

The environmental context of infant health and cognitive development in Malawian orphanages

In assessing the cognitive development of African children, it is important to consider how changing conditions may influence children's developmental goals, as well as their development in different domains [1]. For example, with the spread of HIV/AIDS and the growing orphan problem in Malawi, many Malawian children today are suffering from their caregivers' inability to provide adequate health care [2-3]. Respiratory diseases, malaria, tuberculosis, and HIV/AIDS are commonly experienced by Malawian children [2-3]. Since child illnesses are known to influence cognitive development [4-8], it is especially important to evaluate children's health and how it may affect other developmental outcomes. Thus, in the present study, we investigated the health practices of two urban Malawian orphanages, the relationship between health practices and the health outcomes of sixty 6- to 30-month-old bilingual Chichewa-English-speaking infants living in these orphanages, and the relationship between infants' health and cognitive development.

The children of both homes were in good health overall, but a number of key concerns regarding the potential spread of contagious disease were observed. Both facilities had adequate access to professional health care and established plans for emergency medical situations. However, children in both homes who had fallen ill with contagious diseases, including respiratory and diarrhoeal diseases and general infections, were not separated from their peers, heightening the risk of further infection. For practical reasons concerning space and caregiver availability, as well as the residential nature of the homes, separation of a sick child from other children was not possible. Unsurprisingly, health records indicate that diseases have spread quickly in the past. This may be a concern for children's cognitive development. For example, we found that language development was negatively associated with having suffered from a general infection within the month prior to testing. In addition, both general cognitive development and receptive language were negatively associated with having suffered from meningitis.

Our results demonstrate the importance of understanding the environmental contexts in which African children live, as well as how these environments might impact child health, in evaluating their cognitive and language development. This integration is especially important in African contexts [9-10]. However, little previous research in African contexts, and no known research in African institutional contexts, has considered the relationships between these aspects of children's developmental functioning. This research therefore provides a more comprehensive understanding of Malawian (and perhaps African) infants' cognitive development than has been previously available.

References

- [1] Nsamenang, A. B. (2004). *Cultures of human development and education: Challenge to growing up African*. New York: Nova Science Publishers, Inc.
- [2] Malawi National Statistical Office & UNICEF (2007). *Malawi Multiple Indicator Cluster Survey (MICS) 2006: Preliminary Report*. Zomba, Malawi: Malawi National Statistical Office.
- [3] Maleta, K., Virtanen, S. M., Espo, M., Kulmala, T., & Ashorn, P. (2003). Childhood malnutrition and its predictors in rural Malawi. *Paediatric and Perinatal Epidemiology*, 17, 384-390.
- [4] Brooks-Gunn J, Duncan GJ, Britto PR. Are socioeconomic gradients for children similar to those for adults?: Achievement and health of children in the United States. In: Keating DP, Hertzman C, editors. *Developmental health and the wealth of nations: social, biological, and educational dynamics*. New York: Guilford Press; 1999. p. 94-124.
- [5] Carter, J. A., Munga'ala-Odera, V., Neville, B. G. R., Murira, G., Mturi, N., Musumba, C., & Newton, C. R. J. C. (2004). Persistent neurocognitive impairments associated with severe falciparum malaria in Kenyan children. *Journal of Neurology, Neurosurgery, and Psychiatry*, 76, 476-481.
- [6] Carter, J.A., Murira, G. M., Ross, A., Mung'ala-Odera, V., & Newton, C. J. R. C. (2003). Speech and language sequelae of severe malaria in Kenyan children. *Brain Injury*, 17, 217-224.
- [7] Repetti, R. L., Taylor, S. E., & Seeman, T. E. (2002). Risky families: family social environments and the mental and physical health of offspring. *Psychological Bulletin*, 128, 330-66.
- [8] Sameroff , A. J. (1998). Environmental risk factors in infancy. *Pediatrics*, 102, 1287-92.
- [9] Kambalametore, S., Hartley, S., & Lansdown, R. (2000). An exploration of the Malawian perspective on children's everyday skills: implications for assessment. *Disability and Rehabilitation*, 22, 802-807.
- [10] Nsamenang, A. B. (2006). Human ontogenesis: an indigenous African view on development and intelligence. *International Journal of Psychology*, 41(4), 293-297.