
Living in Poverty

**Developmental Poetics
of Cultural Realities**

Edited by

Ana Cecília de Sousa Bastos
Federal University of Bahia, Brasil

Elaine Pedreira Rabinovich
*University of São Paulo/
Catholic University of Salvador*



INFORMATION AGE PUBLISHING, INC.
Charlotte, NC • www.infoagepub.com

Library of Congress Cataloging-in-Publication Data

Living in poverty : developmental poetics of cultural realities / edited by
Ana Cecília de Sousa Bastos, Elaine Pedreira Rabinovich.

p. cm. – (Advances in cultural psychology)

Includes bibliographical references.

ISBN 978-1-60752-317-8 (pbk.) – ISBN 978-1-60752-318-5 (hbk.) – ISBN

978-1-60752-319-2 (e-book)

1. Poor–Brazil–Social conditions. 2. Poverty–Social aspects–Brazil.

3. Poverty–Brazil–Psychological aspects. I. Bastos, Ana Cecília de
Sousa. II. Rabinovich, Elaine Pedreira.

HV4074.L56 2009

362.50981–dc22

2009039172

Copyright © 2009 Information Age Publishing Inc.

All rights reserved. No part of this publication may be reproduced, stored in a
retrieval system, or transmitted, in any form or by any means, electronic, mechanical,
photocopying, microfilming, recording or otherwise, without written permission
from the publisher.

Printed in the United States of America

CONTENTS

Series Editor's Preface

The Importance of Being In-Between ix
Jaán Valsiner

Editors' Introduction

Realities of Living: From Poverty to Poetry, and Beyond xiii
Ana Cecília de Sousa Bastos and Elaine Pedreira Rabinovich

PART I

NEW WAYS OF LOOKING: POVERTY AS SOCIAL REALITY AND PERSONAL SURVIVAL CONTEXT

- 1 The Amulet House: Braziliety As an Empty Mirror 3
Elaine Pedreira Rabinovich
- 2 Coloniality, Urbanization, and Poverty: Heuristics
Constructions Based on the City of São Paulo, Brazil 27
Eda Terezinha de Oliveira Tassara and Marcello Giovanni Tassara
- 3 Cultural Dynamics in a Brazilian Community: Representation
and Re-elaboration of Meaning in Morro Vermelho 49
Miguel Mahfoud and Marina Massimi

- Reed, B. A., Habicht, J., & Niameogo, C. (1996). The effects of maternal education on child nutritional status depend on socio-environmental conditions. *International Journal of Epidemiology*, 25(3), 585-592.
- Roberts, J. E., Burchinal, M., & Durham, M. (1999). Parents' report of vocabulary and grammatical development of African American preschoolers: Child and environmental associations. *Child Development*, 70(1), 92-106.
- Sapienza, G., & Pedromônico, M. R. M. (2005). Risco, proteção e resiliência no desenvolvimento da criança e do adolescente. *Psicologia em Estudo*, 10(2), 209-216.
- Smith, J., & Baltes, P. (1999). Life-span perspectives on development. In M. H. Bornstein & M. E. Lamb (Eds.), *Developmental psychology: An advanced textbook* (pp. 199-230). Mahwah, NJ/London: LEA.
- Strina, A., Cairncross, S., Barreto, M. L., Larrea, C., & Prado, M. S. (2003). Childhood diarrhea and observed hygiene behavior in Salvador, Brazil. *American Journal of Epidemiology*, 157(11), 1032-1038.
- Tizard, J. (1974). Early malnutrition, growth and mental development in man. *British Medical Bulletin*, 30(2) 169-174.
- United Nations Children's Fund. (2006). *Situação da infância Brasileira*. Brasília: UNICEF.
- Van Bakel, H., & Riksen-Walraven, M. (2002). Parenting and development of one-year-olds: Links with parental, contextual and child characteristics. *Child Development*, 73(1), 256-273.
- Zamberlan, M. A. T., & Biasoli-Alves, Z. M. M. (1997a). Ambientes domiciliares de famílias de baixa renda de área urbana. In M. A. T. Zamberlan & Z. M. M. Biasoli-Alves (Eds.), *Interações familiares: Teoria, pesquisa e subsídios à intervenção* (pp. 109-141). Londrina, Brazil: UEL.
- Zamberlan, M. A. T., & Biasoli-Alves, Z. M. M. (1997b). Detecção de níveis de riscos psicossociais através do inventário HOME em ambientes de populações urbanas de baixa renda. In M. A. T. Zamberlan & Z. M. M. Biasoli-Alves (Eds.), *Interações familiares: Teoria, pesquisa e subsídios à intervenção* (pp. 143-161). Londrina, Brazil: UEL.

CHAPTER 13

COGNITIVE DEVELOPMENT AND INTERACTION CONTEXTS¹

Mariela Orozco-Hormaza, Adolfo Perinat,
and Hernán Sánchez

The results of our work over the last decade with Colombian children living in poor urban areas have led us to question the widespread idea that deficits in cognitive development are produced by socioeconomic conditions. We will try to exemplify that there is not a causal link between socioeconomic status and cognitive development—a catalytic role it could play, which is demonstrable by the coexistence of *both* low and very high cognitive performances in very low socioeconomic levels. In poor urban contexts, cognitive development could be understood as an adaptation to the difficult conditions children have to face.

