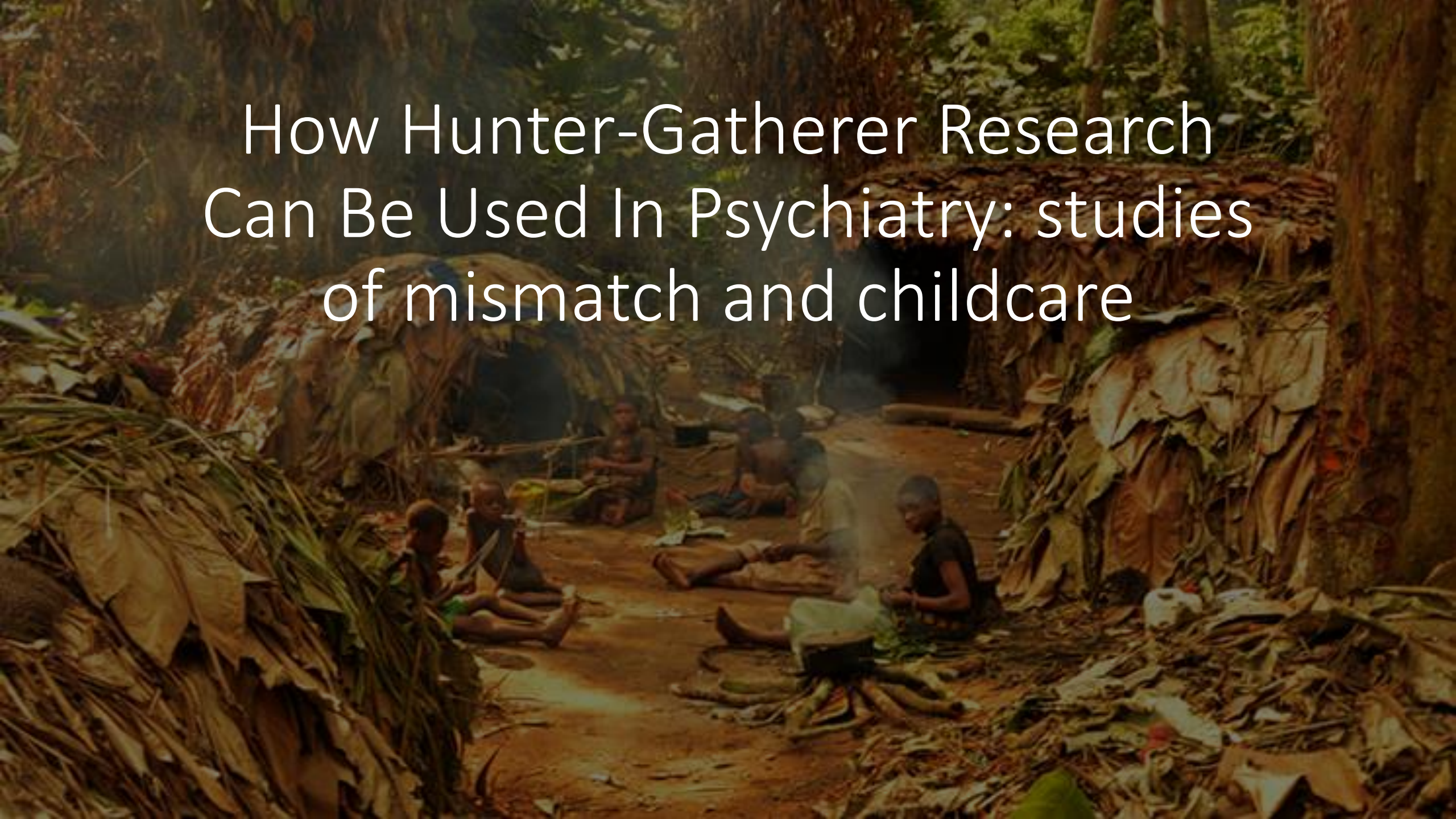


How Hunter-Gatherer Research Can Be Used In Psychiatry: studies of mismatch and childcare



