

## ELIZABETH ANN CASHDAN

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### Education

- 2001 Lab Practicum on Salivary Biomarkers; Penn State University.
- 1979–80 NRSA Postdoctoral fellow; University of Michigan Population Studies Center.
- 1979 Ph.D., Anthropology, University of New Mexico.  
Dissertation: *Trade and Reciprocity among the River Bushmen of Northern Botswana.*
- 1973 M.A., Anthropology, University of New Mexico.
- 1970 B.A., Anthropology, University of California at Berkeley.  
With Distinction, Departmental Honors in Anthropology.

### Academic Positions

- 1999–present Professor, University of Utah Department of Anthropology
- 2006–2011 Department Chair, University of Utah Department of Anthropology
- 1996–1997 Research Fellow, King's College Research Centre, Cambridge University, (Human Diversity Project, directed by Robert Foley)
- 1989–1998 Associate Professor, University of Utah, Department of Anthropology
- 1988–1989 Visiting Associate Professor, University of Utah, Department of Anthropology
- 1987–1989 Associate Professor, University of Pittsburgh, Department of Anthropology
- 1980–1987 Assistant Professor, University of Pittsburgh, Department of Anthropology (on leave, 1983-1985)
- 1979-1980 Post-Doctoral Fellow, University of Michigan, Population Studies Center

### Professional Interests

Behavioral Ecology; Evolutionary Psychology; Spatial Cognition & Navigation; Sex Differences; Hunter-Gatherers; Hormones & Behavior

## Professional Service

- 2019–2021 Consulting Editor *Evolution and Human Behavior*
- 2018–2019 Acting and Past President, *Human Behavior and Evolution Society*
- 2011–present Consulting Editor *Human Nature*
- 2015–2017 President, *Human Behavior and Evolution Society*
- 2011–2014 Associate Editor *Evolutionary Psychology*
- 2014, 2015 Panel Member, National Science Foundation
- 2008–2012 Editorial Board, *American Anthropologist*
- 2006–2009 Governing Board, Evolutionary Anthropology Society.
- 2009 Conference Organizer (with David Carrier and Steve Downes): *Evolution of Human Aggression: Lessons for Today's Conflicts*, sponsored by the Tanner Center for Nonviolent Human Rights Advocacy, University of Utah.
- 2000–2006 Governing Board, Human Behavior and Evolution Society.
- 1999 Local Organizer (with Alan R. Rogers) and member of program committee, Human Behavior and Evolution Society meetings, University of Utah.
- 1996–2006 Editorial Board, *Evolution and Human Behavior*.
- 1992–1994 Panel Member, National Science Foundation
- 1980–1989 Editorial Board, *Ethnology*.
- 1990–1994 Director, Sill Research Center, University of Utah.
- 1990 Panel Organizer (with Eric Smith) of the session "The Original Affluent Society Revisited." Sixth International Conference on Hunting and Gathering Societies, University of Alaska, Fairbanks.
- 1985 Conference Organizer (with Eric A. Smith), *Risk and Uncertainty: Ecological and Economic Perspectives*, Seattle. (funded by the Wenner Gren Foundation)

## Publications

### Books and Edited Collections

- 2016 S. J. C. Gaulin and E. Cashdan (eds.) Mobility and Spatial Reasoning, *Human Nature* Special issue Vol 27(1).
- 2012 E. Cashdan and S. Downes (eds.) The Evolution of Human Aggression. *Human Nature* Special Issue Vol 23(1).
- 1990 E. Cashdan (ed.) *Risk and Uncertainty in Tribal and Peasant Economies*. Westview Press.

