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Ecological Systems Theory: Exploring the Development of the Theoretical Framework as Conceived by Bronfenbrenner

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Abstract

The Ecological Systems theory represents a convergence of biological, psychological, and social sciences. Through the study of the ecology of human development, social scientists seek to explain and understand the ways in which an individual interacts with the interrelated systems within that individual's environment (Bronfenbrenner, 1983a). Bronfenbrenner (1994) sought to develop a theory of human development that would consider the influences of all of the systems that play a role in impacting the lived experiences of the individual no matter how remote the influence. Today, many of these concepts are commonplace in social work practice (micro-, meso-, and macrosystems, for instance); however, its foundation of empirical support is often less understood. This article will explore the historical development of the Ecological Systems theory through the works of Bronfenbrenner, will examine the empirical evidence supporting the theory, and will discuss the implications of the theory within social work practice.

Keywords: Ecological Systems; Bronfenbrenner; Human Development; Micro, Meso, Exo, Macro, Chrono

Introduction

Ecological Systems theory describes human development through the prism of the "environmental interconnections and their impact on the force directly affecting psychological growth" [1]. Through the study of the ecology of human development, social scientists seek to explain and understand the ways in which an individual interacts with the interrelated systems within that individual's environment [2]. The theory represents a convergence of biological, psychological, and social sciences. According to Bronfenbrenner [1], "human development is the product of interaction between the growing human organism and its environment" (p. 16) with the developing person seen as malleable within the social milieu of his or her environment. The change needs to be experiential and lasting in order for development to occur [1].

The Ecological Systems theory provides a theoretical framework whereby the processes that shape human development may be examined and discovered [3, 4]. Bronfenbrenner [5] expanded on the theoretical writings of other human developmental theorists before him, namely Lewin, Thomas and Thomas, Mead, and Freud. This article will explore the historical development of the Ecological Systems theory through the works of Bronfenbrenner, will examine the empirical evidence supporting the theory, and will discuss the implications of the theory within social work practice.

Development of Ecological Systems

Bronfenbrenner [2] sought to craft a view of human development that could explain growth without examining deficits within the person, which had been common practice in many developmental models previously developed. Before the introduction of Ecological Systems theory, a General Systems theory was introduced by Bertalanffy. In describing General Systems theory, Bertalanffy [6] wrote the theory had moved from a primarily engineering and computer technology theory to a social sciences theory as a way to describe how humans interact with each other. Prior to the development of General Systems theory, most scientific study sought to reduce systems to the smallest units of measure and investigate them independently of each other; however, General Systems theory posited that whole systems could (and should) be examined intact with their interaction with each other being the important function for science to explore [6]. While the development of General Systems theory pertained mainly to scientific and mathematical concepts at the time, the model may be applied within social science as its central role is to "explain phenomena or order in terms of interactions of processes" [7].

Many social science studies from the 1950s through 1970s focused only on a child or only on the parents; the studies did not consider the reciprocal influences that the child and parent would have on each other. Bronfenbrenner [1] proposed that systems of influence within an individual's immediate life each impacted the individual in different ways; however, he proposed the individual also had an impact on these systems [8]. This whole-person approach in examining the individual within the environmental systems of influence is rooted in the concepts of General Systems theory [6]. The systems within a person's environment occur at different levels, described by Germain [9] as "Chinese boxes fit inside one another" (p. 537). Bronfenbrenner [1] would propose the following systems: micro, meso, exo, and macro, later adding the chrono [10]. The micro, meso, and macro systems had been previously labelled by Brim [11].

Microsystem

The person's immediate environment comprises a system of influence called the microsystem. Bronfenbrenner [1] defined the microsystem as ""a pattern of activities, roles, and interpersonal relations experienced over time by the developing person in a given setting with particular physical and material characteristics" (p. 22). Later, Bronfenbrenner would expand upon this definition: interaction in this level may be social or symbolic and should be sustained in

increasingly complex ways [12], and the microsystem includes an individual's personality, beliefs, and temperament (1989). People with whom an individual has daily, face-to-face contact such as families or other people living in the home are also a part of the microsystem [11]. The microsystem may include people outside of the home as well if they have regular, consistent contact with that individual [4]. For children, this may be school or a daycare; for adults, this may be a workplace, gym, or coffee shop.

