

Brian Hare

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EDUCATION

Harvard University Ph.D. Biological Anthropology, Jan. 2004.

Ph.D. Advisor: Professor Richard Wrangham.

Title: Using comparative studies of primate and canid social cognition to model our Miocene minds.

M.A. Anthropology, 2000.

Emory University B.A. in Anthropology and Psychology (*summa cum laude*), 1998.
Co-Major in Human and Natural Ecology, 1998.

PROFESSIONAL EXPERIENCE

Duke University, Evolutionary Anthropology & Center for Cognitive Neuroscience
Full Professor, 2018-

Duke University, Evolutionary Anthropology & Center for Cognitive Neuroscience
Associate Professor, 2012-2017

Duke University, Evolutionary Anthropology & Center for Cognitive Neuroscience
Assistant Professor, 2008-2011.

Max Planck Institute for Evolutionary Anthropology
Director of Hominoid Psychology Research Group, 2005-2007.

Max Planck Institute for Evolutionary Anthropology
Scientific Staff and Postdoctoral Associate, 2004.

DUKE UNIVERSITY AFFILIATIONS

Department of Evolutionary Anthropology, Professor.
Center for Cognitive Neuroscience, Core Member.
Department of Psychology and Neuroscience, Secondary Faculty.
Duke Institute for Brain Sciences, Affiliate.
Duke Science and Society, Affiliate.
Duke Canine Cognition Center, Director and Founder.
Hominoid Psychology Research Group, Director and Founder.

RESEARCH EXPERIENCE

Africa

- *Tchimpounga chimpanzee sanctuary, Pointe-Noire, *Republic of Congo*, research coordinator, 2005-12.
- *Lola Ya Bonobo Sanctuary, Kinshasa, *Democratic Republic of Congo*, research coordinator, 2005-15.
- *Ngamba Island Chimpanzee Sanctuary, Entebbe, *Uganda*, researcher, 2004-2008.
- *Kibale Chimpanzee Project, Kibale National Park, *Uganda*, student researcher, 1997.

Eurasia

- *Duke Kunshan University, *China*, visiting researcher, 2014.
- *Institute of Genetics, National Academy of Russian Science, *Russia*, visiting researcher, 2003.
- *Max Planck Institute for Evolutionary Anthropology, *Germany*, researcher, 2001-2007.
- *Institute for Psychology, National Council for Research, *Italy*, visiting researcher, 2000.

North America

- *Yerkes Regional Primate Research Center, *U.S.A.*, student researcher, 1995-1999.
- * Duke Lemur Center, *U.S.A.*, researcher, 2008-
- * Duke Canine Cognition Center, *U.S.A.*, Director, 2009 –
- * Canine Companion for Independence, visiting researcher, 2010 -
- * Wildlife Science Center, *U.S.A.*, visiting researcher, 2014 –

Species and Populations I have Personally Studied (N=20)

Humans (infant and adult), chimpanzees (infant and adult), bonobos (infant and adult), gorillas, orangutans, pigtailed macaques, stumptailed macaques, rhesus macaques (infant and adult), sooty manglebeys, capuchin monkeys, ringtailed lemurs, mongoose lemurs, red ruffed lemurs, blue eyed black lemurs, shifaka, aye-aye, wolves (infant and adult), New Guinea singing dogs, domestic dogs (infant and adult), silver foxes (infants), domestic foxes (infants).

MENTORING EXPERIENCE

Previously Advised: 5 post-doctoral fellows (Dr. Alicia Melis, Dr. Margaret Gruen, Dr. Jingzhi Tan, Aleah Bowie & Dr. Evan MacLean); advised 5 Ph.D. student (Dr. Evan MacLean; Dr. Alexandra Rosati; Dr. Jingzhi Tan; Dr. Chris Krupenye, Aleah Bowie); co-advised 4 Ph.D. students (Dr. Alicia Melis; Dr. Esther Herrmann; Dr. Victoria Wobber; Dr. Kara Walker); >20 Duke undergraduate thesis students.

Currently advising: 4 Ph.D. students (Gabriel Venable, Morgan Ferrans, Hannah Salomons, Wen Zhou); 1 Duke undergraduate thesis students.

TEACHING EXPERIENCE

Cognitive Evolution Lab, Evolutionary Anthropology, Duke U., lab course, 2008-2012.
Human Cognitive Evolution, Evolutionary Anthropology, Duke U., lecture, 2008-
Evolution of Social Brain & Mind, Evolutionary Anthropology, Duke U., seminar, 2008-
Partnering and Parenting, Evolutionary Anthropology, Duke U., seminar, 2011.
How Humans Got Smart, Evolutionary Anthropology, Duke Kunshan U. China, lecture 2014.
Dog Emotion and Cognition (online), Duke University and Coursera.org, 2015 –
Puppies!, Duke Spring Forward Initiative, 2017-

AWARDS

Student Course Review Top Instructor in Natural Sciences, 2017, 2018.
Langford Lecture Award, 2018.
Duke Alumni Faculty Fellow, 2013-2017.

Pop Tech Science Fellow, 2010.

Young Innovator Award, Smithsonian Institute. 2007.

Sofia Kovalevskaja Award, Alexander Humboldt Foundation. 2004.

Bok Center Award for Excellence in Teaching, Harvard University, 2000, 2002.

GRANT HISTORY (>\$8M TOTAL EXTERNAL)

2004-08: P.I. Sofia Kovalevskaja Award, Alexander Humboldt Foundation: \$1,040,000.

2008-11: Co P.I. on National Evolutionary Synthesis Center (NESCent) Working Group Grant with Charlie Nunn “How Does Cognition Evolve?”: \$46,800.