## Articles

- 2021 H. Davis and E. Cashdan. Cultural change reduces gender differences in mobility and spatial ability among forager-pastoralist children, the Twa of northern Namibia. *Human Nature*. (In press)
- 2021 A. Crittenden, K. N. Herlosky, T. R. Pollom, I. A. Mabulla, I.T. Ruginski, & E. Cashdan. Harm avoidance and mobility during middle childhood and adolescence in young Hadza foragers. *Human Nature*. (In press).
- 2021 B. Wood, J. Harris, K. Sayre, D. Raichlen, H. Pontzer, A. Sancilio, C. Berbesque, A. Crittenden, A. Mabulla, R. McElreath, E. Cashdan, J. H. Jones. The ecology of gendered foraging predicts movement patterns and landscape use in a hunter-gatherer society. *Nature Human Behavior*.
- 2020 E. Cashdan, J.B. Silk, & A.K. Willard, Evolutionary Psychology and Anthropology. In *The SAGE Handbook of Evolutionary Psychology*, T. Shackelford, ed. Sage.
- 2020 H. Davis and E. Cashdan, You don't have to know where your kids are, just where they aren't: Exploring free-range parenting in the Bolivian Amazon. in *Parents and Caregivers Across Cultures: Positive Development from Infancy through Adulthood*, B. Ashdown and A. Faherty, eds. pp. 59–74. Springer.
- 2019 H. Davis and E. Cashdan, Spatial cognition, navigation, and mobility among children in a forager-horticulturalist population, the Tsimané of Bolivia. *Cognitive Development* 52. doi.org/10.1016/j.cogdev.2019.100800
- 2019 I. Ruginski, S. Creem-Regehr, J. Stefanucci, and E. Cashdan, GPS use negatively affects environmental learning through spatial transformation abilities. *Journal of Environmental Psychology* 64:12-20.
- 2018 K. Gagnon, B. Thomas, A. Munion, S. Creem-Regehr, and E. Cashdan, Not all those who wander are lost: Spatial exploration patterns and their relationship to gender and spatial memory. *Cognition* 180:108-117.
- 2017 L. Padilla, S. Creem-Regehr, J. Stefanucci, & E. Cashdan, Sex differences in virtual navigation influenced by scale and navigation experience. *Psychonomic Bulletin & Review*, 24:582–590.
- 2016 E. Cashdan and S. J. C. Gaulin. Why Go There? Evolution of Mobility and Spatial Cognition in Women and Men *Human Nature* 27(1):1–15. wel
- 2016 E. Cashdan, K. Kramer, H. Davis, L. Padilla, & R. Greaves. Mobility and navigation among the Yucatec Maya: Sex differences reflect parental investment, not mating competition. *Human Nature* 27(1):35–50.
- 2016 L. Vashro, L. Padilla, & E. Cashdan. Sex Differences in mobility and spatial cognition: A test of the fertility and parental care hypothesis in Northwestern Namibia. *Human Nature* 27(1):16–34.

- 2016 K. Gagnon, E. Cashdan, J. Stefanucci, & S. Creem-Regehr. Sex differences in exploration behavior and the relationship to harm avoidance. *Human Nature* 27(1):82–97.
- 2015 L. Vashro and E. Cashdan. Spatial cognition, mobility, and reproductive success in North-western Namibia. *Evolution and Human Behavior* 36(2):123–129.
- 2014 E. Cashdan. Biogeography of human infectious diseases: A global historical analysis *PLoS One* 9(10):e106752
- 2013 E. Cashdan and M. Steele. Pathogen prevalence, group bias, and collectivism in the standard cross-cultural sample. *Human Nature* 24(1):59-75
- 2013 E. Cashdan. What is a human universal? Human behavioral ecology and human nature. In *Arguing About Human Nature: Contemporary Debates*, S. M. Downes and E. Machery, eds. Routledge. pp. 71–80.
- 2012 E. Cashdan and S. Downes. Evolutionary perspectives on human aggression *Human Nature* 23(1):1–4.
- 2012 E. Cashdan, F. Marlowe, A. Crittendon, C. Porter, B. Wood. Sex Differences in Spatial Cognition among Hadza Foragers. *Evolution and Human Behavior* 33(4):274–284.
- 2008 E. Cashdan. Waist-to-Hip Ratio across Cultures: Trade-Offs between Androgen- and Estrogen-Dependent Traits. *Current Anthropology* 49:1099-1107.
- 2003 E. Cashdan. Hormones and Competitive Aggression in Women. *Aggressive Behavior* 29:107-115.
- 2002 E. Cashdan. Human Mate Choice. *Encyclopedia of Evolution*, Mark Pagel, ed. Oxford University Press.
- 2002 E. Cashdan and R. Trivers. Self-Deception *Encyclopedia of Evolution*, Mark Pagel, ed. Oxford University Press.
- 2001 E. Cashdan. Ethnic Diversity and its Environmental Determinants: Effects of Climate, Pathogens, and Habitat Diversity. *American Anthropologist* 103(4):968–991.  
(Featured in the article “All People Who on Earth do Dwell,” *Trends in Ecology and Evolution* 17:207, 2002.)
- 2001 E. Cashdan. Ethnocentrism and Xenophobia: A Cross-Cultural Study. *Current Anthropology* 42(5):760–765.
- 1998 E. Cashdan. Smiles, Speech, and Body Posture: How Women and Men Display Sociometric Status and Power. *Journal of Nonverbal Behavior* 22(4):209–228.
- 1998 E. Cashdan. Adaptiveness of Food Learning and Food Aversions in Children. *Social Science Information* 37:613–632.
- 1998 E. Cashdan. Are Men More Competitive than Women? *British Journal of Social Psychology* 37(2):213–229.

