

Pregnancy and Poverty- Dietetics and Genetics



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Objectives

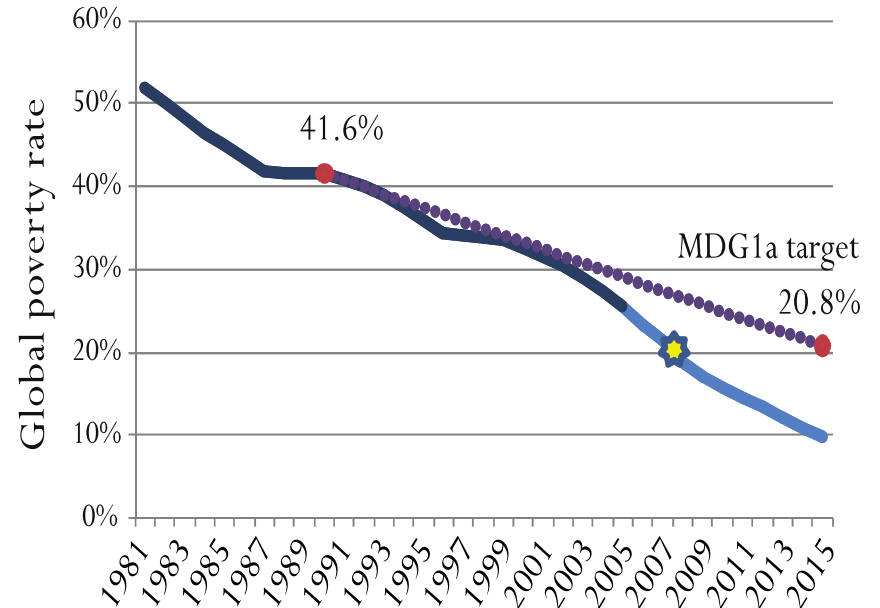
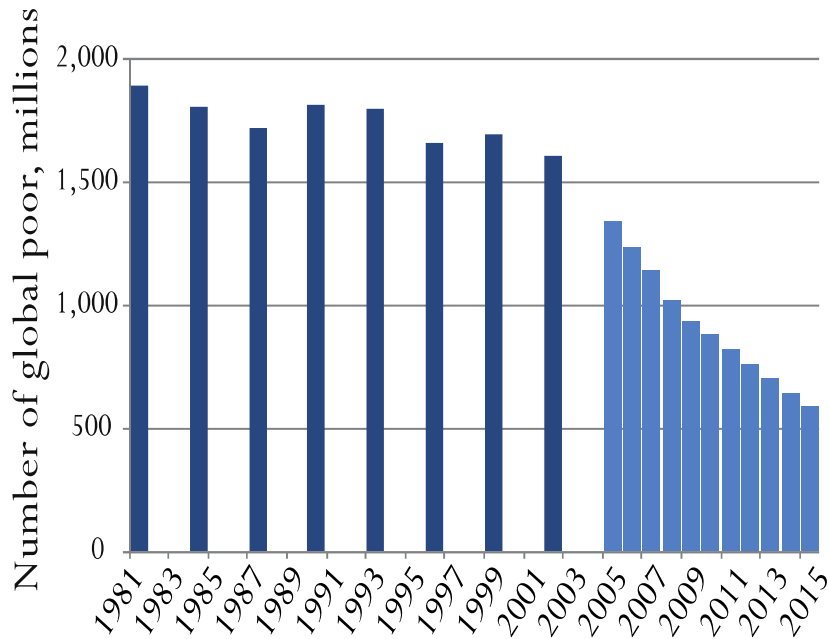
- ☞ Review data on income and poverty
- ☞ Present health insurance coverage in relation to household income
- ☞ Understand the complexities governing determinants of health
- ☞ Evaluate the effect of stress on HPA axis and glucocorticoid receptor (GR) gene expression
- ☞ Present data on the effect of maternal stress on gene expression in the newborn and birth weight

Poverty

World Bank:

