“It's either too simple or way too complex:” Applying Bronfenbrenner's bioecological theory in family research

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Introduction

• Simple, complex, or what?
• What type of theory is it?
• Metatheory, paradigm, or worldview, and the types of cause associated with each
• Urie Bronfenbrenner: mechanist or contextualist?
• The development of the theory
  • Until 1979
  • 1979 to 1993
  • 1993 to 2005
• How to instantiate the theory in research
World views, metatheories, paradigms (Pepper, 1942)

- Mechanism
- Organicism
- Contextualism
- [Formism]
“-ologies”

• Ontology
  • The nature of reality

• Epistemology
  • The relation between the knower and that reality (or those realities)

• Methodology
  • Methods of discovering that reality (or those realities)
Types of cause

• Efficient
  • External to the environment

• Material
  • Within the organism

• Formal
  • Dialectical interplay of organism and environment

• Final
  • Unidirectionality of development
Mechanism

• Metaphor: the machine

• Ontology
  • Critical realism

• Epistemology
  • Dualist and [~objective]

• Methodology
  • Experimental, testing of hypotheses, “quantitative,” focus on efficient or material causes, reductionistic
Organicism

• Metaphor: living organism
• Ontology
  • Critical realism
• Epistemology
  • Transactional
• Methodology
  • Dialogical/dialectical, focusing on \textit{formal} and \textit{final} causes, “qualitative”
Contextualism

• Metaphor: historic event
• Ontology
  • Cultural-historical realism
• Epistemology
  • Transactional and subjective
• Methodology
  • Dialogical/dialectical, focusing on formal causes, holistic, “qualitative”
Pepper’s description of the “historic event”

By historic event, however, the contextualist means...the event alive in its present. The real historic event, the event in its actuality, is when it is going on now, the dynamic dramatic active event. ... To give instances of this root metaphor...we should use only verbs. It is doing, and enduring, and enjoying: making a boat, running a race, laughing at a joke, communicating with a friend...These acts or events are all intrinsically complex, composed of interconnected activities with continuously changing patterns. They are like incidents in the plot of a novel or drama. They are literally the incidents of life” (Pepper, 1942, pp. 232-233).
So...where does Urie Bronfenbrenner fit?

• He’s a mechanist (Overton, 2013, 2015)
  Overton (2015) cited Mistry and Dutta (2015, p. 370) as follows:
  *Culture is represented as the outermost layer of context or macro-system. ... The specific layers [of context] have been treated as split-off independent variables that influence behavior and development as efficient causes.*

• He’s a contextualist (Tudge, 2008; Tudge et al., 2009; 2016)

• Implications for methods?
Ecological Theory (1973 to 1979)

• Context (concentric rings, or matrioshka)
• Individual
• Process = interactions between the individuals (including the researcher) within the context of interest
• Ecological validity (perceptions of the environment)
• Ecological transitions

But wait...it’s an “ecological” theory
The ecology of human development involves the scientific study of the progressive, mutual accommodation between an active, growing human being and the changing properties of the immediate settings in which the developing person lives, as this process is affected by relations between these settings, and the larger contexts within which the settings are embedded. (Bronfenbrenner, 1979, p. 21)

In ecological research, the properties of the person and of the environment, the structure of environmental settings, and the processes taking place within and between them must be viewed as interdependent and analyzed in systems terms. (Bronfenbrenner, 1979, p. 41)
Ecological Systems Theory
(1983 to 1993)

• Models of research
  • Class- and field-theoretical models (Lewin)
  • Focus on process
• Personal “instigative” characteristics
• Macrosystem (as culture and sub-culture)
• Chronosystem (time)
Process, and the influence of Kurt Lewin

\[ B = f(PE) \rightarrow D = f(PE) \]

Class-theoretical models
- Social address model
- Personal attributes model
- Sociological niche model
- Person–context model

Field-theoretical models
- Microsystem process model
- Process–context model
- Person–process–context model
- Process–person–context model

\[ D = f(PE) \rightarrow D_t = f_{(t-p)}(PE)_{(t-p)} \]

(Bronfenbrenner, 1988, 1989/1992; Bronfenbrenner & Crouter, 1983)
Bioecological Theory
(from 1993/1994)

The PPCT model

• Process
  Proximal processes (the “engines of development”)

• Person
  Force, resource, and demand characteristics

• Context
  Micro, meso, exo (and macro?)