- 1997 A. R. Rogers and E. Cashdan. The Phylogenetic Approach to Comparing Human Populations *Evolution and Human Behavior* 18:353–358.
- 1996 E. Cashdan. Women’s Mating Strategies. *Evolutionary Anthropology* 5:134–143.  
Reprinted as “What Do Women Want?” in *Anthropology: Contemporary Perspectives*, Phillip Whitten (ed.), Allyn and Bacon (2000). Also reprinted in Turkish in *TUBITAK Bilim ve Teknik Magazine* (December 1997).
- 1995 E. Cashdan. Hormones, Sex, and Status in Women. *Hormones and Behavior* 29:354–366.
- 1995 E. Cashdan. Territoriality. In *Encyclopedia of Cultural Anthropology*, D. Levinson and M. Ember, eds. New York:Henry Holt and Co. pp. 1301–1305.
- 1994 E. Cashdan. A Sensitive Period for Learning About Food. *Human Nature* 5:279–291.
- 1993 E. Cashdan. Attracting Mates: Effects of Paternal Investment on Mate Attraction Strategies. *Ethology and Sociobiology* 14:1–24
- 1992 E. Cashdan. Spatial Organization and Habitat Use. In *Ecology, Evolution, and Human Behavior*, E. A. Smith and B. Winterhalder, eds. New York: Aldine.
- 1990 E. Cashdan. Risk and Uncertainty in Tribal and Peasant Economies: An Introduction. In *Risk and Uncertainty in Tribal and Peasant Economies*, E. Cashdan, ed. Westview Press, pp. 1–16.
- 1990 E. Cashdan. Information Costs and Customary Prices. In *Risk and Uncertainty in Tribal and Peasant Economies*, E. Cashdan, ed. Westview Press, pp. 259–278.
- 1989 E. Cashdan. Hunters and Gatherers: Economic Behavior in Bands. In *Economic Anthropology*, S. Plattner, ed. Stanford: Stanford Univ. Press.
- 1988 P. Draper and E. Cashdan, Technological Change and Child Behavior among the !Kung. *Ethnology* 27:339–365.
- 1987 E. Cashdan. Trade and its Origins on the Botletli River, Botswana. *Journal of Anthropological Research* 43:121–138.
- 1986 E. Cashdan. Competition Between Foragers and Food Producers on the Botletli River, Botswana. *Africa* 56:299–317.
- 1986 E. Cashdan. Hunter-Gatherers of the Northern Kalahari. In *Contemporary Studies on Khoisan*, R. Vossen and K. Keuthmann, ed., Hamburg:Helmut Buske Verlag, pp. 145–180.
- 1985 E. Cashdan. Coping With Risk: Reciprocity Among the Basarwa of Northern Botswana. *Man* 20:454–474.
- 1985 E. Cashdan. Natural Fertility, Birth Spacing, and the ‘First Demographic Transition’. *American Anthropologist* 87:650–653.
- 1984 E. Cashdan. G//ana Territorial Organization. *Human Ecology* 12:443–463.

- 1984 E. Cashdan. The Effects of Food Production on Mobility in the Central Kalahari. In *From Hunters to Farmers: Causes and Consequences of Food Production in Africa*, J. Desmond Clark and S. A. Brandt, eds. Berkeley: Univ. of California Press, pp. 311–327
- 1983 E. Cashdan. Territoriality among Human Foragers: Ecological Models and an Application to Four Bushman Groups. *Current Anthropology* 24:47–66.
- 1980 E. Cashdan. Egalitarianism among Hunters and Gatherers. *American Anthropologist* 82:116–120.
- 1977 E. Cashdan. Social and Economic Networks: A Comparison of the Nata and Botletle River Areas. *Botswana Notes and Records* 9:166–167.

### Commentary

- 2012 E. Cashdan. In-group loyalty or out-group avoidance? Isolating the links between pathogens and in-group assortative sociality *Behavioral and Brain Sciences* 35:82.
- 2009 E. Cashdan. Sex Differences in Aggression: What Does Evolutionary Theory Predict? *Behavioral and Brain Sciences*. 32:273-74
- 1999 E. Cashdan. How Women Compete. *Behavioral and Brain Sciences* 22:221.
- 1998 E. Cashdan. Why is Testosterone Associated with Divorce in Men? *Behavioral and Brain Sciences* 21:366.
- 1991 E. Cashdan. Comment on Foragers' Pursuit of Individual Autonomy, by R. Gardner. *Current Anthropology* 32:559–560.
- 1983 E. Cashdan. Comment on Anthropological Applications of Optimal Foraging Theory, by Eric A. Smith. *Current Anthropology* 24:642–643.