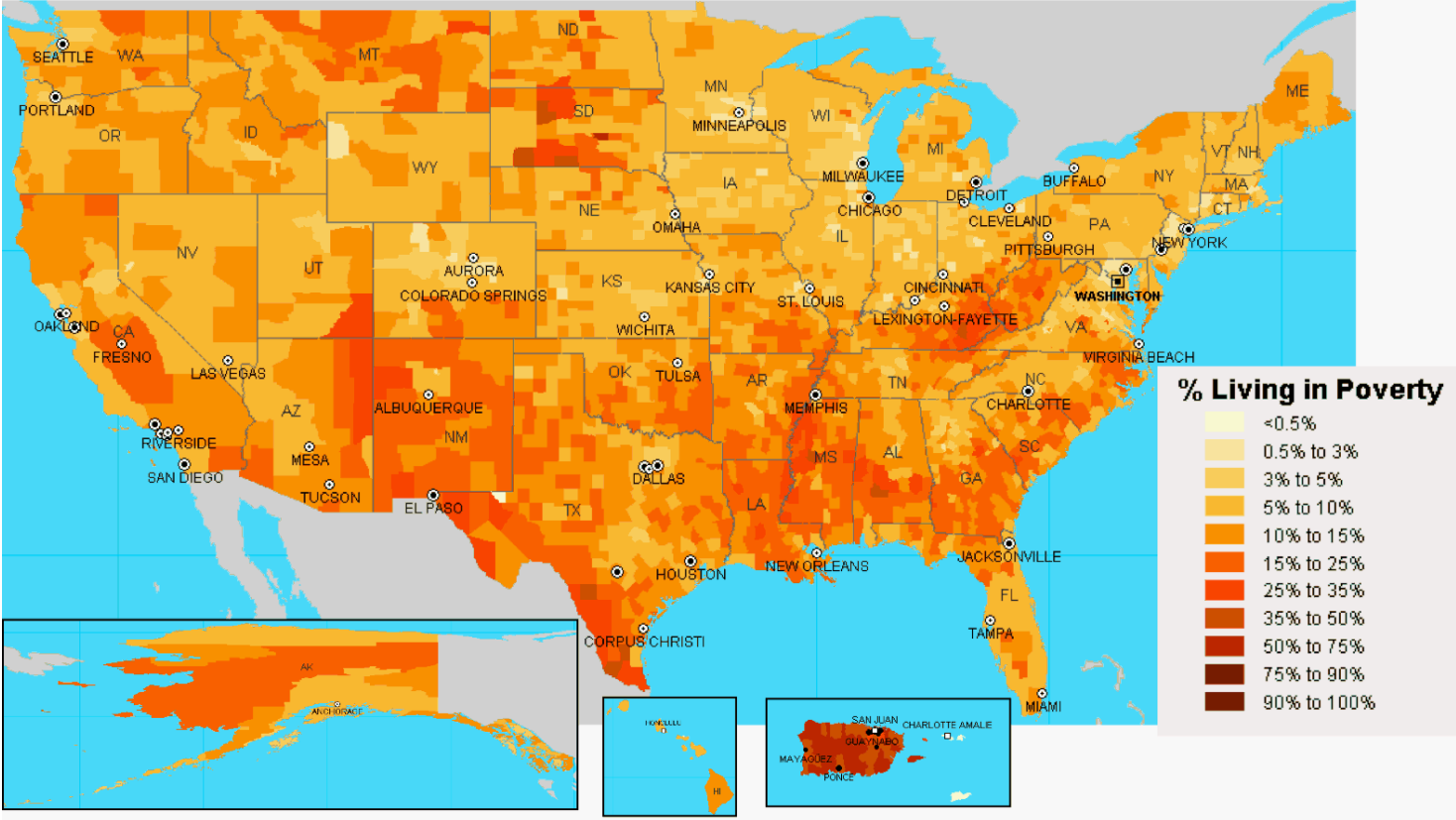
- ❑ Poverty is pronounced deprivation in well-being, and comprises many dimensions.
- ❑ It includes **low incomes** and the **inability to acquire the basic goods and services** necessary for survival with dignity.
- ❑ Poverty also encompasses **low levels of health and education**, poor access to clean water and sanitation, inadequate physical security, lack of voice, and **insufficient capacity and opportunity to better one's life**.

Global Poverty Rates



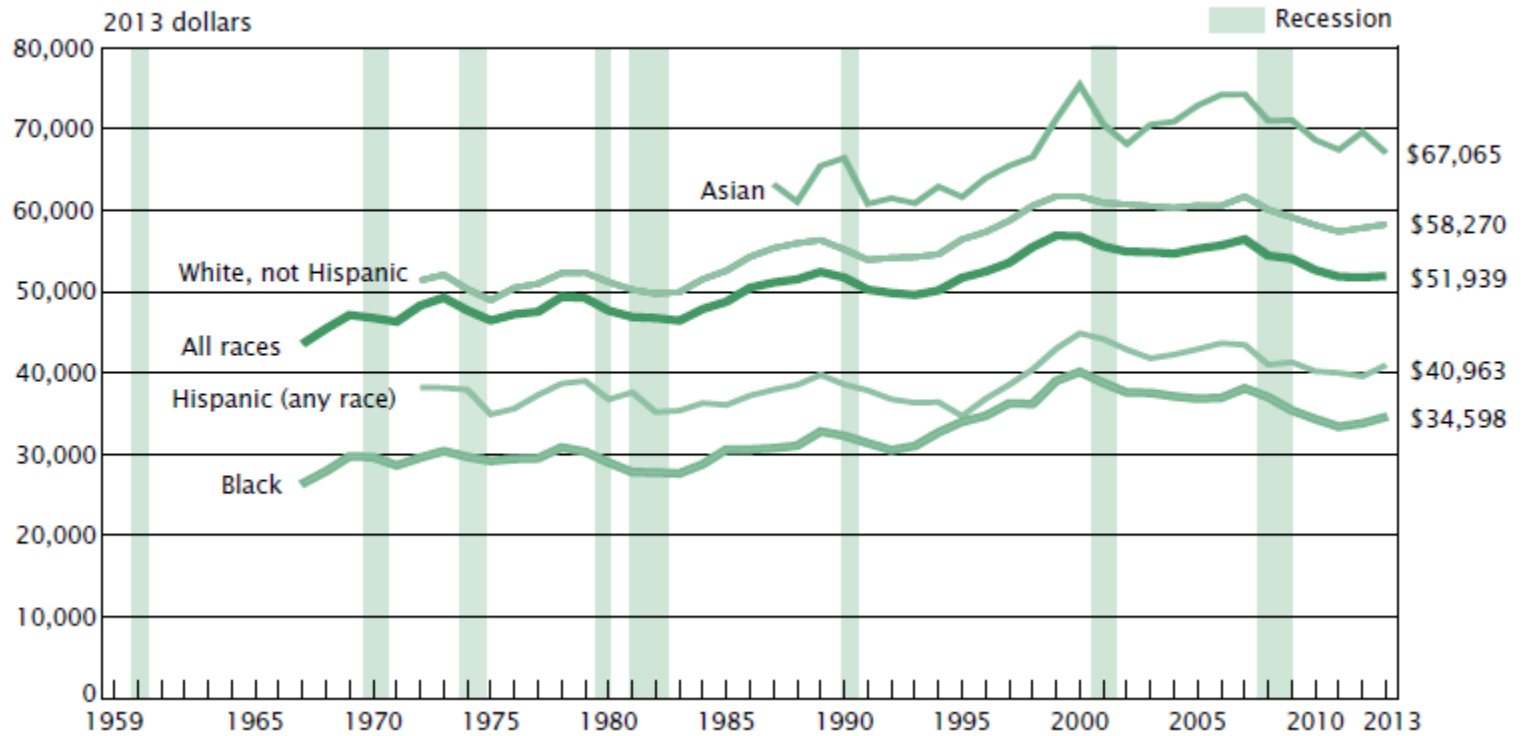
Source: Ravallion and Chen (2008) and authors' calculations