According to Bronfenbrenner, the importance of this level of the ecosystem cannot be understated. Bronfenbrenner and Evans [4] wrote that the microsystem provides the outline for the processes that will influence the psychological development and behavioral changes of the individual. Experiences are critical to understanding how the influences of the microsystem work. Direct experience through contact within microsystems has a greater influence than indirect contact through or with other systems [1]. Importantly, Bronfenbrenner [1] noted that the systems that comprise the microsystem may affect the individual separately and in tandem with each other. This distinction leads to the second level of the Ecological System.

Mesosystem

The mesosystem describes the second level of the ecology of human development. Bronfenbrenner [1] defined the mesosystem simply as "a system of microsystems" (p. 40). The mesosystem is made up of linkage between the different microsystems in a person's life. In other words, how school and home interact creates a mesosystem. As noted above, Bronfenbrenner conceptualized different systems may work with (or against) each other in an individual's life. These interactions between multiple microsystems create the mesosystem layers [1]. Additionally, an important concept in the mesosystem development is that of synergy; that is, "the interaction of developmentally instigative or inhibitory features and processes [that may be] present in each setting" [12].

School provides an example for this. The classroom, students in the class, and teacher create a microsystem for an individual student. The school itself, the student body, and the staff at the school comprise a mesosystem for an individual student. Microsystems and mesosystems must necessarily include the individual [4]. Systems that impact one of these environments, but do not include the individual, create the third layer of the ecological environment.

Exosystem

The exosystem is much like the mesosystem in that it is made up of microsystems that interact with each other; however, in the exosystem, at least one of the microsystems cannot contain the person at the center of this system [1, 4, 11]. A simple example is the workplace of a parent. The child is not a part of the workplace system; nevertheless, he or she could easily be influenced by that system if the parent is required to work long hours, possibly missing school events or even simply coming home stressed from work. Because the child is not a part of the workplace environment, this cannot be a part of his or her micro or mesosystems. This influence, then, occurs at the exosystem level.

The idea of reciprocity is easily seen in the lower systems. One can understand how a child may influence his or her parent and how that parent in turn influences the child. Even within the mesosystem, a child can easily influence both the parent and the teacher, while they are in turn influencing each other. This notion is still true within the exosystem as well. Even though the exosystems do not contain the individual, the influence is still reciprocal. Just as a parent may be influenced by the work system and come home stressed, a parent may also be stressed within the home system and bring this to work. A sick child may cause a parent to miss work, thereby impacting the work system without the child being a part of it.

Macrosystem

The macrosystem is defined broadly as the overall culture and societal structure [11]. The macrosystem creates a pattern of interaction between and among the different micro-, meso-, and exosystems [1]. "The macrosystem may be thought of as societal blueprint for a particular culture or subculture" [3]. Bronfenbrenner described the ways that the culture of a family develops within the structure of the family in the microsystem. This then is influenced by the mesosystems and exosystems of the individuals within that family. Furthermore, all of these systems are then impacted by the overall society and culture [1]. Special emphasis is given to cultures within the groups, opportunity structures that are created by systems and experienced by individuals, and patterns of exchange within and among groups [12]. In later works, Bronfenbrenner added that the pattern of social exchange is an additional important component of the macrosystem.

Consider an immigrant family with a culture that is distinct from the majority culture. They may speak a language other than the majority at home. The adults may not speak the majority language at all while the children, because of school and socialization within their micro- and mesosystems, may speak both their native language and the majority language. While these influences are occurring at multiple levels of the individual systems, the macrosystem impact oftentimes may drive these forces which may vary depending upon the situation, the time, and the place in which they occur. This may then include the final level of the ecological perspective.

