

BIOGRAPHICAL SKETCH

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NAME Adair, Linda S.	POSITION TITLE Professor of Nutrition; Director, Nutrition Epidemiology Division		
eRA COMMONS USER NAME LADAIR			
EDUCATION/TRAINING (<i>Begin with baccalaureate or other initial professional education, such as nursing,</i>			
INSTITUTION AND LOCATION	DEGREE (<i>if applicable</i>)	YEAR(s)	FIELD OF STUDY
State University of New York at Stony Brook	B.S.	1971	Biological Sciences
University of Pennsylvania, Philadelphia, PA	Ph.D.	1980	Biological Anthropology
University of North Carolina at Chapel Hill	Postdoc	1986-88	Interface of Human Biology & Demography

A. Personal Statement

I am a human biologist/nutrition epidemiologist interested in lifecourse health, primarily in low and middle income countries. I have led the Cebu (Philippines) Longitudinal Health and Nutrition Survey for the past two decades. The Cebu and Guatemala studies share many common features, especially with respect to examination of emerging cardiometabolic risk in adults with a history of undernutrition in childhood. I have successfully collaborated with Aryeh Stein, the Guatemala project PI on several papers. I have expertise in longitudinal modeling of health outcomes, with recent work focusing on how changing environments affect the development of obesity and cardiometabolic disease outcomes. I have extensive experience in interdisciplinary research and a strong history of leading collaborative research projects across multiple institutions.

B. Positions and Employment

1979-80	Instructor, Department of Anthropology, University of Pennsylvania, Philadelphia, PA
1980	Lecturer in Nutrition, School of Dental Medicine, University of Pennsylvania, Philadelphia, PA
1980-85	Assistant Professor, Department of Anthropology, Rice University, Houston, TX
1985-88	Associate Professor, Department of Anthropology, Rice University, Houston, TX
1986-88	Postdoctoral Fellow, Carolina Population Center, University of North Carolina at Chapel Hill, Chapel Hill, NC (UNC-CH)
1988-02	Associate Professor, Department of Nutrition, UNC-CH
1988-	Fellow, Carolina Population Center, UNC-CH
2002-	Professor, Department of Nutrition, UNC-CH
2004-08	Associate Chair for Academic Affairs, Department of Nutrition, UNC-CH
2008-	Director, Nutrition Epidemiology Division, Department of Nutrition, UNC-CH

C. Selected Peer-reviewed Publications (selected from 158)

1. Adair, LS (2004) Dramatic Rise in Overweight and Obesity in Adult Filipino Women and Risk of Hypertension. *Obesity Research* 12 (8):1335-1341.
2. McDade TW, Rutherford JN, Adair L, Kuzawa C. (2008) Adiposity and pathogen exposure predict C-reactive protein in filipino women. *J Nutr.* 138(12):2442-7.
3. Victora CG, Adair LS, Fall C, Hallal PC, Richter LM, Sachdev HS, for the Maternal Child Undernutrition Study Group. Maternal and Child Undernutrition: Consequences for Adult Health and Human Capital. *Lancet.* 2008;371:340-57. PMID: PMC2258311
4. Adair LS, Martorell R, Stein AD, Hallal PC, Sachdev HS, Prabhakaran D, Wills AK, Norris SA, Dahly DL, Lee NR, Victora CG for the COHORTS group. Size at Birth, Weight Gain in Infancy and Childhood, and Adult Blood Pressure in 5 Low and Middle Income Country Cohorts: When Does Weight Gain Matter? [Open Access]. *American Journal of Clinical Nutrition.* 2009; 89:1383-92. PMC2720838

