

Sera Young

Web Bio

Information

Biography

Biographical Statement

My academic and personal commitment to public health in low-resource settings stems from more than a decade of first-hand experiences with the devastating consequences of poor maternal and child health. After my BA in Cultural Anthropology at the University of Michigan, I pursued an MA in Medical Anthropology (University of Amsterdam), where I studied maternal anemia in Zanzibar, Tanzania. For my PhD in International Nutrition (Cornell University) I returned to observations about maternal anemia in Tanzania: that anemic women craved earth, raw starch and other non-food substances, a behavior called pica. I used a variety of methods, including the construction of a database quantifying cultural-level reports of pica; the biochemical analysis of pica substances; and parasitological analyses of pica substances. These data, combined with a large epidemiological study among an obstetric population in Tanzania, yielded the richest dataset on pica to date.

During my post-doctoral and faculty positions at University of California (UC) Berkeley, UC Davis, and UC San Francisco, I was involved with a number of NIH-funded studies pertaining to HIV in sub-Saharan Africa, including MAKILIKA, a study in Tanzania examining the feasibility of the reduction of postnatal transmission of HIV through breast milk pasteurization; PROMOTE, a series of linked trials in Uganda investigating the effects of antiretroviral therapy (ARV) on malaria and HIV; and Shamba Maisha, an expanded pilot study in rural Kenya of the effects of a multi-level intervention on food insecurity and HIV.

In mid-2011, I returned to Cornell to join the Division of Nutritional Sciences as a faculty member, where I continue to pursue issues related to maternal and child nutrition and global health. My group now takes a holistic, ecological perspective in our pursuit of healthier mothers and children. We focus on the intersections of maternal health, infant feeding, HIV, and micronutrient deficiencies. Major research questions include: What are the most effective interventions to improve the health of HIV-infected pregnant women and their children? What are the mechanisms by which food insecurity is deleterious? and, What are the relationships between pica and iron deficiency?

Teaching

Teaching and Advising Statement

I currently mentor a number of graduate, medical, and undergraduate students

(<http://serayoung.org/our-group/>), all of whom are working on projects related to maternal and child health.

Professional

Current Professional Activities

World Food Program :: Inter-agency Task Team for Food, Nutrition, and HIV — Member 2014 —

American Society for Nutrition :: Early Career Representative for the Governance Committee of the Global Nutrition Council 2014-2016; Graduate and Professional Education Executive Committee Member— 2006-2008

Dannon Nutrition Leadership Institute :: President-elect — 2012-2015; Treasurer — 2010-2012

Society for the Anthropology of Food and Nutrition :: Vice-President — 2012-2014; National Meeting Program Chair — 2010-2012

Ad hoc reviewer :: Advances in Nutrition, African Health Sciences, African Journal of Biotechnology, African Journal of AIDS, American Journal of Human Biology, American Journal of Obstetrics and Gynecology, American Journal of Tropical Medicine and Hygiene, Berghahn Books, BMC Breastfeeding Medicine, BMC Medicine, BMC Pregnancy and Childbirth, BMC Research Notes, Ecology of Food and Nutrition, Environmental Geochemistry and Health, Epidemiology and Infection, International Breastfeeding Journal, International Journal of Obesity, Journal of Acquired Immune Deficiency Syndrome, Journal of AIDS and Clinical Research, Journal of AIDS and HIV Research, Journal of Health, Population, and Nutrition, Journal of Nutrition, Journal of Tropical Ecology, Maternal and Child Health Journal, Maternal and Child Nutrition, Medical Anthropology, Medical Anthropology Quarterly, Medische Antropologie, National Research Foundation (South Africa), PLoS One, Population Health Metrics, Public Health Nutrition, Science Translational Medicine, Scientific Research and Essays, Sigma Delta Epsilon/Graduate Women in Science Fellowship, Social Science and Medicine, Texas Biomedical Research Institute, Transactions of the Royal Society of Tropical Medicine and Hygiene, UCSF's Center of Excellence in Women's Health

Research

Current Research Activities

My long-term career goal is to understand and ameliorate the contributions of environmental and behavioral factors to poor maternal and child nutrition. To accomplish this, we use qualitative and quantitative expertise in the design and implementation of efficacious, culturally acceptable interventions that reduce morbidity and mortality of mothers & young children.

My group works on two major areas.

1. The intersection of nutrition and HIV, especially the reduction of postnatal HIV transmission through safe infant feeding and nutritional support for pregnant

and lactating women living with HIV.