Chronosystem

When Bronfenbrenner first developed the Ecological Systems theory, he did not account for time as a construct in human development. Later, he added this concept, noting that many human developmental theorists had only looked at time as it pertained to the process of aging [10]. That is, as people age and grows older, they mature and develop as their biological conditions changes. The addition of the chronosystem incorporates the concept of time into the ecological system of human development [3]. This includes not only the aging and maturation of the person but also the time in which that person lives and develops. An example of this provided by Bronfenbrenner is a study of children and adolescents who grew up during the start of the Great Depression being affected differently than children born just after it [3]. An example from more modern times might be children born pre and post 9/11 in the United States having vastly different concepts of terrorism and safety. The effects of the chronosystem do not have to be from a major event though. Consideration is given to the time and place in which the person lives. A young adult living in 21st century America would have a much different idea of privacy and its impacts than a young person living in a Brazilian rain forest in the mid-19th century for instance. Important aspects of the theory to consider.

Ecological transitions are important to the development of human ecology [3]. Bronfenbrenner defined an ecological transition as the movement within a microsystem that changes or alters the makeup of that microsystem [1]. A promotion at work, changing grades at school, the birth of a new sibling, or a death of a family member could all be examples of the alteration of a microsystem that change the makeup of that system. Bronfenbrenner [1] identified that magnitude of these types of transitions in influencing the development of the individual stating that "setting transitions continue to have developmental impact throughout the lifespan" (p. 385).

Equifinality is not a concept discussed in Bronfenbrenner's writings; however, the concept is central to the General Systems theory [13] and is applicable to the Ecological Systems theory. Equifinality can be understood as the concept that the starting place of an organism does not, necessarily, define its end place [14]. Germain [9] described equifinality as understanding that a person may achieve different goals through a myriad of means depending upon the environment in which he or she is raised and upon the systems that influence that individual throughout life. While the concept of equifinality incorporates

the ideas that different systems influence an individual, the influence alone cannot predict what that individual will do.

The concept of ecological validity is also important, especially when considering research as social scientists. "Ecological validity refers to the extent to which the environment experienced by the subjects in a scientific investigation has the properties it is supposed or assumed to have by the investigator" [1]. Bronfenbrenner proposed specific methodologies in order to maintain scientific rigor in studies. These will be examined in further detail later in this article.

Bronfenbrenner introduced the concept of ecological niches in his later development and adaptation of the theory. When ecological factors converge together to form predictors that may be more (or less) favorable to human development, an ecological niche is created. A study examining low birth weight in newborns found that several factors often converged to create an ecological model of risk factors for pregnancies that may result in low birth weight babies. These factors considered together created an ecological niche since none of the factors alone could predict this developmental outcome.

Finally, proximal processes “involve a transfer of energy between the developing human being and the persons, objects, and symbols in the immediate environment" [4]. Bronfenbrenner and Ceci [8] proposed that this process is one through which “genetic potentials are actualized” (p. 570). The strongest proximal forces occur at the microsystem level and weaken as the systems move outward from the individual [3]. These processes are used to explain the ways that spheres of influence have impact on the development of the individual and will be explained further in the article.

Aspects of Human Development

Biological, Psychological, and Spiritual factors

Human ecological development is a set of intertwined processes involving the biological and psychological makeup of the individual [8]. The interrelated systems that comprise the ecology of human life create an environment whereby the biological and psychological are influenced in the growth of the individual [5]. Prior to the development of what would become the Ecological Systems theory, Bronfenbrenner [5] wrote that interpersonal relationships drive the creation of personality development, a processthat he would later call microsystems. In that paper, Bronfenbrenner sought to develop a system of psychological theory that integrated the writings of previous theorists from the biological and psychological realms.

Bronfenbrenner and Ceci [8] would later propose that the Ecological Systems framework incorporated the psychological model with the biological model in understanding the nature-nurture argument. Hereditability may play a role in the development of human ecology; however, the role of social interaction and psychological factors cannot be discounted. Addressing the “most serious and problematic limitation of the established behavioral genetics paradigm” (p. 57), Bronfenbrenner and Ceci [8] wrote that hereditability can only measure what may be biologically determined but at the expense of ignoring the outside environmental influences, which alter, expand, and influence the developmental processes.