Evolution and Psychiatry

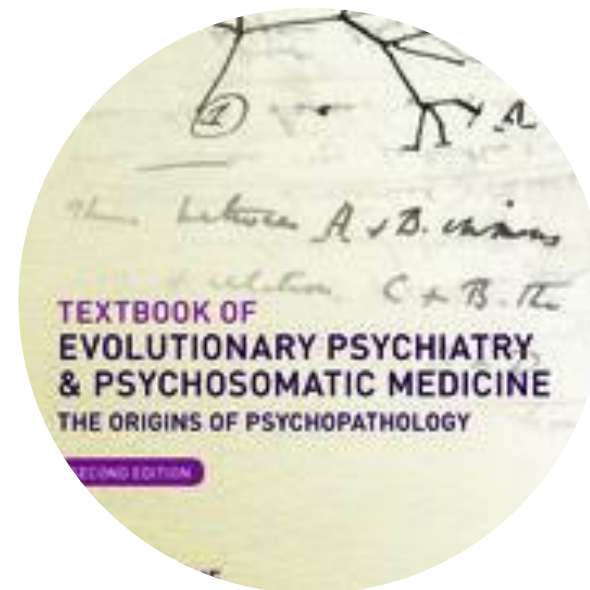
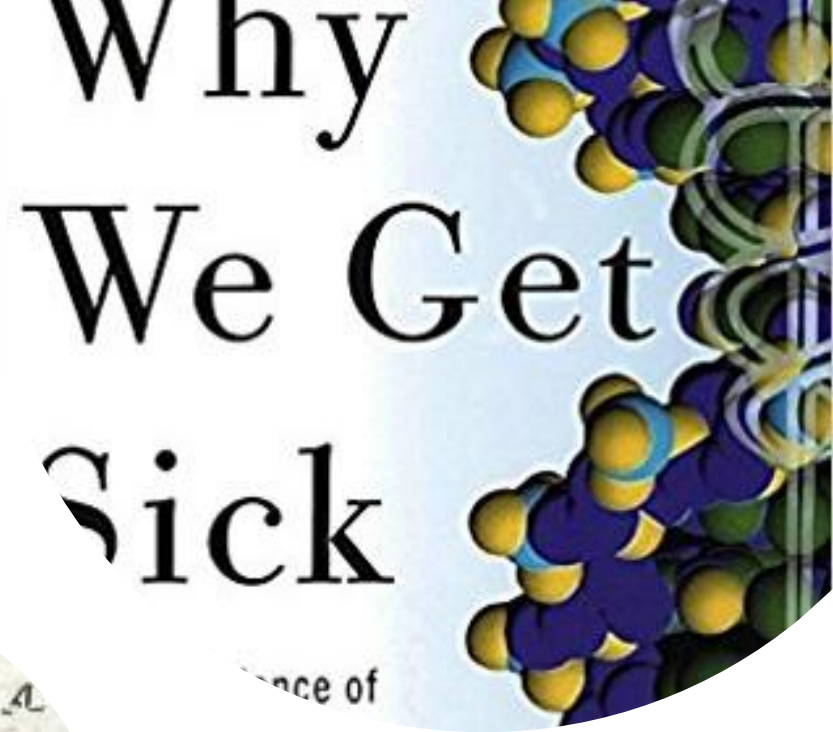
Why are psychiatric disorders not eliminated by natural selection?

1. They have some adaptive function or are overexpressions of adaptive processes:

- Fitness \neq happiness or wellbeing
- BPD as a life-history strategy (Brüne 2010)
- Depression as a sickness behaviour (Stieglitz et al. 2015)

2. They are a mismatch i.e. diseases of modernity.

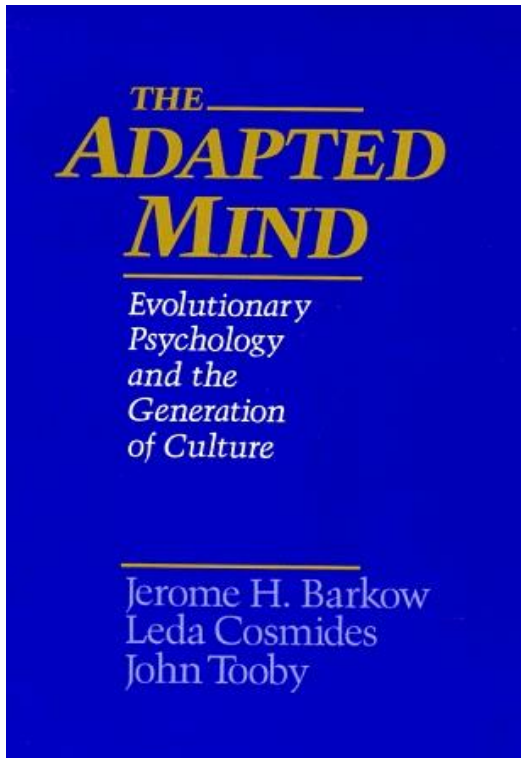
- ADHD (Swanepoel et al. 2018)
- Schizophrenia as outgroup intolerance (Abed & Abbas 2011)



Naturally Selected Torment: Why Homo sapiens suffer and why I'd rather be a monk than Dan Bilzerian.

Aims

- Explore the evolutionary mismatch concept and misconceptions of hunter-gatherers/EEA.
- Consider possible examples of evolutionary mismatch relevant to psychiatry.