2. The causes and consequences of pica, (the craving of non-food substances like ash, chalk, earth, lots of ice, and uncooked starches) using nutritional and anthropological perspectives.

We have active research on these questions in Kenya, Uganda, Mozambique, Tanzania, and the United States.

Extension

Education

Education

Cornell University :: Ithaca, NY — 2003-2008
PhD in International Nutrition. Division of Nutritional Sciences.

University of Amsterdam :: Amsterdam, the Netherlands — 2001-2002
MA in Medical Anthropology. Highest Honors.

Taasisi Institute of Kiswahili and Foreign Languages :: Zanzibar, Tanzania —
2000 Introduction, Intermediate, and Advanced Swahili Courses.

University of Michigan :: Ann Arbor, MI — 1995-1999
BA in Anthropology. High Honors. Secondary Level Teaching Certificate.

Katholieke Universiteit of Leuven :: Leuven, Belgium — 1996-1997
Junior Year Abroad Program through the University of Pennsylvania.

United World College of the Atlantic :: Wales, UK — 1993-1995
International Baccalaureate.

Courses

Courses Taught

NS 4010 - Empirical Research

Websites

Related Websites

Administration

Publications

Selected Publications

Peer-reviewed articles

**Graduate/medical student advisee, *Undergraduate advisee

Young, S.L., Natamba, B.,** Luwedde, F., Nyafwono, D., Okia, B., Osterbauer, B., Natureeba, P., Johnson, L., Michel, C., Zheng, A.,* Robine, M.,* Achan, J., Charlebois, E., Cohan, D., Havlir, D. "I have remained strong because of that food": Acceptability and use of lipid-based nutrient supplements among pregnant HIV-infected Ugandan women receiving combination antiretroviral therapy. *AIDS and Behavior*, in press.

Miao, D.,* **Young, S.L.**, & Golden, C.D. A meta-analysis of pica and micronutrient status. *American Journal of Human Biology*, in press. DOI: 10.1002/ajhb.22598 (Cover article.)

Natamba, B.,** Kilama, H., Arbach, A.,** Achan, J., Ghosh, S., Griffiths, J., & **Young, S.L.** Reliability and validity of an individually-focused food insecurity access scale for assessing perceived food access among pregnant Ugandan women of mixed HIV status. *Public Health Nutrition*, <http://dx.doi.org/10.1017/S1368980014001669>.

Lumish, R.A.,* **Young, S.L.**, Lee, S., Cooper, E., Pressman, E., Guillet, R., O'Brien, K.O. Gestational Iron Deficiency is Associated with Pica Behaviors in Adolescents. *Journal of Nutrition*, doi: 10.3945/jn.114.192070.

Lin, J.,* Temple, L.,* Trujillo, C., Mejia-Rodriguez, F., Goldman Rosas, L., Fernald, L., & **Young, S. L.** (2014). Pica during pregnancy among Mexican-born women: a formative study. *Maternal and Child Nutrition*, doi: 10.1111/mcn.12120.

Young, S. L., Plenty, A., Luwedde, F., Natamba, B.,** Natureeba, P., Achan, J., et al. (2014). Household food insecurity, maternal nutritional status, and infant feeding practices among HIV-infected Ugandan women receiving combination antiretroviral therapy. *Maternal and Child Health*, 18(9):2044-53. doi: 10.1007/s10995-014-1450-y.

Nagata, J. M.,** Cohen, C. R., **Young, S. L.**, Wamuyu, C., Armes, M. N., Otieno, B. O., Leslie, H.H., Dangu, M., Stewart, C., Bukusi, E.A., Weiser, S.D. (2014). Descriptive characteristics and health outcomes of the Food by Prescription nutrition supplementation program for adults living with HIV in Nyanza Province, Kenya. *PLoS One*, 9(3), e91403. doi:10.1371/journal.pone.0091403.t003

Jones, A.D., Ngure, F.M., Pelto, G., **Young, S.L.** (2013) What are we assessing when we measure food security?: A compendium and review of current metrics. *Advances in Nutrition*. 4, 481-505, doi: 10.3945/an.113.004119.

Bartelink, I. H., Savic, R. M., Mwesigwa, J., Achan, J., Clark, T., Plenty, A., Charlebois, E., Kanya, M., **Young, S.L.**, Gandhi, M., Havlir, D., Cohan, D., Aweeka, F. (2013). Pharmacokinetics of lopinavir/ritonavir and efavirenz in food insecure HIV-infected pregnant and breastfeeding women in Tororo, Uganda. *Journal of Clinical Pharmacology*, doi:10.1002/jcph.167.

