



Highlight

Economic crises during pregnancy and early childhood can have serious long-term consequences. Nutritional deficiencies and stress and mental health issues during the first few years starting with conception can lead to serious physical and psychological problems, some of which may not be reversible. A better understanding of human developmental processes provides useful entry points for policies and programs.

Early Childhood *Protecting and Promoting Human Development in Times of Economic Shocks¹*

Alice Wuermli, Kevin Hempel, Mattias Lundberg,
Juliana Arbelaez²

Development from conception to five years of age can determine later life outcomes ranging from educational achievement, labor market success, to risky and delinquent behaviors. Crises can cause nutritional deprivation which can negatively affect physiological and neurological development during gestation and infancy. This can have potentially serious physical and mental consequences. Crises can also cause stress and mental health issues of primary caregivers hampering the process of establishing secure attachment relationships and reducing stimulating interactions. These factors are known to be key to the healthy development of socioemotional, behavioral and cognitive competencies. Successful safety net programs will address not only the resource constraints at the household level, but find ways to address the psychosocial aspects of economic hardship, strengthen the child-caregiver relationship, and make sure that the program reaches the most vulnerable: women of child bearing age, especially pregnant women, and very young children and their caregivers.

Context

Economic crises can have serious implications for human development. Financial crises, at both the global and the national level, are ubiquitous. This raises concern about the human impacts of crises, especially among more vulnerable populations in developing countries. This is particularly true during childhood and youth, when the brain is developing rapidly, and when socioemotional and behavioral development are at their peak. Given the cumulative nature of human development, shortfalls or setbacks at any stage of the life course—from the antenatal environment through adolescence—are often difficult to reverse later in life and may have severe consequences for individual development as well as for the growth and development of successful communities. Thus, it is essential to protect and promote human development in the face of adversity.

¹ This Note is part of a three note series that summarizes findings from Lundberg, M. & Wuermli, A. (eds.) 2012. *Children and Youth in Crisis: Protecting and Promoting Young People's Development in Times of Economic Shocks*. Washington, DC: World Bank.

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Three interrelated concepts provide the foundation for understanding the potential impacts of shocks on children and youth.

- **Timing:** Human development is characterized by critical periods of life during which certain investments must be made to facilitate the achievement of specific milestones in development, or stage salient developmental tasks. These age-related expectations for the mastery of particular tasks provide benchmarks for the abilities that an individual should ideally master by different ages, and that are correlated with successful development and transition to subsequent stages in life. Economic crises can disrupt a young person’s “normal” development by preventing or delaying the mastery of these developmental tasks at specific stages, which—if uncorrected—can have potential long term consequences.
- **Context:** Development in childhood and youth is influenced by diverse contexts or settings (family, peers, schools, communities, sociocultural belief systems, policy regimes, and the economy). The relative importance of these settings changes during the lifecourse. Interactions among these settings determine both the transmission of shocks, such as a financial crisis, to the young person’s immediate environment and the impact of the shock on her development. As development is partly a function of a person’s repeated interactions with her immediate environment (the proximal processes of human development), shocks can disrupt the contexts in which these processes occur, and hinder a young person’s ability to develop successfully.
- **Transmission mechanisms:** There are numerous pathways through which a crisis can affect the well-being and development of a young person. Crises may be experienced directly at the individual level (through e.g. a change in aspirations and identity), or indirectly through the family, school, or other settings (through e.g. increased parental stress, parental job loss, a reduction in publicly-provided services). The developing person will experience crises through the loss in income, but also through other channels, such as psychological distress. The relevance of each particular transmission mechanism varies depending on the life stage of the person as well as on the context. Different settings may provide protective factors that prevent, mitigate or attenuate negative impacts; these factors can be a source of resilience, facilitating positive adaptive behavior on the part of the developing person.

Effects of economic crises on fetal and early childhood development

The first few years of a person’s life, starting at conception, have been found to be of utmost importance for later-life outcomes,

including educational achievement, success in the labor market, and healthy behaviors and choices. In particular, harm to physical and neurological development and failure to establish secure attachments very early on may be difficult to reverse, and may have high personal and social costs in the long run.

Table 1 breaks down early childhood development into four main periods and relates these periods to salient developmental tasks that the developing child needs to master. During early childhood mastery of developmental tasks tends to follow this sequence relatively linearly due to common neurobiological processes and development.