Evolutionary Psychology and Mismatch

- Mental modules to overcome adaptive problems.
- Genetically coded inflexible adaptations.
- Universal human nature.
- Psychology adapted to Pleistocene and mismatched with modernity.

(Barkow, Tooby & Cosmides 1992)



Figure 1a)

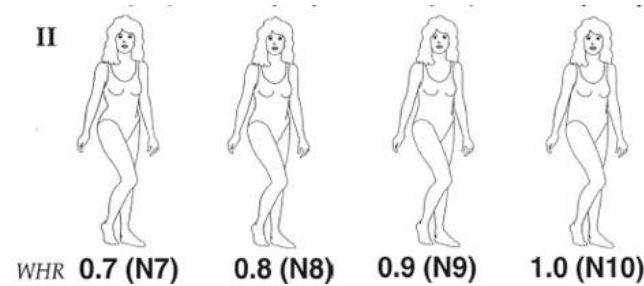


Issues With Mismatch

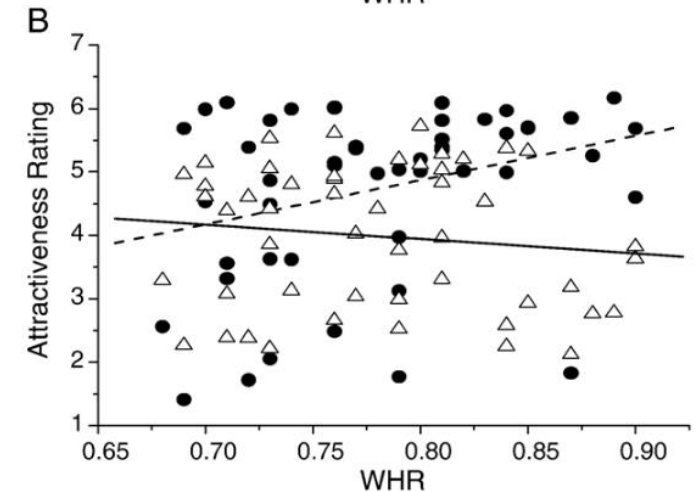
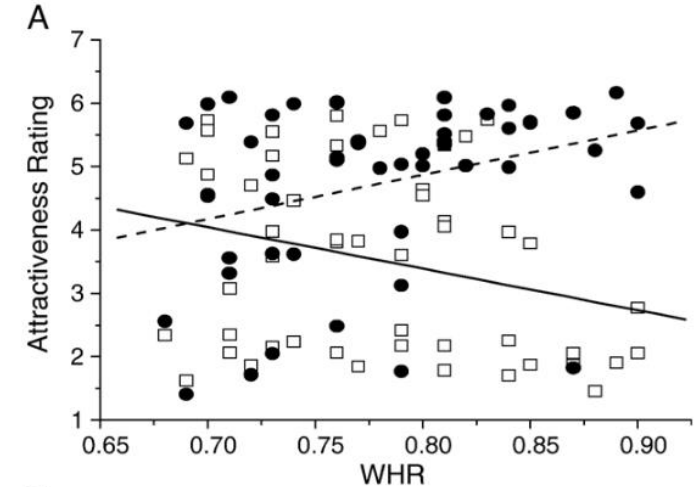
- Strong selection post-Neolithic
- Epigenetics and Behavioural Flexibility
- Cultural Evolution
- What do we really know about the environment our brain evolved in?



(Leonardi et al. 12)



(Singh 1993)



(Tovee et al. 2006)

How we should use the EEA

*“The EEA is not a place or time. It is the statistical composite of selection pressures that caused the genes underlying the design of an adaptation to increase in frequency until they became species-typical or stably persistent. **Conceptualizing the EEA in statistical terms is fundamental** to the functional definition of emotion that we presented above and will elucidate below.” (Tooby & Cosmides 2010).*