Tuthill, E., McGrath, J., **Young, S.L.** (2013) Commonalities and differences in infant feeding attitudes and practices in the context of HIV in Sub-Saharan Africa: a Metasynthesis. *AIDS Care*. doi 10.1080/09540121.2013.813625.

Young, S.L., Wheeler, A., McCoy, A., Weiser, S. (2013) A review of the role of food insecurity in adherence to care and treatment among adult and pediatric populations living with HIV and AIDS. *AIDS and Behavior*. doi:10.1007/s10461-013-0547-4

Seim, G.L., Ahn, C.I., Bodis, M.S., Luwedde, F., Miller, D., Tako, E., Glahn, R., **Young, S.L.** (2013) Bioavailability of iron in geophagic earths and clay minerals, and their effect on dietary iron absorption using an in vitro digestion/Caco-2 cell model. *Food and Function*. 4(8), 1263–1270. doi:10.1039/c3fo30380b

Pebsworth, P., Seim, G., Huffman, M., Glahn, R., Tako, E., **Young, S.L.** (2013) Soil consumed by chacma baboons is low in bioavailable iron and high in clay. *Journal of Chemical Ecology*. 39(3), 447–449. doi:10.1007/s10886-013-0258-3

Young, S. L., Leshabari, S., Arkfeld, C., Singler, J., Chantry, C.J. et al. (2012) Barriers to and promoters of home-based breastmilk pasteurization: an ethnographic investigation. *Breastfeeding Medicine*.

Golden, C. D., Rasolofoniaina, B. J. R., Benjamin, R., **Young, S. L.** (2012) Pica and amylophagy are common among Malagasy men, women and children. *PLoS One*. 7(10): e47129. doi:10.1371/journal.pone.0047129.

Young, S., Murray, K., Mwesigwa, J., Natureeba, P., Osterbauer, B., Achan, J., Arinaitwe, E., Clark, T., Ades, V., Charlebois, E., Ruel, T., Kanya, M., Havlir, D., Cohan, D. (2012) Maternal nutritional status predicts adverse obstetric & fetal outcomes among HIV-infected rural Ugandan women receiving combination ART. *PLoS One*, 7(8) e41934. doi:10.1371/journal.pone.0041934.t003

Patil, C. and **Young, S.L.** (2012) Biocultural considerations of food cravings and aversions: An introduction. *Ecology of Food and Nutrition*, 51(5), 365–373. doi:10.1080/03670244.2012.696007

Patil, C. R., Steinmetz, A.R, Abrams, E.T. and **Young, S.L.** (2012) Appetite sensations and nausea and vomiting of pregnancy: An overview of the explanations. *Ecology of Food and Nutrition*. 51(5), 394–417. doi:10.1080/03670244.2012.696010.

Steinmetz, A.R., Abrams, E.T., **Young, S.L.** (2012) Patterns of gustatory and olfactory aversions and nausea and vomiting during pregnancy on Pemba Island, Zanzibar, Tanzania. *Ecology of Food and Nutrition* 51(5), 418–430. doi:10.1080/03670244.2012.696011.

Arinaitwe, E., Gasasira, A., Verret, W., Homsy, J., Wanzira, H., Kakuru, A., Sandison, T., **Young, S.**, Tappero, J., Kanya, M., Dorsey, G. (2012) The association between

malnutrition and the incidence of malaria among young HIV-infected and -uninfected Ugandan children: a prospective study. *Malaria Journal*, 11:90 doi:10.1186/1475-2875-11-90.

Chantry, C. J., **Young, S. L.**, Rennie, W., Ngonyani, M., Mashio, C., Israel-Ballard, K., Peerson, J., et al. (2012). Feasibility of using Flash-heated breastmilk as an infant feeding option for HIV-exposed, uninfected infants after 6 months of age in urban Tanzania. *JAIDS*, 60(1):43-50.

Weiser, S.D., **Young, S.L.**, Cohen, C.R., Tsai, A.C., Tien, P.C., Hatcher, A.M., Frongillo, E.A., Bangsberg, D.R. (2011) Conceptual framework for understanding the bidirectional links between food insecurity and HIV/AIDS. *American Journal of Clinical Nutrition* 94(6): 1729S-1739S.

Young, S.L., Mbuya, M.M., Chantry, C.J., Geubbels, E., Israel-Ballard, K., Cohan, D. Latham, M. (2011) Current knowledge and future research on infant feeding in the context of HIV: basic, clinical, behavioral and programmatic perspectives. *Advances in Nutrition* 2:225-243.