Furthermore, we doubt that the context of child development can be fully described through categories related to socioeconomic status. The research centered in family socioeconomic status takes into consideration only variables related to amount of money earned, living conditions, access to public and health services, and economic difficulties. We suppose that

the contexts where these children are reared present characteristics that surpass the problems of social status.

These considerations have motivated us to search for new ways to approach cognitive development of children born in contexts of poverty and characterize their context in terms of other dimensions that are different but complementary to the socioeconomic status. It is our aim to highlight factors that positively affect the children's cognitive development, and to this end we need to take into account new variables describing the interaction context where they live.

In a preliminary work carried out with Community Mothers² in the Distrito de Aguablanca, Cali, Colombia,³ one of the poorest areas in the city, our team of the University del Valle de Cali recovered cultural practices of their native community (the Pacific coast, where they originated) such as dances, songs, and games lost in the migration process. Such practices were used by the caregivers as educational instruments to teach the children. At the beginning of the study, we observed children rocking their bodies back and forward, hitting each other, and watching television, giving the impression that they had some degree of cognitive deficit. As their caregivers began to use the cultural-historical childcare practices, surprising changes in the children's behavior were observed. At the end of the study, an evaluation was intended but no instruments were found to evaluate these changes.

We could identify two conflicting themes in the pertinent research literature. In general, studies establish a relationship between a child's cognitive deficit and his family's socioeconomic conditions (Korenman, Miller, & Sjaastad, 1994; Ross & Roberts, 1999). Contrary to these findings, other experts point out the bias posed by the instruments used to evaluate and measure cognitive development (García-Coll, 1990; McLoyd, 1990). Therefore, we directed our research activity to find developmental assessment scales and inventories that are adequate to children's cultural practices and life experiences. Our first strategy was to explore new ways of applying conventional scales so that its validity and liability to evaluate these children's development was ascertained. The recognition of the cultural characteristics of the contexts these children interact with led us to a second strategy: to explore other dimensions than the economic one, that allow for a better description of both the positive and negative aspects of the context, and finally, to look for possible relationships between these dimensions and children's cognitive development. Here we present the findings of an exploratory study on cognitive development of children living in poor urban neighborhoods that includes the two strategies previously presented. The results allow us to challenge the maintained ideology that children living in these areas tend to exhibit a cognitive deficit and that there exists an association between cognitive deficit and socioeconomic status.

HOW IS COGNITIVE DEVELOPMENT UNDERSTOOD?

Usually cognitive *development* is understood as the way children's thinking changes as they grow. "Accounting for how these changes occur is perhaps the central goal of researchers who study cognitive development" (Siegler, 2000, p. 51). At this moment, we are not concerned with the process of change itself but only in describing the changes observed in children's thinking as they live in poverty. It is a first step to delve into their cognitive development. These changes enable children to progressively construct new abilities, structures, and modalities of cognitive functioning so that they can respond to the more complex everyday tasks.

We conceive of children's development as an integral construction process in which they actively participate, a comprehensive transformation process dealing with cognitive, affective, and social aspects that define them as persons within a given context (Perinat, 2007). Because of pragmatic constraints, however, we specifically focus on a general ability—the use of classification—that occupies a central piece in cognitive development.

Children's concrete practices in their everyday life specify the contents of experiences that contribute to their cognitive development and allow them to construct the categories of the physical and social world they interact with. Moreover, a self-regulatory mechanism is needed to guarantee change (Pascual-Leone & Johnson, 1991). This leads us to discuss a *context-bound cognitive development* rather than a mere cognitive development.

HOW CAN CONTEXT BE UNDERSTOOD?

Researchers who adopt a developmental perspective do not deny the relevance of context in children's development. Nevertheless, implicitly the psychological, social, and physical contexts of development they have in mind are those of the technologically advanced societies. Consequently, the interaction contexts of development in poor societies are conflated with the context of advanced societies. The former is seen as an exception and treated as "deprived." It is our contention that it is not possible to study cognitive development without a proper characterization of the contexts of poverty, and that other critical dimensions (not only the socioeconomic) need to be included.

In his ecological model, Bronfenbrenner (1979) distinguishes different interrelated systems influencing human development. The microsystem is understood as an activity pattern: a person's roles and his interpersonal relationships within a certain context, for example, with his family members and relatives. The mesosystem takes in account the interrelationships between two or more contexts where a person interacts; the relationships

between the family and the school and between the family and the neighborhood are instances of this system. The exosystem is understood as one or more contexts in which the developing person does not play a role as an active participant; but the person is indirectly influenced by it, for example, the parents' labor load and the types of childcare programs. Finally, there is the macrosystem; that is, the beliefs and the ideological system covering the other systems. In the same vein, Rodrigo (1994) conceives context as a sociocultural scenario in which children create knowledge. For this author, the contexts are made up of physical environments in which actors interact along with the activities they engage in, moved by purposes and goals they communicate and negotiate among themselves. According to her, the contexts vary in terms of "physical environments, the participating actors, their interpersonal relationships, and the negotiation processes involved." (Rodrigo, 1994, p. 32)

The child's parents, brothers and sisters, and other relatives, even other people who do not belong to his family but who live in her house, can be considered actors in the child's life. This denomination, however, may not be clearly understood if the type of relationship these people establish with the child is not known. For instance, the families' organization and the practices performed by each family member should be taken into consideration. Myers (2003) points out that there are few evaluations of family competences and their practices and suggests the following factors as evaluation criteria for this important component in the definition of context: "family structure, parents'/care giver's characteristics, parents' job, housing conditions, family's general social and economic conditions, and its access to public services" (Myers 2003, p. 166). Myers believes that these factors allow for a better characterization of those conditions that directly affect children's development.