2008-13: Co P.I. on NSF HOMINID Grant with Greg Wray and Christine Wall “Genes, traits, and the evolution of human diet: an integrative approach”: \$1,600,000.

2009-11: Consultant on European Research Council Grant with Svante Paabo (Max Planck Institute for Evolutionary Anthropology) “Genomic and Phenotypic Evolution of Bonobos, Chimpanzees and Humans”: \$100,000.

2010-13: P.I. NSF Award “Bonobos, Chimpanzees and the Developmental Origins of Human Cognition”: \$297,000.

2011-2012: P.I. on Leakey Grant “spatial memory development in chimpanzees and Bonobos” to support Ph.D. research of Alexandra Rosati: \$13,000.

2012-2014: P.I. on Office of Naval Research Grant “Identifying cognitive traits of successful IED detector dogs”: \$1,800,000.

2012-2013: P.I. on NIH R03 Grant “Identifying cognitive traits in successful companion dogs”: \$150,000.

2014-2015: co-P.I. on AKC Health Foundation Grant with Evan MacLean “Identifying cognitive and temperamental traits that predict service dog performance”: \$100,000.

2015-2018: P.I. on Stanton Foundation Grant “Next Generation Canine Research Fellowships”: \$300,000.

2016-2018: P.I. on Office of Naval Research Grant “Characterizing comparative cognitive development to predict and enhance military working dog performance”: \$288,961.

2018-2019: P.I. on Templeton World Charity Foundation Grant “Creating an online tool for large-scale comparative cognition collaborations”: \$206,000.

2018-2019: P.I. on Stanton Foundation Grant, “The effect of play on dog training”: \$50,000.

2019-2023: co-P.I. (with Margaret Gruen) on National Institute of Health Grant “Longitudinal cognitive and emotional development in working dogs”: \$1,900,000.

2020-2023: P.I. on AKC Health Foundation Grant, “Longitudinal comparison of cognitive

and emotional development in assistance dog puppies reared in two different ways.”
\$107, 880.00

2020-2023: P.I. on Office of Naval Research Grant, “Using Longitudinal Cognitive Developmental Measures and Socialization to Predict and Enhance Military Working Dog Performance.” \$313,828.00

EDITORIAL RESPONSIBILITIES

Consulting Editor for *Animal Behaviour*, 2006-2008.

Editorial Advisory Board for *Primates*, 2008-2011.

Associate Editor for *Primates*, 2011-

SCIENTIFIC CONSULTATIONS & BOARD MEMBERSHIPS

Member of Research Council, Jane Goodall Institute, U.S.A. 2007-2009.

Scientific Coordinator for Lola ya Bonobo, 2007-2015.

Canines Inc., Founder, Board Member and Chief Citizen Science Officer, 2012-2018.

Treasurer of Board, Friends of Bonobos, 2008-2019

Board Member, Friends of Bonobos, 2008-

AD HOC REFEREE

American Psychologist, Animal Behaviour (recognized as top reviewer in 2008), Animal Cognition, Behaviour, Behavioural Genetics, Behavioral Processes, Behavioral and Brain Science, Cambridge University Press, Chicago University Press, Cognitive Science, Cognition, Culture and Psychology, Current Anthropology, Current Biology, Current Directions in Psychological Sciences, Developmental Psychobiology, Developmental Psychology, Developmental Science, Evolutionary Anthropology, Human Evolution, Infancy, International Journal of Primatology, Journal of Comparative Psychology, Journal of Human Nature, Journal of Interaction Studies, Mammalia, Nature Communications, Neuron, Primates, Proceedings of the National Academy of Sciences, Proceedings of the Royal Society: Biological Sciences, Psychological Bulletin, Psychological Science, Public Library of Science One, Science, Social Cognitive and Affective Neuroscience, Trends in Cognitive Sciences.

GRANT REFEREE

European Research Council, European Union; MacArthur Foundation, National Institute of Mental Health, U.S.A.; National Institute of Health, U.S.A.; National Science Foundation, U.S.A; The Leakey Foundation, U.K.; Austrian Science Fund, Austria; Swiss National Science Foundation, Switzerland.

BOOKS

Hare, B. & Woods, V. 2013. *The Genius of Dogs*. Dutton: Penguin Group. (N.Y.T. Best Seller; Published in >10 languages).

Hare, B., & Yamamoto, S. (Eds.). 2015. *Bonobo Cognition and Behaviour*. Brill. Leiden, Netherlands.

Hare, B., & Yamamoto, S. (Eds.). 2017. *Bonobos: Unique in Mind, Brain and Behaviour*. Oxford University Press.

Hare, B. & Woods, V. 2020. *Survival of the Friendliest: understanding our origins and rediscovering our common humanity*. Random House.

PUBLICATIONS

1998

- Tomasello, M., Call, J. & Hare, B. 1998. Five primate species follow the visual gaze of conspecifics. *Animal Behaviour*. 55, 1063-1069.
- Call, J., Hare, B. & Tomasello, M. 1998. Chimpanzee gaze following in an object choice task. *Animal Cognition*. 1, 89-99.
- Hare, B., Call, J. & Tomasello, M. 1998. Communication of food location between human and dog (*Canis familiaris*). *Evolution of Communication*. 2, 137-159.

1999

- Hare, B. & Tomasello, M. 1999. Domestic dogs (*Canis familiaris*) use human and conspecific social cues to locate hidden food. *Journal of Comparative Psychology*. 113, 1-5.
- Itakura, S., Agnetta, B., Hare, B. & Tomasello, M. 1999. Chimpanzees use human and conspecific social cues to locate hidden food. *Developmental Science*. 2, 448-456.
- Tomasello, M., Hare, B. & Agnetta, B. 1999. Chimpanzees follow gaze direction geometrically. *Animal Behaviour*. 58, 769-777.