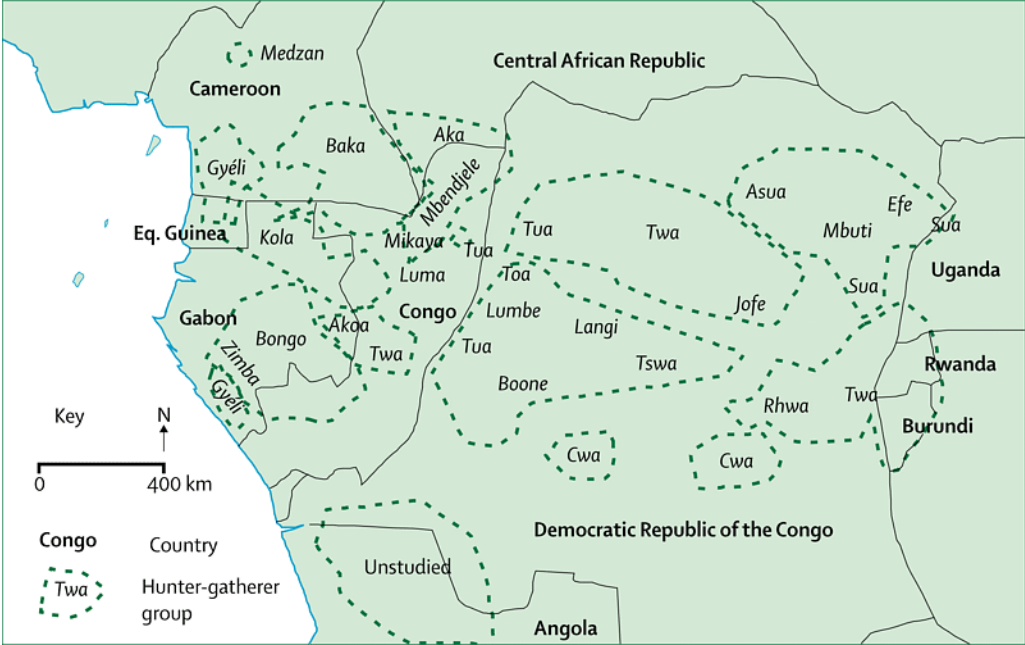


How we use the EEA

*“In practice, the evolutionary part of EP often reduces to rather **vague claims** about selective conditions in the EEA that may have favoured the evolution of a hypothesized psychological mechanism ... To the extent that our knowledge of the EEA remains sketchy, rigorous quantitative testing of precise selectionist hypotheses becomes virtually impossible, and the result can easily **degenerate into adaptive storytelling**”. (Smith et al. 2010)*



The Mbendjele BaYaka



Egalitarianism and Hierarchy

- Complex Vs Simple Hunter-Gatherers.
- Climatic (Richerson et al. 2000) and archaeological (Shultziner et al. 2010) evidence favours simple model.
- Intolerance of dominance and norms of modesty (Lee 1969).
- Intra and inter-sex egalitarianism (Lewis 2002).
- Egalitarianism \neq Equality (Chaudhary et al. 2016)



Residence and Group Composition

Science

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HUMAN BEHAVIOR

Sex equality can explain the unique social structure of hunter-gatherer bands

M. Dyble,* G. D. Salali, N. Chaudhary, A. Page, D. Smith, J. Thompson, L. Vinicius, R. Mace, A. B. Migliano

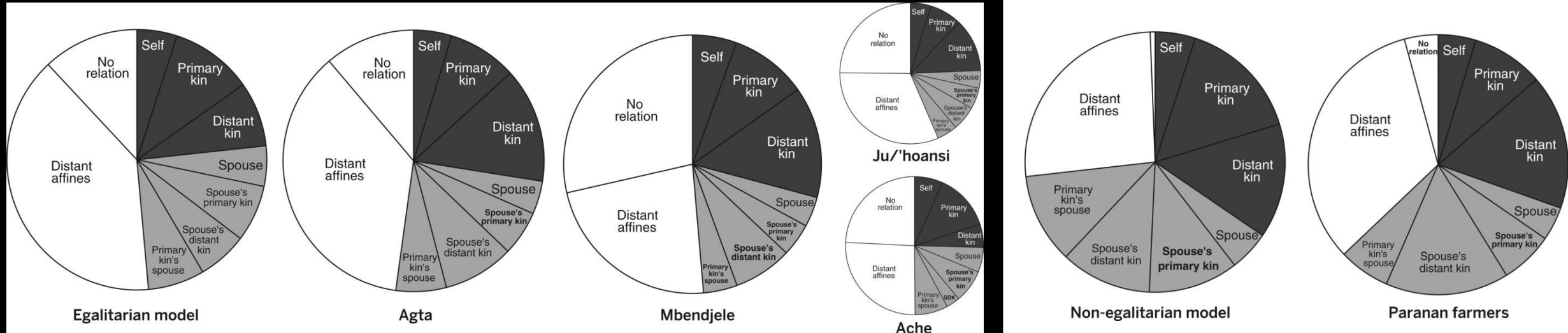
Science

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RESEARCH ARTICLE

Co-Residence Patterns in Hunter-Gatherer Societies Show Unique Human Social Structure