Addressing the factors influencing the development of minority children in the United States, Garcia-Coll (1990) considers cultural beliefs and child-rearing practices, health conditions and health care practices, biological factors, and ethnic background as factors to be studied. Myers (2003) suggests that health, nutrition, child socialization and discipline practices and, occasionally, child abuse could be considered indicators of the quality of rearing practices. Tenorio (2004) distinguishes three types of practices that define the roles adults play in the children's lives that synthesize the ones already referred to: entertainment, care, and educational practices. LeVine (1977) proposes that people around the world share three types of goals or expectations about their children: (a) survival, the guarantee of physical health; (b) training for labor, learning a job through supervised activities; and (c) values, norms, principles, and types of beliefs regulating and shaping children's behavior.

Along the lines of Bronfenbrenner (1979), we consider the family and the Community Home as the microsystems serving as context for children's development. Therefore, an inquiry about the characteristics of both microsystems is fundamental for the study of cognitive development.⁴ In order to characterize the family as an interaction context, a summary of the variables proposed by the reviewed authors led us to group them into five dimensions: family's socioeconomic level, family organization, parents' characteristics and practices, behavior regulation, and parents' goals and expectations. Each of these dimensions includes the following variables:

- **Family socioeconomic level:** Besides families socioeconomic level, this dimension includes housing location, facilities, additional income, economic difficulties, and access to social security. The combination of these variables gives way to a new dimension, named poverty level.
- **Family organization:** This refers to the composition of the family: nuclear, nuclear extended, nuclear compound, monoparental, monoparental extended, monoparental compound, and recomposed.
- **Parents' characteristics and practices:** Mother and father characterization is based on three variables: migration, age, and education. Besides, three types of mother and father practices are proposed: entertainment, caregiving, and formation.
- **Behavior regulation:** Limits, controls, and authority figures are the variables taken into consideration in order to construct this dimension.
- **Parent's goals and expectations.** This dimension includes parents' expectations related to personal qualities, educational goals for their children, and effective actions taken to obtain them.

In order to describe cognitive development and explore its possible relationship with the aforementioned dimensions, a cross-sectional study was designed. Sixty-nine children 3, 4, and 5 years old, attending the community homes and their families participated in the study. The distribution of children according to their age level is as follows: 3 years old $N = 8$ ($M = 3.4$; $SD = 0.1$); 4 years old $N = 37$ ($M = 4.4$; $SD = 0.1$); and 5 years old $N = 24$ ($M = 5.4$; $SD = 0.1$).⁵ The Battelle Developmental Inventory was used to evaluate cognitive development because it includes appropriate tasks for the age ranges studied, it is presented individually, and the conceptual development evaluated deals with types of deductive reasoning beyond specific school information, thus providing less-biased information.

Twenty-one items of the Battelle cognitive development area were used. For their application, the conventional procedure proposed by the scale—the instruction to stop the test after two continuous failures—was modi-

fied. Testing was not brought to an end when a child failed two consecutive items. All children were tested with the items corresponding to their age level and items for the two following age levels. For instance, items corresponding to 3-, 4-, and 5-year-old level were administered to 3-year-old children. Children's answers to items were scored according to the scale prescriptions, as follow: 2 for each correct answer to each item, 1 for partially correct answer to some elements of the item, 0 for either no correct answer or no answer at all.

Context Description

In order to describe the children's interaction context, two instruments were adapted and used: the questionnaire "Child Development Supplement," from the Panel Study of Income Dynamics Supplement of the University of Michigan (PSID) (University of Michigan, 1997); and the "Physical Surroundings Observation Matrix" (Orozco, 1984). The questionnaire was answered by each caregiver—either the father, the mother, the brother, or the grandmother. Answers to the questionnaire were audiotaped and transcribed. The Matrix was used to describe each family house. Descriptive statistics were used in order to establish the tendencies in the population studied. A multiple correspondence analysis model was used to explore the relationships between the dimensions describing the interaction contexts and the children's performance level when attempting to solve the items in the Battelle Inventory.

DESCRIPTION OF CHILDREN'S COGNITIVE DEVELOPMENT

Findings concerning children's cognitive development are presented in relation to the three age groups:

3-Year-Old Group

Of the children aged 3 years, 88% scored high in the following items corresponding to 3- to 4-year-old Battelle age range:

- CG39. Identifies big and small size: circle, square
A low percentage of children scored high in the items for the 4-5 Battelle age range, but between 25% and 34%, respectively, scored high in items corresponding to the 5-6 age range:
- CG44. Identifies present and past activities
- CG45. Identifies colors

It is surprising that 40% of the children scored the highest possible in item CG43: Identifies textures. As it will be seen later, this is one of the most difficult items for the other two age groups. In addition, 25% and 34% of the 3-year-old children scored the highest in items corresponding to the 5-6 age range, although they failed in items that are considered less difficult for them.