2000

- Hare, B., Call, J., Agnetta, B. & Tomasello, M. 2000. Chimpanzees know what conspecifics do and do not see. *Animal Behaviour*. 59, 771-786
- Wrangham, R., Wilson, M., Hare, B. & Wolfe, N. 2000. Chimpanzee predation and the ecology of microbial exchange. *Microbial Ecology in Health and Disease*. 12, 186-188.
- Agnetta, B., Hare, B. & Tomasello, M. 2000. Cues to food locations that domestic dogs (*Canis familiaris*) of different ages do and do not use. *Animal Cognition*. 3, 107-112.

2001

- Tomasello, M., Hare, B. & Fogleman, T. 2001. The ontogeny of gaze following in chimpanzees (*Pan troglodytes*) and rhesus macaques (*Macaca mulatta*). *Animal Behaviour*. 61, 335-343.
- Hare, B., Call, J. & Tomasello, M. 2001. Do chimpanzees know what conspecifics know? *Animal Behaviour*. 61, 139-151.
- Hare, B. 2001. Can competitive paradigms increase the validity of social cognitive experiments on primates? *Animal Cognition*. 4, 269-280.

2002

- Hare, B., Brown, M., Williamson, C. & Tomasello, M. 2002. The domestication of social cognition in dogs. *Science*. 298, 1636-1639.

Hare, B. & Wrangham, R. 2002. Integrating two evolutionary models for the study of social cognition. In: *The Cognitive Animal* (Ed. by Beckoff, M., Allen, C. & Burghardt, G.): The MIT Press. 363-369.

2003

Hare, B., Addessi, E., Call, J., Tomasello, M. & Visalberghi, E. 2003. Do capuchin monkeys (*Cebus apella*) know what conspecifics do and do not see? *Animal Behaviour*. 65, 131-142.

Tomasello, M., Call, J., Hare, B. 2003. Chimpanzees understand psychological states- the question is which ones and to what extent. *Trends in Cognitive Science*. 7, 153-156.

Tomasello, M., Call, J., Hare, B. 2003. Chimpanzees versus humans: its not that simple. *Trends in Cognitive Science*. 7, 239-240.

2004

Hare, B. & Tomasello, M. 2004. Chimpanzees are more skillful in competitive than in cooperative cognitive tasks. *Animal Behaviour*. 68, 571-581.

Call, J., Hare, B., Carpenter, M. & Tomasello, M. 2004. "Unwilling" versus "unable": chimpanzees understanding of human intentional action. *Developmental Science*. 7, 488-498.

Hare, B. 2004. Dogs use humans as tools: is it the secret to their success? *Encyclopedia of Animal Behaviour*. Beckoff, M. (ed). Greenwood Publishing Group.

Hare, B. 2004. Using comparative studies of primate and canid social cognition to model our Miocene minds. Dissertation. Department of Anthropology, Harvard University.

2005

Hare, B., Plyusnina, I., Iganacio, N., Wrangham, R., Trut, L. 2005. Social cognitive evolution in captive foxes is a correlated by-product of experimental domestication. *Current Biology*. 16, 226-230.

Hare, B. & Tomasello, M. 2005. Human-like social skills in dogs? *Trends in Cognitive Sciences*. 9, 439-444.

Hare, B. & Tomasello, M. 2005. The emotional reactivity hypothesis and cognitive evolution. *Trends in Cognitive Sciences*. 10, 464-465.

2006

Melis, A., Hare, B., Tomasello, M. 2006. Chimpanzees recruit the best collaborators. *Science*. 311, 1297-1300.

Hare, B., Call, J., Tomasello, M. 2006. Chimpanzees deceive a human by hiding. *Cognition*. 101: 495-514.

Melis, A, Hare, B., Tomasello, M. 2006. Engineering chimpanzee cooperation: social tolerance constrains cooperation. *Animal Behaviour*. 72, 275-286.

Jensen, K., Hare, B., Call, J., Tomasello, M. 2006. Are chimpanzees spiteful or altruistic when sharing food? *Proceedings of the Royal Society B*. 273, 1013-1021.

Hare, B. & Tomasello, M. 2006. Behavioral genetics of dog cognition: human-like social skills in dogs are heritable and derived. *The Dog and its Genome* (E. Ostrander, Urs Giger and Kerstin Lindblad-Toh, Eds). Cold Spring Harbor Laboratory Press, New York, 497-514.

2007

Hare, B. 2007. Patience reveals chimpanzee cognitive development. Review of *Cognitive Development in Chimpanzees*. Ed. by Matsuzawa, T., Tomonaga, M., & Tanaka, M. *Nature Neuroscience*. 10, 1077.

Hare, B. 2007. From nonhuman to human mind: what changed and why. *Current Directions in Psychological Science*. 16, 60-64.

Burnham, T. & Hare, B. 2007. Does involuntary neural activation increase public goods contributions in human adults? *Human Nature*. 18. 88-108.

Tomasello, M., Hare, B., Call, J., Leehman, H. 2007. Reliance on head versus eye gaze in great apes and human infants. *Journal of Human Evolution*. 52, 314-320.

Hare, B., Melis, A., Woods, V., Hastings, S., Wrangham, R. 2007. Tolerance allows bonobos to outperform chimpanzees in a cooperative task. *Current Biology*. 17, 619-623.

Warnaken, F., Hare, B., Melis, A., Hanus, D., Tomasello, M. 2007. Spontaneous altruism by chimpanzees and children. *Public Library of Science: Biology*. 5, 1-7.

