The Synactive Model: Individuals, Hospitals, and Systems

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DOI: 10.14434/do.v18i1.40899

Dr. Heidelise Als wrote …*intuitive parenting must become conscious parenting when the child's individuality portrays behaviors other than that which human expectation has prepared us for, in the thousands of years of evolution, to be good enough parents.*[1] Dr. Als understood that the greater an individual's medical, physical, cognitive, and/or social/emotional challenges, the less likely that person can accommodate to their social or physical environment. These challenges may elevate the risk of adverse health outcomes and developmental issues, highlighting the critical importance of providing tailored care that supports both the individual and their family. This understanding informs the design and implementation of personalized care for premature and at-risk infants and their families. Supportive care during hospitalization, as well as after discharge to home and community settings, promotes optimal well-being and positive outcomes.

Synactive Model of Behavioral Organization – Its Origins

In her work, Dr. Als drew from her personal parenting experiences as well as her clinical study of mother/infant relationships, including the study of infants with irritability and hypersensitivity. She saw the strength and importance of infant/mother connections from the very beginning of their relationships. This awareness became even clearer through her early graduate school training, her mentorship and collaboration with T. Berry Brazelton, MD, Director of the Child Development Unit at Children's Hospital, as well as her use, training in, and adaptation of the Brazelton Newborn Behavioral Assessment Scale. This is the foundation of the Synactive Model of Behavioral Organization and corresponding neurobehavioral observation and assessment tools, a caregiving intervention approach, and a training program.

Als and her Child Development Unit colleagues, Drs. Brazelton, Tronick and Lester, wrote the seminal paper "Toward a research instrument for the assessment of preterm infants' behavior" describing the *Synactive Model of Behavioral Organization*.[2] This developmental framework describes how humans' continuous, dynamic interactions with their environments influence their behavior and development. The term "Synactive" is from Greek and Latin origins meaning Together ("Syn"/Greek) and Action ("Active"/Latin). The "Together in Action" model was based on four principles of development: (1) Phylogenetic and Ontogenetic Adaptedness (species adapt to their environments and are influenced by their environments allowing for adaptation); (2) Continuous Organism-Environment Transaction (organisms continuously interact with their surroundings, adjusting behaviors based on feedback received); (3) Orthogenetic and Syncretic (organism's progressively develop as different abilities are integrated); and (4) Dual Antagonist Integration (a tension exists between environmental protection and exploration). Synthesizing these principles led to the theory that infants *actively* construct their own development within their physical and social environments and with the events that they experience. The Newborn Individualized Developmental Care and Assessment Program (NIDCAP)[3] was designed to identify these adaptation strategies and as an earliest intervention approach for preterm and at-risk infants. The NIDCAP approach combines includes an infant observation instrument, a caregiving intervention model, and a training program.