TABLE 13.1 Distribution of Percentage of 3-Year-Old Children Scores in Battelle Inventory

| Battelle age group | Item | 0 Points | 1 Point | 2 Points |
|--------------------|------|----------|---------|----------|
| 3-4 | CG39 | 12 | 0 | 88 |
| 4-5 | CG40 | 62 | 25 | 13 |
| | CG41 | 62 | 25 | 13 |
| | CG42 | 72 | 14 | 14 |
| 5-6 | CG43 | 60 | 0 | 40 |
| | CG44 | 25 | 50 | 25 |
| | CG45 | 33 | 33 | 34 |

4-Years-Old Group

More of the 50% scored high in two items corresponding to the 4-5 Battelle age range.

- CG40: Identifies the longest stick (57%)
- CG41: Classifies objects according to their shape: 4 squares, 4 circles, 4 rectangles of the same color and size (52%)

Only 20% obtained a high score in the item CG42: Compares sizes; corresponding to the same range.

More than 50% of the 4-year-old children obtained a high score in the following items corresponding to the 5-6 age range:

- CG45: Identifies colors. 5-colored cards: yellow, red, orange, blue, and green (59%)
- CG47: Classification of objects according to their function: 8 cards bearing drawn objects; shoe, jacket, glove, cap, plate, spoon, fork, and glass (52%)

Of the participants, 36% and 33% respectively obtained high score in two items corresponding to the same age level:

- CG49: Identifies the first and last object in a row
- CG50: Completes a 6-piece puzzle representing a person

The scores obtained by the 4-year-old group of children are more heterogeneous than the ones obtained by the 3-year-old group. Item CG42 requiring the comparison of different-size geometrical shapes, which is a task for their age level, was difficult for them (44% of children scored 0). Nevertheless, more than half of these children (52%–59%) scored high in items of a higher level.

TABLE 13.2 Distribution of Percentage of 4-Year-Old Children Scores in Battelle Inventory

| Battelle age range | Item | 0 Points | 1 Point | 2 Points |
|--------------------|------|----------|---------|----------|
| 4–5 years old | CG40 | 24 | 19 | 57 |
| | CG41 | 24 | 24 | 52 |
| | CG42 | 44 | 36 | 20 |
| | CG43 | 58 | 18 | 24 |
| 5–6 years old | CG44 | 24 | 52 | 24 |
| | CG45 | 35 | 6 | 59 |
| | CG46 | 73 | 7 | 20 |
| | CG47 | 48 | 0 | 52 |
| | CG48 | 72 | 17 | 11 |
| | CG49 | 28 | 36 | 36 |
| | CG50 | 0 | 67 | 33 |
| | CG51 | 67 | 11 | 22 |
| 6–7 years old | CG52 | 87 | 0 | 13 |

5-Year-Old Group

Of the 5-year-old children, 50% or more scored high in items corresponding to their Battelle age range:

- CG45: Identifies colors (67%)
- CG46: Forms a circle with four pieces (50%)
- CG47: Classifies objects according to their function (57%)
- CG50: Completes a 6-piece puzzle representing a person (75%)

Seventy-three percent obtained a high score in the item CG51, which corresponds to the 6–7 Battelle age range. Fifty-seven percent of these children obtained the highest score in two items, which according to the scale, must be solved by children in the 7–8 age range.

- CG54: Classifies objects according to their shape and color
- CG55: Maintains bidimensional space

It can also be noticed that only 17%, 29%, and 18% of the 5-year-old children scored high in items within their age range (items CG43, CG44, and CG48, respectively). Surprisingly, a higher percentage of 3-year-old children obtained a high score in the previous two first items.

TABLE 13.3 Distribution of Percentage of 5-Year-Old Children Scores in the Battelle Inventory

| Battelle age range | Item | 0 Points | 1 Point | 2 Points |
|--------------------|------|----------|---------|----------|
| 5–6 | CG43 | 70 | 13 | 17 |
| | CG44 | 8 | 63 | 29 |
| | CG45 | 20 | 13 | 67 |
| | CG46 | 42 | 8 | 50 |
| | CG47 | 34 | 9 | 57 |
| | CG48 | 68 | 14 | 18 |
| | CG49 | 6 | 50 | 44 |
| | CG50 | 0 | 25 | 75 |
| | CG51 | 27 | 0 | 73 |
| | CG52 | 55 | 9 | 36 |
| 6–7 | CG53 | 62 | 38 | 0 |
| | CG54 | 0 | 43 | 57 |
| 7–8 | CG55 | 0 | 43 | 57 |
| | CG56 | 33 | 33 | 34 |

WHAT THESE FINDINGS TELL US

A first consequence of overcoming or breaking the conventional procedure for applying the Battelle items is finding that to stop the test application after two continuous child failures is a debatable criterion. In fact, the supposition underlying it is that the child will be unable to solve correctly any item beyond that level. Our findings debunk this belief. Our children solved correctly (with the higher score) items designed for higher age range, after two continuous failures. This was the case with 3-year-old children: although the majority (more than 62%) scored 0 in items corresponding to the 4–5 Battelle age range, between 25% and 40% scored high in items corresponding to the 5–6 age range. This finding is in conflict with the conception that underlies the inventory; that is, development is linear and progressive. The protocol for the scale application supposes that the higher the age range,

the more difficult the items are or a child with a lower age than required by the item should present a lower level of performance. The inventory-implicit linearity is specified as follows: given the items n and $n + 1$, success in item $n + 1$ requires success in item n . Otherwise, the test should not be stopped when the child fails the item n . Moreover, the test design presupposes a direct proportionality between the successive attainments and the improvement in cognitive development. Our findings undermine these suppositions.