### Manuscripts under review and revision

- in revision I.T. Ruginski, S.H. Creem-Regehr, J. K. Stefanucci, E. Barhorst-Cates, H. Davis L.S. Sugiyama, K.N. Herlosky, A.N. Crittenden, K.Kramer, and E. Cashdan. *MRTX: A mental rotation task accessible across age and culture*
- in revision M.G., Schug, E. Barhorst-Cates, J. Stefanucci, S. Creem-Regehr, A.P.L. Olsen, and E. Cashdan. *Experience and Spatial Cognition: Childhood Navigational Experience Predicts Performance on a Spatial Task in Two Societies.*
- under review E. Cashdan, K.T. Gagnon, J. K. Stefanucci, I. T. Ruginski, J. Butner, and S. H. Creem-Regehr. *Why males and females navigate differently: Risk-seeking, harm-avoidance, and sex differences in range size*

## Grants and Awards

- 2019 Superior Research Award recipient, College of Social and Behavioral Sciences, University of Utah.
- 2016–2020 The relationship between mobility and spatial reasoning in children across cultures. NSF BCS 1628583 (Developmental Sciences). Cashdan (PI), Crittenden, Stefanucci, Butner (co-PIs). \$199,926.
- 2013–2019 Age changes and sex differences in spatial cognition: Testing the role of mobility in three non-industrial societies and the U.S. NSF IBSS 1329091. Cashdan (PI), Creem-Regehr, Stefanucci, Miller, Marlowe, and Sugiyama (co-PIs). \$999,871. \$999,871.
- 2011–13 Sex ratio variation and its social effects in Yap, Micronesia. NSF BCS 1124404 (DDIG) Cashdan (PI) Stone (co-PI). \$17,890
- 2010–12 Post-marital residence among the Ovatoe of northwestern Namibia, NSF BCS 1026373 (DDIG) Cashdan (PI) Vashro (co-PI). \$ 19,991
- 2005 Gender Differences in Spatial Cognition among Hadza Foragers. University of Utah Research Incentive Grant. \$ 19,485
- 1996–97 Sabbatical research, funded by King’s College Research Centre, Cambridge University.
- 1991 Neuroendocrine Correlates of Dominance. Clinical Research Center, University of Utah, through NIH.
- 1990 Sex Differences in Competition and Dominance. Faculty research grant, University of Utah.
- 1987–88 Resource Structure and Mobility among Kalahari Hunter-Gatherers. National Science Foundation.
- 1985 Risk and Uncertainty: Ecological and Economic Perspectives (Conference, with Eric A. Smith). Wenner Gren Foundation for Anthropological Research.
- 1981 Territoriality among Kalahari Foragers. Faculty research grant, University of Pittsburgh.
- 1979–80 Post-doctoral research at the University of Michigan Population Studies Center, National Research Service Award (NIH).

## Recent Lectures and Presentations

- 2019 E. Cashdan, S. Creem-Regehr, J. Stefanucci. Can Gender Differences in Mobility Explain Gender Differences in Spatial Ability? Findings from the Field and the Lab. Cognition, Perception and Cognitive Neuroscience Lecture series, U.C. Santa Barbara.

