software (criteria 5 – elementarism).

Information external to the system is entered into the system, can be processed and encoded, and retrieved from memory for use when needed. This input/output does not result in structural change (criteria 2 – antecedent/consequent). Information in the system builds upon itself, such that some information can not be used by the system until other information is present. Therefore, change is quantitative in response to external input and output (criteria 3 – behavioral change). The study of memory and learned strategies examines the parts of functioning memory and is reductionistic (criteria 5 – elementarism).

Information processing describes development as gradual and cumulative. The “ hardware” remains the same. Only the information that is stored in the system and the programs themselves are changed as a result of learning. Thus, the information processing perspective is continuous (criteria 4 – continuity; criteria 5 – elementarism). Finally, the concept of stages is not an integral part of the information processing perspective (criteria 1 – no stages).

Thus, it is clear that the information processing perspective is based upon a mechanistic world view. The developmental dimensions and the life-span developmental perspective are consistent with the contextual world view. An examination of the five developmental issues under consideration will demonstrate this consistency. First, the perspectives are holistic. Behaviors

are seen as part of a whole system. Second, change is seen neither as due to changes in structure or external forces.

Rather, change is in response to the interaction of the individual and the context. Third, change occurs in both differences in degree and differences in kind; both qualitatively and quantitatively. This change is dependent on the asynchronies between the individual and the context. Fourth, as change is both qualitative and quantitative, it is also both continuous and discontinuous. Last, the concept of stages is not relevant to this perspective except descriptively.

No universal stages are defined as the interaction of individual and context is continuously changing. Thus, the life-span and developmental dimensions perspectives are consistent with the contextual world view. This can be best exemplified by a discussion of the developmental dimensions perspective outline by Kermis (1984) and the life-span developmental perspective outlined by Baltes, Reese, and Lipsitt (1980). The developmental perspective outlined by Kermis and the life-span perspective outline by Baltes et al. (1980) include the following characteristics. First, the whole person is considered from a multidisciplinary perspective, including psychological, physiological, historical, sociological, and cultural factors (criteria 1 - holism).

Second, development is viewed as an interaction of the individual within their context. For example, normative age-graded influences, normative history-graded influences, and nonnormative influences are all examined to study their effect on the individual (criteria 2 - contextual change). These three influences have been used to account for the nature of life-span



development, both its regularity and its multidirectionality, multidimensionality, and interindividual differences. Change is both seen as due to both differences in kind and degree. For example, memory may be qualitatively different in childhood but quantitatively different in adulthood (Reese, 1976) (criteria 3 - qualitative and quantitative change).

Because of the same three influences on development as described above, change is also seen as continuous and discontinuous (criteria 4 - continuity and discontinuity). Last, the concept of stages is not basic to the developmental dimensions and life-span perspectives. Rather, chronological age, cohorts, and life transitions, are used as descriptive dimensions (criteria 5 - no stages). Therefore, the developmental dimensions and life-span perspective are consistent with the contextual world view. Personal Perspective My personal perspective is primarily a life-span developmental perspective.

The individual should be viewed as a whole from a multidisciplinary perspective. In other words, one must look at the individual and the context within which they live and develop. This is particularly important as change is postulated to occur in response to an interaction between the individual and their context. The structuralist perspective, from my point of view, is too narrow.

First, it makes no allowances for the context within which the individual develops. second, it does not explain how change occurs, In other words, it is structure without genesis. As such, the structuralist perspective is primarily descriptive. The information processing perspective is also too narrow. It also

does not examine the role of the individual or the interaction of the individual in their context on cognitive development and is primarily a structure without function theory.

Specifically, for example, the information processing model describes strategy execution in relation to memory but does not address the process of strategy selection. Thus, it is similar to the structuralist perspective on these dimensions. The life-span perspective, however, accounts for both the context and genesis. As stated previously, the life-span perspective focuses on ways that the individual interacts with the environment or context.

It is through this interaction, that change occurs. In this sense, it can be described as a constructivist theory. Change is explained as the result of continual contradiction within the interactions of the individual and context. An examination of Piaget's (1977) equilibration theory is an example a a constructivist position. It should be noted, however, that this model has also been described as a structuralist model of development (Hultsch & Deutsch, (1981).

According to the equilibration model (Piaget, 1977), the system is said to be self-regulatory. A balance is maintained between a network of cognitive cycles. When the system is out of balance due to gaps in knowledge or experiences conflict, it attempts to compensate and bring the system back into balance. When integrating of information occurs or conflict is resolved, reequilibration is said to have occurred. While the system is again balanced, it has not simply returned to the previous equilibrium state but rather has

constructed an improved system. The concept of increasing equilibration is based on this concept of a growing and improving system.

Vygotsky also presents a contextual theory of cognitive development structured on Marxist thought. Perhaps a truly contextual theory of cognitive development, one's context interacts and helps to shape the development of the central nervous system. Thus, an individual's development is shaped dramatically by one's context and the individual in turn then impacts their context. Clearly, more work and research needs to be done to explore these concepts, theories, and ideas. The life-span perspective (contextual world view) is in some sense new to developmental psychology. It has gained popularity as a paradigm.

Therefore, much work by way of theorizing and research needs to be done to refine this perspective. In addition, much of the structuralist, information processing/cognitive, and learning theory perspectives are currently being integrated into the life-span developmental perspective. Thus, while incomplete and undergoing refinement and change, the life-span perspective show the greatest promise for an encompassing theory of human development.