Starting with item CG45, as children get older, the percentage of high scores (2 points) increases for all items. Items CG43 and CG44 are an exception. In the case of CG43—identification of textures—there is a problem of denomination of textures that are unknown to them.⁶ In other words, the difficulty revealed in this item is not due to the children's inability to classify, an operation they have already used to deal with other contents, but to their not knowing the words used to refer to texture.

To evaluate cognitive development, it is necessary to analyze items from the perspective of the operations and processes required by the subject in order to solve them, rather than as a function of the content. The nature of an item determines the type of mental activity involved in solving the task. The mental activity required would be a better indicator of the subjects' cognitive development. The task analysis method is useful in meeting this purpose (Pascual-Leone & Johnson 1991; Orozco, 1997). It also makes it possible to discard those items focused on informational contents, such as the name of objects, and consider those that require general ability or operations, like classification or order relationships, which more accurately evaluates cognitive development.

DESCRIPTION OF CHILDREN'S FAMILY CONTEXT

Socioeconomic Status

Three different poverty levels were identified: high, intermediate, and low. Of all the families, 65% fall into the intermediate poverty level, 21% into the high level, and 14% into the low level.

TABLE 13.4 Families' Distribution as a Function of Poverty Level

| Poverty Level | % |
|---------------|----|
| Low | 14 |
| Intermediate | 65 |
| High | 21 |

Families in the lowest poverty level or less poor (14%) own and live in a house or apartment and have access to all public services.⁷ The housing facility is made up of cement and bricks and has a living room and dining room with tile floors; the bathroom has a toilet, a wash basin, a shower, and a door; and the kitchen is equipped with electrical appliances, furniture, and utensils. These families do not share the house with another family group and have no economic hardships to meet their basic needs; they have an extra permanent income and are affiliated with a health system.

Families in the intermediate poverty level (65%) live in a rented house or room and have access to at least three public services. The housing facility is made up of cement and bricks and has a lounge/common zone; a living room or dining room with a cement floor; the bathroom has a toilet, a wash basin, a shower, and a curtain to separate it from the rest of the house; the kitchen is equipped with furniture and utensils. Although these families do not own a house, their home has the basic conditions for living and is usually shared with another family group. They have occasional extra income and public social security but do experience economic difficulties generally arising from the lack of money to pay rent.

Families in the high poverty level or the poorest families (21%) live in a house located in illegal settlements.⁸ They do not have access to public services and the materials used to build the housing facility are easily damaged, like plastic, cardboard, "guadua"⁹ or wood. There is not a differentiation between common and public spaces, have a bare bathroom, and the kitchen only has the basic utensils for food preparation. These families usually share the house with other family groups. They also have economic difficulties to meet their basic needs because they have no extra income, no permanent salary, and no social security.

Family Organization

Sixty-one percent of the children's families fall within the different combinations of the nuclear category: nuclear (23%), nuclear extended (20%), and nuclear compound (18%). Only 37% correspond to different variations of monoparental families: 5% monoparental, 18% monoparental extended, and 14% monoparental compound; 2% are recomposed.

Nevertheless, when considering family composition from the perspective of their relations with other members living in the same house, the results of the analysis are surprising: 70% of the interviewed families are either extended or compound. The extended family organization is defined by the presence of members of different generations who are related to one of the family lines. In the case of compound families, the presence of other people, who are not necessarily family members, determines this category.

TABLE 13.5 Types of Family Organization Distribution

| Family Organization | % |
|-----------------------|----|
| Nuclear | 23 |
| Nuclear Extended | 20 |
| Nuclear Compound | 18 |
| Monoparental | 5 |
| Monoparental Extended | 18 |
| Monoparental Compound | 14 |
| Recomposed | 2 |

In general, nuclear families do not experience the changes considered by authors like Daza (1999), Jiménez (1999), González (1999), and Rico (1999), when studying the organization and dynamics of Colombian families. Contrary to their analysis, the percentage of recomposed families is low, there are no adolescent mothers, and the monoparental families, including those led by a single mother, are few. Still, the composition of families tends to be the same: the number of children is low but the number of relatives and that of other people living at home is high. This family composition results in many extended and compound nuclear and monoparental families and produces more complex organizations.

The nature of the family composition (extended and compound) generates a supportive social network for the child and makes it possible to identify the people's roles and functions in the child's life. Among others, they play an authority role—grandmothers set rules and punishments—and provide different daily practices that may influence the children's growth. The richness of the supportive interaction networks opposes the solitude of children in middle and high socioeconomic classes when both parents work.

Parents' Characteristics and Practices

Most (94%) of the children live with their mothers; only 6% of the mothers do not live with them. More than half of the mothers (56%) were born in cities near Cali; their age varies from 21 to 40; most started secondary education but only one reached professional level. Likewise, more than half of the mothers (57%) work at home and are able to take care of their children. Most (92%) of the fathers live at home or are recognized by the families; 66% were born in cities near Cali. Like the mothers, the fathers' ages vary from 21 to 40; most (77%) started secondary education but did not

complete the cycle; only 1% of the them reached professional level. Many of them (70%) support their families financially by keeping a contract-based temporary job in selling, construction, security, or transportation.