- From conception to birth, the child is undergoing rapid *physical and neurological development*, which requires adequate nutrition and an otherwise healthy intra-uterine environment.
- From birth to one year the infant develops *attachment* relationships to primary caregivers. Developing secure attachments, reliable relationships that provide protection and comfort when in distress, provides a secure base from which a child can explore and learn about her environment³.
- Feeling confident and secure, children from one to three years learn to *explore and communicate*. Many of the

Table 1:
Economic Crisis during Gestation and Early Childhood

Age (in years)	Stage-salient Developmental Task	Transmission Mechanisms
Conception-birth	<ul style="list-style-type: none"> • Physical and neurological development 	<ul style="list-style-type: none"> • Malnutrition • Toxins • Maternal stress and mental health issues
0-1	<ul style="list-style-type: none"> • Physical and neurological development • Establishing secure attachment relationships 	<ul style="list-style-type: none"> • Malnutrition • Family dynamics and functioning, including parental and maternal time and mental health
1-3	<ul style="list-style-type: none"> • Learning to explore and communicate 	
3-5	<ul style="list-style-type: none"> • Learning to self-regulate thoughts, behaviors and emotions 	

³ Ainsworth, M. D. S. 1967. *Infancy in Uganda: Infant Care and the Growth of Love*. Baltimore, MD: Johns Hopkins University Press.; Bowlby, J. 1988. *A Secure Base*. New York, NY: Basic Books.

cognitive processes that enable children to communicate through language, to quantify and classify objects in the world around them, to consider other people's perspectives, and to distinguish cause from effect and solve problems, all begin to emerge well before the age of three.

- Between three and five years of age, children develop significant ability to *self-regulate thoughts, behaviors, and emotions*. Whereas during infancy and toddlerhood they seek emotional and behavioral support from their caregivers, children must develop the ability to modulate and control their thoughts, actions, and feelings by themselves. These self-regulatory processes are inter-related and include cognitive (planning, rule following, and focusing), behavioral (impulse control and activity reduction), and emotional processes (management of excitement and anger).

Economic crises can impair healthy fetal and early childhood development. There are two main pathways, or *transmission mechanisms*, through which young children can be affected: (1) nutritional deficiencies and other health insults, and (2) family dynamics and functioning, including stress and mental health (see Table 1). Insults during gestation and early childhood can lead to a range of measurable outcomes at different stages of subsequent development⁴. Nutritional deprivation and other health threats during pregnancy can be measured in infant mortality, low birthweight, or even neurological developmental abnormalities (e.g. spina bifida, hydrocephalus) at birth, and in serious long-term consequences ranging from lower educational achievement and worse labor market outcomes, to severe psychological disorders (e.g. schizophrenia, major affective and antisocial personality disorder).

Once the child is born, depression or stress of the primary caregiver(s) may lead to emotional unavailability or inconsistency, hindering the formation of a secure attachment. Secure attachment has also been related to the development of self-efficacy and competency⁵. Insecure attachment and reduced intensity and frequency of positive interactions can slow cognitive, socioemotional, and behavioral development, including language and problem solving, and the ability to self-regulate emotions, thoughts, and behaviors. Children with a strong capacity to self-regulate tend to be better at focusing and sustaining their attention, better at inhibiting emotional and aggressive behaviors, and more successful at forming and sustaining positive and supportive

relationships with peers and teachers⁶. Delays in developing these competencies are related to lower academic achievement and lower socioeconomic outcomes in the long-run including lower earnings, higher unemployment, and higher rates of delinquent behavior⁷.

Policy Implications

The importance of this stage of development for later life outcomes and the vulnerability to insults provides very concrete targeting guidelines. The spectrum of possible consequences arising from food and nutritional shortages during various stages of gestation and for very young children indicates the need to focus on pregnant women, or more generally women of child-bearing age, and mothers with very young children. Furthermore, interventions must address stress, mental health, and family functioning. Given the importance of parenting, mother-child (or caregiver-child) interactions and the family context for children's socioemotional and cognitive development, programs should focus not only on the children themselves but also on the healthy functioning of the entire family.

During gestation and the early years, the mother and other primary caregivers will be the main influences on the child's development. Policy will thus need to address the constraints and stresses produced and experienced in the immediate settings in which these primary caregivers interact: The household, health clinics and possibly day care. The transmission mechanisms identified above provide several *nested points of entry*, including services provided by health clinics and day care, income support, and counseling and other psychosocial support services.

Health Care Services and Infrastructure. Government spending in developing countries tends to be procyclical. Poor people usually lack health insurance or access to other social insurance, while the need for health care services likely increases during a crisis period. It is important for countries to sustain or even scale up public health services, with particular emphasis on services to pregnant women and very young children.

Household Support Programs: Income and Counseling Services. *Cash transfer programs* can alleviate short-term resource constraints. *Conditional cash transfers*, while proven successful in improving child outcomes, may not always be feasible during crisis because of the increased constraints for targeting and monitoring compliance. *Public works*, while a popular crisis response, may not be sufficient to ensure healthy child development if resources do not reach the child or mother. Broadening public works programs to include

⁴ For a more complete account see Tabel 6.2 in Wuermli, A., Hempel, K., Aber, L. & Lundberg, M. 2012. Policies to Protect and Promote Young People's Development during Crisis. In Lundberg, M. & A. Wuermli (eds.), *Children and Youth in Crisis: Protecting and Promoting Human Development in Times of Economic Shocks* (ch. 6). Washington, DC: World Bank.

