

Bronfenbrenner's Ecological Model: Theoretical Lens for a Community-based Research

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ABSTRACT

A community-based research is used for addressing a complex situation in a community. It focuses on a people as a central of the development and also concerns all surrounding factors to move forward to achieve a better life of a person and a community as its ultimate goal. Bronfenbrenner's model has been developed to improve the research method conducting in a community. The model involves person, process, context, and time to make change of a person by interaction with people and other environment in certain community. The model is used as a major of research method to improve community health today.

Keywords

Community-based research, Bronfenbrenner's model, Ecological model, Development, Community

Introduction

A community-based research is a crucial approach for managing a complex situation in a community. It can bring a change to better meet the needs of community members. Community-based research requires a strongly concept on three (3) c; conducted by, conduct with, and conduct for a community [1]. The ultimate goal of a community-based research is to improve the quality of life of people who are living in a community. This approach focuses on the power of the relationships among the community members, therefore, it can improve equality in all aspects of a community.

Commonly, a community-based research approach is based on two techniques; participation and action-oriented research [2]. To achieve these goals, a research needs to be done as "a community-based" not "a community-placed" [3]. This means conducting a research with a community, not merely, locating it in a community setting. A community-based research, therefore, needs to provide steps of its procedure; develop a framework to explore situation, engaging participants, establishing collaborative relationship, and building a community strengths to improve all determinant relate to health including social situation which related to health [4, 5]. Thus, an appropriate framework to explore the whole situation of a community, and also to focus on specific issues such as

the interactions between different people or different settings are required.

Ecological model: The theoretical lens for community-based research

Bronfenbrenner's ecological model is a suitable framework to get a better understanding of a community phenomena, and used for effective intervention development to solve a specific health issue in a community. In this paper, it begins with a broad definition an ecological model, and then follow with specific details of Bronfenbrenner's work with a particular reference to its application.

Ecological model

A community-based care is constructed its focus from individuals level to the complex interactions between individual and others within a society. Ecological model, or ecological perspective provides an effective frameworks that allow a researcher to identify the complex phenomenon and create the interventions to address a problem. Several ecological models were developed based on the Bronfenbrenner's ecological model [6-8]. Bronfenbrenner's ecological model [9] provides a concrete conceptual framework to explore environmental factors influence on human health development, and is recognized as a tool to support the understanding of a complex phenomenon by

considering all relevant aspects under a certain surrounding system [10, 11].

The last step of the development of Bronfenbrenner's model define the first concept; dynamic processes or interactions, as proximal processes, which are those interactions occurring between a person and other under certain circumstance. The second concept was an over-arching consideration of the biological, psychological, and behavioral characteristics shaping an individual [12]. Finally, Bronfenbrenner integrated the concepts of ecological environments, time, processes and characteristics into the model described as a "Process-Person-Context-Time (PPCT) Model" or "Bio-ecological Model" [13] or "Bio-ecological Model of Human Development" [14]. However, this paper uses the term Bronfenbrenner's ecological model or more simply "the Model" throughout this paper.

Components of Bronfenbrenner's Ecological Model

This model is used to explain how a person's development can be changed overtime with in certain environments. It defines a person at the center of the system. All the processes will be considered as a supporter in the specific contexts. Time is a major driving factor of the change.

Person

A person is centered in the Bronfenbrenner's model that can shape his/her development by his/her capacity to direct and impact the interactions within his/her environment. Each person consisted of four defined properties. First, it is "disposition" which is the behavior that can set and sustain the interactions between the individual and other people and their environments. Second, it is termed "bio-ecological resources" which refers to a person's ability, experience, knowledge, and skills. These are essential characteristics to sustain environmental interactions. Third, "demand characteristics", refers to a person's capacity to discourage reactions with the social environment [15]. Finally, a person's demographic characteristics (such as age, gender, and ethnicity) [16].