5. Kelles A, Adair L. Offspring Consume a More Obesogenic Diet than Mothers in Response to Changing Socioeconomic Status and Urbanization in Cebu, Philippines. *International Journal of Behavioral Nutrition and Physical Activity*. 2009, 6:47. PMID: PMC2734565
6. Rutherford JN, McDade TW, Lee NR, Adair L, Kuzawa C. (2009) Change in waist circumference over 11 years and current waist circumference independently predict elevated CRP in Filipino women. *Am J Hum Biol*. 2010 May-Jun;22(3):310-5. PMID: 19856425.
7. Martorell R, Horta BL, Adair LS, Stein AD, Richter LM, Fall CHD, Bhargava SK, Dey Biswas SK, Perez L, Barros FC, Victora CG, and Consortium on Health Orientated Research in Transitional Societies Group. Weight Gain in the First Two Years of Life Is an Important Predictor of Schooling Outcomes in Pooled Analyses from Five Birth Cohorts from Low- and Middle-Income Countries [Open Access]. *Journal of Nutrition* 2010; 140, no. 2: 348-54. PMID: PMC2806888
8. Adair LS, Popkin BM, Akin JS, Guilkey DK, Gultiano S, Borja JB, Perez L, Kuzawa CW, McDade TW, Hindin MJ. Cohort Profile: The Cebu Longitudinal Health and Nutrition Survey. *International Journal of Epidemiology*. Int J Epidemiol. 2010 May 27. [Epub ahead of print] PubMed PMID: 20507864
9. McDade TW, Rutherford J, Adair L, Kuzawa CW. (2010) Early origins of inflammation: microbial exposures in infancy predict lower levels of C-reactive protein in adulthood. *Proc Biol Sci*. 277(1684):1129-37. Epub 2009 Dec 9. PubMed PMID: 20007176. PMID: PMC2842762
10. Katz EG, Stevens J, Truesdale KP, Cai J, Adair LS, North KE. Hip circumference and incident metabolic risk factors in Chinese men and women: the People's Republic of China study. *Metab Syndr Relat Disord*. 2011 Feb;9(1):55-62. Epub 2010 Nov 20. PubMed PMID: 21091063
11. Slining MM, Kuzawa CW, Mayer-Davis EJ, Adair LS. Evaluating the Indirect Effect of Infant Weight Velocity on Insulin Resistance in Young Adulthood: A Birth Cohort Study From the Philippines. *Am J Epidemiol*. 2011 Feb 11. [Epub ahead of print] PubMed PMID: 21317221.
12. Croteau-Chonka DC, Marvelle AF, Lange EM, Lee NR, Adair LS, Lange LA, Mohlke KL. Genome-wide association study of anthropometric traits and evidence of interactions with age and study year in Filipino women. *Obesity (Silver Spring)*. 2011 May;19(5):1019-27. Epub 2010 Oct 21. PubMed PMID: 20966902; PubMed Central PMCID: PMC3046220.
13. Dahly DD, Adair LS (2010) Does lower birth order amplify the association between high socio-economic status and central adiposity in young adult Filipino males? *International Journal of Obesity Apr*;34:751-759 (NIHMS158686, Publ.ID: 2009IJO00376R)
14. Adair LS, Gultiano S, Suchindran C. 20-Year Trends in Filipino Women's Weight Reflect Substantial Secular and Age Effects. *J Nutr*. 2011 Feb 16. [Epub ahead of print] PubMed PMID: 21325475.
15. Feranil AB, Duazo PL, Kuzawa CW, Adair LS. Coconut oil is associated with a beneficial lipid profile in pre-menopausal women in the Philippines. *Asia Pac J Clin Nutr* 2011;20 (2):190-195D.

Research Support

Ongoing Research Support

1R01AG039443-01 (Adair, PI)

7/1/2011-6/30/2016

Multidimensional pathways to healthy aging among Filipino women

This study will add follow-up survey rounds to the Cebu Longitudinal Health and Nutrition Survey to study the multiple pathways that lead to morbidity and disability as women age. Outcomes will be assessed through biomarkers and objective measures of functional capacity. 25 year trajectories of diet, stress, nutrition, and social and environmental factors will be examined as determinants of health and functional status in women aged 45-68

OPP53107 (Bentley)

09/01/09-08/31/12

The Bill and Melinda Gates Foundation

Improving Nutritional Status and Health of Infants and Lactating Women through the Use of Lipid Based Nutrition Supplements (LNS): Evidence from a Longitudinal, Randomized Trial in Lilongwe, Malawi

Our main goal is to provide the scientific evidence to support the broad use of low-cost LNS to enhance the nutritional status of women and children.

Role: Co-Investigator, Data Analysis Director

5R01HD057194-02 (Gordon Larsen)

09/30/08-06/30/13

NIH/NICHD

Gene-Environment Interactions and Weight Gain

The objective of this research is to investigate how genes, environment, and gene environment interactions influence temporal changes in body mass index (BMI) at vulnerable periods of the life cycle.