Young, S.L., Sherman, P.W., Lucks, J, Pelto, G. (2011) Why do people eat earth? A test of alternative hypotheses. *Quarterly Review of Biology* 86(2):97-120.

Young, S.L. (2010) Pica in Pregnancy: New Ideas About An Old Condition. *Annual Review of Nutrition* 30: 403-422.

Young, S.L., Israel-Ballard, K., Dantzer, E., Nyambo, M., Ash, D., Chantry, C.J. (2010) Infant feeding practices among HIV-positive women in Dar es Salaam, Tanzania indicate a need for more intensive infant feeding counseling. *Public Health Nutrition* 29:1-

Young, S.L., Khalfan, S., Farag, T., Kavle, J., Rasmussen, K., Pelto, G., Ali, S. M., Hamadi, B., Tielsch, J., Stoltzfus, R. (2010). Pica is associated with anemia and gastrointestinal distress among pregnant Zanzibari women. *American Journal of Tropical Medicine & Hygiene* 83(1):144-151.

Young, S.L., Hernandez Cordero, S., Blanco, I., Pelto, G. H., & Neufeld, L. M. (2010). Organoleptic properties, ease of use, and perceived health effects are determinants of acceptability of micronutrient supplements among poor Mexican women. *Journal of Nutrition* 140 (3):605-611. *selected by editor as the article of interest for March 2010

Young, S.L., Wilson, M.J., Hillier, S., Delbos, E. (2010). Differences and commonalities in physical, chemical and mineralogical properties of Zanzibari geophagic soils. *Journal of Chemical Ecology* 36(1): 129-140.

Young, S.L., Beckham, S, and Ali, S. M. (2009). The potential role of private pharmacies in maternal iron supplementation in rural Tanzania *Food & Nutrition Bulletin* 30(1):16-23.

Young, S.L., Wilson, M. J., Hillier, S., & Miller, D. D. (2008). Toward a comprehensive approach to the collection and analysis of pica substances, with emphasis on geophagic materials. *PLoS One*. 3(9): e3147.

Young, S. L., D. Goodman, T. H. Farag, S. M. Ali, M. R. Khatib, S. S. Khalfan, J. M. Tielsch, and R. J. Stoltzfus (2007). Geophagia is not associated with *Trichuris* or

hookworm transmission in Zanzibar, Tanzania. *Transactions of the Royal Society of Tropical Medicine and Hygiene*. **101**(8): 766-72

Young, S. L., and S. M. Ali. (2005). Linking traditional treatments of material anemia to iron supplement use: an ethnographic case study from Pemba Island, Zanzibar. *Maternal and Child Nutrition*. **1**(1): 51-58.

Young, S. L.(2004). On the role of the individual in the MEAH framework. *Medische Antropologie*. **16** (2): 280-1.

Young, S. L. (2004). "Listen, Without Blood There is No Life": An ethnography of anemia during pregnancy. *Nutritional Anthropology*. **26** (1-2) 10-19.

Letters to the editor

Chantry, C.J., Hanson, C.V., Israel-Ballard, K., and **Young, S.L.** Policy on Infant Feeding and Transmission of HIV Cites Outdated Information About Breastmilk Pasteurization. *Pediatrics*. March 21, 2013.

Young, S. L., Chantry, C. J., Vosti, S. A., Rennie, W. (2009). Infant feeding counseling: a neglected strategy for the reduction of MTCT. *AIDS*. **23**(18):2543-2544.

Book

Young, S.L. (2011) "Craving earth: Understanding pica" Columbia University Press

Book chapters

Young, S. L. and G. H. Pelto. (2011). "Core Concepts in Nutritional Anthropology." In *Nutritional Health: Strategies for Disease Prevention*. T Wilson and N. Temple, eds. 3rd ed., Humana Press. in press.

Young S.L. (2007). "Evidence for the Consumption of the Inedible: Who, what, when, where, and why." In *Consuming the Inedible: Cross-disciplinary approaches*. J. MacClancy, J. Henry and H. MacBeth, eds. Berghahn Press. pp. 17-30.

Young, S. L. (2007). "A Vile Habit? The Potential Biological Consequences of Geophagia, with special attention to iron." In *Consuming the Inedible: Cross-disciplinary approaches*. J. MacClancy, J. Henry and H. MacBeth, eds. Berghahn Press. pp. 67-79.

Young, S. L. and G. H. Pelto. (2005). "Core Concepts in Nutritional Anthropology." In *Nutritional Health: Strategies for Disease Prevention*. T Wilson and N. Temple, eds. 2nd ed., Humana Press. pp. 425-437.