

Stacy Rosenbaum, PhD

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Research Interests

I am a biological anthropologist who studies the ecological causes and evolutionary consequences of social behavior. My primary field and laboratory research focuses on a wild population of endangered mountain gorillas (*Gorilla beringei*) in the Great Lakes region of Africa that has been monitored for more than 50 years. My research program integrates behavioral, demographic, genetic, ecological, and physiological data to gain a richer understanding of the evolution of mammals generally, and the hominid lineage specifically.

Education

2014 PhD, Biological Anthropology, University of California-Los Angeles
2010 MA, Biological Anthropology, University of California-Los Angeles
2001 BA, Psychology, University of Wisconsin-Madison

Academic Appointments

2020-Present Assistant Professor
Department of Anthropology, University of Michigan
2019-2020 Postdoctoral Research Associate
Department of Biological Sciences, University of Notre Dame
2017-2018 Postdoctoral Fellow
Department of Anthropology, Northwestern University
2015-2016 National Science Foundation Postdoctoral Fellow
Institute for Mind and Biology, University of Chicago

Peer-Reviewed Publications

- 2021 **Rosenbaum S**, Eckardt W, Stoinski TS, Umuhoza R, Kuzawa CW, & Santymire, RM. Group structure, but not dominance rank, predicts fecal androgen metabolite concentrations of wild male mountain gorillas. *American Journal of Primatology*, e23295.
- 2021 **Rosenbaum S**, Kuzawa CW, McDade TW, Avila J, Bechayda SA, & Gettler LT. Fathers' care in context: 'facultative,' flexible fathers respond to work demands and child age, but not to alloparental help, in Cebu, Philippines. *Evolution and Human Behavior*, in press.
- 2021 Zeng S, **Rosenbaum S**, Archie EA, Alberts S, & Li F. Causal mediation analysis for sparse and irregular longitudinal data. *Annals of Applied Statistics*, 15(2), 747 – 767, DOI: 10.1214/20-AOAS1427.

*Authors contributed equally

- 2020 **Rosenbaum S**, Zeng S, Campos FA, Gesquiere LR, Altmann J, Alberts SC, & Archie EA. Social bonds do not mediate the relationship between early adversity and adult glucocorticoids in wild baboons. *Proceedings of the National Academy of Sciences*, DOI: 10.1073/pnas.2004524117.
- 2020 Lea A* & **Rosenbaum S***. Understanding how early life effects evolve: progress, gaps, and future directions. *Current Opinion in Behavioral Sciences*, DOI: 10.1016/j.cobeha.2020.06.006.
- 2020 Gettler LT, Boyette A, & **Rosenbaum S**. Broadening perspectives on the evolution of human paternal care and fathers' effects on children. *Annual Review of Anthropology*, DOI: 10.1146/annurev-anthro-102218-011216.
- 2020 Kuzawa CW, Adair L, Bechayda SA, Borja JRB, Carba DB, Duazo PL, Eisenberg DTA, Georgiev AV, Gettler LT, Lee NR, Quinn EA, **Rosenbaum S**, Rutherford J, Ryan C, McDade TW. Evolutionary life history theory as an organizing framework for cohort studies: Insights from the Cebu Longitudinal Health and Nutrition Survey. *Annals of Human Biology*, DOI: 10.1080/03014460.2020.1742787
- 2019 Eckardt W, Stoinski TS, **Rosenbaum S**, & Santymire RS. Social and ecological factors alter the stress physiology of Virunga mountain gorillas. *Ecology & Evolution*, DOI: 10.1002/ece3.5115
- 2018 **Rosenbaum S**, Vigilant L, Kuzawa CW, & Stoinski TS. Caring for infants is associated with increased reproductive success for male mountain gorillas. *Scientific Reports*, 8:15223
- 2018 **Rosenbaum S** & Gettler LT. With a little help from her friends (and family) I: the ecology and evolution of non-maternal caregiving in mammals. *Physiology & Behavior*, 193, 1-11.
- 2018 **Rosenbaum S** & Gettler LT. With a little help from her friends (and family) II: the physiology of non-maternal caregiving in mammals. *Physiology & Behavior*, 193, 12-24.
- 2018 **Rosenbaum S**, Gettler LT, McDade T, Augustin S, & Kuzawa CW. Does men's testosterone 'rebound' when dependent children grow up, or when pair bonds end? A test in Cebu, Philippines. *American Journal of Human Biology*, e23180.
- 2018 Gettler LT, Kuo P, **Rosenbaum S**, Avila J, McDade T, & Kuzawa CW. Sociosexuality, testosterone, and life history status: prospective associations and longitudinal changes among men in Cebu, Philippines. *Evolution & Human Behavior*, DOI: 10.1016/j.evolhumbehav.2018.11.001
- 2018 **Rosenbaum S**, Gettler LT, McDade T, Belarmino NM, & Kuzawa CW. The effects of collection and storage conditions in the field on salivary testosterone, cortisol, and sIgA values. *Annals of Human Biology*, DOI: 10.1080/03014460.2018.1495263.
- 2016 **Rosenbaum S**, Vecellio V, & Stoinski TS. Observations of severe and lethal coalitionary attacks in wild mountain gorillas. *Scientific Reports*, 6:37018.
- 2016 Eckardt W, Stoinski TS, **Rosenbaum S**, Umuhoza MR, & Santymire R. Validating faecal glucocorticoid metabolite analysis in the Virunga mountain gorilla using a natural biological stressor. *Conservation Physiology*, 4, cow029.
- 2016 **Rosenbaum S**, Hirwa JP, Silk JB, Vigilant L, & Stoinski TS. Infant mortality risk and paternity certainty are associated with postnatal maternal behavior toward adult male mountain gorillas. *PLoS One*, DOI: 10.1371/journal.pone.0147441