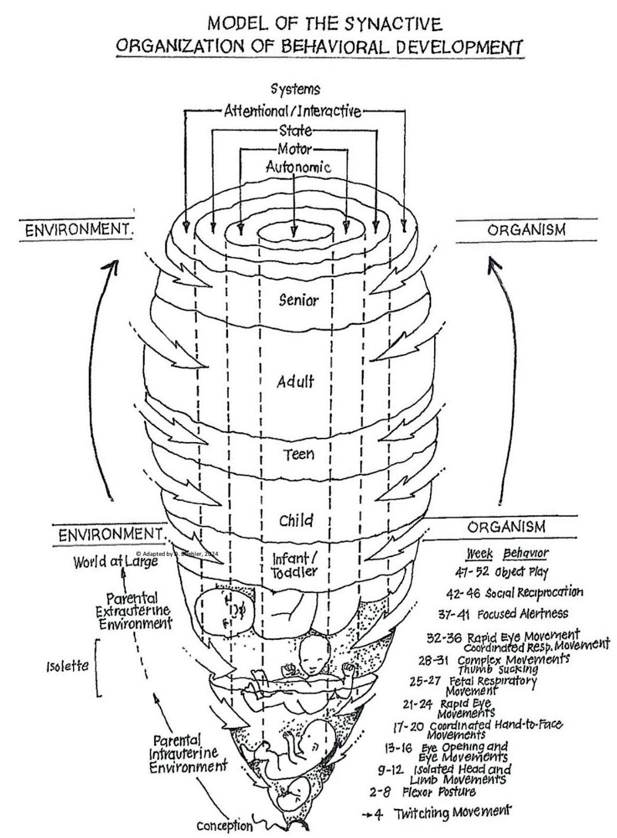
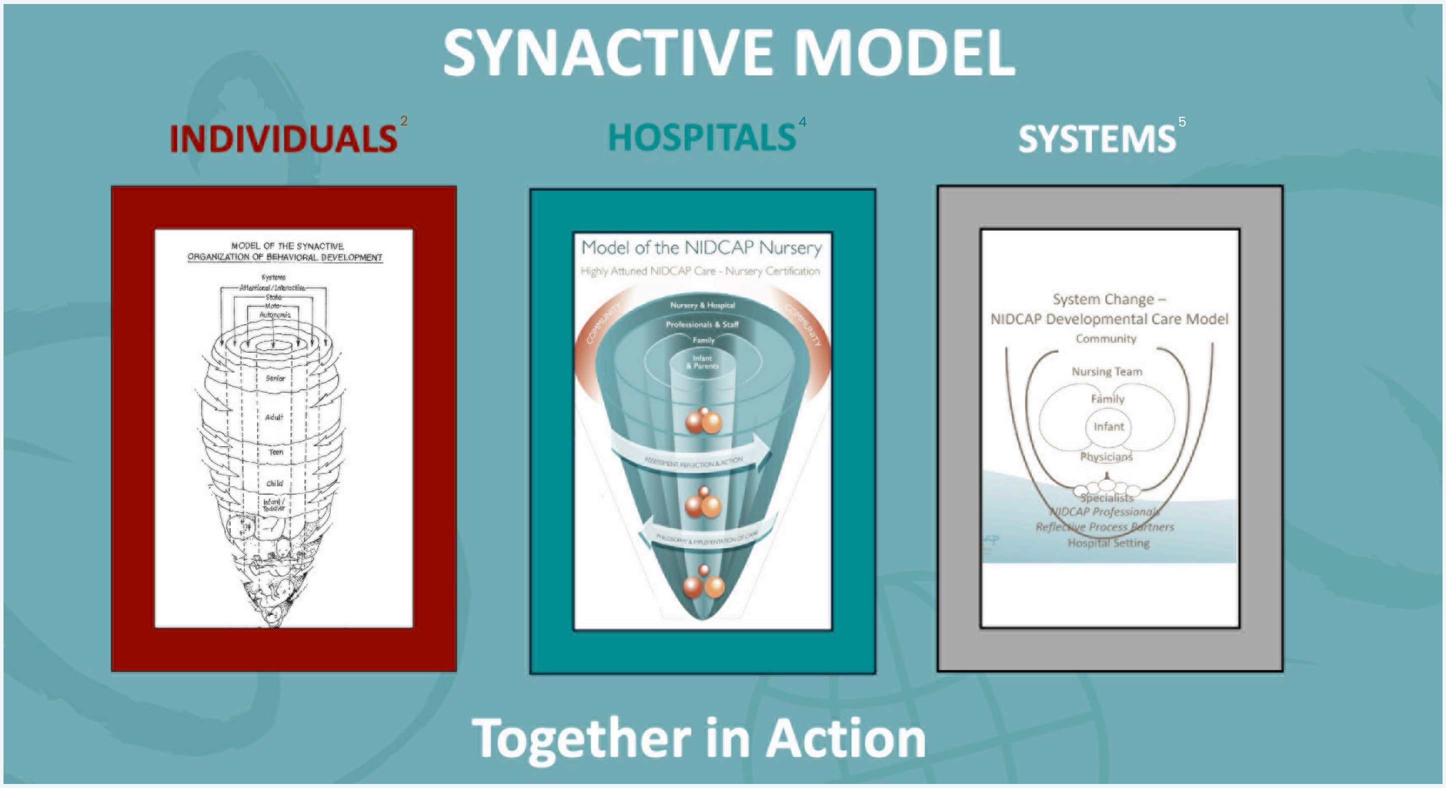


Fig.1. Model of the Synactive Theory of Development. Adopted with permission from Als H. Toward a Synactive Theory of development: promise for the assessment of infant individuality. Inf. Mental Health J3 (1982), 229-243.

Adapted by Buehler, D. (2024).



Synactive Model of Organisms: Individuals, Hospitals, and Systems

In its broadest sense, the Synactive Model is applicable at many levels: the individual, the hospital (made of individuals, including premature and medically-at-risk infants), and the larger hospital and community system.

Individuals

Continuous dynamic interactions occur between individuals' various layered subsystems of functioning (autonomic, motor, state, and attentional/interactive) and with their physical and social environments. This is a lifespan process occurring as individuals learn and evolve. Early development sets the foundation for later development. Initially, development occurs within the womb, with its protections and entrainments, and later within the extrauterine environment. For infants born prematurely, this includes the intensive care setting, with all the demands and challenges this environment presents at this critical time. These factors influence their unfolding development. Premature and at-risk infants are actively shaping and being shaped by their environments. Appreciating that growth and change occur within the context of interactions with the environment, offers the opportunity to understand the influences on, and implications for, stability, health and development.