Herrmann, E., Call, J., Hernández-Lloreda, M., Hare, B., Tomasello, M. 2007. The cultural intelligence hypothesis: humans evolved specialized skills of social cognition. *Science*. 317, 1360-1365.

Rosati, A., Stevens, J., Hare, B., Hauser, H. 2007. The origins of human patience. *Current Biology*. 17, 1-6.

2008

Herrmann, E., Call, J., Hernández-Lloreda, M., Hare, B., Tomasello, M. 2008. Humans are valid experimenters for human-nonhuman ape comparisons. *Science*. 319. 570.

Hare, B. 2008. Review of *Baboon Metaphysics*. By Cheney, D. & Seyfarth, R. *Animal Behaviour*. 76, 253-255.

- Heilbronner, S., Rosati, A., Stevens, J., Hare, B., Hauser, M. 2008. A fruit in the hand or two in the bush? Ecological pressures select for divergent risk preferences in chimpanzees and bonobos. *Proceedings of the Royal Society: Biology Letters*. 4, 246-249.
- Hare, B. 2008. Review of *Dogs: Behavior, Cognition and Evolution*. By Miklosi, A. *Current Biology*. 18, R543-R544.
- Wobber, V., Hare, B., Wrangham, R. 2008. Great apes prefer cooked foods. *Journal of Human Evolution*. 55, 340-348.
- Melis, A., Hare, B., Tomasello, M. 2008. Do chimpanzees reciprocate received favors? *Animal Behaviour*. 76, 951-962.
- Andre, C., Kamate, C., Mabonzo, P., Morel, D., Hare, B. 2008. The conservation value of Lola ya Bonobo Sanctuary. Furuichi, T., Thompson, J. (Eds) *The Bonobos: behavior, ecology and conservation*. Springer, New York. 303-322.
- Ross, S. Lukas, K., Lonsdorf, E., Stoinski, T., Hare, B., Shumaker R., and Goodall, J. 2008. Inappropriate use and portrayal of chimpanzees. *Science*. 319, 1487.

2009

- Hare, B. 2009. What is the effect of affect on bonobo and chimpanzee problem solving? *The Neurobiology of the Umwelt: how living beings perceive the world* (A. Berthoz & Y. Christen, Eds.). Springer Press. 89-102.
- Wobber, V. Hare, B. 2009. Testing the social dog hypothesis: are dogs also more skilled than chimpanzees in non-communicative social tasks? *Behavioral Processes*. 81, 423-428.
- Rosati, A. & Hare, B. 2009. Beyond the model species: diversity in gaze following skills across primates. *Current Opinion in Neurobiology*. 19, 45-51.
- Woods, V. & Hare, B. 2009. Out of our minds: how did *Homo sapiens* come down from the trees, and why did no one follow? In: *Whats Next?: Dispatches from the future of science*. In: *Innovative Science* (Brockman, M. Ed). Vintage Books. p. 170-184.
- Wobber, V., Koler-Matznick, J., Hare, B., Wrangham, R., Tomasello, M. 2009. Breed differences in domestic dogs' comprehension of human communicative signals. *Interaction Studies*. 10, 206-224.
- Melis, A., Hare, B., Tomasello, M. 2009. Chimpanzees negotiate in a bargaining game. *Evolution and Human Behaviour*. 30, 381-392.
- McIntyre, M., Herrmann, E., Wobber, V., Halbwax, M., Mohamba, C., deSousa, N., Atenica, R., Cox, D. & Hare, B. 2009. Bonobos have more human-like second-to-fourth finger length ratio (2D:4D) than chimpanzees: a hypothesized indication of lower prenatal androgens. *Journal of Human Evolution*. 56, 361-365.

2010

- Hare, B. Rosati, A. Breaur, J., Kaminski, J., Call, J., Tomasello, M. 2010. Dogs are more skilled than wolves with human social cues: a response to Udell et al (2008) and Wynne et al. (2008). *Animal Behaviour*. 79, e1-e6.
- Vlemmings, P., Hare, B., Call, J. 2010. Reaching around barriers: The performance of great apes and 3- to 5-year-old children on an inhibitory control task. *Animal Cognition*. 13, 273-285.
- Rosati, A., Santos, L., Hare, B. 2010. Primate social cognition: Thirty years after Premack and Woodruff. In: *Cognitive Neuroethology* (Gazenifar A. & Platt M. Eds). Oxford University Press. 117-142
- Hare, B. Kwetuenda, S. 2010. Bonobos voluntarily share their own food with others. *Current Biology*. 20, R230-231.
- Wobber, V., Wrangham, R., Hare, B. 2010. Evidence for delayed development of social behavior and cognition in bonobos relative to chimpanzees. *Current Biology*. 20, 226-230.
- Herrmann, E., Call, J., Hernández-Lloreda, M., Hare, B. , Tomasello, M. 2010. Cognition in chimpanzees and children has different factor structure. *Psychological Science*. 21, 102-110
- Wobber, V., Wrangham, R. & Hare, B. 2010. Application of the heterochrony framework to the study of behavior and cognition. *Communicative and Integrative Biology*. 3, 1-2.
- Wobber, V., Hare, B., Maboto, J., Lipson, S. Wrangham, R., Ellison, P. 2010. Differential reactivity of steroid hormones in chimpanzees and bonobos when anticipating food competition. *Proceedings of the National Academy of Sciences*. 107, 12457-12462.
- Herrmann, E., Hare, B. Call, J., Tomasello, M. 2010. Differences in the Cognitive Skills of Bonobos and Chimpanzees. *PLoS One*. 5, e12438.
- Woods, V. & Hare, B. 2010. African sanctuaries as a new resource for non-invasive research on great apes. *Encyclopedia of Applied Animal Behavior and Welfare*. Ed. D. Mills. CABI publishing.
- Rosati, A., & Hare, B. 2010. From social behavior to social cognition in primates. *Encyclopedia of Behavioral Neuroscience*, edited by George Koob, Michel Le Moal and Richard Thompson. Erlbaum.
- Melis, A., Warneken, F., Hare, B. 2010. Collaboration and helping in chimpanzees. *The Chimpanzee Mind* (Elizabeth Longsdorf & Steve Ross & Tetsuro Matsuzawa, Eds.), Springer. 166-183.