Poverty Rates in Unites States



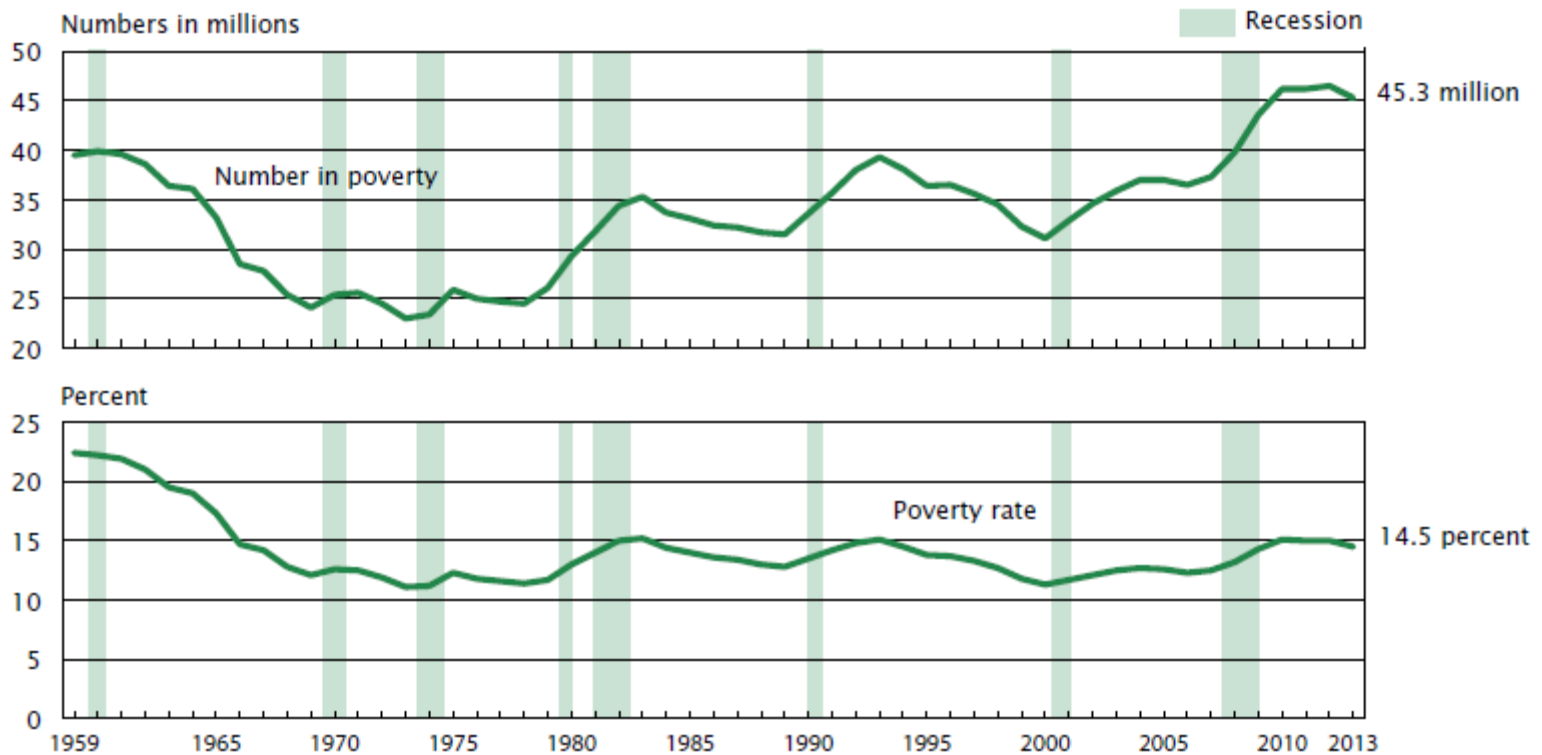
Household Income

Real Median Household Income by Race and Hispanic Origin: 1967 to 2013



Poverty Rate in USA

Number in Poverty and Poverty Rate: 1959 to 2013

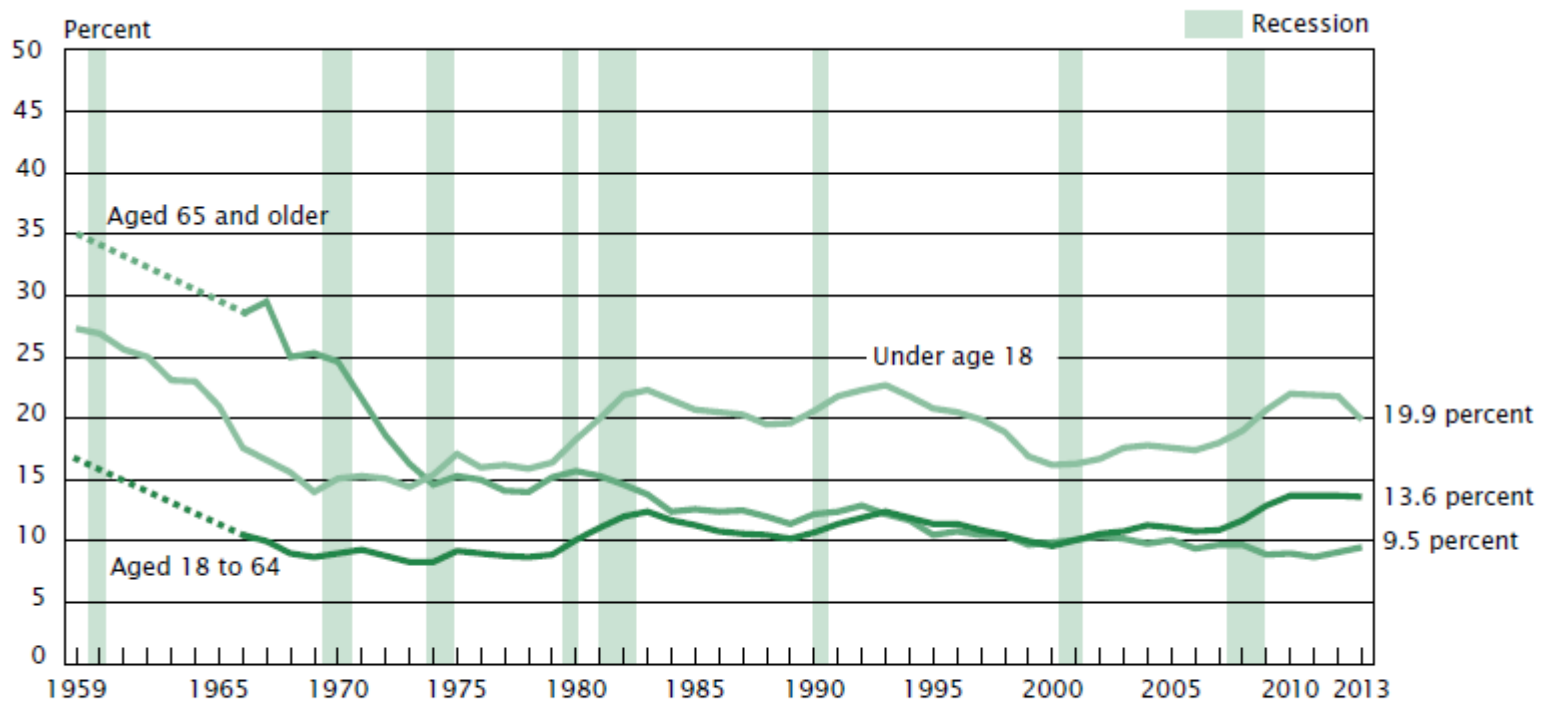


Note: The data points are placed at the midpoints of the respective years. For information on recessions, see Appendix A. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see <ftp://ftp2.census.gov/programs-surveys/cps/techdocs/cpsmar14.pdf>.

Source: U.S. Census Bureau, Current Population Survey, 1960 to 2014 Annual Social and Economic Supplements.

