

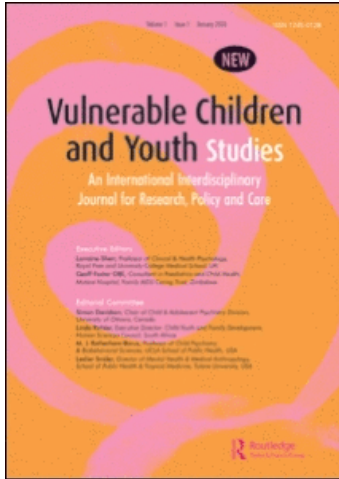
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Sebastián J. Lipina^a; Jennifer Simonds^b; M. Soledad Segretin^a

^a Unidad de Neurobiología Aplicada, CEMIC-CONICET, Buenos Aires, Argentina ^b Department of Psychology, Westminster College, Salt Lake City, UT, USA

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Recognizing the child in child poverty

Sebastián J. Lipina^{a*}, Jennifer Simonds^b and M. Soledad Segretin^a

^a*Unidad de Neurobiología Aplicada, CEMIC-CONICET, Buenos Aires, Argentina;* ^b*Department of Psychology, Westminster College, Salt Lake City, UT, USA*

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In the past few decades, a particular need for a child-centered perspective has emerged, based on evidence that children are more susceptible to environmental and social risks, and that they have different needs than adults do. This article examines issues affecting children in existing measurements and presents conceptual considerations for future work toward defining and measuring child poverty. Current definitions and measures of poverty are generally circumscribed to levels of income, satisfaction of basic needs, and issues of basic human rights; in a few cases, some well-being measures include child health, nutrition, and education. These limitations likely impede the chances that researchers will be able to capture and understand the effects of other important aspects of this phenomenon. Measures need to address the diversity of issues and dimensions that current child developmental frameworks define as the most important. A broader approach to definition and measurement that includes these developmental issues would not only affect the way we understand poverty but also inform the design of future research, social programs, and policies.

Keywords: child poverty; child development; social determinants; poverty measures; measurement validity

Introduction

The study of child poverty presents challenges for researchers who need meaningful definitions for the development of valuable measurement devices to provide empirical support of relationships between poverty and important aspects of children's lives. Current definitions and measurements are insufficient to capture issues that arise from the developmental processes of children who live in deprived circumstances (Lipina & Colombo, 2009; Minujin, Delamonica, Davidziuk, & González, 2006). For instance, when definitions and measurements do not provide accurate indications of the degree to which poverty threatens healthy development of those children, the efficacy of intervention efforts is threatened.

Issues that prevent valid measurement of child poverty include reliance on income as a sole indicator of poverty (Brooks-Gunn & Duncan, 1997), differences in overall methods for assessing basic needs (Boltvinik, 1999), use of solely adult or family-level frameworks for determining needs (Roosa, Deng, Nair, & Lockhart Burrell, 2005), and lack of accounting for differences in children's needs at different developmental stages (Lipina & Colombo, 2009). Additionally, recent studies have advised that children exposed to poverty must be taken into account as independent analysis units because they are exposed to poverty's effects in a different way than adults or adolescents are (Duncan, Ziol-Guest, &

*Corresponding author. Email: lipina@gmail.com

Kali, 2010; Gordon, Nandy, Pantazis, Pemberton, & Townsend, 2003; Minujin et al., 2006; Roosa et al., 2005; White, Leavy, & Masters, 2002). As those studies indicated, conceptual problems regarding this issue are pervasive; most measures are not child-specific.

The vast majority of child development studies have been confined to North America, Europe, and Australia, where only 10% of the world's children reside. Many child development studies fail to consider the majority of children in Asia, Africa, Latin America, and the Pacific islands, who live under conditions differing drastically in developmental opportunities from those countries where research has been conducted (LeVine & New, 2008). Failure to include or consider circumstances that affect 90% of the world's children is another threat to valid definition and measurement. An exception is the Young Lives holistic study (Lyytikäinen, Jones, Huttly, & Abramsky, 2006). Contrary to the literature in developed countries, the developing-country literature stresses analysis of the child in the multidimensional nature of poverty (White et al., 2002). In this context, the United Nations Development Programme (2008) and UNICEF (2005) have placed more emphasis on the non-income features of development, such as social outcomes and participation. Data on children's mental health and academic progress, such as repetition of grade levels and number of dropouts, are common in developed countries, but are severely lacking in developing countries, thwarting attempts at worldwide comparison and creating biases due to limited representation.