Rosati, A. & Hare, B. 2010. Chimpanzee and bonobos distinguish between risk and ambiguity. *Proceedings of Royal Society: Biology Letters*. 7, 15-18.

2011

Woods, V. & Hare, B. 2011. Bonobo but not chimpanzee infants use socio-sexual contact with peers. *Primates*. 52, 111-116.

Hare, B. 2011. From hominoid to hominid mind: what changed and why? *Annual Review of Anthropology*, 40. 293-309.

Sandel, A., MacLean, E., Hare, B. 2011. Convergent evolution in the social cognitive abilities of lemurs. *Animal Behaviour*. 81, 925-931.

Wobber, T., Hare, B. 2011. Psychological health of orphan bonobos and chimpanzees in African sanctuaries. *PLoS One*, 6, e17147.

Hare, B. & Tan, J. 2011. What cooperative abilities did we inherit as an ape? *The Primate Mind*. De Waal, F. & Ferrari, P. (eds). Harvard Press.

Herrmann, E., Hare, B. Cisseski, J., Tomasello, M. 2011. The origins of human temperament: children avoid novelty more than other apes. *Developmental Science*. 14, 1393-1405.

Schroepfer, K., Rosati, A., Chartrand, T., Hare, B. 2011. Commercial's with chimpanzees "actors" negatively impact conservation and welfare attitudes. *PLoS One*. 6, e26048.

2012

MacLean, E., Matthews, L., Hare, B., Nunn, C., Anderson, R., Aureli, F., Brannon, E., Call, J., Drea, C., Emery, N., Haun, D., Herrmann, E., Jacobs, L., Platt, M., Rosati, A., Sandel, A., Schroepfer, K., Seed, A., Tan, J., van Schaik, C., Wobber, V. 2011. How does cognition evolves?: phylogenetic comparative psychology. *Animal Cognition*. 15, 223-238.

MacLean, E & Hare, B. 2012. Bonobos and chimpanzees infer the target of an actor's attention. *Animal Behaviour*. 83, 345-353.

Hare, B., Wobber, T. & Wrangham, R. 2012. The self-domestication hypothesis: bonobo psychology evolved due to selection against male aggression. *Animal Behaviour*. 83, 573-585.

Rosati, A. & Hare, B. 2012. Decision-making across social contexts: competition increases risk-prone choices in chimpanzees and bonobos. *Animal Behaviour*. 84, 869-879.

Rosati, A. & Hare, B. 2012 . Chimpanzees and bonobos exhibit divergent spatial memory development. *Developmental Science*. 15, 840-853.

Nunn, C. & Hare, B. 2012. Pathogen flow: what we need to know. *American Journal of Primatology*. 74, 1084-1087.

2013

- Herrmann, E., Keupp, S., Hare, B., Vaish, A., Tomasello, M. 2013. Direct and Indirect reputation formation in great apes and human children. *Journal of Comparative Psychology*, 127, 63-75.
- MacLean, E. & Hare, B. 2013. spontaneous triadic play in bonobos and chimpanzees. *Journal of Comparative Psychology*. 127, 245.
- Tan, J. & Hare, B. 2013. bonobos share with strangers. *PLoS One*. 8(1): e51922.
- Wobber, V. Hare, B., Lipson, S. Wrangham, R. Ellison, P. 2013. Different ontogenetic patterns of testosterone production reflect divergent male reproductive strategies in chimpanzees and bonobos. *Physiology & Behavior*, 116, 44-53.
- Rosati, A. & Hare, B. 2013. Chimpanzees and bonobos exhibit emotional responses to decision outcomes. *PLoS One*, 8 (5), e63058.
- Rosati, A., Wobber, V., Warneken, F., Melis, A., Herrmann, E., Kaminski, J., Tan, J., Krupenye, C., Schroepfer, K., Hare, B. 2013. Assessing the psychological health of captive and wild apes: a response to Ferdowsian et al. in press. *Journal of Comparative Psychology*. 127, 329. doi: 10.1037/a0029144.
- MacLean, E., Sandel, A., Bray, J., Oldenkamp, R., Hare, B. 2013. Group size predicts social but not nonsocial cognition in lemurs. *PLoS One*. 8, e66359.
- Wobber, V. & Hare, B. 2013. The evolution of human socio-cognitive development. *In: Navigating the Social World: What infants, children and other species can teach us*. Banaji, M. & Gelman, S. (eds). Oxford University Press. 31-37.
- Hare, B. 2013. Is human free will prisoner to primate, ape and hominin preferences and biases? *In: Moral Psychology: Free Will and Moral Responsibility*. Edited by W. Sinnott-Armstrong. MIT Press. 361-366.

2014

- Bray, E., MacLean, E., Hare, B. 2014. Context-specificity of inhibitory control in dogs. *Animal Cognition*. 17, 15-31.
- Wobber, T., Herrmann, E., Hare, B., Wrangham, R., Tomasello, M. 2014. Differences in the early cognitive development of children and great apes. *Developmental Psychobiology*. 56, 547-573.
- Bray, J., Krupenye, C., Hare B., 2014. Ring tail lemurs exploit information about what others can see but not what they can hear. *Animal Cognition*. 17, 735-744.
- Pontzer, H., Raichlen, D., Gordon, A., Schroepfer-Walker, K., Hare, B., Dunsworth, H., Wood,

B., Isler, K., Burkart, J., Irwin, M., Shumaker, R., Lonsdorf, E., Ross, S. 2014. Primate energy expenditure and life history. *Proceedings of the National Academy of Sciences*. 111, 1433-1437.