Poverty Rates by Age Group

Poverty Rates by Age: 1959 to 2013

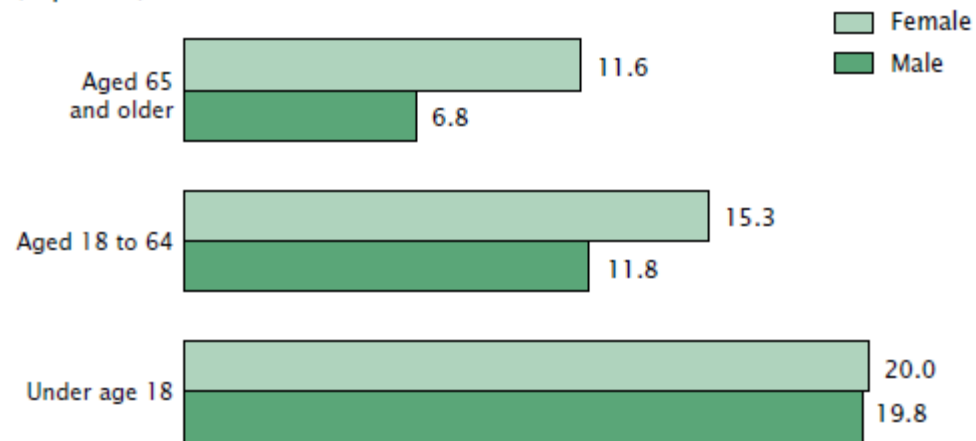


Note: The data points are placed at the midpoints of the respective years. Data for people aged 18 to 64 and 65 and older are not available from 1960 to 1965. For information on recessions, see Appendix A. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see <ftp://ftp2.census.gov/programs-surveys/cps/techdocs/cpsmar14.pdf>.

Source: U.S. Census Bureau, Current Population Survey, 1960 to 2014 Annual Social and Economic Supplements.

Poverty Rates by Age by Sex: 2013

(In percent)