- 2016 **Rosenbaum S**, Hirwa JP, Silk JB, & Stoinski TS. Relationships between adult male and maturing mountain gorillas persist across developmental stages and social upheaval. *Ethology*, 122, 134-150.
- 2015 **Rosenbaum S**, Maldonado-Chapparo AA, & Stoinski TS. Group structure predicts variation in proximity relationships between male-female and male-infant pairs of mountain gorillas. *Primates*, 57, 17-28.
- 2015 **Rosenbaum S**, Hirwa JP, Silk JB, Vigilant L, & Stoinski TS. Male rank, not paternity, predicts male-immature relationships in mountain gorillas. *Animal Behaviour*, 104, 13-24.
- 2011 **Rosenbaum S**, Silk JB, & Stoinski TS. Male-immature relationships in multi-male groups of mountain gorillas. *American Journal of Primatology*, 71, 1-10.
- 2009 Stoinski TS, **Rosenbaum S**, Ngaboyamahina T, Vecellio V, Ndagijimana F, & Fawcett K. Patterns of male reproductive behavior in multimale groups of mountain gorillas: examining theories of reproductive skew. *Behaviour*, 146, 1193-1215.
- 2009 Stoinski TS, Vecellio V, Ngaboyamahina T, Ndagijimana F, **Rosenbaum S**, & Fawcett K. Proximate factors influencing dispersal decisions in male mountain gorillas. *Animal Behaviour* 77, 1155-1164.

Other Publications

- 2020 **Rosenbaum S**, Santymire RS, & Stoinski TS. Urinary androgens, dominance hierarchies, and social group structure among wild male mountain gorillas. In *Chimpanzees in context: a comparative perspective on behavior, cognition, conservation, and welfare* (Hopper L & Ross S, eds). University of Chicago Press, Chicago IL.
- 2018 **Rosenbaum S**. Offspring defense. In *Encyclopedia of Evolutionary Psychological Science* (Shackelford TK & Weekes-Shackelford VA, eds). Springer.