Other researchers have explored the topic of biological factors within the Ecological Systems theory. In examining the needs of kinship care for youth who enter foster care, Hong et al. [15] applied each level of the theory to the needs of kinship parents. In doing this, they discussed the needs of biological family units through extended family care. Meade and Ickovics [16] conducted a systematic review that analyzed sexual health risk behaviors among adolescent girls who had babies or were currently pregnant. Results indicated that pregnancy creates myriad future risks that require intervention strategies from multiple systems in the youth’s lives [16].

Psychological impacts have been studied as well. Chun, Devall, and Sandau-Beckler (2013) studied the effect of alcohol use and negative peer relations on psychological distress among Mexican-American adolescents using an Ecological Systems framework. Findings indicated that psychological distress was a significant predictor for negative peer relationships and the use of alcohol. Psychological distress was also measured through the prism of Ecological Systems theory in a study on the perception of neighborhood safety [17]. Results demonstrated that decreased perceptions of safety in a neighborhood related to an increase in psychological distress [17]. These studies framed the research through the Ecological Systems model by stressing the importance of different spheres of influence on the individual.

Spiritual factors are not discussed in the literature from Bronfenbrenner with regard to the Ecological Systems theory. One could, however, make inferences regarding spirituality within the model. For instance, a person who regularly attends a religious service would include this within his or her microsystem. If parents send their children to a church but do not attend themselves, the church becomes a part of the microsystems of their children and a part of the exosystem of the parents. Members of faith communities may choose to include the aspects of their faith as a part of relationships within their microsystems.

While Bronfenbrenner did not connect the theory to spirituality, other researchers have. Kang and Romo [18] wrote of youth who reported higher levels of spirituality in turn reported lower depressive scores and had increased academic performance. Spirituality has been linked with ecological systems in other ways as well: protective factors from macrosystem level traumas such as natural disasters [19], with meso- and exosystems level resilience in at-risk youth [20], and with microsystem level treatments for substance abusing youth [21]. Ecological Systems approaches have been applied as well in examining the spiritual factors that affect the counselors of sexual abuse victims [22].

Social, cultural, and economic factors

Ecological Systems theory directly describes the social forces that affect human development through the nested systems developed by Bronfenbrenner. Even before he offered the Ecological Systems theory, Bronfenbrenner conducted research into the socialization effects of different systems within a child’s life. For instance, studies examined topics ranging from the effects of parenting style on a young person’s development of leadership skills and responsibility [23] to alienation in youth [24], to adolescent behavior differences based on family structure [25], and to educational systems and the impact of school integration moderated by social class [26]. Often, these studies examined multiple factors such as the socioeconomic status of the family, cultural differences within family units, and parental education levels.

Bronfenbrenner [24] considered social factors to be the most salient to the development of the human ecology, writing that the biggest concern for healthy development of a child is “the failure of the young person to be integrated into his society" (p. 485). Family was considered the most influential microsystem in the social development of a child [26]. Nevertheless, Ecological Systems still considers the outer systems and their impacts on development of the socialization of a child. The interaction of these systems creates the social structures of a child’s life [27]. Social systems were not the only ones that are considered in an ecological perspective, however.

As discussed above, Bronfenbrenner [1] included economic factors such as the socioeconomic status of the family. In discussing how children are socialized by their families, Bronfenbrenner [28] included an examination of the family’s economic status as a variable that could influence the functioning of the micro- and mesosystems at both the exo- and macrosystems levels. In examining family authority and structure, socioeconomic status was again included as a contributing variable [25].

Additional studies by Bronfenbrenner also discuss culture in one regard or another. An early study examined not just socioeconomic status of the family but also where that placed the family in the social

structure of that community [28]. Bronfenbrenner [25] demonstrated differences based on the perceived social status of families even if they had similar socialization patterns. Family structure showed similar results, with the social status affecting the impacts of authority with the differences being based on culture and race. Unfortunately, these studies were done at a time when cultural and racial differences were seldom explored by researchers, a fact noted by Bronfenbrenner [1]. Current researchers have explored the impacts of culture within the various levels of the individual's ecosystem [18, 20].