• Time
  Micro, meso, and macro
  Longitudinal study

Very complex?
Maybe not!
Proposition 1
Especially in its early phases, but also throughout the life course, human development takes place through processes of progressively more complex reciprocal interaction between an active, evolving biopsychological human organism and the persons, objects, and symbols in its immediate external environment. To be effective, the interaction must occur on a fairly regular basis over extended periods of time.

Proposition 2
The form, power, content, and direction of the proximal processes effecting development vary systematically as a joint function of the characteristics of the developing person; of the environment—both immediate and more remote—in which the processes are taking place; the nature of the developmental outcomes under consideration; and the social continuities and changes occurring over time through the life course and the historical period during which the person has lived.

(Bronfenbrenner & Morris, 1998, p. 996)
Compare with...

Overton (2015) cited Mistry and Dutta (2015, p. 370) as follows:

_Culture is represented as the outermost layer of context or macro-system. ... The specific layers [of context] have been treated as split-off independent variables that influence behavior and development as efficient causes._

The bioecological theory is STILL treated as a theory of concentric circles of context that exert causal effect on individual development.
Bronfenbrenner's Bioecological Model of Human Development

**Individual**
(age, sex, health, etc.)

**Microsystem**
Immediate environments
- family
- neighborhood
- friends
- school
- workplace
- religious community
- mass media
- educational systems
- laws

**Mesosystem**
Connections between systems and subsystems
- economic systems
- political systems
- government

**Exosystem**
Indirect environments
- schools
- workplaces
- industries
- political systems
- government

** Macrosystem**
Social ideologies and values of cultures and subcultures
- norms & values of the culture
- social and cultural norms
- legal and political systems

**Techno-subsystem**
Media influences
- computers
- internet
- portable devices
- social media
- TV, phone

**Chronosystem**: time and historic influences
Figure 3.1. Urie Bronfenbrenner’s PPCT (Process, the Person, Context, and Time) model. The active Person (P) engaging in Proximal Processes with people, symbols, and objects within a microsystem, in interaction with other Contexts, involving both continuity and change over Time.

From Tudge (2008), p. 69
How to instantiate bioecological theory in research (perhaps not so complex)

- Focus on **proximal processes**
- at least **one relevant person characteristic** (so need at least two categories); and
- at least **one relevant aspect of context** (at least two categories); and the study should
- take place **over time** (longitudinal) and be situated **in time** (the historical context)

- Examples
THE EVERYDAY LIVES OF YOUNG CHILDREN

CULTURE, CLASS, AND CHILD BEARING IN DIVERSE SOCIETIES

JONATHAN FUDGE

CAMBRIDGE
The Cultural Ecology of Young Children Project

• Focus on **proximal processes**
  • Everyday activities and interactions of young children

• At least **one relevant person characteristic**
  • Gender (demand); initiation of activities and interactions (force)

• At least **one relevant aspect of context**
  • Home and child care (microsystem); social class and society (macrosystem)

• **Over time** (longitudinal) and situated **in time** (the historical context)
  • 20 hours over one week; from 3 years to the transition to school; prevailing political and economic factors
A second example:
How to design a study based on YOUR interests

Domain of interest?

Outcome to be examined?
Proximal Processes

Typically occurring everyday activities and interactions, becoming increasingly complex over time
Person characteristic

Variation in at least one is needed, one hypothesized to be relevant to the outcome of interest

Could be: Demand; Resource; Force
Context

Variation in at least one is needed, one hypothesized to be relevant to the outcome of interest

Variation in one of the “systems” (micro, meso, exo, or macro)
Time

Should be longitudinal, if studying something that develops

Set the study into its historical time