The definition and measurement of child poverty must (1) be relevant for children from geographic areas currently underrepresented in research; (2) delve deeper into children's developmental needs; (3) account for developmental processes (e.g., brain plasticity, cognitive and social skills required for literacy, numeracy, physical activity, and artistic competencies); and (4) apply current advances in poverty-related knowledge. Specifically, developmental findings and methodologies in cognitive neuroscience and cognitive psychology should enrich our understanding of the phenomenon of child poverty to optimize actions for the prevention of cognitive deficits, as well as facilitate rehabilitation of both cognitive abilities and social competence of children who have lived or are living in poverty.

Existing measures of general poverty

Needs-based approaches

In the needs-based approach to assessing deprivation, the general concept of poverty is determined through a comparison between a person or a family circumstance, and a set of universal (absolute) and specific (relative) needs and resources available to satisfy needs. Basic needs can be classified according to the way in which they are satisfied through economic, political, cultural, and/or social means. Current conceptual definitions of poverty used by psychologists, economists, and sociologists, and mostly applied in governmental and nongovernmental organizations (NGOs) refer to a set of general psychological, physical, and cultural adult or family group needs, the satisfaction of which is a minimum condition for an adequate quality of human life (Boltvinik, 1999).

One issue to take into consideration with needs-based approaches for determination of general poverty is that the approach tends to neglect needs that are not tied to financial resources. Needs such as affection, participation in social activities, identity, and freedom are not easy to include in empirical studies or intervention strategies. Satisfaction of those noneconomic needs is modulated indirectly by household economic circumstances. For instance, chronically poor families tend to provide lower quality child-rearing environments,

and children from these families tend to show lower cognitive performance and more behavior problems throughout the first two decades of life (National Institute of Child Health & Human Development (NICHD) Early Child Care Research Network, 2005; Vandell, Belsky, Burchinal, Steinberg, Vandergrift, & NICHD Early Child Care, 2010). Thus, the lack of satisfying any one of these needs means that those who are deprived of any one of them can be considered poor. Consequently, according to the conceptual nature of these types of needs, poverty – and especially child poverty – could be said to assume a dimension endowed with biological and cultural importance (e.g., prenatal controls and access to health services) as opposed to purely economic considerations.

Income-based approaches

The predominance of definitional strategies for determining poverty is based on either family income or a combination of income and social stratifications, including education level and employment of parents (Brooks-Gunn & Duncan, 1997; Gordon et al., 2003; Minujin et al., 2006; UNICEF, 2005).

When family income is the only measure used to determine whether families are living in poverty, many families are not included in the statistics. For example, Boushey, Brocht, Gundersen, and Bernstein (2001) built a measure based on the family budgets criteria, which allowed the identification of those family needs necessary to avoid material hardship. Applying this measure, they could identify more poor families than applying only pure income measures.

Child poverty measures

Child-specific issues in needs- and income-based approaches

The needs-based framework for establishing the presence of general poverty presents multiple difficulties for children. First, resources that satisfy basic needs vary according to the predominant cultural rules and availability of resources; it is difficult to determine which specific resources seriously decrease a person's ability to participate in the social life within the culture (Townsend, 1979). Ecological approaches for analyzing child poverty illustrate how different developmental contexts affect children's emotional development at an individual level of analysis (Keegan Eamon, 2001). For example, poverty may affect children's emotional state through inadequate parental social support. Improving parents' social support resources may decrease parental psychological stress and improve parenting practices.

Measures of child poverty are also dominated by income criteria, but child welfare indicators differ because they need to reflect children's specific position among adults in their families or developmental contexts. This point of view requires specific poverty measures in terms of welfare, rights, and developmental factors (White et al., 2002). Thus, income-based approaches tend to consider child poverty through the consideration of general poverty criteria, which include the application of proxies referred to adult or household levels. This implies a misrepresentation of developmental needs at the level of conceptual and methodological definitions of child poverty. Specifically, where children are concerned, income-only measures of poverty treat all family members as equal units in determination of family size. Differences not captured by income-based approaches include the ways in which different members of the household are treated and the degree to which different family members hold and exercise power based on age and gender.