Funding

Fellowships

- 2014 NSF SBE Directorate Interdisciplinary Postdoctoral Fellowship (\$197,512)
- 2013 UCLA Dissertation Year Fellowship (\$20,000)
- 2009 NSF Graduate Research Fellowship (\$90,000)
- 2009 UCLA Graduate Research Mentorship Fellowship (\$18,000)
- 2008 UCLA Anthropology Departmental Fellowship (\$18,000)
- 2000 Wisconsin/Hilldale Undergraduate/Faculty Research Fellowship (\$3,000)

Grants

- 2016 NSF Innovation Corps Grant (\$50,000)
- 2015 University of Chicago Polsky Center Innovation Corps Grant (\$2,500)
- 2011 NSF Doctoral Dissertation Improvement Grant (\$14,427)
- 2011 Wenner-Gren Foundation Dissertation Fieldwork Grant (\$20,000)
- 2011 Wenner-Gren Foundation Osmundsen Initiative Grant (\$5,000)
- 2010 Leakey Foundation Research Grant (\$13,897)
- 2009 UCLA Institute for Social Research Grant (\$6,000)

Invited Talks

- 2022 Department of Evolutionary Anthropology, Duke University
- 2021 Department of Biology, Queens College CUNY
- 2020 Department of Biology, Bangor University
- 2020 Department of Anthropology, Dartmouth College
- 2020 Department of Psychology, University of Michigan
- 2019 Department of Ecology & Evolution, University of Chicago
- 2018 Department of Anthropology, University of Michigan
- 2018 Department of Biological Sciences, University of Notre Dame
- 2018 Institute for Human Origins, Arizona State University
- 2018 Department of Human Evolutionary Biology, Harvard University
- 2018 Department of Anthropology, Washington University
- 2017 Network Science Institute, Indiana University
- 2016 A. Watson Armour Research Seminar Series, Chicago Field Museum
- 2016 Department of Anthropology, Northwestern University
- 2015 Department of Anthropology, University of Wisconsin-Madison
- 2015 Max Planck Institute for Evolutionary Anthropology
- 2015 Early Career Colloquium in Bioscience Crossing Disciplines, Clarkson University
- 2015 Department of Anthropology, University of Missouri-Columbia
- 2015 Lincoln Park Zoo Conservation & Science Seminar Series, Chicago IL
- 2015 Comparative Behavioral Biology Seminar Series, University of Chicago
- 2014 Primate Research Institute, Kyoto University, Japan
- 2014 Wildlife Research Center, Kyoto University, Japan
- 2014 Center for Behavior, Evolution, and Culture, UCLA
- 2013 Department of Anthropology, Baruch College, New York NY
- 2012 University of Wisconsin-Madison Arboretum
- 2012 Lincoln Park Zoo Conservation & Science Seminar Series, Chicago IL
- 2011 Karisoke Research Center Seminar Series, Musanze Rwanda
- 2005 Leakey Foundation Annual Fellows' Dinner, San Francisco CA

Teaching & Mentoring

Instructor of Record

- 2021 The Social Components of Fitness (graduate course; University of Michigan)
- 2021 Introduction to Primate Behavior (University of Michigan)
- 2021 How Humans Evolved (University of Michigan)
- 2021 Primate Behavioral Ecology (University of Michigan)
- 2020 How Humans Evolved (University of Michigan)
- 2020 Introduction to Biological Anthropology (University of Michigan)
- 2020 Grant Writing for the Life Sciences (graduate course; University of Michigan)
- 2014 Introduction to Human Evolution (UCLA)
- 2013 Introduction to Human Evolution (UCLA)

Guest lectures (selected)

- 2018 The biological origins of xenophobia (Northwestern University)
- 2018 Comparative approaches to human evolution (University of Illinois-Chicago)
- 2017 Sex differences and convergences in socio-endocrine mediation of life history strategies (University of Chicago)