- 2019 E. Cashdan et al. Environmental Influences on Spatial Behavior and Spatial Reasoning in Humans: Sex Differences in Four Traditional Societies. International Convention of Psychological Science (ICPS), Paris.
- 2019 E. Cashdan et al. Sex Differences in Harm Avoidance Among hunter-gatherers and forager-horticulturalists. Human Behavior and Evolution Society (HBES), Boston, MA.
- 2018 E. Cashdan. Evolutionary and Environmental Influences on Spatial Cognition. Margo Wilson Memorial Lecture, McMaster U.
- 2018 E. Cashdan. Sex Differences in Mobility and Wayfinding: Cross-Cultural Perspectives. Invited Plenary, Society for Cross-Cultural Research, Las Vegas, NV.
- 2018 H. Davis and E. Cashdan. Spatial cognition and mobility among children in a traditional and transitioning population. 7th International conference on spatial cognition (ICSC), Rome.
- 2017 E. Cashdan. Sex Differences in Mobility and Wayfinding: Cross-Cultural Perspectives. Invited Plenary, International Society for Human Ethology, Boise, ID
- 2017 M. Schug, H. Davis, J. Stefanucci, S. Creem-Regehr, A. Olsen, E. Cashdan. Experience and Spatial Cognition: Childhood Navigational Experience Predicts Performance on the Mental Rotation Task in Two Societies. Society for Cross-Cultural Research in Child Development.
- 2017 E. Cashdan, H. Davis, K. Kramer, and L. Vashro. Mating Competition, Mobility, and Wayfinding A Comparison of Three Societies. Human Behavior and Evolution Society Annual Meetings, Boise, ID
- 2016 K. Gagnon, S. Creem-Regehr, J. Stefanucci, E. Cashdan. Do Sex Differences in Mobility Explain Sex Differences in Navigation? Spatial Cognition 2016. Philadelphia, PA.
- 2015 E. Cashdan. Sex Differences in Mobility and Wayfinding: Cross-Cultural Perspectives. Invited lecture. Center for Behavior, Evolution, and Culture, UCLA
- 2015 E. Cashdan. Sex Differences in Mobility and Spatial Cognition: Cross-Cultural Perspectives. Invited lecture. Evolution and Human Adaptation Program, University of Michigan.
- 2015 S. Creem-Regehr, L. Padilla, J. Stefanucci, & E. Cashdan. Effects of spatial abilities, cue types, and scale on spatial memory in virtual natural landscapes. International Conference on Spatial Cognition (ICSC), Rome, Italy
- 2015 L. Padilla, S. Creem-Regehr, J. Stefanucci, & E. Cashdan. Sex differences in virtual navigation influenced by scale, visual cue-types, spatial memory and lifetime mobility. Annual Conference of the Cognitive Science Society, Pasadena, CA. (July)
- 2015 E. Cashdan. Why men travel farther than women: costs, benefits, and consequences. Invited plenary. Northwest Evolution, Ecology, and Human Behavior Symposium, Boise, ID. (April)
- 2015 M Schug, J Stefanucci, S. Creem-Regehr, & E. Cashdan. Wayfinding anxiety and childhood experience. Society for Research in Child Development meetings, Philadelphia (March)



- 2014 K. Gagnon, J Stefanucci, S. Creem-Regehr, E. Cashdan. Sex differences in exploration and the relationship to harm avoidance. 26th annual Human Behavior and Evolution Society meeting, Natal, Brazil. Awarded poster prize.
- 2014 L Padilla, S. Creem-Regehr, J Stefanucci, E. Cashdan. Effects of scale on sex differences in a virtual water maze. 54th annual meeting of the Psychonomics Society, Long Beach, CA.
- 2014 K. Gagnon, S. Creem-Regehr, J Stefanucci, E. Cashdan. Characterizing exploration behavior in a large-scale desktop virtual environment. 54th annual meeting of the psychonomics society, Long Beach, CA.
- 2013 L. Vashro and E. Cashdan, Spatial visualization, range size, and mating success. Human Behavior and Evolution Society Annual Meeting, Miami
- 2012 L. Vashro and E. Cashdan, Sex differences in spatial cognition among the Tue and Tjimba. Society for Anthropological Sciences Annual Meeting. Las Vegas, NV
- 2012 E. Cashdan and L. Vashro. Doing cognitive psychology in the bush. Society for Anthropological Sciences Annual Meeting, Las Vegas, NV.
- 2012 Spatial ability in hunter-gatherers. Invited lecture, Santa Fe Institute. Santa Fe, NM
- 2011 Spatial ability in hunter-gatherers. Invited lecture, Department of Anthropology, Penn State University
- 2010 Do pathogens and other risks promote ethnocentrism and xenophobia? American Anthropological Association meetings, New Orleans.
- 2008 E. Cashdan and F. Marlowe. Sex difference in Spatial Cognition among Hadza Foragers: A Reconsideration of the Gathering Hypothesis. International Society for Human Ethology, Bologna.
- 2006 Sex differences in Spatial Cognition among Hadza Foragers. Evolution and Human Behavior Society, Philadelphia, and Society for Cross-Cultural Research, Savannah GA
- 2005 Why Female Hierarchies are Less Stable. Human Behavior and Evolution Society, Berlin.
- 2004 Hormones, Sex, and Competitive Aggression in Women. Hanse Institute for Advanced Study conference on Sex, Brain and Human Aggression. Delmenhorst, Germany