Household structure is not captured by a numerical index that is based only on income that one or more family members earn (Minujin et al., 2006). A family may have money, but if that money is not used for children's needs, deprivation may exist within a family not considered "poor" by income standards.

General problems in overall and child poverty measures

Even when income or socioeconomic status measurements are methodologically correct, they do not completely describe poverty, as they exclude other perspectives that allow for poverty as an intense and painful psychological experience, and, indeed, a loss of freedom (Narayan, Chambers, Shah, & Petesch, 2000). This failure to consider subjective features of poverty could be related to such factors as conceptual and methodological biases or lack of either suitable material or human resources to support adequate evaluation.

Another significant issue is whether everyone within a poor household should be considered as poor. It is most likely that variations in child-specific consumptions will be highly dependent on variations in household size, type, and geographical contexts.

Developmental issues that matter in the study of child poverty

Based on results from high-quality intervention programs for children living in poverty, several researchers have identified a set of primary mechanisms for child development (Ramey & Ramey, 2003; Zigler & Finn-Stevenson, 2007). These include environmental exploration, expression of basic cognitive and social skills, stimulation of language and symbolic communication, adult reinforcement of a child's achievement, and avoidance of inappropriate punishments.

In addition, recent studies in both cognitive psychology and developmental cognitive neuroscience have suggested that poverty affects different aspects of cognitive development varying with the maturation patterns of different neural networks. For example, language control processing seems particularly vulnerable to environmental influences (see Hackman & Farah, 2009; Lipina & Colombo, 2009; Raizada & Kishiyama, 2010 for reviews). This possibility is supported by other findings in studies designed to evaluate the effect of different forms of parenting on the development of executive functions in children of different cultures (Farah et al., 2008; Landry, Millar-Loncar, Smith, & Swank, 2002), and the influence of socioeconomically related modulations of native language on early vocabulary development (Hoff, 2003).

Several studies have shown that income affects several indicators of child development, independent of the level of parental education (Duncan, Brooks-Gunn, & Klevanov, 1994); less is known about the impact of income in combination with other indicators (Huston, McLoyd, & García Coll, 1994). Studies that have analyzed the isolated impact of income suggest that monetary deprivation has specific effects on different developmental dimensions. For example, verbal and nonverbal cognitive skills seem to be more affected by the income level than behavioral disorders and indicators of mental and physical health, even when controlling for other family conditions, such as maternal education, age at childbirth, or parental employment (Brooks-Gunn & Duncan, 1997; Duncan & Brooks-Gunn, 2000). Furthermore, associations between income and socioeconomic status are likely to vary according to race, ethnicity, and location along the urban/rural continuum (Huston et al., 1994).

Studies within both cognitive neuroscience and developmental psychology have identified specific brain development patterns at different levels of analysis (e.g., genotype,

brain network activation, and self-regulatory processing) that suggest progressive interdependence and interrelationship (Cunningham, Zelazo, Packer, & Van Bavel, 2007; Diamond, 2007; Garon, Bryson, & Smith, 2008; Sheese, Voelker, Rothbart, & Posner, 2009; Zhang & Meany, 2010). For example, the rudimentary ability to select and focus attention on a given stimulus is present from early infancy. Once the ability to focus has been stabilized in the first months of life, the ability of children to control conflicting stimuli begins to emerge. In other words, at the same time the neural networks of the attention system are developing, ranges of ability become progressively voluntary, as well as less dependent on environmental factors (Posner & Rothbart, 2007). This developmental process takes place during the first 12–18 months of life, suggesting that any environmental deprivation at one moment of the development of the attentional system, and not at another one, could have a different impact on children.

Beyond parents' education level, income, structural aspects of households, and even general aspects of education and health, variables linked to parenting style such as raising children, coupled with the availability and use of materials allowing children to either play or learn beginning in the early stages of development, are important to the modulating role of noneconomic variables on poverty (Bradley & Corwyn, 2005; Guo & Mullan-Harris, 2000). In addition, neither the circumstances of child rearing nor those of learning require the same level and types of resources within different contexts.

Poverty criteria might vary according to the impact of income variations or other features linked with poverty, such as parental education or family structure among others (Duncan & Brooks-Gunn, 2000). Moreover, two key problems for assessing the causal impact of family income on child well-being are timing of measurement and biases created by omitting noneconomic variables. As there is abundant evidence that income is volatile (Duncan, Hill & Hoffman, 1988), a longitudinal perspective on the role of income in shaping child well-being appears crucial (Duncan et al., 2010).