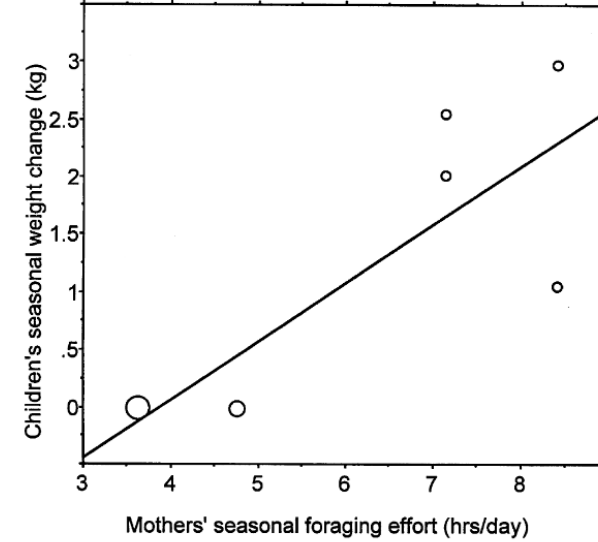
Kim R. Hill^{1,*}, Robert S. Walker^{2,*}, Miran Božičević¹, James Eder¹, Thomas Headland^{3,4}, Barry Hewlett^{5,6}, A. Magdalena ..



Man the provider, woman the carer



(Hawkes et al. 2001)



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Are the men of the African Aka tribe the best fathers in the world?

While the women hunt, the men look after the babies - even letting them suck their nipples. Joanna Moorhead asks anthropologist Barry Hewlett why the Aka are such unusual parents

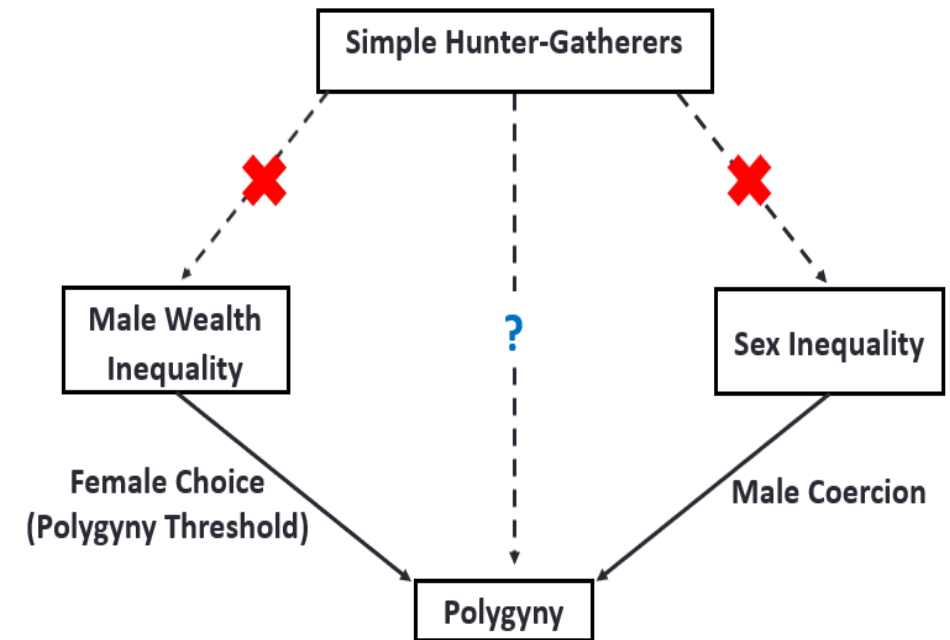
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Mating and marriage

- Serially monogamous (1-2 partners per lifetime)
- Low incidence of polygyny (Chaudhary et al. 2015)



Misconceptions

- Hierarchical political organisation
- Patrilocal highly related groups
- Fixed sex roles of male provisioning and female childcare
- Promiscuous mating / high polygyny rates