- 2017 Building and keeping social relationships: the evolutionary origins of friendship and family bonds in primates (Northwestern University)
- 2016 Behavior and physiology research methods in wild and captive animal populations (DePaul University)
- 2016 Intersections of science and conservation policy (DePaul University)
- 2016 Darwinian medicine: senescence and genetic disease (University of Chicago)
- 2015 Kinship, culture, and the puzzle of human ultra-sociality (University of Chicago)
- 2015 The behavior and physiology of male parenting: mountain gorillas, marmosets, and stay-at-home dads (University of Chicago)
- 2012 Paternal behavior in mountain gorillas (Santa Monica College)
- 2012 Sexual selection in non-human primates (UCLA)
- 2011 Why study behavior? (Karisoke Research Center, for University of Alabama at Birmingham)

Other experience

- 2011 Supervisor: undergraduate thesis project “Differences in activity budgets of male and female infant gorillas” (National University of Rwanda)
- 2008-13 Course reader: Survey of Biological Evolution; Great Adaptations: Origins of Complexity in Nature; Evolution & Human Sexuality; Human Behavioral Ecology; Models of Cultural Evolution; Primate Behavior Non-Human to Human (UCLA)

Conference Presentations (last 5 years)

- 2021 Mies G, Miller MR, Schmidt J, Brown ER, Stoinski TS, & **Rosenbaum S**. Extracting cortisol metabolites from mountain gorilla (*Gorilla beringei*) fecal samples: comparison of lab versus field methods and ethanol versus methanol solutions. *2021 Midwest Primate Interest Group meeting*. Chicago, IL
- 2021 Schmidt J, **Rosenbaum S**, Mies G, Miller MR, Eckardt W, Umuhoza R, Stoinski TS, & Brown ER. Comparison of fecal testosterone and DHEA metabolite concentrations in wild male mountain gorillas. *2021 Midwest Primate Interest Group meeting*. Chicago, IL
- 2019 **Rosenbaum S**, Zeng S, Campos F, Li F, Alberts SC, & Archie EA (for invited symposium in honor of Professor John Caciopo). Do social relationships mediate a relationship between early life adversity and glucocorticoids in wild baboons? *2019 Society for Social Neuroscience conference*. Chicago, IL
- 2019 **Rosenbaum S**, Zeng S, Campos F, Li F, Alberts SC, & Archie EA. Social relationships minimally mediate the relationship between early adversity and adult glucocorticoid levels in wild savannah baboons. *2019 Animal Behavior Society conference*. Chicago IL
- 2019 **Rosenbaum S**, McDade TW, Agustin S, Kuzawa CW, & Gettler LT. Facultative fatherhood? Parental and alloparental caretaking tradeoffs in Cebu, Philippines. *2019 American Association of Physical Anthropologist conference*. Cleveland OH

