Science of Childhood Adversity: Implications for Syrian Refugee Children

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New Science for Old Problems
Three Key Points and Question

- Major scientific advances underscore how a strong foundation for healthy development in the early years of life is a prerequisite for individual well-being, economic productivity, and harmonious societies around the world.

- Growing scientific evidence also demonstrates that social and physical environments that threaten human development (because of scarcity, stress, or instability) can lead to short-term physiologic and psychological adjustments that are necessary for immediate survival and adaptation, but which may come at a significant cost to long-term outcomes in learning, behavior, health, and longevity.

- A promising future belongs to those nations that invest wisely in their youngest citizens.

- How do we invest in Syrian Children?
Experience Builds Brain Architecture
Brains are built over time, starting in the earliest years of life. Simple skills come first; more complex skills build on top of them.

Cognitive, emotional, and social capabilities are inextricably intertwined throughout the life course.

A strong foundation in the early years improves the odds for positive outcomes and a weak foundation increases the odds of later difficulties.
The Ability to Change Brains Decreases Over Time

Source: Levitt (2009)

Normal Brain Plasticity Influenced by Experience

Physiological “Effort” Required to Enhance Neural Connections

Age (Years)

Source: Levitt (2009)
Neural Circuits are Wired in a Bottom-Up Sequence

- Sensory Pathways (Vision, Hearing)
- Language
- Higher Cognitive Function

Serve & Return Builds Brains and Skills

Young children naturally reach out for interaction through babbling, facial expressions, and gestures, and adults respond in kind. These “serve and return” interactions are essential for the development of healthy brain circuits.

The importance of relationships in shaping the architecture of the brain indicates that all of society would benefit from systems that support the quality of relationships in early care settings, communities, and homes.
Genes Carry Instructions that Tell Our Bodies How to Work

- Nucleus
- Chromosome
- DNA
- Gene
- Chromosome
Early Experiences Leave Lasting Chemical “Signatures” on Genes

- External Experience
- Gene Regulatory Proteins

Epigenetic “Signature” Turns Gene On or Off
from neurons to nations

Return on investment

Early investment brings highest returns

 Programs targeted towards the earliest years
 Preschool programs
 Schooling
 Job training

Actual investment

0-3 4-5 School Post-school

James Heckman, 2008
Toxic Stress Derails Healthy Development
The Biology of Adversity: Three Levels of Stress

Positive
Brief increases in heart rate, mild elevations in stress hormone levels.

Tolerable
Serious, temporary stress responses, buffered by supportive relationships.

Toxic
Prolonged activation of stress response systems in the absence of protective relationships.
Accumulation of Adverse Experiences Impairs Development

Significant Adversity Impairs Development in the First Three Years

Data Source: Barth, et al. (2008)
Graph Courtesy: Center on the Developing Child at Harvard University
Jamaica Study

Development Quotient (DQ) of Stunted Children Receiving Nutrition Supplement Only, Early Stimulation Only, or Both

Note: DQ at baseline age (between 9 months and 24 months) and at 6-month intervals to 24 months
Sustained results

The effects of caregiving

- Institutionalization can lead to serious developmental, cognitive, emotional delays and challenges.
  - Children placed in appropriate family care by age 2 recover normative growth and development by age 8.
  - Children removed from institutions after age 2 do not reach normative ranges.

- Placing children in protective family care results in better child outcomes and is significantly less expensive than institutional care.
The lasting effects of adversity

CDC. Adverse Childhood Experiences.
Health and Protection: What Works (WHO)

- Linking child health and development with health equity and sustainable development (SDG Agenda)
- Ensuring responsive social care is core to child health and nutrition programs
- Strengthening the economic status of households (cash transfers—other household level programs)
- Reducing access to and use of alcohol, illegal drugs, and weapons
- Changing cultural norms and social attitudes that promote violence; integrating violence prevention into all sector programs
- Support programs for survivors and initiatives to reverse under-reporting of violence, exploitation, abuse, and neglect
Emerging Global Agenda Examples

- SDG Agenda
- European Union: Poverty Reduction First Development Policy
- USG: Action Plan for Children in Adversity Policy
- Uganda NDPII
- Rwanda National Child Care Reform
Syrian Crisis
9.3 million people are estimated to be in need of assistance inside Syria, including more than 6.5 million internally displaced persons (IDPs).

Number of Syrian refugees by country

Lebanon
1,000,938 (UNHCR, June 3, 2016)
Palestinians from Syria registered with UNRWA:
53,070 (UNRWA, May 31, 2016)

Turkey
765,369 (UNHCR, June 2, 2016)

Jordan
504,381 (UNHCR, June 4, 2016)
Palestinians from Syria registered with UNRWA:
13,856 (UNRWA, May 27, 2016)

Iraq
225,400 (UNHCR, May 10, 2016)

Egypt & N. Africa
(Uganda, Libya, Morocco, and Tunisia)
160,022 (UNHCR, June 4, 2016)

NOTE: UNHCR refugee figures combine those registered and awaiting registration. Government officials estimate the number of Syrians in these countries to be higher than the UNHCR figures.

Syrian refugees (cumulative) includes people registered and awaiting registration.

Sources: U.S. Department of State, USAID, UN OCHA, UNHCR, UNRWA

June 4, 2014 - U1026 STATE (HU)}
Camps
Non Camps: Urban
July 2015 Turkish Red Crescent Assessment Urban-Non Camp Shelter

- Majority in crowded, single-room households
- Buildings formerly used as storerooms or barns
- Rents five times the price paid before the refugees came
- Environmental threats/toxins
- Poor water-sanitation
- Public Health Challenge: how to respond to threats at the household level
Red Crescent
Employment-Economic Survival

• Unemployment the norm
• Discrimination: Lower than norm wage
• Harsh conditions
• Children exposed to dangers
• Public health Challenge: how to combine protection and health
Wide-Spread “Trauma”

- Traumas of war are still evident in both adults and children
- Affecting caretakers and their caretaking
- Noted children’s proneness to violence
- Public Health Challenge: How to respond when significant percentage (perhaps the majority) of population suffers from “PTSD”
WHO Health System

• A health system consists of all organizations, people and actions whose primary intent is to promote, restore or maintain health
  – efforts to influence determinants of health as well as more direct health-improving activities
  – more than the pyramid of publicly owned facilities that deliver personal health services
  – includes, for example, a mother caring for a sick child at home; behavior change programs; vector-control campaigns; health insurance organizations; occupational health and safety legislation
  – includes inter-sectoral action by health staff, for example, encouraging the ministry of education to promote female education, a well known determinant of better health
Primary Health Care Pyramid

What Goes into the Household Level?

District Hospital
Emergency care, referral care, hospital services including surgery

1st Level Health
Basic primary Health Care services: maternal and child care, reproductive health, treatment of common illnesses, and injuries, essential drugs, health promotion, nutrition, environmental health

Community
Food  Water  Sanitation  Shelter
(adequate quantity/quality)  appropriate facilities/site
Immunization, vitamin A, ORT, screening and referral, surveillance, skilled birth attendants, STI control, health promotion

Household
Food  Water  Sanitation  Shelter  Care/Protection