



Bioecological Systems Theory

Ecology is the study of the relationship between organisms and their environment. One of the most influential theories of human development emphasizes how the environment influences a child's development and how the developing child influences his or her environment. Urie Bronfenbrenner's ecological theory of human development has received considerable attention over the past few decades.

Bronfenbrenner's ecological model of human development (Bronfenbrenner, 1979) describes the complex, reciprocal and dynamic set of interactions between individuals, their families and their environments. Children's development is inextricably linked to the multiple, interrelated contexts or systems that surround them as they grow up. Learning, behaviour and health are shaped by what happens in families, schools, peer groups and neighbourhood communities. Bronfenbrenner considered human development as occurring within a complex system of relationships that occur within and between various 'layers' of environments.

The seeds of Bronfenbrenner's ecological theory of development were planted long before he began a lifetime of study in the social sciences (Bronfenbrenner, 1979). He grew up on the premises of a state institution where his father was a medical doctor who cared for people who were then called "feeble-minded". The institution was a complete community with a working farm and shops, located on 3000 acres that included woodlands and forests as well as cultivated farmlands. Bronfenbrenner's father was a keen field naturalist. Young Bronfenbrenner spent his childhood surrounded by rich biological and social terrain. He understood the natural laws of the ecosystems and witnessed the impact of different social environments on people's ability to cope and be competent. These early lessons stuck with him and formed the basis for his ecological theory of human development.

Bronfenbrenner proposed a framework for organizing sets of environmental systems. He conceived that the child's world is organized "as a set of nested structures, each inside the next, like a set of Russian dolls" (Bronfenbrenner, 1979, p. 22). These systems range from the most immediate setting, such as family, to more remote contexts that do not directly involve the child, such as society's legal system or beliefs.

- The **microsystem** refers to the child's immediate settings (e.g., home, school, early learning program). Each of these contexts might include parents, siblings, peers, teachers or caregivers. The child has direct interactions with the individuals she or he encounters in the immediate environment and is both influenced by and influences those individuals.

- The **mesosystem** is the interrelationships among the components of the microsystems. For example, parents interact with caregivers and teachers.
- The **exosystem** is made up of settings that influence a child's development but do not have direct interactions with the child. For example, a parent's workplace and co-workers affect the child's life. If there are employee policies (such as family leave time or flexible work schedules for parents with young children) in place that value family life, the impact is likely to be more positive than if the parent is required to work long hours or to travel frequently.
- The **macrosystem** that surrounds the first three systems represents ideological and institutional patterns of a particular culture or subculture. Children who grow up in a small community in northern Canada experience a different social context than children who grow up in an affluent suburb outside a large urban city. Children who grow up in Canada experience a different social context than children who grow up in Italy or Uganda. Children who move from their home country to a temporary refugee camp before finally resettling in another country, navigate significant changes at the macro level.
- The **chronosystem** is Bronfenbrenner's term for the time-based dimension of his model. The micro-, meso-, exo- and macrosystems change over time. Over time both the child and her or his environment undergo change, and change can originate within the individual (e.g., severe injury or illness, puberty) or in the external world (e.g., birth of a sibling, starting at a child care centre, parental divorce, unemployment). Bronfenbrenner points out that both kinds of changes need to be taken into consideration to understand how the other components of his model shift and, in turn, how all these changes affect development.

Bronfenbrenner worked with colleagues to expand his original ecological theory to a bioecological model that recognized the bi-directional relationships between children and environments (Bronfenbrenner and Ceci, 1994). Bronfenbrenner realized that children's biological and psychological differences affect how they respond to their environments, and in turn, how their environments respond to them (Bronfenbrenner, 2005). He was particularly interested in how children respond to the people who are important in their lives. Bronfenbrenner came to the conclusion that these relationships were the foundation of development. He realized that these relationships do not happen in isolation and are affected by all levels of the environment. Bronfenbrenner and Ceci (1994) proposed the bioecological model as a way to seek a greater understanding of environmental influences and "the extent of their power to actualize individual differences in genetic potentials for human competence" (p. 570).

Children interact with those closest to them –their parents, siblings, peers, and caregivers. Daily interactions can support and sustain, or hinder and harm successful development. Bronfenbrenner labeled the characteristics of these relationships **proximal factors**. Family proximal factors might include warmth, affection, use of discipline, as well as the educational content and structure of language used in the home.

Proximal factors change and adapt as children develop and mature. Proximal factors are constrained and influenced by the characteristics of the immediate context, for example, the family structure or child care environment. Proximal factors are also affected by the more distant social, economic and demographic environment that are part of the broader environment. Distant influences are called **distal factors**. A young child grows up at the centre of a set of proximal and an ever- extending concentric circles of distal interacting relationships and factors. Although further away from the child's everyday experience, distal factors are still important and are substantial sources of impact. For example, Canada's parental leave and benefits for new parents has a profound impact on the daily lives of many infants.

Just as immediate environments influence children's development, children can influence their environments. As a child interacts with her environment, she may change the way parents respond to her. For example, an infant who is easily soothed and coos and smiles often is a very different experience for parents than an infant who is more difficult to comfort and often cries.

Also children and families are influenced by more distant environments and can have an impact on more distal factors. A family is influenced by workplace leave policies - employers in turn may have to consider family needs when determining work schedules.

Longitudinal and experimental studies chart various sets of interacting relationships and environments. Findings identify key risk factors that hinder healthy development and protective factors that enhance development. The bioecological model can be used to explore a variety of research questions related to the interplay between a child and his/her contexts.

References

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