⁵ Carson, J., and R. D. Parke. 1996. "Reciprocal Negative Affect in Parent-Child Interactions and Children's Peer Competency." *Child Development* 67 (5): 2217-26.

⁶ Barkley, R. A. 1997. "Behavioral Inhibition, Sustained Attention, and Executive Functions: Constructing a Unifying Theory of ADHD?" *Psychological Bulletin* 121 (1): 65-94.; Gross, J. J., and J. P. Oliver. 2003. "Individual Differences in Two Emotion Regulation Processes: Implications for Affect, Relationships, and Well-Being." *Journal of Personality and Social Psychology* 85 (2): 348-62.

⁷ Feinstein, L. 2003. "Inequality in the Early Cognitive Development of Children in the 1970 Cohort." *Economica* 70 (277):73-97.; Schweinhart, L. J., H. V. Barnes, and D. P. Weikart. 1993. *Significant Benefits: The High/Scope Perry Preschool Study through Age 27*. Monographs of the High Scope Educational Research Foundation Series, no. 10. Ypsilanti, MI: High/Scope Press.

public service tasks, flexible payment schemes, and providing child care arrangements can make such programs more appealing for women, as in the case of Argentina's crisis response program *Jefes y Jefas*⁸. Similarly, in order to complement income support with child-focused elements, the Crisis Response program in Djibouti combined a public service intervention with a component addressing child malnutrition through behavioral change in breast feeding practices⁹.

Alternatively, governments may choose to adopt in-kind or other transfers to support nutrition and food consumption, which have the advantage of focusing directly on nutrition, freeing up income for other uses, and being generally under the control of women in the household¹⁰. They also may be relatively easier to scale up in response to a crisis and to scale back afterward. However, evidence of their effectiveness in maintaining children's nutritional outcomes is mixed. Thus, specific micronutrient supplementation, for example during pregnancy, may be particularly effective, as it is less likely to be consumed by other household members.

Provide support and guidance on parenting and care (see case study). Since income is but one of the transmission mechanisms through which crises can affect fetal and early childhood development, policy makers may want to consider providing conflict resolution skills, parenting assistance, and other psychosocial support to (expecting) parents in order to reduce intrahousehold conflict and stress and to maintain positive family dynamics despite the hardship¹¹. It may be most useful to incorporate parent-focused pre- and post-natal interventions into existing programs and services, such as the health care system or community services that engage clients face to face. Parenting interventions may be delivered via home visits, community groups, clinics, or media¹², some of which may be much more cost-effective. Community-based programs can also foster a sense of belonging and support, which can reduce perceived stress and improve family dynamics and parent-child interactions.

Case Study: Hardship, Depression, and Improving the Quality of Mother-Infant Relationships and Infant Attachment¹³

Economic hardship and depression can reduce the capacity of parents to provide sensitive and responsive parenting. Parenting interventions thus aim to improve parent-child interactions (responsive feeding, secure attachment, learning, reading, play, positive discipline etc.) that enable secure attachments and healthy development.

An intervention in a peri-urban settlement of Khayelitsha, South Africa randomly assigned 449 pregnant women to a treatment or control group. The treatment, provided by previously untrained community workers, provided support and guidance in parenting, and consisted of a total of 16 sessions in their homes starting in late pregnancy and ending 6 months after birth.

At both six and 12 months treatment mothers were significantly more sensitive and less intrusive in their interactions with their infants. Infants in the treatment group had a significantly higher rate of secure attachments at 18 months. Although there was no significant change in the prevalence of maternal depressive disorder, the intervention seems to have reduced the severity of maternal depressed mood at six months.

⁸ Galasso, E., and M. Ravallion, M. 2004. Social Protection in a Crisis: Argentina's Plan Jefes y Jefas. World Bank Economic Review 18 (3): 367-99.

⁹ A rigorous evaluation is underway; Silva, J., Levin, V., Morgandi, M., Castaneda, T. and Cuevas, F. (forthcoming): Enhancing Social Safety Net's Effectiveness in the MENA region, World Bank: Washington DC.

¹⁰ Rogers, B. L., and J. Coates. 2002. "Food-Based Safety Nets and Related Programs." Social Protection Discussion Paper 0225, World Bank, Washington, DC.

¹¹ See Engle et al. 2011 (Endnote 12) for a review of 15 parenting programs from around the world; also Al-Hassan, S. M., and J. E. Lansford. 2010. "Evaluation of the Better Parenting Programme in Jordan. Early Child Development and Care 181(5): 587-98.

¹² Engle, P.L., Alderman, H., Behrman, J., et al. 2011. Strategies for Reducing Inequalities and Improving Developmental Outcomes for Young Children in Low-income and Middle-income Countries. Lancet, 378: 1339-53.

¹³ Cooper, P. J., Tomlinson, M., Swartz, L. et al. 2009. Improving quality of mother-infant relationship and infant attachment in socioeconomically deprived community in South Africa: Randomised Controlled Trial. British Medical Journal, 338:b974.