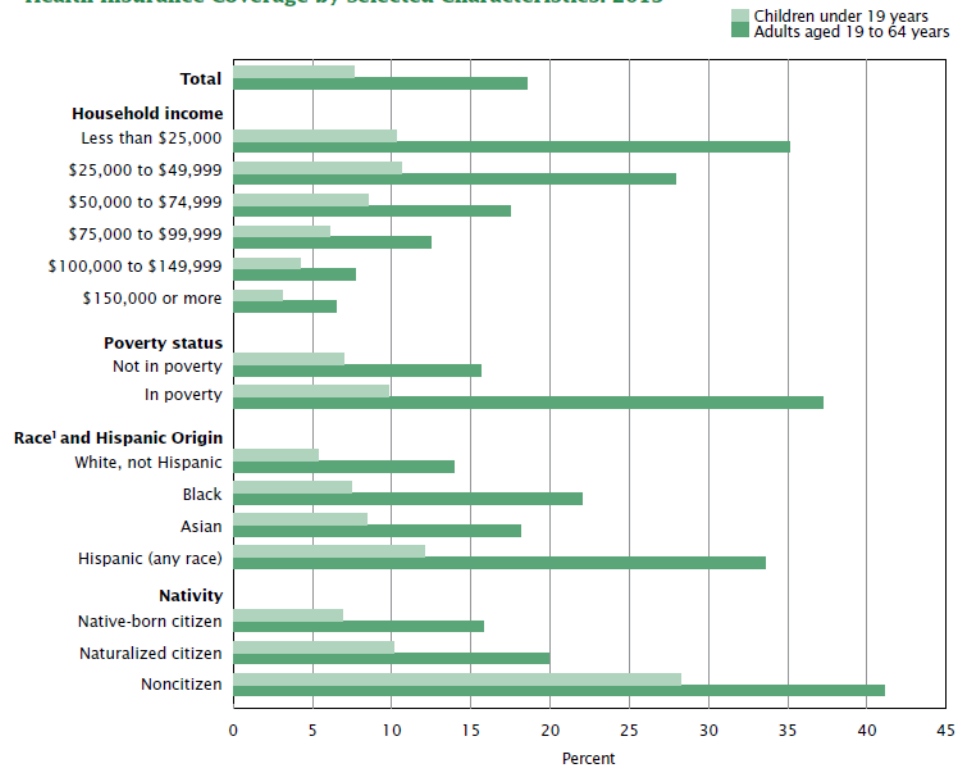


Note: For information on confidentiality protection, sampling error, nonsampling error, and definitions, see <ftp://ftp2.census.gov/programs-surveys/cps/techdocs/cpsmar14.pdf>.

Source: U.S. Census Bureau, Current Population Survey, 2014 Annual Social and Economic Supplement.

Relationship Between Household Income and Health Insurance Status

Children Under 19 Years of Age and Adults Aged 19 to 64 Years Without Health Insurance Coverage by Selected Characteristics: 2013

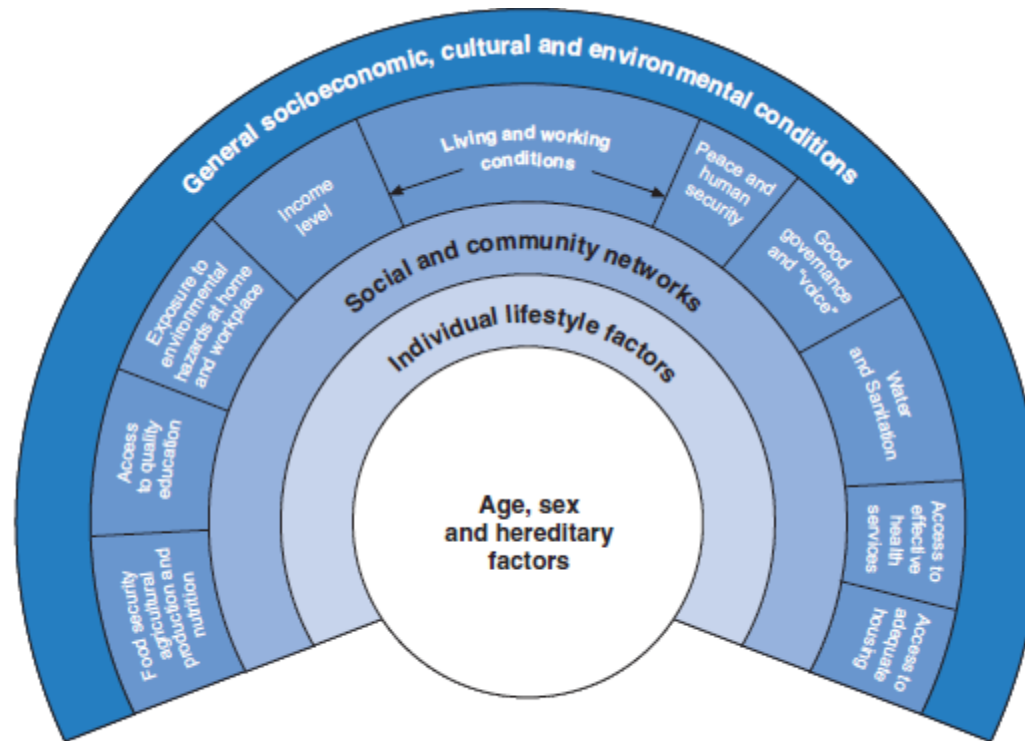


¹ Federal surveys give respondents the option of reporting more than one race. This figure shows data using the race-alone concept. For example, Asian refers to people who reported Asian and no other race.

For information on confidentiality protection, sampling error, nonsampling error, and definitions, see <<ftp://ftp2.census.gov/programs-surveys/cps/techdocs/cpsmar14.pdf>>.