More than 60% of the mothers living with their children usually perform a whole set of childcare practices, including formation and entertainment. Caregiving activities include teaching the child how to dress up, eat, and tie their shoes; formation activities include naming familiar objects, distinguishing colors, and learning the alphabet. Entertainment activities include playing games, going on picnics, watching TV, listening to music, and attending parties. Mothers who do not live with their children perform entertainment activities only—talking on the phone and going out to play games.

TABLE 13.6 Distribution of Fathers'/Mothers' Practices

| Type of practices | Maternal | Paternal |
|-------------------|----------|----------|
| Entertainment | 83 | 80 |
| Caregiving | 91 | 34 |
| Formation | 86 | 24 |

The combination of caregiving, formation, and entertainment activities performed by the mothers who live at home leads to the creation of an environment suitable for learning, by instilling in children the understanding of their own cultural values (Brazelton & Cramer, 1993; Bruner, 1991; Rogoff, 1993). Rodrigo & Palacios (1998) contend that these activities play a key role in the child's development and socialization processes; they enforce the maternal function of introducing the child into an institutional network that guarantees the best conditions for his survival (Tenorio, 2004).

Fathers living with their children spend less time with them than the mothers do. However, fathers usually spend the nights and weekends entertaining their children: they play games and go on picnics with them. Only 34% of the fathers also deal with formation practices and 24% of them with caregiving practices. The fathers who do not live at home, keep in contact with their children by talking on the phone or spending the weekend with them, but do not perform formation and caregiving practices. It seems that fathers tend to act as social and economic supporting fathers, providing for the family's basic needs, such as housing, food, and health. But since they have little time to be with their children, mainly because of their work, they generally do not involve in practices different from entertainment.



Figure 13.1



Figure 13.2



Figure 13.3

Behavior Regulation

The practices in behavior regulation have to do with (a) the control system imposed by the family, that is, prohibitions and limits established as a normative system; (b) the people imposing this control; and (c) the type of correction used when breaking the norm. The most frequently used limits are those prohibiting leaving the home (65%) and setting the time for TV watching (63%). Breaking these norms is seen as a disobedience act (69%) and justifies the use of physical punishment by adults.

In 86% of the cases, a female figure—the mother (69%), stepmother (2%), the grandmother (9%) or aunts (1%)—sets the norms. Talking to the child is one type of formative control the study was concerned with. Yet, when inquiring about the consequences of the violation of the norms, less than 20% of either mothers or grandmothers admit using some kind of control and less than a half admits to talking to their children.

No final conclusion can be drawn as to the effects of breaking the norm. Most of the interviewees (83%) admit to using physical punishment with their children when they disobey. However, when asked about the type of control used to avoid the violation of norms, the use of physical punish-

ment drops to 20%. It seems, then, that using physical punishment is usual, but it does not apply to the type of norm being considered by the interviewer. In 48% of the cases, the father stands as an authority figure. If we take into account that only 65% of the fathers live with their children, this percentage is highly significant. But fathers are not the only ones who set norms. Mothers (39%) and grandmothers (18%) also do so.

GOALS AND EXPECTATIONS

Only 51% of the children attend the Community Home because of their mothers' job. From the parental goals perspective (LeVine, 1977), this is an adaptation goal. Almost 31% of the parents take their children to the community home in order to share with other children, learn, and develop. These goals correspond to LeVine's types of beliefs regulating and shaping children's behavior. It is remarkable that 10% of the children attend the community home to take advantage of the nutrition program: 8% eat there and 2% cover basic needs.

TABLE 13.7 Distribution of Motivations to Attend the Community Home

| Motivation to attend the community home | % |
|--|----|
| Mother's work | 51 |
| To share with other children | 16 |
| For a better learning and development | 15 |
| For food | 8 |
| Tradition | 3 |
| For mother having free time | 3 |
| To complete the community mother's quota | 3 |
| Children wants to attend | 1 |

The highest percentage obtained when asking about parents' goals, correspond to *be popular* (87%), *be autonomous* (85%), and *be a hard worker* (75%). According to LeVine (1977), these goals are related to the social-values system and peer socialization. In relation to educational and work-training goals, it was found that 32% of the parents expect their children to attain secondary education while 68% expect them to complete professional training.

TABLE 13.8 Distribution of Parents'/Mothers' Goals and Expectations

| Expectations | % |
|----------------|----|
| Be popular | 87 |
| Be autonomous | 85 |
| Be hard worker | 75 |

Family actions to guarantee a new life project that gives children better options include moving out to another neighborhood (60%) and reducing labor schedule (65%). Parents' proactive actions are oriented to fulfill their expectations about their children's futures. Those expectations, be they positive or negative, can affect family dynamics.

TABLE 13.9 Distribution of Parents'/Mothers' Life Projects

| Actions | % |
|-----------------------------------|----|
| Moved out to another neighborhood | 60 |
| Reduced labor schedule | 65 |

Relations of the Context and Cognitive Development

The Multiple Correspondence Analysis (MCA) is an instrument used to identify possible relations between children's cognitive development and the context dimensions.¹⁰ For this analysis, nine axes were obtained in terms of different strategic scenarios, but results are given for only the first three axes, the ones that most clearly depict this relationship.

In general, the MCA between the rate of child cognitive development and the family context shows the following results:

- In the first axis, the relationship between socioeconomic status and achievement is nonlinear. In the high and intermediate poverty level (NSOC1 and NSOC2, respectively), optimum achievement scores in cognitive development (DESAR3) were found. Mothers' use of formation practices (PRACM3) is linked to the parents' high-expectations level (EXPECT3) and to the children's high cognitive development (DESAR3).