Development implies both growth and change, unfolding initially through the disruption of previously established ways of functioning. New accomplishments become integrated by systems, realigning and supporting one another in new, adaptive ways. Yet, for this realignment to occur, subsystem instability, disorganization, and de-synchrony may be experienced. Lack of stability in one or more subsystems may lead to disorganization to the other systems with consequences for the infants' efforts. The physical and social environment may thwart the subsystems' efforts to re-balance, and/or it may provide positive steadiness and support for this re-alignment. These efforts enhance the developmental strivings toward the next steps. As an example, an infant lying on a flat mattress may become flaccid with arms and legs extended, show breathing pauses, compromised color and unsettled sleep. When this infant is gently positioned into side lying with the face protected from lights and calm, steady hand swaddling containments for shoulders, arms and head, the infant may begin to show relaxation. Tone returns with tucked, flexed postures, hands rest by the mouth, breathing and color is regular and steady, and sleep becomes restful. Infants continuously adjust their behaviors based on the feedback received from their surroundings. Social and physical environmental support during periods of disorganization lead to subsystem rebalancing and steadiness. These adaptations provide positive behavioral support for the infants' emerging developmental agenda.

The Synactive Model of Behavioral Organization can be envisioned as a model of the developmental progression of individual human beings throughout their life span. Each person experiences continuous, dynamic interactions with their physical and social environments which may support their strivings or may hamper their efforts both influencing experience and perhaps outcomes.

The Synactive Model may be applied to NIDCAP's professionals and supporters. Every NIDCAP champion is a catalyst for positive change for infants, families, healthcare professionals, hospitals, and systems. Inspiring, promoting, and guiding NIDCAP care are layers of the Synactive system's model. Individuals who serve as NIDCAP mentors and supporters evolve and change as do the systems of which they are members. It is critical to seek out education, mentorship, and emotional support to ensure continuous, dynamic environmental interactions and to positively influence behavior, well-being, development, and effectiveness in others.

Hospitals/Institutions

The Synactive Model can be extended beyond the individual to institutions such as hospitals which are created and maintained to serve many individuals. Each individual experiences their own autonomic, motor, state and attentional subsystem/environment interactions. In newborn and pediatric intensive and special care settings, infants, families, healthcare professionals, and the physical environment interact with one another. These interactions may be experienced as stabilizing and growth-promoting, or destabilizing, challenging and even, perhaps, detrimental. In the case of positive interaction among members of the system with common goals, the result may be a calmer more relaxed hospital unit; consistently steadier, healthier infants, ever more confident parents and families; and effective and satisfied healthcare professionals. Conversely, difficult experiences from members of the hospital system, and/or the environment itself, may negatively impact the others. The results may be infants with breathing irregularities, difficulty feeding and growing, parents who are exhausted, worried, and sad, healthcare team members who feel challenged by high acuity and limited staffing, and a unit that is bright, loud and chaotic. Any of these difficulties may lead to disruptions for the others. Incorporating steady nurturance by families and knowledgeable healthcare professionals, within a supportive physical and social environment, provides for smooth moment to moment interactions and care. The ripple effects of positive experiences and interactions create synchrony and balance in the system which optimally change experiences and outcomes. The model and resources of the NIDCAP Nursery Program[5] (add citation) describe this process of applying the Synactive Model to support optimal development and well-being.

Systems

The Synactive Model may also be considered for the larger communities that hospitals serve and where individuals live. Each of the layers: infants, families, hospital systems and entire communities are constantly evolving. They are interrelated and continually influence each other. The Synactive Model, in conjunction with the NIDCAP care it defines, has the extraordinary potential to change the course of lives and systems. NIDCAP has the potential to be adapted to other populations in healthcare, especially ones with patients and their families whose voices are not easily heard or needs understood (such as geriatric populations). Moment-to-moment positive experiences support stability, developmental strivings, and ultimately optimal health and well-being for individuals, systems, and communities. These experiences can impact generations to come.

The Synactive Model informs us that individuals (and the systems they are part of) are always changing. Als wrote *… each child actively shapes the adults and the environment around him or her, and that the adult, who becomes aware and has the emotional where-with-all to open earlier well-practiced ways, and see the child, becomes better for it.*[1] Each new layer of being and of functioning, whether it is a person or a system, is built on the one before. Cognitive flexibility is required to assess challenging situations and modify practices and policies to support change accordingly. Every interaction and decision require the strength, capacity and confidence to be reflective about seeing, being shaped by, and shaping interactions and environments to help to bring out the best in others. When this happens, infants and families, and those who care for them, have the best chance for optimal functioning and well-being.

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Mission

The NFI improves the future of all infants in hospitals and their families with individualized, developmental, family-centered, research-based NIDCAP care.

Adopted by the NFI Board, June 29, 2022

Vision

The NFI envisions a global society in which all hospitalized newborns and their families receive care in the evidence-based NIDCAP model. NIDCAP supports development, enhances strengths and minimizes stress for infants, family and staff who care for them. It is individualized and uses a relationship-based, family-integrated approach that yields measurable outcomes.

Adopted by the NFI Board, October 20, 2017