MacLean, E., Krupenye, C. & Hare, B. 2014. Dogs account for body orientation but not visual barriers when responding to pointing gestures. *Journal of Comparative Psychology*. 128, 285.

Cieri, R., Churchill, S., Franciscus, R., Tan, J., Hare, B., 2014. Craniofacial feminization, social tolerance and the origins of behavioral modernity. *Current Anthropology*. 55, 419-443.

Rosati, A., Rodriguez, K. & Hare, B. 2014. The ecology of spatial memory in four lemur species. *Animal Cognition*. 17, 947-961.

MacLean, E., Hare, B., Nunn, C., Addessi, E., Amici, F., Anderson, R., Aureli, F., Baker, J., Bania, A., Barnard, A., Boogert, N., Brannon, E., Bray, E., Bray, J., Brent, L., Burkart, J., Call, J., Cantlon, J., Cheke, L., Clayton, N., Delgado, M., DiVincenti, L., Fujita, K., Hiramatsu, C., Jacobs, L., Jordan, K., Laude, J., Leimgruber, K., Messer, E., Moura, A., Ostojić, L., Picard, A., Platt, M., Plotnik, J., Range, F., Reader, S., Reddy, R., Sandel, A., Santos, L., Schumann, K., Seed, A., Sewall, K., Shaw, K., Slocombe, K., Su, Y., Takimoto, A., Tan, J., Tao, J., van Schaik, C., Virányi, Z., Visalberghi, E., Wade, J., Watanabe, A., Widness, J., Zentall, T., Zhao, T. 2014. The evolution of self-control. *The Proceedings of the National Academy of Sciences*. 111, E2140-E2148.

2015

MacLean, E., & Hare, B. 2015. Bonobos and chimpanzees exploit helpful but not prohibitive gestures. *Behaviour*. 152, 493-520.

Tan, J., & Hare, B. 2015. Preference or Paradigm? Bonobos do not share in “the” prosocial choice task. *Behaviour*. 152, 521-544.

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Tan, J., Ariely, S., Hare, B. 2017. Bonobos respond prosocially toward members of other groups. *Scientific Reports*. 7, 14733.

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Hare, B. 2018. Domestication experiments reveal developmental link between friendliness and cognition. *Journal of Bioeconomics*. 20, 159-163.

Lucca, K., MacLean, K., Hare, B. 2018. The development and flexibility of gaze alternation in bonobos and chimpanzees. *Developmental Science*. 21, e12598.

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Tan, J., Walker, K., Hoff, K., Hare, B. 2018. What influences a pet dog's first impression of a stranger? *Learning and Behavior*. 46, 414-429.

Maclean, E. & Hare, B. 2018. Enhanced selection of assistance and explosive detection dogs using cognitive measures. *Frontiers in Veterinary Science*. 5, 236.

2019

Horschler, D., Hare, B., Call, J., Kaminski, J., Miklosi, A., MacLean, E. 2019. Absolute brain size predicts dog breed differences in executive function. *Animal Cognition*. 22, 187-198.

Yamamoto, S. Tokuyama, N., Clay, Z., Hare, B. 2019. Chimpanzees and Bonobo. In *Encyclopedia of Animal Behaviour*, 2nd Edition (Eds. J. Choe). 1, 324-334. Elsevier Academic Press.

2020

- Woods, V. & Hare, B. 2020. The uncanny valley of the apes. In *Why People Love and Exploit Animals. Bridging Insights from Academia and Advocacy* (Eds. Kristof Dhont & Gordon Hodson). Routledge Press. 104-120.
- Barron, A., Hare B. 2020. Prosociality and a sociosexual hypothesis for the evolution of same-sex attraction in humans. *Frontiers in Psychology*, 10, 2955.
- Hare, B. 2020. Compassion for other animals beyond the human hierarchy of concern. In *Principles for Animal Research Ethics* (Eds. T. Beauchamp & D. DeGrazia). Oxford University Press. 99-112.
- Brooks, J., Kays, R., Hare, B. in press. Coyotes living near cities are bolder: implications for dog evolution and wildlife-human conflict. *Behaviour*. 157, 289-313.
- Bowie, A., Krupenye, C., Mbonzo, P., Hare, B. in press. Implicit measures support the value of conservation education in the Democratic Republic of Congo. *Frontiers in Psychology*, 11, 386.
- Gruen, M., White, P., Hare, B. in press. Do dog breeds differ in pain sensitivity? Veterinarians and the public believe they do. *PLoS One*. 15 (3), e0230315.
- Watowich, M., MacLean, E., Hare, B., Call, J., Kaminski, J., Miklósi, A., Snyder-Mackler, N. in press. Age influences domestic dog cognitive performance independent of average breed lifespan. *Animal Cognition*.
- Gnanadesikan, G., Hare, B., Snyder-Mackler, N., MacLean, E. in press. Estimating the heritability of cognitive traits across dogs breeds reveals highly heritable inhibitory and cooperative-communicative factors. *Animal Cognition*.
- Bray, E., Gruen, M., Gnanadesikan, G., Horschler, D., Levy, K., Kennedy, B., Hare, B., MacLean, E. in press. Early emerging cognition in 8-10 week old assistance dog puppies. *Animal Behaviour*.
- Gnanadesikan, G., Hare, B., Snyder-Mackler, N., Call, J., Kaminski, J., Miklosi, A., MacLean, A. in press. Breed differences in dog cognition associated with brain-expressed genes and neurological functions. *Integrative and Comparative Biology*.
- Hare, B. The Darwinian road to morality. in press. In: A most interesting problem: Human evolution 150 years after Darwin's *Descent of Man*. Princeton U. Press.