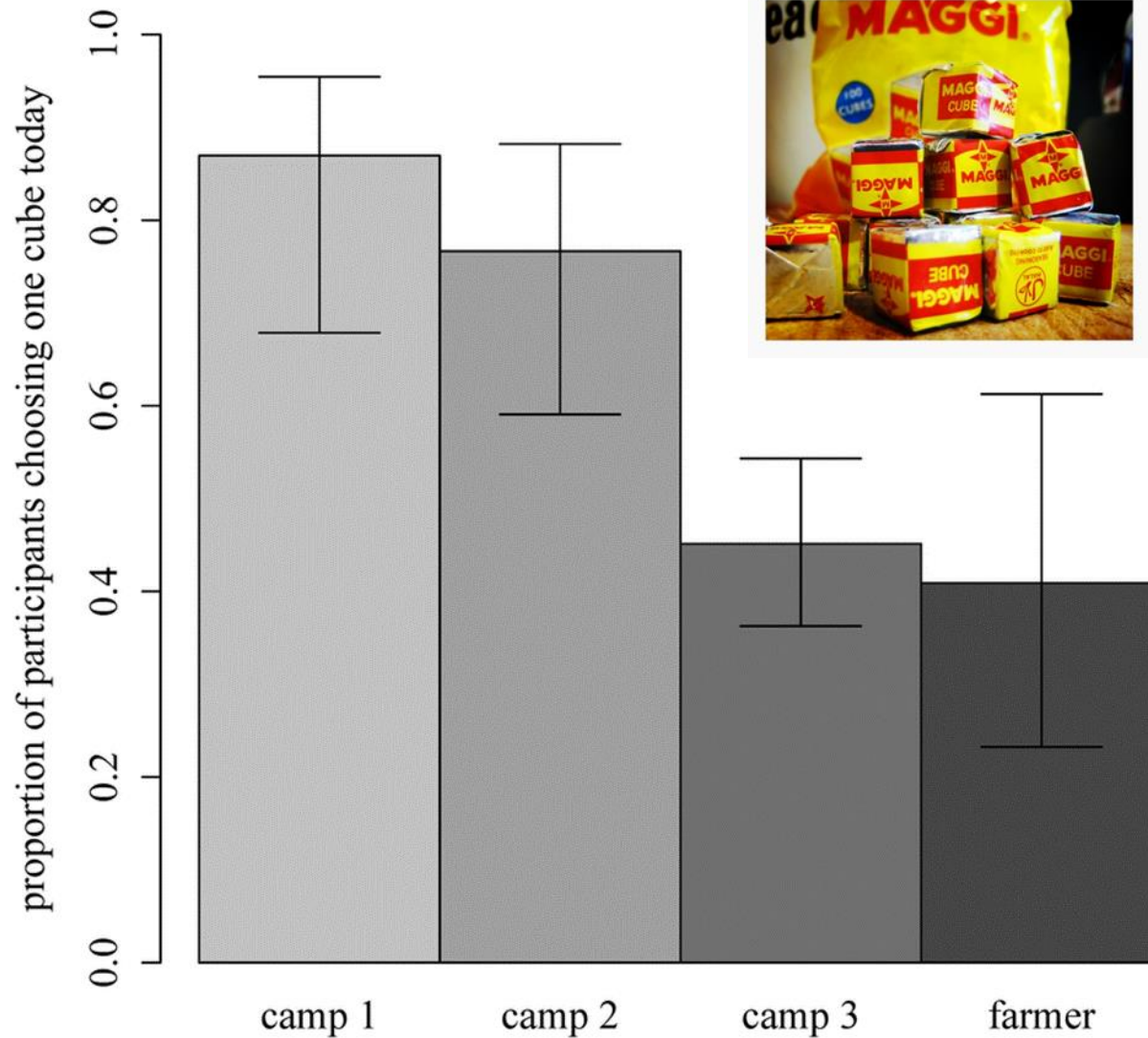


Susceptibility and Risk Factors

- Social support – kinship networks and community living
- Minimal outgroup interaction (farmers?)



Present Orientation



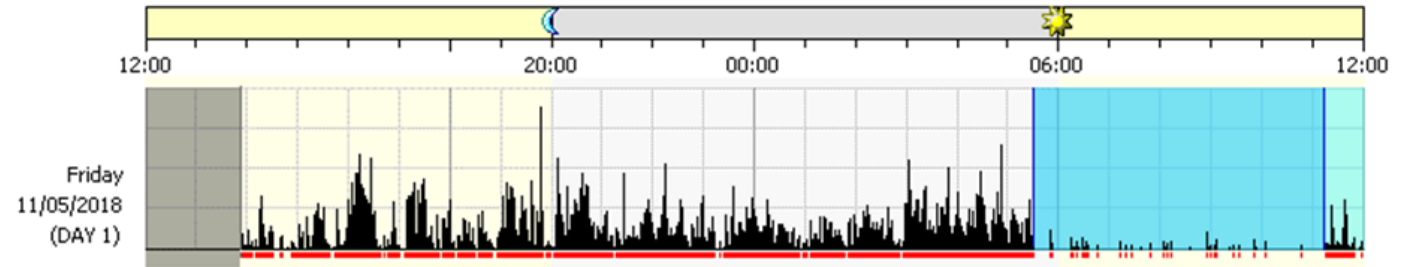
RESEARCH ARTICLE

Future Discounting in Congo Basin Hunter-Gatherers Declines with Socio-Economic Transitions