Social Work Practice and Relevance

Ecological Systems theory lends itself to social work practice in direct and discernable ways. Social work values incorporate the ideas of cultural competence, whole person approaches, and policy action in practice and research. Studies that Bronfenbrenner conducted build on and inform these values. Culture and race were both factors in previous studies during the development of the Ecological Systems theory [23, 25, 26, 29, 30]. Bronfenbrenner [31] conducted experiments that used what social workers would call a person-centered or person-in-environment approach, even he did not use these terms himself. The importance of emphasizing the person-first approach was apparent when Bronfenbrenner [1] wrote that understanding human development means recognizing "reality not as it exists in the so-called objective world but as it appears in the mind of the person" (p. 23). The person-in-environment model is also found in other studies as well [24, 32]. Finally, Bronfenbrenner [2, 24, 29] was a strong advocate for policy changes that would strengthen the family and the development of healthy children. Bronfenbrenner [32] wrote that "the erosion of the social fabric isolates not only the child but also his [or her] family" (p. 460) and that government policies can and should be enacted the help strengthen the changing family.

The spheres of influence within the microsystems are comprised of systems that provide access to individual and familial level interventions. Bronfenbrenner [1] wrote of the importance of social scientists incorporating these multiple systems into the research design of their studies. Through his research in these areas, Bronfenbrenner [3] was able to demonstrate that proximal processes with negative impacts have a more significant impact for individuals from lower socioeconomic statuses; conversely, positive proximal processes had a greater impact for those living in higher socioeconomic statuses [3].

Multiple studies have confirmed the effects of proximal processes with children and families [1, 23, 25, 28, 19]. Specifically, Bronfenbrenner [30] wrote of the importance of parent-school communication and the role this mesosystem relationship played in the educational attainment of children. Parent-child interactions have been shown to have a profound impact on youth as they emerge into adulthood; however, this study also looked at community impacts that may have contributed to or altered the direction of development [33]. Furthermore, Bronfenbrenner [31] wrote of the important role that neighborhoods and communities have as agents of change for the development of children within the community. This interest rests on the foundations of social work practice.

Community connection plays an important role in the Ecological Systems theory. Bronfenbrenner [34] wrote of his experiences in China, seeing children meet the elders in the community after school. The community came together to raise the children while the parents worked. Experiences in the former U.S.S.R. also influenced Bronfenbrenner [35] in developing the idea that communities played an important role in child development. Writing of the experiences he had in China and the U.S.S.R., Bronfenbrenner [1] said that "the different environments were producing discernable differences, not only across but also within societies, in talent, temperament, human relations, and particularly in ways in which the culture, or subculture, brought up its next generation" (p. xii). Contrasting these other cultures to American society, Bronfenbrenner [24] wrote of modern American society manifesting isolation and alienation in youth because of working parents, zoning restrictions that separated neighborhoods from workplaces and shopping, and structured play that isolated children from youth of different ages and cultures. This led to the rise of the importance of the peer group in the lives of young people, but this only exacerbated the feelings of isolation and alienation [24].

Each of these examples rests on the concept of adaptation, which is an important component in understanding Ecological Systems theory. Germain [9] wrote that "ecology is concerned with adaptation and the relation between organisms and their environments" (p. 535). Adaptation may refer to how a foster child changes with a new placement or how a community adapts to the loss of a large manufacturer. Adaptation also refers to how individual navigate different systems with different expectations [9]. Change does not have to occur at the individual or microsystem level. Gitterman [36] wrote that "people adapt by changing their environments, themselves, or both" (p. 475). Social workers often are involved in micro- and mesosystem experiences with individuals adapting to a changing environment; however, social workers may also advocate for macrosystem level changes to assist client populations or communities adapt to unforeseen change.