- Insert graph 1 about here (correspondence analysis)
- In the second axis, high and intermediate cognitive development (DESAR 2 and 3) is linked to monoparental families (TFAM1), mother and father entertainment practices (PRACM1 and PRACP1), and high limits (LIMIT3). That is, in monoparental families, where father and mother perform entertainment activities and set high behavior regulations, optimum scores of cognitive development were also found.
- The context dimensions MCA reveals:
- In the first axis, low socioeconomic level (NSOC1) is related with low mother characteristics (CARM1) and maternal entertainment practices (PRACM1); that is, a high level of poverty is associated with young migrant women with a low educational level who use entertainment practice. On the contrary, parents' high expectations (EXPECT 3) oppose to low socioeconomic level (NSOC1).

CONCLUSIONS

In this chapter we examined the traditional point of view that links children's low socioeconomic status and cognitive deficit. Our findings on cognitive development show that these children do not exhibit such deficits; on the contrary, at all ages, a high percentage of children are able to solve items designed for a higher Battelle age range than their chronological age indicated. Two differentiated but complementary strategies made possible to obtain these results: our modification of the evaluation procedure currently used to measure this children's cognitive development (giving more time), and the inclusion of everyday-life family-related dimensions to the socioeconomic level in order to analyze the family contexts.

In the case of children's cognitive development, the changes introduced to the procedure used to apply the scale enabled us to obtain the following general results: At all ages, a high percentage of children (more than 50% in each age group) obtained high scores in items corresponding to Battelle higher age ranges. The qualitative analysis of these items shows that children tend to be successful in items that demand them to classify and to establish similarities.

The qualitative analysis of the items in which a low percentage of high scores (less than 25%) that was also performed shows that children tend to fail in items that demand linguistic knowledge and ordering series. Nevertheless, in relation to linguistic knowledge, there is an unexpected result: 40% of 3-year-old children are able to relate texture names with the materi-

als that vary in this quality, but very few 4 and 5-year-old children (24% and 17%, respectively) succeed in this item.

The set of dimensions used to describe the family as the main interaction context, takes us far beyond the notion of socioeconomic status traditionally associated with the cognitive development of children living in poor areas. The way the socioeconomic category has been used in previous research, the results are too general and only define a general poverty level. In this study we distinguished three levels of poverty in a community whose inhabitants have been classified by the DANE¹¹ as belonging to social levels 1 and 2.¹² However, the set of additional variables used in the study—type of housing facilities, recent past economic hardships, and affiliation with a health care system—were useful to establish the three different poverty levels: high, intermediate, and low level. Then, it is important to highlight the fact that among the most poor families there are children who exhibit a high level of cognitive development, a finding which renders the simple association between cognitive development and poverty nonvalid.

It is worth noting that among the five dimensions chosen for describing the family context, parents' expectations about their children's future (instead of their socioeconomic status) is the most closely related with cognitive development. The other dimension linked to children's high cognitive development is the mothers' use of formation practices. It can be assumed that high expectations about the children's future pave the way to parents formative practices that facilitate their cognitive development.

Our results are rather preliminary and demand further research and more precise instruments for the two related problems: cognitive development and interaction contexts. For instance, findings related to cognitive development and those reported by Puche (2000, 2001, 2003) invite the adoption of other strategies to describe cognitive development of children living in poor urban areas. One that appears to be fruitful is the use of problem-solving situations whose contents are more familiar to the children and give access to basic thinking operations with the minimal support on linguistic information. We are interested in looking into cognitive development from a general-ability perspective, which considers operations like classification, inference, hypothesis formulation, anticipation, and the ability to assign psychological estates to one and others, but using context-related contents. We are interested in describing what children are capable of doing and not their failures in abstract performances that remind of the dictum of Bronfenbrenner:

The developmental psychology is the science of the strange behavior of children in strange situations with strange adults (Bronfenbrenner, 1979, p. 19).

NOTES

1. This study was carried out with the support of the Agencia Española de Cooperación con Iberoamérica. The present chapter is elaborated in the context of the research project "Child Development in Poor Urban Settings and Interaction Contexts." COLCIENCIAS, Contract No. 1106-331-18930.
2. Name assigned to the caregivers at the Community Homes of the Colombian Institute for Family Welfare (ICBF) who provide home care to 15 children each. The community mother receives governmental financial help to equip the community home and is paid a monthly allowance below the national minimum wage. The government also provides for the children's daily alimentation and some health assistance. The ICBF program functions nationwide in impoverished areas of the country.
3. About one quarter of the city's total population (500,000 people) live in Aguablanca. Most of them are rural families that have migrated, either because of violence or the lack of economic opportunities, in order to guarantee their survival.
4. The characterization of the community home also was studied, but due to lack of space is not included here.
5. Most of the children attending the community homes belong to the last two age groups and very few to the 3-year-old group. The number of children in the 4- and 5-year-old groups was the same; nevertheless, the mobility of the families due to difficult economic conditions diminished the 5-year-old group to 24 children.
6. The distinction of textures is not necessarily linguistic; it is a perceptual ability acquired early in life.
7. The public services required were water, electricity, telephone supplies, sewerage system, and garbage collection.
8. They do not possess a legal property title over the land and live in small houses built with cheap materials.
9. A variety of large, thorny bamboo.
10. The Multiple Correspondence Analysis (MCA) allows researchers to analyze the pattern of relationships of several variables, when they are nominal variables and comprise different levels.
11. Departamento Administrativo de Estadística Nacional.
12. DANE's categories for Colombian cities.