- 2019 **Rosenbaum S**, Kuzawa CW, McDade TW, Agustin S, & Gettler LT. Household structure is not related to men's salivary T values in Cebu, Philippines. *2019 Human Biology Association conference*. Cleveland OH
- 2018 Eckardt W, Stoinski TS, **Rosenbaum S**, & Santymire R. The impact of group characteristics and environmental factors on stress in Virunga mountain gorillas. *XXVII Congress of the International Primatological Society*. Nairobi, Kenya
- 2018 **Rosenbaum S**, Vecellio V, & Stoinski TS (for invited symposium on inter-group interactions in hominids). Severe and lethal coalitionary aggression in wild mountain gorillas. *XXVII Congress of the International Primatological Society*. Nairobi, Kenya
- 2018 **Rosenbaum S**, Gettler LT, Borja JB, McDade TW, & Kuzawa CW. Does men's testosterone rebound as parenting duties decline, or when pairbonds dissolve? *2018 Human Biology Association conference*. Austin TX
- 2018 Gettler LT, Kuo PX, Borja JB, **Rosenbaum S**, & Kuzawa CW. Trait or state? Exploring dynamic shifts in men's sociosexuality based on changes in life history status, familial roles, and testosterone in the Philippines. *2018 Human Biology Association conference*. Austin TX
- 2018 Kuzawa CW, McDade TW, **Rosenbaum S**, Borja JB, & Gettler LT. Is the decline in testosterone with pairbonding or fatherhood attenuated as men age? The challenge of disentangling biology and selection in longitudinal analyses. *2018 Human Biology Association conference*. Austin TX
- 2018 **Rosenbaum S**, Santymire RS, & Stoinski TS. Male mountain gorillas' dominance hierarchies are not mediated by testosterone. *2018 American Association of Physical Anthropologists conference*. Austin TX
- 2016 **Rosenbaum S**, Eckardt W, Hirwa JP, Stoinski TS, & Santymire R. Male-infant social bonds and infant physiological stress in wild mountain gorillas. *XXVI Congress of the International Primatological Society*. Chicago, IL
- 2016 **Rosenbaum S**, Hirwa JP, Vigilant L, Santymire R, & Stoinski TS. Dads and cads? Male reproductive success, androgen profiles, and male-infant social bonds in wild mountain gorillas. *2016 American Association of Physical Anthropologists conference*. Atlanta, GA
- 2015 **Rosenbaum S**, Stoinski TS, & Santymire R. Male mountain gorillas' dominance hierarchies are not glucocorticoid or androgen mediated. *5th Annual International Society of Wildlife Endocrinologists meeting*. Berlin, Germany
- 2015 **Rosenbaum S**, Maldonado-Chaparro AA, & Stoinski TS. Group structure predicts variation in proximity relationships between male-female and male-infant pairs of mountain gorillas (*Gorilla beringei beringei*). *27th Annual Human Behavior and Evolution Society meeting*. Columbia, MO
- 2015 **Rosenbaum S**, Hirwa JP, Silk JB, Vigilant L, & Stoinski TS. The effects of paternity and male rank on male-immature relationships in wild mountain gorillas. *2015 American Association of Physical Anthropologists conference*. St. Louis, MO

Methods Development Projects

- 2017-2020 Validated a high-performance liquid chromatography (HPLC) protocol for metabolite identification in mountain gorilla hormone samples, in collaboration with colleagues at the Smithsonian Conservation Biology Institute.
- 2015-2016 Developed a non-invasive prolactin enzyme immunoassay (EIA) for use in great apes, in collaboration with a private sector company manufacturing a serum prolactin assay.

Service

Conferences & Meetings

- 2019 Symposium co-organizer: "Cross-taxa perspectives on behavior and developmental origins" for 2019 Animal Behavior Society meeting
- 2017 Co-organizer, Midwest Primate Interest Group annual meeting
- 2016 Symposium co-organizer: "Allomother - infant relationships across the Primate order: biomarkers, bonding, buffering, and other bidirectional effects" for American Association of Physical Anthropologists meeting
- 2014 UCLA campus organizer, California Workshop on Evolutionary Social Sciences
- 2012 Advisory participant and logistical organizer, planning meeting for new long-term, multi-site Grauer's gorilla research program in Democratic Republic of Congo
- 2010 UCLA campus organizer for multi-campus Evolutionary Perspectives on Human Behavior workshop

Other Service

- 2021 Faculty advisor to UMich bioanthro working group on increasing minority representation amongst undergraduate majors
- 2021 Faculty organizer, Evolution and Human Adaptation speaker series
- 2020 Faculty co-organizer, Evolution and Human Adaptation speaker series
- 2017-2018 Coordinator, Northwestern University Evolutionary and Ecological Approaches to Health & Development working group speaker series
- 2014-2018 Scientific advisor and board member, Planet Lab youth citizen science initiative and digital learning platform startup
- 2014-2018 Lincoln Park Zoo Research Committee
- 2014 Lincoln Park Zoo Diversity & Inclusion Committee
- 2011 Karisoke Research Center representative for visiting International Reporting Project Fellows
- 2003 Karisoke Research Center administrative volunteer for Rwanda's National Great Ape Symposium (GRASP) workshop

Article and Grant Reviewing

2019-2021 Panel reviewer for the Wenner-Gren Foundation

Ad-hoc reviewer for PNAS; Proceedings of the Royal Society B; Science Advances; Behavioral Ecology & Sociobiology; Current Opinion in Behavioral Sciences; Animal Behaviour; Scientific Reports; Communications Biology; American Journal of Primatology; International Journal of Primatology; Ethology, Ecology, & Evolution; Folia Primatologica; Acta Amazonica; Wenner-Gren Foundation; The Leakey Foundation; Polish National Science Council.