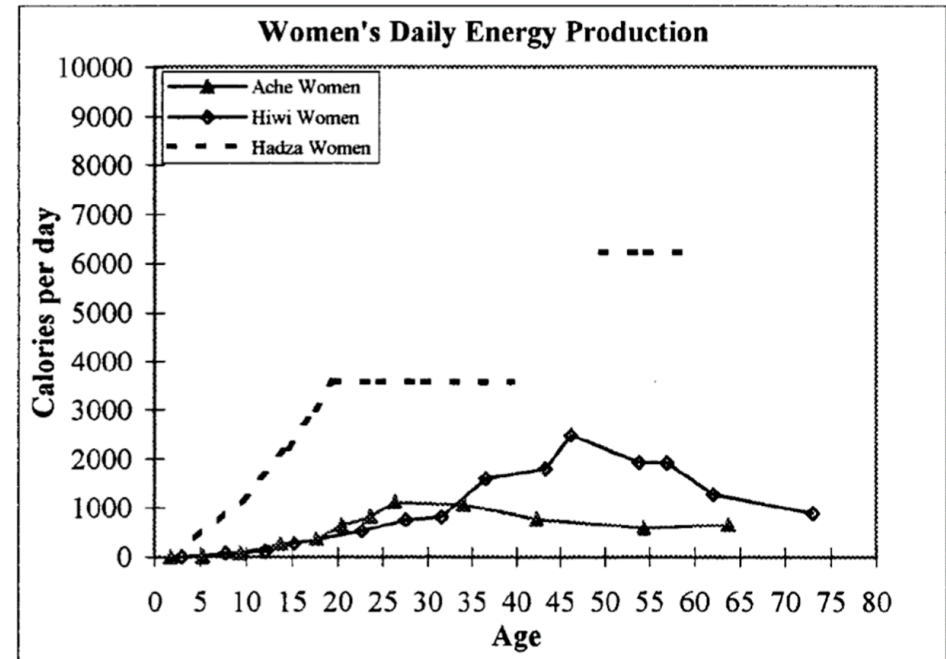
Gul Deniz Salali*, Andrea Bamberg Migliano