Chaos within the different systems that comprise the ecology of the individual is also an important consideration in social work practice [4, 37]. Chaos is defined as changing between and among multiple systems or the interaction of multiple systems in a way that manifests as dysfunction [4]. Examples of this may be moving multiple times for a child in foster care or a parent having a series of live-in relationships that last only short periods of time. Wertsch [37] wrote that chaos is concerning because it inhibits the individual from taking what has been learned in one system and carrying it forward into other systems. Chaos stymies developmental progress and creates dysfunction by interfering with proximal processes that are necessary for growth [4]. Because practitioners may often be involved in environments where these chaotic features are found, social workers should be cognizant of the role that chaos plays in healthy ecological development of individuals.

Theoretical underpinnings

Ecological Systems theory is founded on the work of many theorists before Bronfenbrenner. Central to the theory is the concept that individuals make up living systems [1, 9, 38]. An individual must be open because open systems change and adapt to their environments and do not follow pre-set patterns of behavior [38, 39]. An open system can be changed by the environment around it and can also affect change in the environment [14]. An open system must also not exist inside a vacuum because it needs the interactions with other systems to sustain itself [9]. This concept underpins Ecological Systems theory in that Bronfenbrenner [1] posited that systems thrive off and grow from their interaction with each other. The concept of interconnectedness creates the base for Ecological Systems theory.

Other theoretical underpinnings include the idea that systems are hierarchal with systems building on each other [9], that communities grow from the individuals that comprise the community (microsystems to mesosystems to macrosystems) [34], and that the concepts of Ecological Systems theory are applicable across cultures [1, 5, 35]. Finally, the continuous evolution and growth of human development from experiences in the natural environment underpins the theory [40].

Methodological Issues and Empirical Supports

Social science research is often fraught with complications regarding methodological rigor and validity of findings. Because of the nature of the types of research questions, study designs may not be able to withstand the highest levels of scientific examination, namely that of experimental design with randomized control trials. Bronfenbrenner wrote at length regarding this concern. During his mid-career,

Bronfenbrenner [27, 31, 32] wrote that study designs should include as many factors as possible in order to test hypotheses that included multiple aspects of the individuals' lives, referring to a constructivist approach in study design. Noting that this was contrary to typical study designs in scientific research at the time, Bronfenbrenner [27] wrote that expanding the research base justified using these types of study designs and that controls could be put into place to account for the multiple variables being studied. Research in his mid and late career continued to advocate for research methodologies that included multiple factors of analyses in order to study more effectively the ecology of human development [2, 4, 41]. Bronfenbrenner [1] emphasized the importance of this approach when he wrote that "in ecological research, the properties of the person and of the environment, the structure of the environmental settings, and the processes taking place within and between them must be viewed as interdependent and analyzed in systems terms" (p. 41). To accomplish this, one should utilize a theoretical foundation (such as the Ecological Systems theory) as the base for the empirical support for the theory [5].

At one time, many individuals were studied by removing them from their environments and doing the study in a laboratory setting. Bronfenbrenner [1] wrote that little consideration was given that the change in environments may have caused the differences. Many experiments sought rigor and therefore lacked authenticity to the systems in the person's life. Studies need to include multiple systems and information about the people in order to be useful in understanding the person's development. This is what was referred to above as ecological validity by Bronfenbrenner [1], which he determined to be important in research design. The model for research design proposed for this is called the "process-person-context model" [3]. This design incorporates the multiple systems interrelated in an individual's life and attempts to study their effects on the person. Bronfenbrenner described human development occurring throughout the life course of the person with "developmental outcomes of today influencing the developmental outcomes of tomorrow".

Empirical support for the Ecological Systems theory can be found in many of the studies previously cited within this article [2, 3, 10, 41]. Even prior to the introduction of the theory, Bronfenbrenner had developed an impressive list of empirical support for the theory [23-31, 33, 34]. Other researchers and theorists have also contributed to the empirical support for the theory [9, 16-18, 22, 36].

These empirical findings provide the theory with strong evidence through which it may be supported. To create a strong foundation of support for the theory, Bronfenbrenner crafted the theory after a thorough examination of human developmental theories that preceded it [5]. Bronfenbrenner [1] referenced empirical supports from studies ranging from the 1930s through the 1970s, specifically citing theorists such as Lewin, Freud, Thomas and Thomas, Sullivan, Mead, and Dewey in the development of the theory. Bronfenbrenner and Evans [4] wrote that the development of theory came though empirical findings "by suggesting alternative, more-differentiated or more parsimonious theoretical formulations that might accommodate existing empirical findings" (p. 117).