REFERENCES

- Brazelton, B., & Cramer, B. (1993). *La relación más temprana. Padres, bebés, y el drama del apego inicial*. Barcelona: Paidós.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Bruner, J. (1991). *Actos de significado: Más allá de la revolución cognitiva*. Madrid: Alianza.
- Daza, G. (1999). Los vínculos de los que la familia es capaz. *Nómadas*, 11, 28-43.
- García-Coll, C. (1990). Developmental outcome of minority infants: A process-oriented look into our beginnings. *Child Development*, 61, 270-289.
- González, M. (1999). Cambio social y dinámica familiar. *Nómadas*, 11, 54-60.
- Jiménez, B. I. (1999). Las familias nucleares poli genéticas: Cambios y permanencias. *Nómadas*, 11, 102-108.
- Korenman, S., Miller, J. E., & Sjaastad, J. (1994). *Long-term poverty and child development in the United States*. Unpublished manuscript. St. Paul: University of Minnesota.
- LeVine, R. (1977). *Cultura, conducta y personalidad*. Madrid: Artes Gráficas Toledo.
- McLoyd, V. C. (1990). The impact of economic hardship on black families and children: Psychological distress, parenting, and socioemotional development. *Child Development*, 61, 311-346.
- Myers, R. (2003). Reflexiones sobre indicadores del desarrollo de niños menores de seis años. In A. Acosta & P. Botero (Eds.), *Memorias del foro primera infancia y desarrollo. El desafío de la década* (pp. 157-167). Bogotá: Cargraphics S. A.
- Orozco, M. (1997). Las pedagogías constructivistas y el análisis de tareas. In *Pedagogía y desarrollo humano encuentro internacional y iv nacional de pedagogías constructivistas* (pp. 213-241). Bogotá: Cooperativa Editorial Magisterio.
- Orozco, M. (1984). Rejilla de espacio físico. In *Programa de investigación y prácticas "el niño y la escuela. Programa para el mejoramiento de la enseñanza de la matemática en primaria*. UNESCO Demonstrative Program for Latin America (Programa Demostrativo UNESCO para América Latina).
- Pascual-Leone, J., & Johnson, J. (1991). The psychological unit and its role in task analysis: A reinterpretation of object permanence. In M. Chandler & M. Chapman (Eds.), *Criteria for competence: Controversies in the conceptualization and assessment of children's abilities* (pp. 151-187). Hillsdale, NJ: Lawrence Earlbaum Associates.
- Perinat, A. (2007). *Psicología del desarrollo. Un enfoque sistémico*. Barcelona: Editorial UOC.
- Puche, R. (2000). *Formación de herramientas científicas en el niño pequeño*. Bogotá: Arango Editores.
- Puche, R. (2001). De la metáfora del niño científico a la racionalidad mejorante. In R. Puche, D. Colinviaux, & C. Dibar (Eds.), *El niño que piensa: Un modelo de formación de maestros* (pp. 24-55). Cali, Colombia: Artes Gráficas del Valle Editores.
- Puche, R. (2003). *El niño que piensa y vuelve a pensar*. Cali, Colombia: Artes Gráficas del Valle Editores.
- Rico, A. (1999). Formas, cambios y tendencias en la organización familiar en Colombia. *Nómadas*, 11, 110-117.
- Rodrigo, M. J. (1994). Etapas, contextos, dominios y teorías implícitas en el conocimiento social. In M. J. Rodrigo (Ed.), *Contexto y desarrollo social* (pp. 21-43). Madrid: Síntesis.
- Rodrigo, M. J., & Palacios, J. (1998). *Familia y desarrollo humano*. Madrid: Alianza.
- Rogoff, B. (1993). *Aprendices del pensamiento. El desarrollo cognitivo en el contexto social*. Barcelona: Paidós.

- Ross, D., & Roberts, S. (1999). *Income and child well-being: A new perspective on the poverty debate*. Ottawa, Canada: Canadian Council on Social Development.
- Siegler, R. (2000). The rebirth of children's learning. *Child Development*, 71, 26-35.
- Tenorio, M. C. (2004). *Saber genealógico de niños y niñas entre 6 y 7 años*. Doctoral thesis presented to the Universitat Autònoma de Barcelona. Departament de Psicologia de l'Educació.
- University of Michigan (1997). Child Development Supplement. University of Michigan Panel Study of Income Dynamics Supplement. [Draft retrieved from <http://www.isr.umich.edu/src/child-development/home.html>, July, 2007]

COMMENTARY ON PART III-A

CHILDREN'S DEVELOPMENT UNDER CONDITIONS OF POVERTY

A Cultural-Ecological Analysis

Jonathan Tudge

This was an extremely interesting set of chapters, focusing in different, but related, ways on the relations among poverty, parents' and institutional experiences of poverty, and children's development. My goal in this commentary is to describe, very briefly, each of the chapters and then provide an overarching theoretical perspective that I will subsequently use to contextualize the authors' research.

THE CHAPTERS

Chaves, Borrione, and Mesquita approach the issue from a cultural-historical perspective, analyzing what happened to abandoned children who were raised in a Bahian institution (the Holy House of Mercy) in the 19th