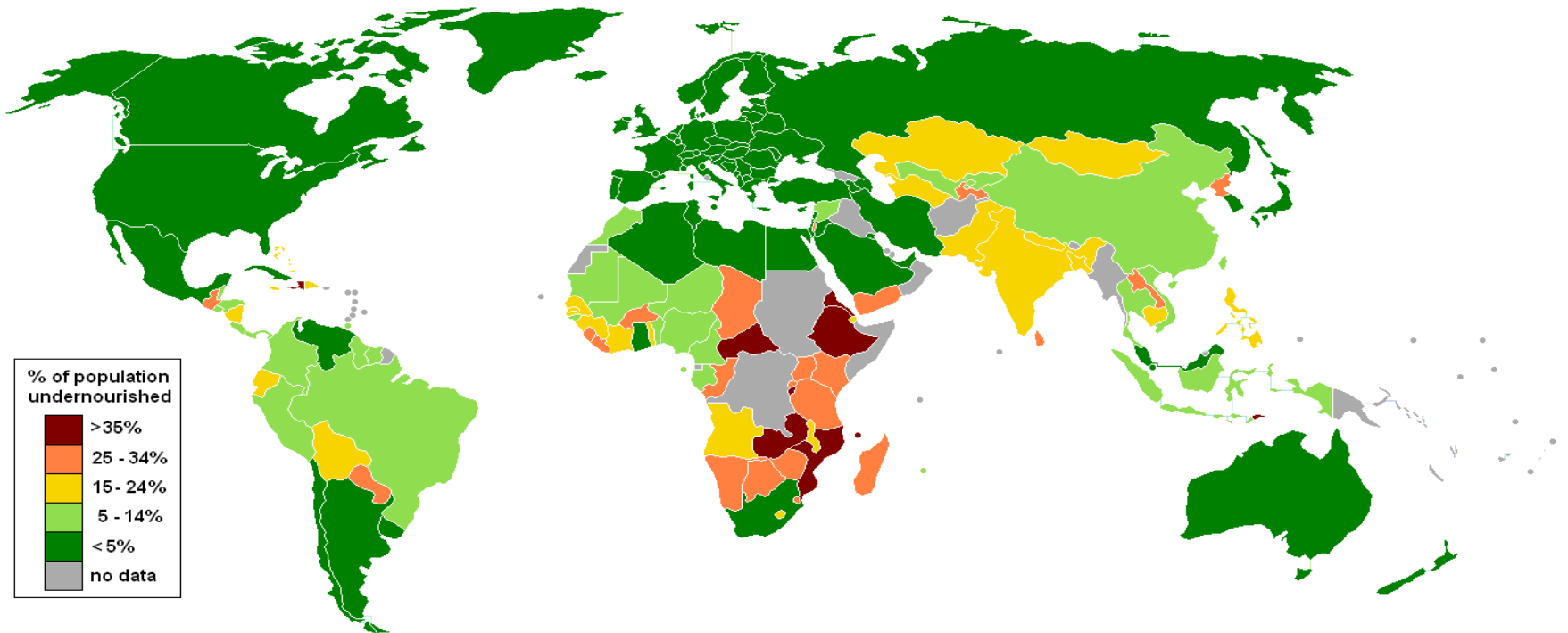
Source: U.S. Census Bureau, Current Population Survey, 2014 Annual Social and Economic Supplement.

Main Determinants of Health



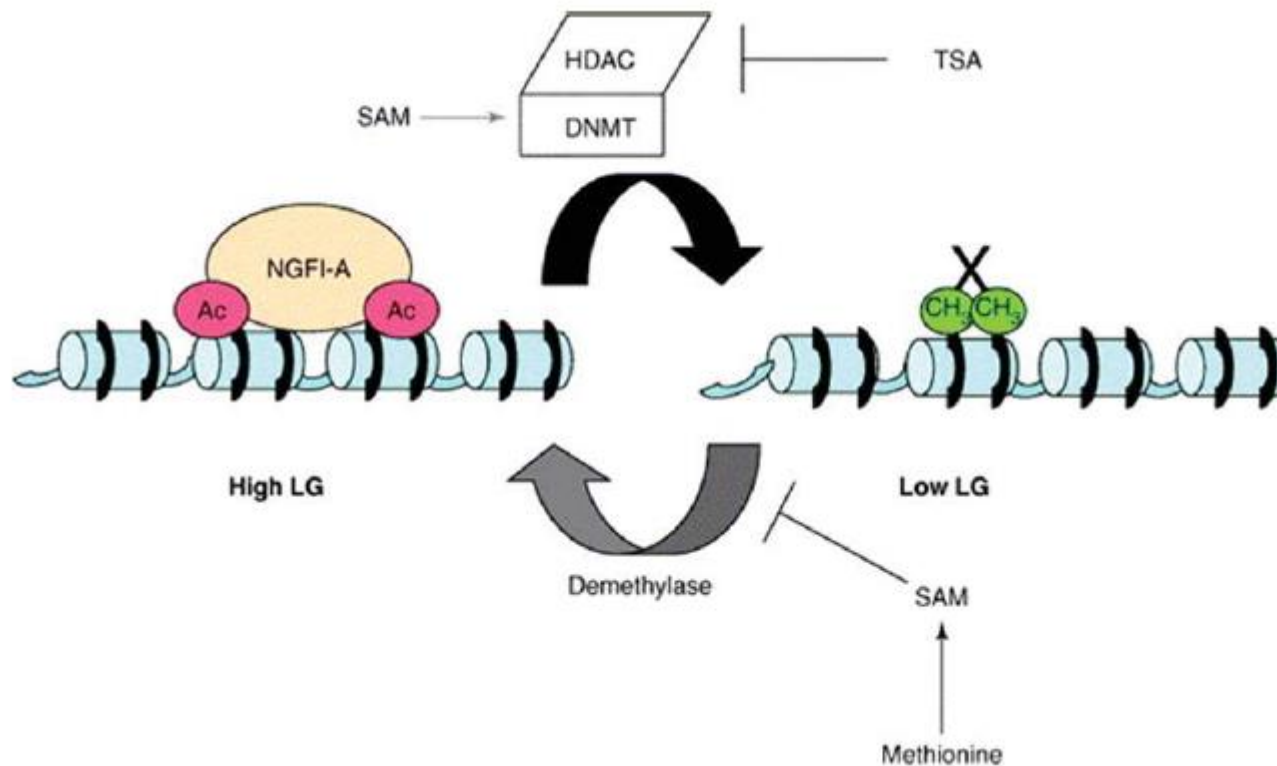
Adapted from: Dahlgren, G. and M. Whitehead (1991), *Policies and Strategies to Promote Social Equity in Health*, Institute of Futures Studies, Stockholm.