As seen previously, conceptual and operational definitions of poverty are unlikely either to note specific information on the deprivation to which children are subjected or to associate deprivation with different developmental stages and dimensions. That is, it has been assumed that children do suffer from deficiencies and deprivation. However, the level and type of deprivation, as well as neurocognitive and social developmental stage at the time of deprivation (timing), may modulate the impact of the events (Vandell et al., 2010). This implies that analyzing varying effects of poverty on varying developmental dimensions at different developmental stages is of great importance in considering how poverty affects different aspects of child development and in designing actions aimed at giving developmental opportunities to children living in poverty.

Present conceptual and methodological requirements of child poverty measures: What is needed?

As new measures of child poverty are developed, it is crucial that they be valid. Although this point may seem obvious, many people have an almost knee-jerk response to the question of what validity is – some version of the phrase “Validity is when a test measures what it sets out to test.” Those who measure child poverty by income alone may feel that their approach meets that standard. In their minds, the connection may be that poverty equals deprivation; and because lack of money is deprivation, they are therefore “measuring poverty.”

However, as we consider what is needed for the best way to gain an accurate account of child poverty, an expanded definition of standards for valid measurement is essential. For instance, Messick (1995) defines validity as “an overall evaluative judgment of the

degree to which empirical evidence and theoretical rationales support the adequacy and appropriateness of interpretations and actions on the basis of test scores or other modes of assessment” (p. 741).

As suggested in the preceding sections of this article, most measures of child poverty fall short because they are not precise; they lead to the exclusion of many children through lack of accurate identification of unmet needs and do not include 90% of the world’s children (LeVine & New, 2008). In failing to account for changing developmental needs, these measures are also not *appropriate*, specifically, age-appropriate. It follows that empirical evidence used to take action to remedy the effects of child poverty cannot possibly support appropriate action if it is based on inadequate definitions. One example is that ignoring the role of children within their own cultural contexts leads to inaccurate identification of whether their true range of needs is met; therefore, lack of cultural consideration fails the test of *adequate theoretical rationales*. If cultural and developmental processes are ignored, the underlying logic that leads to study and intervention is flawed from the conceptual stage onward.

Specific recommendations for improving definition and measurement

Each of the following elements of child poverty definition and measurement would enhance current study and, if included, would achieve a greater degree of validity as described above:

- Delineation among infants, children, adolescents, and adults in documenting and recording family size.
- Application of the most recent robust findings in developmental cognitive neuroscience, including interrelationship and interdependence between phases, contexts, and dimensions of cognitive and social development.
- Incorporation of relative cultural values around child rearing into determination of levels of deprivation.
- Expansion of poverty definitions to account for its multifactorial nature.
- Inclusion of a range of needs that go beyond material necessities (e.g., affective, freedom, and so on).
- Interdisciplinary efforts among researchers from psychology, education, economics, and other relevant fields so that environmental requirements are identified. These requirements include parenting, teaching, learning, materials, and access to the broad range of community resources and opportunities that children are in need of at every stage and dimension of their development.

Conclusion

Recent studies on child poverty, carried out worldwide and based on alternative income, basic needs, and well-being criteria, suggest that the need to further analyze the sole contributions of physical and mental health on child development under the impact of poverty is warranted (Gordon et al., 2003; Minujin et al., 2006; Roelen & Gassmann, 2008). Studies on rights, security, empowerment, and social capital, as well as psychological experiences in poverty, have drawn less attention than those focused on income or economic stratification.

Disciplines aimed at studying child poverty, as well as disciplines aimed at designing either prevention or optimization interventions, should take into account the different definitions of poverty in their methodological and analytical designs. From a child

developmental perspective, the *count*,¹ *index*,² or *holistic*³ approaches raise different difficulties (Roelen & Gassmann, 2008). When the unit of analysis used for measuring basic needs is either adults or family groups, this type of measurements may fail to consider aspects of the impact of deprivation on children's physical, cognitive, emotional, and social needs (e.g., adult provision of adequate emotional and cognitive stimulation in early stages of development). Even though a progressive concern for child deprivation is observed, and technical and logistic constraints that modulate measurement are recognized in current literature (Gordon et al., 2003; Minujin et al., 2006; Roelen & Gassmann, 2008), those observations do not necessarily include the findings of different developmental frameworks, as in the case of current findings in cognitive neuroscience (Lipina & Colombo, 2009).