SUBMITTED MANUSCRIPTS

- Gnanadesikan, G., Hare, B., Snyder-Mackler, N., Call, J., Kaminski, J., Miklosi, A., MacLean, E. submitted. Breed differences in dog cognition associated with brain-expressed genes and neurological function.
- Bray, E., Gruen, M., Gnanadesikan, G., Horschler, D., Levy, K., Kennedy, B., Hare, B.,

MacLean, E. submitted. Dog cognitive development: A longitudinal study across the first two years of life.

Bowie, A., Bunnell, G., Walker, K., Minesi, F., Hare, B. submitted. Assessing conservation attitudes and behaviors of Congolese children neighboring the world's first bonobo (*Pan paniscus*) release site.

Gruen, M. & Hare, B. submitted. The empathy model of animal welfare will promote a culture of compassion.

MANUSCRIPTS IN PREPARATION

Bowie, A., Tan, J., Zhou, W., White, P., Hare, B. in prep. What increases childrens' motivation to cooperate for forest conservation?

MacLean, E. & Hare, B. in prep. Comparative development in bonobos and chimpanzees on a social cognitive test battery.

Krupenye, C., Lewis, L., Cliff, J., Kaiser, L., MacLean, E., Hare, B. in prep. Transitive inference in chimpanzees.

Krupenye, C., & Hare, B. in prep. Bonobos discriminate between an unwilling and unable human.

Zhou, W., Bowie, A., Tan, J., Hare, B. in prep. Humanizing primates reduces children's tendency to dehumanize out-group strangers.

Zhou, W., Tan, J., Hare, B. in prep. Humanizing Chinese doctors increases positive attitudes towards medical staff.

Salomons, H., MacLean, E., Callahan, M., Smith, K., Gnanadesikan, G., Horschler, D, Rodriguez, K., Tan, J., Callahan, M., Hare, B. Comparative development of wolf and working dog cognition.

INVITED CONFERENCE PRESENTATIONS

1. Hare, B., Call, J. & Tomasello, M. 2000. Chimpanzees know what conspecifics can and cannot see. *COE International Symposium on Phylogeny of Cognition and Language*. Kyoto University, Japan.
2. Hare, B. & Tomasello, M. 2001. Use of social cues to find hidden food: comparing our closest relative to our best friend. *The XVIIIth Congress of the International Primatological Society*. Adelaide, Australia.
3. Hare, B. 2002. The domestication of social cognition in dogs. *Tufts University Animal Expo*. Boston, U.S.A.
4. Hare, B., Call, J., Tomasello, M. 2002. Intentional deception in chimpanzees. *COE2/SAGA5 international Symposium*. Kyoto University, Japan.

5. Hare, B. 2003. The effect of domestication on dog cognition. *International Guide Dog Federation Genetics Research Workshop*. The Seeing Eye, Morristown, NJ, U.S.A.
6. Hare, B. 2004. Dogs use humans as tools: is it the secret to their success? *American Association for the Advancement of Science*. Seattle, U.S.A.
7. Hare, B. 2004. Emotional Chimpanzees, domesticated foxes, and the evolution of human social cognition. *Human and Behavioral Evolution Society*. Berlin, Germany.
8. Hare, B. 2004. **(Keynote Address)** The dog's mind and what it can tell us about human evolution. *Advances in Canine and Feline Genomics*. Utrecht, Netherlands.
9. Hare, B. 2005. Have we identified heritable components of dog social cognition? Wenner-Gren Foundation. Gotenburg, Sweden.
10. Hare, B. 2006. Comparisons of Bonobo and Chimpanzee Cooperation. *The XXI Congress of the International Primatological Society*. Entebbe, Uganda.
11. Hare, B. 2007. Tolerance allows bonobos to outperform chimpanzees in a cooperative task. The Mind of the Chimpanzee Conference. Lincoln Park Zoo, Chicago, U.S.A.
12. Hare, B. 2007. From nonhuman to human mind: what changed and why? *The European Cognitive Science Conference II*. Delphi, Greece.
13. Hare, B. 2007. Bayleav's foxes suggest one path by which social problem solving may evolve. *Russian Academy of Sciences: Current evolutionary thinking in biology, medicine and sociology*. Novosibirsk, Russia.
14. Hare, B. 2008. From ape to human: what is the effect of affect on the hominoid Umwelt. Ipsen Foundation Series in Neuroscience. Paris, France.
15. Hare, B. 2008. **(Keynote Address)** Social Cognition in humans and apes. University College of London. Social and Affective Neuroscience Symposium. London, United Kingdom.
16. Hare, B. 2008. **(Plenary Speaker)** Emotional reactivity and the evolution of ape cognition. Kyoto University, Japan.
17. Hare, B. 2008. How much of our cooperations is human? *Human and Behavioral Evolution Society* Kyoto University, Japan.
18. Hare, B. 2008. How much of our cooperation is human? Trilience Research Group on Human Nature, California Institute of Technology, U.S.A.
19. Hare, B. 2008. **(Keynote Address)**. How the minds of our best friends were made. Assistance Dog Training Society Conference, Orlando FL.
20. Hare, B. 2009. **(Keynote Address)**. If Darwin could have been a cognitive scientist today. Darwin Day Celebration. U. of California San Diego, U.S.A.