Process

The term "process" refers to the interactions over time between the person, the center of the model and the environment. The most influential of these interactions are called "proximal processes" which are seen as the primary mechanisms for an individual's development [16]. The power of proximal processes varies and depends on the characteristics of the developing person, their environmental context, and the time periods over which such processes take place [15]. In child development, proximal processes include parent-child and child-child activities or group learning of new skills [13].

Context

Context is an important part of Bronfenbrenner's model [15]. It refers to the environment in which the person is located. Bronfenbrenner describes the ecological environment as "nested systems" which is known as—micro-system, meso-system, exo-, and macro-system [15]. The events in each ecological level of the environmental context are potent in their effect on a person's development. The context can also both directly and indirectly determine proximal processes and development outcomes. Just as the characteristics of the central person are more influential than the characteristics of persons in surrounding [16]. The nested environments are described from the innermost level to the outermost level.

Time

The time in Bronfenbrenner's model allows the explanation for changes or consistencies that occur over the time change. Change is not just related to the characteristics of a person but also incorporate the environmental context where individual lives. This also includes the change in family structure over the life course, the change in socioeconomic status, or the change in employment. Transitions can be anticipated as a part of the normative life course (e.g., school entry, marriage, or retirement) or can occur outside the life course which is unplanned or unanticipated (e.g., divorce, death, sudden illness, or acquired disabilities). Both anticipated and unanticipated life events can serve as an impetus for the development of a change or adaptation of a person [17].

Human development outcomes

The term "development" refers to the set of change throughout personal characteristics, and in the social relationships through proximal processes [18]. Developmentally effective proximal processes refer to these influences as bi-directions [14].

Applications of the Bronfenbrenner's Ecological Model

Many studies used the Bronfenbrenner's ecological model to explore and describe a particular phenomena including the study of Washington [19], which described the complex issues surrounding caregivers of a child with a disability. The researchers pointed the caregiver at the center of the model. Several factors and their environmental contexts across all systems affected the caregiver's roles.

Another study, a community-based action research approach [6] which was conducted by using Bronfenbrenner's ecological model as a framework to develop caregiver support to prevent and manage health problems for caregivers of adults with a physical disability reflected that this model was a valuable theoretical framework to describe the complexity of the phenomenon of family caregiving for adults with a

physical disability and to guide the development of an appropriate strategy for caregivers. The model was a key to understanding the complexity and clarifying multi-system levels of the ecological environment. It was used to organize the research activities to ensure that appropriate data were collected. The environments surrounding adults with a physical disability were conceptualized in terms of who, and what they were doing. Understanding the importance of the interactions between caregivers and others helped researcher to investigate the existing supports for family caregivers in the context of community-based care and assess their impact. The key components underpinning of the model "Person-Process-Context-Time" [15], helped researcher to understand how the relationships between different aspects of the environment influenced caregiver health. The use of Bronfenbrenner's ecological model [15] was also beneficial in directing the development of the family caregiver support and determining the types of outcomes. Other researchers have presented their success in use this model particularly in gaining insight into and understanding complex situations. It assisted researchers to conceptualize their research design, and helped to identify the developmental outcomes that might be targeted [20].

Conclusion

The Bronfenbrenner's ecological model demonstrated its use in exploring complex situations, using as the basis for planning and developing an appropriate intervention for action in a community based research with several aspects; 1) creating a simple structure for research activities attempting to describe the complex phenomena based on the four environmental contexts (micro-, meso-, exo-, and macro-systems); 2) providing a useful tool for researchers by introducing a broader picture of a health system and showing how associated policies and health interventions interact; 3) contributing the conceptualization of research agenda for developing the strategies in response to the explored situation within and across different levels of environmental systems affecting individuals, families, and communities; 4) using diverse social support networks to develop people and environment in the community based care. As mentioned above, it suggested that the strength of the Bronfenbrenner's ecological model may be an appropriate theoretical lens for guiding a community-based research in order to enhance people's quality of life.

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