Impact of Poverty- Under nutrition



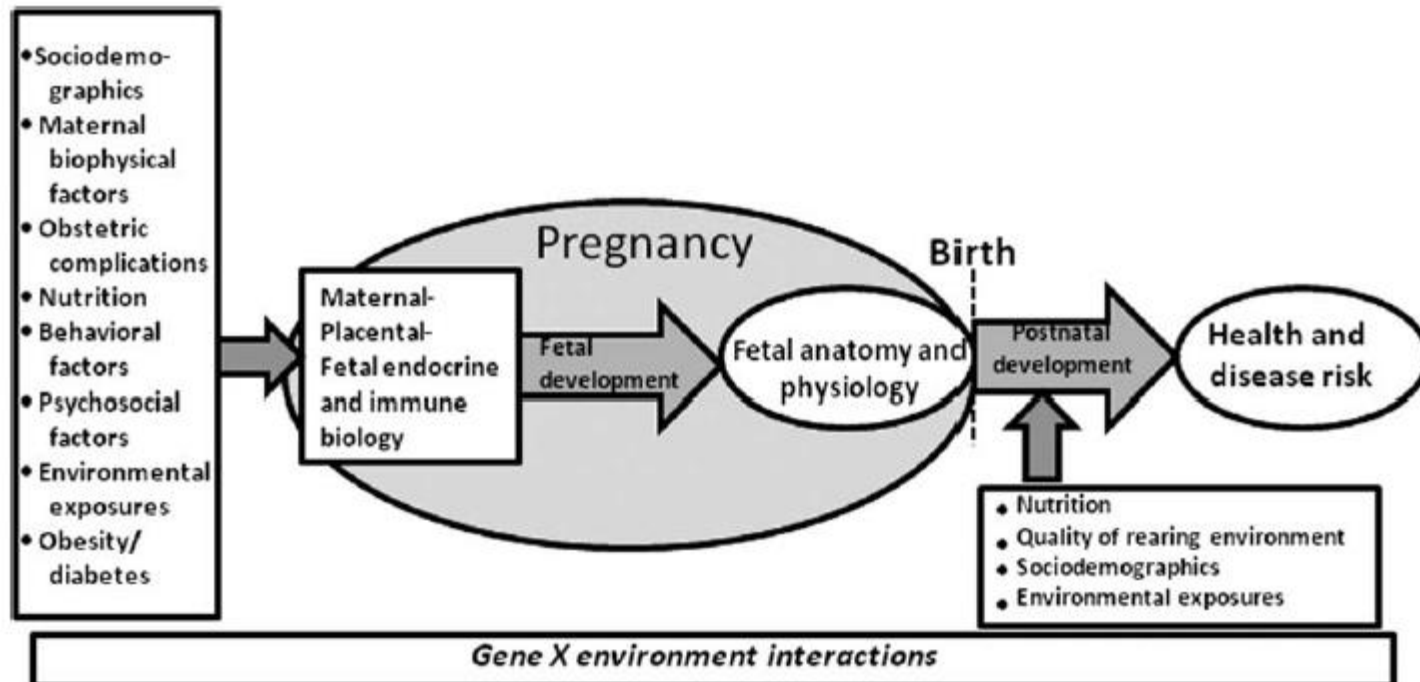
Maternal Stress and GR Gene Expression

Curtis E. Grace, Sung-Jae Kim, and John M. Rogers*



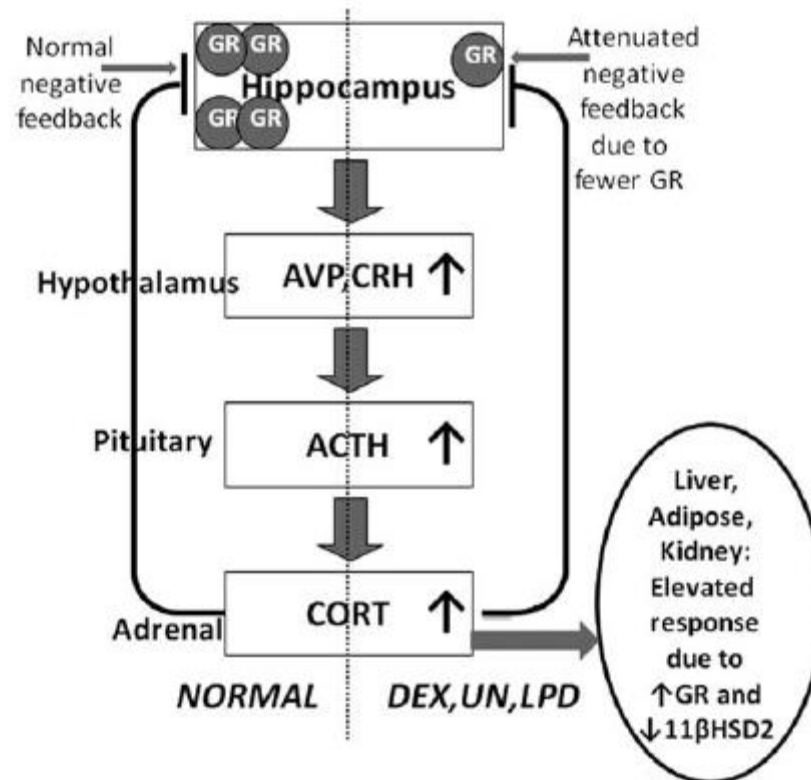
Effects of Environmental Factors on Pregnancy, Fetus and Newborn