Some researchers have tried to overcome these types of obstacles in income- and stratification-based measurements. For instance, in a recent study on poverty among children in eastern European countries, the indicator used to measure poverty was the current household consumption tested against an absolute poverty threshold of US\$215 converted at the purchasing power parity (PPP) exchange rates. This measure appeared to be robust to sensitivity testing and correlated well with non-income indicators of children's well-being (Menchini & Redmond, 2006). In this study, authors observed that higher absolute poverty rates among children correlated with lower national income and higher proportion of children in the population. Another attempt to overcome some of these obstacles and to articulate a more developmental perspective in the consideration of how poverty affects child development was the index developed by Segretin and colleagues (2009) in which the dimensions and indicators of Table 1 were based.

Table 1. Examples of potential dimensions and indicators for the analysis of child poverty from an ecological and developmental perspective.

Unit of analysis	Dimensions	Indicators
Child	Physical and mental health	Age and gender
		Exposure to environmental toxic agents
		Nutrition
		Immunizations
		Access to medical care (prenatal and postnatal stages)
		Access to safe drinking water and sanitation facilities
		Immune system infections
		Substance abuse
		Self-regulatory skills (cognitive and emotional control functions)
		Language skills (expression and comprehension)
Child	Information/technology	Social skills
		Academic performance (math, language, science, arts)
		Number of completed school years
Child	Social networks	Lifestyle (physical activity, diet, religious practice)
		Access to computer, Internet, radio, television, telephone, newspapers
		Club, church, NGO, relatives, friends, work
Family	Parental physical and mental health	Resources for materials and transportation
		Depression/anxiety
		Other mental disorders
		Lifestyle (physical activity, diet, religious practice)
		Educational background
Family	Parental physical and mental health	Familial violence (environmental stress)

(Continued)

Table 1. (Continued).

Unit of analysis	Dimensions	Indicators	
School	Information/technology	Access to computer, Internet, radio, television, telephone, newspapers	
	Social networks	Clubs, places of worship, NGO, relatives, friends, work	
	Learning stimulation	Provision of material to encourage reading skills in children Provision of toys	
	Employment	Parent-child interactions (weekly time)	Parents' occupational backgrounds
		Marital status	Number of children
	Specific demographic characteristics	Mother's age	Housing quality
		Occupant density	Sanitation
		Home security conditions (electricity, temperature, humidity)	Water quality
		Teaching/school materials	Educational materials
	Community	School environment	Class and staff emotional environment Security conditions Interactions with families
Sector		Private/public	
Social security		Violence and crime	
Availability of common spaces		Access to parks, clubs, museums, libraries, community centers	
Social exclusion/inclusion		Access to credit/loans Access to social, health, and legal services Interactions between families and government Strength of social institutions	

Nonetheless, even in the most recent studies aimed at analyzing children's basic needs from the *count* (Gordon et al., 2003), *index* (Bradshaw, Hoelscher, & Richardson, 2007; Segretin, Lipina, & Petetta, 2009), and *holistic* perspectives (Lyytikäinen et al., 2006), developmental issues and processes are not comprehensively considered. For instance, these studies do not approach how deprivation affects the range of child-development opportunities in the context of the child's current developmental stage; or how multiple influences shape-specific aspects of physical, cognitive, language, and social changes in different stages. This aspect is vitally important in evaluating different strategies that have not yet been adequately incorporated in this study area. More intense, interdisciplinary work is required.

Researchers of child development and poverty have already highlighted the importance of the intensity of deprivation and of the age at which deprivation occurs (Duncan et al., 1994). Furthermore, experimental research on brain development in the past five decades shows that either environmental deprivation or environmental enrichment modulates different aspects of both the brain structure and brain functioning. Thus, the definition and measurement of child poverty must delve deeper into children's developmental needs and processes and be coordinated with the current advances in poverty-related knowledge (Lipina & Colombo, 2009). With attention to the child in child poverty, we can progress toward meaningful definition and measurement that will guide appropriately targeted interventions.

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Notes

1. Computation of the number of poor children and provision of incidence rates based on income or deprivation.
2. Comparison of performance of different groups with respect to child poverty.
3. Combination of quantitative and qualitative information that tries to capture size of child poverty as well as causes and effects.

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