Synergistic Activities

- 2015-2017 Founded and coordinated a monthly cross-Center reading group in the Conservation and Science Department at Lincoln Park Zoo. Topics included theoretical, statistical, and methodological issues.
- 2015-2017 Conducted qualitative research on hurdles to implementation of innovative K-12 STEM curriculum via the NSF Innovation Corps program.
- 2012 Funded (via NSF grant)/ facilitated international training opportunity (e.g. lab, statistics, public speaking) for research assistant, a Rwandan national. Trainee co-authored four scientific papers and completed a masters degree.
- 2011 Set up ongoing biological sample processing lab at the Karisoke Research Center in Rwanda. To date the lab has preserved >15,000 urine and fecal samples using several protocols, for hormone and genetic paternity analysis in wild mountain gorillas. Results are used for large collaborative research projects at institutions in the US, Europe, and Africa.

Public Engagement (selected)

- 2018 Talk: What do our genes do and not do? (University of Chicago Laboratory School, Chicago IL)
- 2018 Workshop co-organizer: Savings Species with Feces. Taught 6th-8th grade girls about STEM careers in conservation and behavioral science (Expanding Your Horizons Conference, Chicago IL)
- 2017 Talk: The intersections of research, conservation, and education efforts at a long-term field site (Golden Apple Award for Teaching Excellence STEM education workshop)
- 2016 The Leakey Foundation blog: [Lay summary of PLoS One and Primates articles](#)
- 2016 Talk: Dian Fossey's gorillas 50 years on: research, conservation, and lessons learned (University of Chicago Lifelong Learning Speaker Series)
- 2016 Talk: Fathers in the animal kingdom (Wine & Wildlife Speaker Series, Lincoln Park Zoo)
- 2016 Mentor for Northwestern University's Science in Society Science Club program, teaching scientific skills and knowledge to at-risk youth in Chicago
- 2016 Workshop co-organizer: Savings Species with Feces. Taught 6th-8th grade girls about STEM careers in conservation and behavioral science (Expanding Your Horizons Conference, Chicago IL)

- 2015 Talk: Using science to save endangered species (Resurrection High School, Chicago IL)
- 2015 The Leakey Foundation blog: [Lay summary of *Animal Behaviour* article](#)
- 2014 Talk: The mountain gorillas of Rwanda (The Center for Early Education, West Hollywood CA)
- 2013 Talk: What can animals' behavior teach us about saving them from extinction? (Crossroads Elementary School, Santa Monica CA)
- 2012 Talk: Conserving Rwanda's mountain gorillas (Mt Horeb Primary Center, Mt Horeb WI)
- 2010 Talk: What can we learn about people from Rwanda's mountain gorillas? (Mt Horeb Primary Center, Mt Horeb WI)
- 2007 Talk: Science and the conservation of Africa's mountain gorillas (St Brendan's School, San Francisco CA)
- 2004 Talk: Karisoke Research Center: conservation, education, and research from 1967-2004 (Rwanda Office of Tourism and National Parks, Kigali Rwanda)

Press Coverage (selected)

[The Atlantic](#), [The Wall Street Journal](#), [BBC World Service](#), [BBC Earth](#), [Science](#), [Newsweek](#), [Ars Technica](#), [Smithsonian Magazine](#), [Quartz](#), [National Geographic Japan](#), [France Culture](#), [Radio Berlin](#), [Dutch News Radio](#), [Elsevier Connect](#)

Professional Memberships

American Society of Naturalists
 Animal Behavior Society
 American Association of Physical Anthropologists
 Human Behavior and Evolution Society
 Human Biology Association
 International Primatological Society
 International Society of Wildlife Endocrinology
 Society for the Study of Evolution

Languages

French: Proficient