Curtis E. Grace, Sung-Jae Kim, and John M. Rogers*



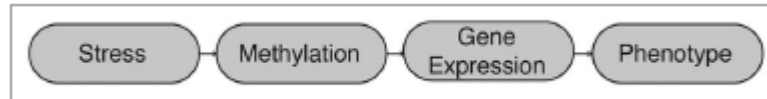
HPA Axis Under Normal and Stressed Conditions

Curtis E. Grace, Sung-Jae Kim, and John M. Rogers*

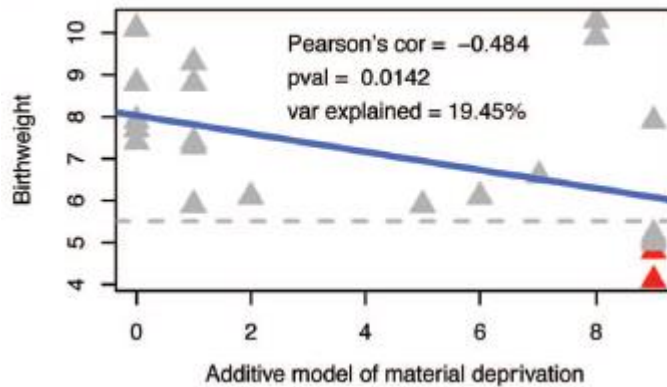


Maternal Prenatal Stress, Methylation of Genes and Phenotype

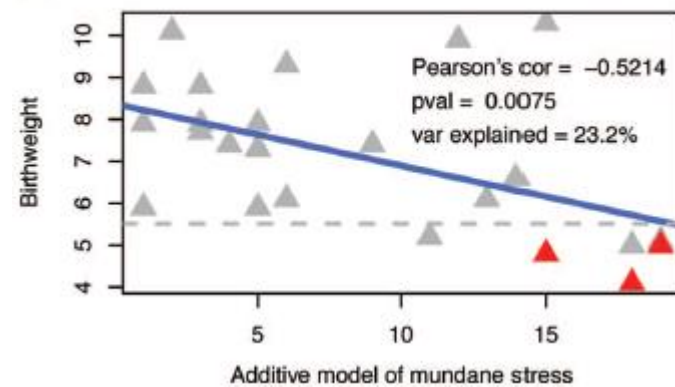
Connie J. Mulligan,^{1,2,*} Nicole C. D'Errico,¹ Jared Stees² and David A. Hughes^{1,2}



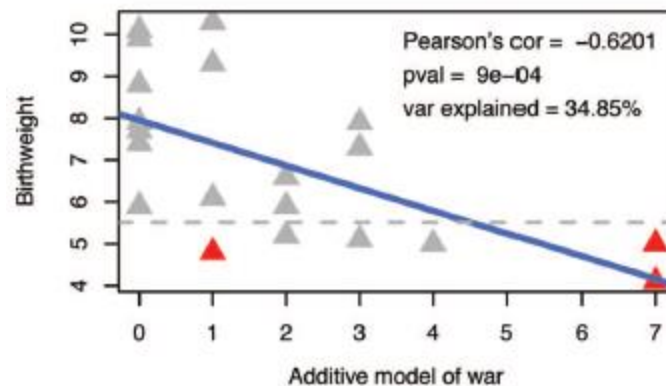
A Effects of material deprivation on birthweight



B Effects of mundane stress on birthweight

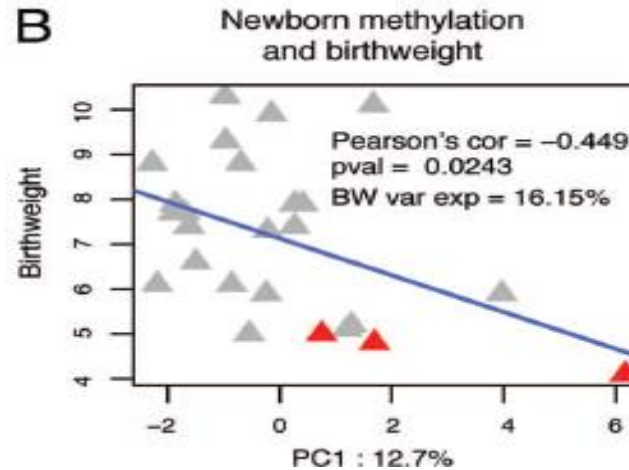
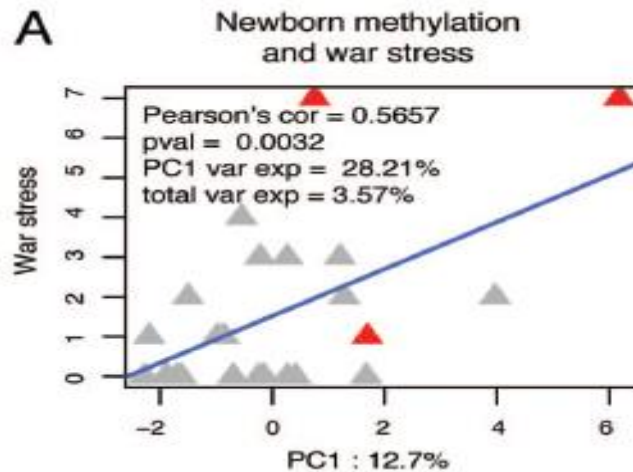


C Effects of war on birthweight



Newborn Methylation with War Stress and Birth Weight

Connie J. Mulligan,^{1,2,*} Nicole C. D'Errico,¹ Jared Stees² and David A. Hughes^{1,2}



Strategy