21. Hare, B. 2009. What is really human about cooperation? Primate Mind Conference, Ettore Majorana Foundation, Erice, Italy.
22. Hare, B. 2009. **(Keynote Address)** The evolution of the cognitive dog. Association of Pet Dog Trainers, Oakland California, U.S.A.
23. Hare, B. 2009. What if Freud knew he was an ape? Department of Psychiatry, VT University, U.S.A.
24. Hare, B. 2010. The juvenilization of bonobo cognition. *The XXIII Congress of the International Primatological Society. Kyoto University, Japan.*
25. Hare, B. 2010. Non-invasive cognition research in nonhuman primates and other animals. *American Medical Association: Animals, Research, and Alternatives Conference.* George Washington University, Washington D. C.
26. Hare, B. 2010. **(Keynote Address)** How does trust develop in dogs? Association of Pet Dog Trainers, Atlanta GA, U.S.A.
27. Hare, B. 2010. Let's make welfare cool and create a culture of compassion. NIH Conference celebrating 25th anniversary of the Animal Welfare Act. National Institute of Health. Bethesda, ML.
28. Hare, B. 2010. Thinking wrong: humans as the most intelligent species? Pop Tech Conference 2010: Brilliant accidents, necessary failures and improbably breakthroughs. Camden, MN.
29. Hare, B. 2011. The win-win solution for humans and apes: the future of research is in zoos and sanctuaries. Institute of Medicine, National Academy of Sciences, Washington D.C.
30. Hare, B. 2011. What is it like to be an ape? 34th Meeting of the American Society of Primatologist. Austin, TX.
31. Hare, B. 2012. The self-domestication hypothesis of bonobo evolution. *The XXV Congress of the International Primatological Society. Cancun, Mexico.*
32. Hare, B. 2012. **(Plenary Speaker)** How does a more pro-social ape evolve? *The 24th Annual Human Behavior and Evolution Society. University of New Mexico, NM.*
33. Hare, B. 2013. **(Keynote Speaker).** How do we improve canine health with dognition? AKC Health Foundation Annual Meeting. Saint Louis, MO.
34. Hare, B. 2013. **(Keynote Speaker).** The challenge of promoting humane behavior. American Humane Association: Be Humane Summit. Orlando, FL.
35. Hare, B. 2013. How can dognition help applied canine sciences? Association of Pet Dog Trainers Annual Meeting. Spokane, Washington.

36. MacLean, E. & Hare, B. 2014. Pet dogs and citizen scientists in aging research. Canine Longevity Consortium. Seattle Washington.
37. Hare, B. 2015. The Genius of Your Dog. KNGF Royal Dutch Guide Society Conference “Affection and science”. **(Keynote Speaker)**. Amsterdam, Netherlands.
38. Hare, B. 2015. Inside the animal mind. Animal Concepts Conference “Play, cognition & ethics”. **(Keynote Speaker)**. Wageningen University, Leeuwenborch, Netherlands.
39. Hare, B. 2015. The secrets inside your dog’s mind. Explorers Series. Cleveland Natural History Museum. **(Keynote Speaker)**. Cleveland, OH.
40. Hare, B. 2016. Who is nicer? Bonobos or chimpanzees? *Chimpanzees in Context*. Lincoln Park Zoo, Chicago, IL.
41. Hare, B. 2016. Evidence for bonobos self-domestication. *The XXVII Congress of the International Primatological Society*. Chicago, IL.
42. Hare, B. 2017. Survival of the Friendliest. James MacArthur Lecture. American Museum of Natural History. New York, NY.
43. Hare, B. 2017. Survival of the Friendliest. American Psychological Association. **(Plenary Speaker)**. 124th Convention. Washington D.C.
44. Hare, B. 2017. A role for pet dogs and citizen science in aging research? National Academy of Sciences and National Institute for Aging. Developing informed animal models of social aging. Washington D.C.
45. Hare, B. 2017. An evolutionary approach will most powerfully improve lab animal welfare. National Institute of Health. 4th Social Housing and Enrichment Symposium. **(Keynote Speaker)**. Center for Disease Control, Atlanta, GA.
46. Hare, B. 2017. Survival of the Friendliest. Psi Chi Honors Symposium. Georgetown University **(Keynote Speaker)**. Washington, D.C.
47. Hare, B. 2017. Survival of the Friendliest. LSSP Symposium: The Science of Love. **(Plenary Speaker)**. Missouri University. Saint Louis, MO.
48. Hare, B. 2017. Animals have minds, but are they conscious? Animal Consciousness Symposium. New York University. New York, NY.
49. Hare, B. 2018. Survival of the Friendliest. Psychology Honors Symposium. UNC – Wilmington **(Keynote Speaker)**. Wilmington, N.C.
50. Hare, B. 2018. Survival of the Friendliest. Petfood Forum **(Keynote Speaker)**, Kansas City, MO.
51. Hare, B. 2018. Survival of the Friendliest. Aspen Ideas Festival. Aspen, CO.

52. Hare, B. 2018. The Genius of Dogs. HITS K9 Working Dog Conferences. Washington, D.C.
53. Hare, B. 2018. Do all working dogs think alike? American Kennel Club Detection Dog Conference (**Keynote Speaker**). Raleigh, N.C.
54. Hare, B. 2019. The Genius of Dogs. Texas Lutheran University. Seguin, TX.
55. Hare, B. 2019. Survival of the Friendliest. Sage Fellow. U.C. Santa Barbara. CA.
56. Hare, B. 2019. The Genius of Dogs. American Veterinarian Medical Association (**Keynote Speaker** for Behaviour Section). Washington D.C.
57. Hare, B. 2019. What animals teach us? Boston Museum of Science. Boston MA.