Role: Co-Investigator

5R03TW008133-03 (Adair, PI)

08/01/08-04/30/12

NIH/Fogarty

Relating Multiple Dimensions of Stress to CVD Risk in Filipino Adults Collaboration

This FIRCA application is linked to a parent grant funded by NHLBI, titled "Obesity Development and CVD Risk Factor Clustering in Filipino Women & Offspring" (HL085144). The parent grant focuses on determinants of weight trajectories over a 20 year period, and on how diet, physical activity and weight gain relate to blood pressure and biomarkers of CVD risk. The FIRCA application extends research to examine the role of a wide range of psychosocial, environmental and behavioral factors that represent multiple dimensions of stress.

5R01HD030880-16 (Popkin)

08/15/94-05/31/13

NIH/NICHD

Monitoring Social Change: Health, Reproduction, Aging

This project is collecting and disseminating three additional rounds of survey data in Russia and a fifth wave of data collection in China, the latter of which includes extensive biomarker in addition to survey data.

Role: Co-Investigator

5R01HL085144-04 (Adair, PI)

08/01/06-07/31/10

NIH/NHLBI

Obesity Development and CVD Risk Factor Clustering in Filipino Women & Offspring

This project aims to identify determinants of weight gain and development of cardiovascular disease risk factors in an Asian population undergoing the nutrition transition.

5R01DK078150-03 (Mohlke)

04/01/07-03/31/11

NIH/NIDDK

Genetic Epidemiology of Body Mass Index, Adiposity and Weight Gain

This study tests candidate genes for association with obesity related traits and weight gain across 22 years in women from the Cebu Longitudinal Health and Nutrition Survey and evaluates interactions with diet composition and physical activity.

Role: Co Investigator

5R01HD054501-02 (Adair. PI)

09/18/08-06/30/13

NIH/NICHD

Modeling the Developmental Origins of Adult Disease Risk Factors

This research is a novel application of structural equation models to identify the complex pathways through which cardiovascular disease (CVD) risk factors develop from the prenatal period to young adulthood.

The project uses data from an ongoing community based study of a birth cohort from Cebu, Philippines.

1R21DK089306-01 (Gordon-Larsen)

07/15/10-04/30/12

NIH/NIDDK

Heterogeneity in Cardiometabolic Risk with Obesity: Who Is at Risk?

The proposed study takes advantage of 20-year longitudinal data from approximately 9,000 individuals enrolled in the China Health and Nutrition Survey, to examine how the timing and duration of obesity and central adiposity shape variability in current cardiometabolic risk underlying the "metabolically healthy – overweight" and the "metabolically at risk – normal weight" phenotypes in children, adolescents, young- and middle-aged adults.

Role: Co-Investigator

Completed Research Support

CDC Special Interest (van Der Horst)

09/30/04-09/29/09

Centers for Disease Control

Breastfeeding, Antiretrovirals, and Nutrition in HIV (BAN)
Role: Co-Investigator

5R01TW005596 (Adair) 05/05/01-04/30/08
NIH
Effect of Health on Education and Work in Filipino Youth
Role: PI

5R01HD042219 (Bentley) 04/05/02-03/31/09
NIH/NICHD
Infant Care, Feeding, and Risk of Obesity
Role: Co-Investigator

5U24HD048401 (Entwisle) 07/01/04-06/30/09
University of Michigan Subcontract via NIH/NICHD
(Myron Guttman, PI of NIH/NICHD grant)
Demographic Data Sharing and Archiving
Role: Co-Investigator

5R03HD057775-02 (Bentley) 09/30/07-08/31/10
NIH/NICHD
The Feasibility of Replacement Feeding as an HIV Prevention Method in Malawi
The Breastfeeding, Antiretroviral, and Nutrition (BAN) study is an ongoing, randomized controlled trial in Lilongwe, Malawi that is evaluating antiretroviral and nutrition interventions to reduce mother to child transmission of HIV during breastfeeding. This information will help to guide the Malawi government policy and others on the feasibility of the provision of a high quality breastmilk replacement for HIV positive mothers after exclusive breastfeeding counseling.
Role: Investigator

1R03HD057637-02 (Adair) 09/30/07-09/29/10
NIH/NICHD
Prenatal Nutrition and Adverse Birth Outcomes in HIV Infected Women in Malawi
Role: PI

5U48DP000059 05 (Ammerman) 09/30/04-09/29/10
CDC
UNC Center for Health Promotion and Disease Prevention
An innovative intervention approach to address the serious problem of obesity among low income and minority women in two rural counties in NC.
Role: Investigator