Conclusion

Ecological Systems theory was introduced as a theoretical concept by Bronfenbrenner [1] over 30 years ago; however, his research based on the theoretical underpinnings began several decades before the theory's inception. Bronfenbrenner [3] sought to develop a theory of human development that would consider the influences of all of the systems that play a role in impacting the lived experiences of the individual no matter how remote the influence. Today, many of these concepts are commonplace in social work practice (micro-, meso-, and macrosystems, for instance); however, at the time of their development, they helped to alter the prism through which social scientists would come to examine human development.

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References

1. Bronfenbrenner, U. (1979). The ecology of human development: Experiments by nature and design. Harvard University Press.
2. Bronfenbrenner, U. (1983a). Beyond policies without people: An ecological perspective on child and family policy. In. E. Zigler, S. Kagan, & E. Klugman (Eds.) Children, families, and government: Perspectives on American social policy (p. 393-414). Cambridge University Press.
3. Bronfenbrenner, U. (1994). Ecological models of human development. In T. Husen & T. Postlethwaite (Eds.). The International Encyclopedia of Education 2nd Edition, Volume 3 (p. 1643-1647). Pergamon.
4. Bronfenbrenner, U. & Evans, G. (2000). Developmental science in the 21st century: Emerging questions, theoretical models, research designs and empirical findings. Social Development, 9 (1), p. 115-125.
5. Bronfenbrenner, U. (1951). Toward an integrated theory of personality. In R. Blake & G. Ramsey (Eds.) Perception: An approach to personality (p. 206-257). The Ronald Press Company.
6. Bertalanffy, L. von. (1968). General Systems theory: Foundations, development, applications. George Braziller, Inc.
7. Bertalanffy, L. von. (1951c). General Systems theory: A new approach to unity of science. Human Biology, 23 (4), 336-345.
8. Bronfenbrenner, U. & Ceci, S. (1994). Nature-nurture conceptualized in developmental perspective: a bioecological model. Psychological Review, 101 (4), 568-586.
9. Germain, C. (1978). General-Systems theory and ego psychology: An ecological perspective. Social Service Review, 52 (4), 535-550.
10. Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: research perspectives. Developmental Psychology, 22 (6), 723-742.
11. Brim, O. (1975). Macro-structural influences on child development and the need for childhood social indicators. American Journal of Orthopsychiatry, 45 (4), 516-524.
12. Bronfenbrenner, U. (1983b). The ecology of cognitive development: Research models and fugitive findings. In R. Wozniak & K. Fischer (Eds.) Development in context: Acting and thinking in specific environments (p. 3-44). Lawrence Erlbaum Associates.
13. Bertalanffy, L. von. (1951b). Problems of General Systems theory. Human Biology, 23 (4), 302-312.
14. Bertalanffy, L. von. (1951a). Towards a physical theory of organic teleology: Feedback and dynamics. Human Biology, 23 (4), 346-361.
15. Hong, J., Algood, C., Chiu, Y., & Ai-Ping Lee, S. (2011). An ecological understanding of kinship foster care in the United States. Journal of Child and Family Studies, 20, 863-872. doi: 10.1007/s10826-011-9454-3
16. Meade, C. & Ickovics, J. (2005). Systematics review of sexual risk among pregnant and mothering teens in the USA: Pregnancy as an opportunity for integrated prevention of STD and repeat pregnancy. Social Science & Medicine, 60 (4) 661-678. doi: 10.1016/j.socscimed.2004.06.015
17. Booth, J., Ayers, S., & Marsiglia, F. (2012). Perceived neighborhood safety and psychological distress: Exploring protective factors. Journal of Sociology & Social Welfare, 39 (4), 137-156.

18. Kang, P. & Romo, L. (2011). The role of religious involvement on depression, risky behavior, and academic performance among Korean American adolescents. Journal of Adolescence, 34, 767-778. doi: 10.1016/j.adolescence.2010.08.003
19. Fernando, G. (2012). Bloodied but unbowed: Resilience examined in a south Asian community. American Journal of Orthopsychiatry, 82 (3), 367-275. doi: 10.1111/j.1939-0025.2012.01163.x
20. Jones, J. (2007). Exposure to chronic community violence: Resilience in African American children. Journal of Black Psychology, 33 (2), 125-149. doi: 10.1177/0095798407299511
21. Kliewer, W. & Murrelle, L. (2007). Risk and protective factors for adolescent substance abuse: Finding from a study in selected Central American countries. The Journal of Adolescent Health: Official publication of the Society for Adolescent Medicine, 40 (5), 448-455.
22. Pack, M. (2013). Vicarious traumatization and resilience: An ecological systems approach to sexual abuse counselors' trauma and stress. Sexual Abuse in Australia and New Zealand, 5 (2), 69-76.
23. Bronfenbrenner, U. (1961b). Some familial antecedents of responsibility and leadership in adolescents. In L. Petrulo, & B. Bass (Eds.) Leadership and interpersonal behavior (p. 239-271). Holt, Rinehart, and Winston, Inc.
24. Bronfenbrenner, U. (1975b). The origins of alienation. In U. Bronfenbrenner & M. Mahoney (Eds.) Influences on human development 2nd edition (p. 485-501). The Dryden Press.
25. Bronfenbrenner, U. (1961a). Family authority structure and adolescent behavior. Proceedings of the Sixteenth Annual International Congress of Psychology, 1, p. 414-418.
26. Bronfenbrenner, U. (1967). The Psychological Costs of Quality and Equality in Education. Child Development, 38 (4), 909-925.
27. Bronfenbrenner, U. (1974a). Developmental research, public policy, and the ecology of childhood. Child Development, 45 (1), 1-5. doi: 10.2307/1127743
28. Bronfenbrenner, U. (1958). Socialization and social class through time and space. In M. Maccoby, T. Newcomb, & E. Hartley (Eds.). Readings in social psychology 3rd edition (p. 400-425). Holt, Rinehart, & Winston, Inc.
29. Bronfenbrenner, U. (1974b). Is early intervention effective? Daycare and early education, November, p. 14-18.
30. Bronfenbrenner, U. (1976). The experimental ecology of education. Educational researcher, 5 (9), 5-15.
31. Bronfenbrenner, U. (1973). Developmental research and public policy. Association for research in nervous and mental disease, 15, 352-380.
32. Bronfenbrenner, U. (1975a). Reality and research in the ecology of human development. Proceedings of the American philosophical society, 119 (6), 439-469.
33. Bronfenbrenner, U. (1959). On the concept of modeling in interpersonal perception. Acta Psychologica, 15 (1), p. 520.
34. Bronfenbrenner, U. (1977). Doing your own thing—our undoing. Child psychiatry and human development, 8 (1), 3-10.
35. Bronfenbrenner, U. (1972). Two worlds of childhood: U.S. and U.S.S.R., Russell Sage Foundation.
36. Gitterman, A. (1996). Ecological perspective: Response to Professor Jerry Wakefield. Social Service Review, 70 (3), p. 472-476.
37. Wertsch, J. (2005). Making human beings human: Bioecological perspectives on human development. British Journal of Developmental Psychology, 23 (1), 143-151.
38. Bertalanffy, L. von. (1967). General theory of systems: Application to psychology. Social Science Information, 6, p. 125-136.
39. Gitterman, A. & Wayne, J. (2003). Turning points in group life: Using high-tension moments to promote group purpose and mutual aid. Families in Society: The Journal of Contemporary Human Services, 84 (3), p. 433-440.
40. Gitterman, A. & Germain, C. (1976). Social work practice: A life model. Social Service Review, 50 (4), p. 601-610.
41. Bronfenbrenner, U. & Crouter, A. (1983). The evolution of environmental models in developmental research. The handbook of child psychology, 4 (1), p. 357-414.

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