Physical Activity

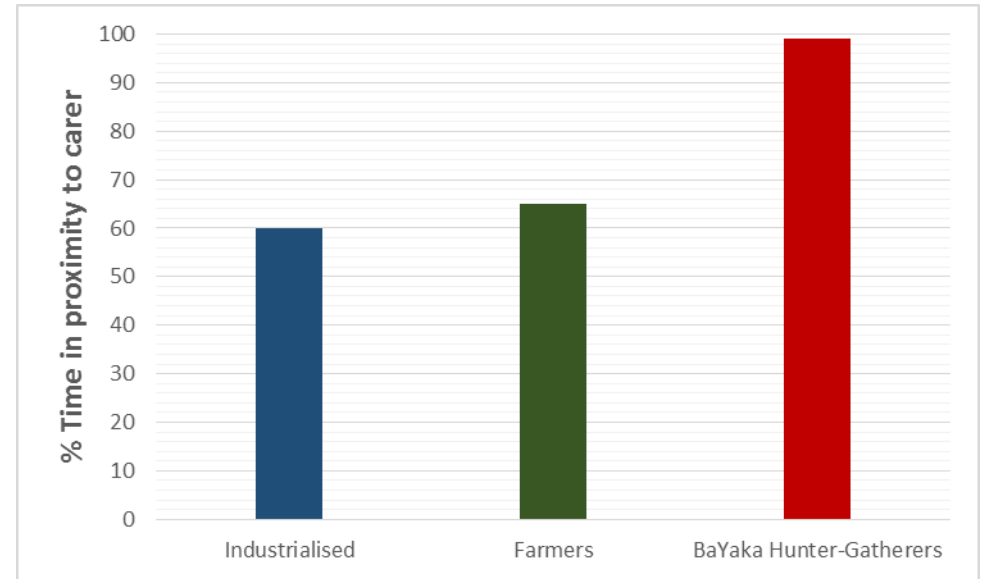
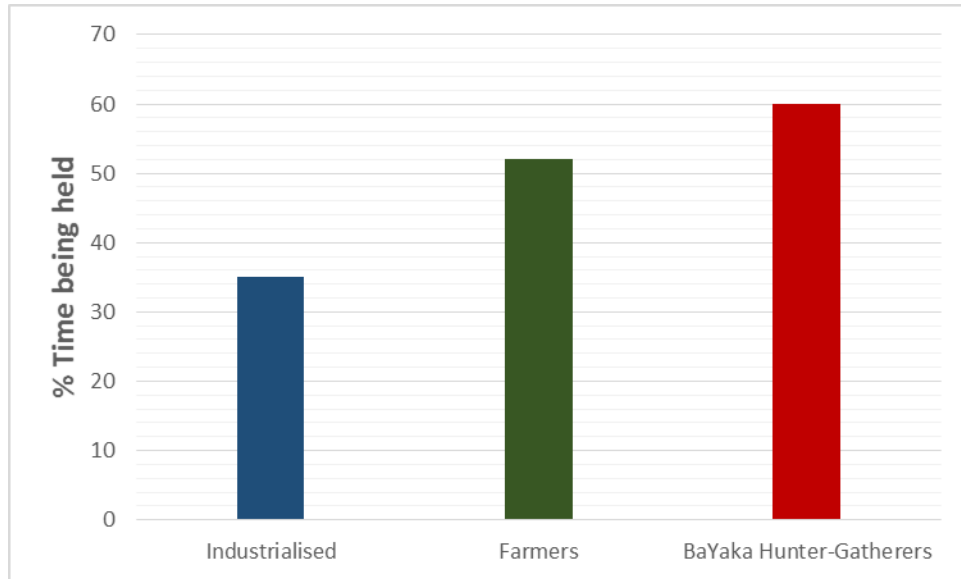
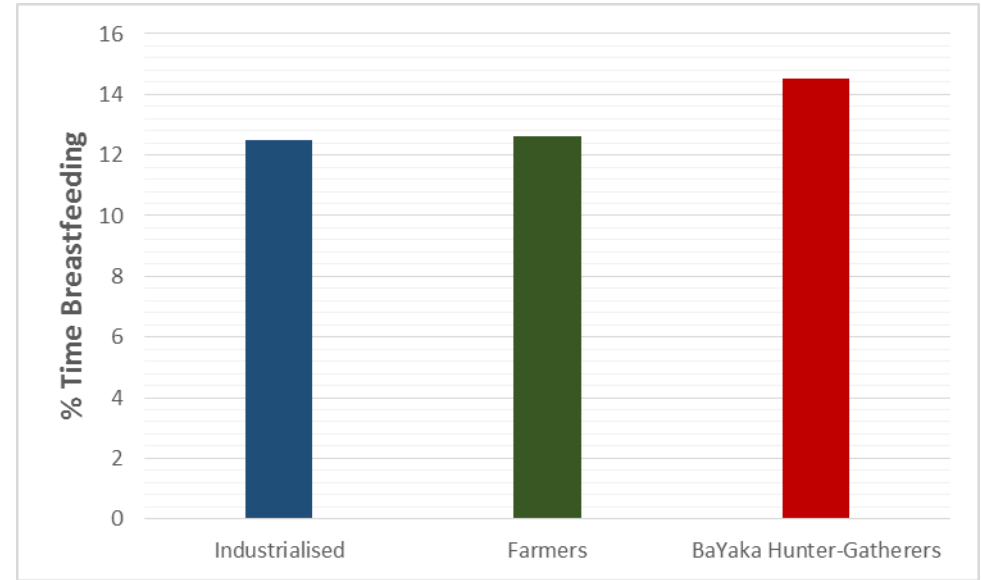
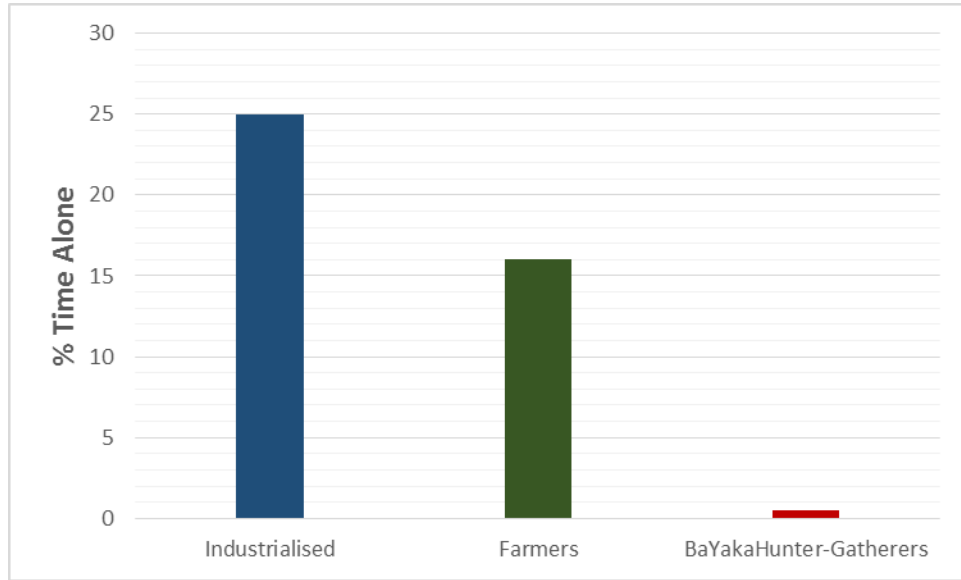




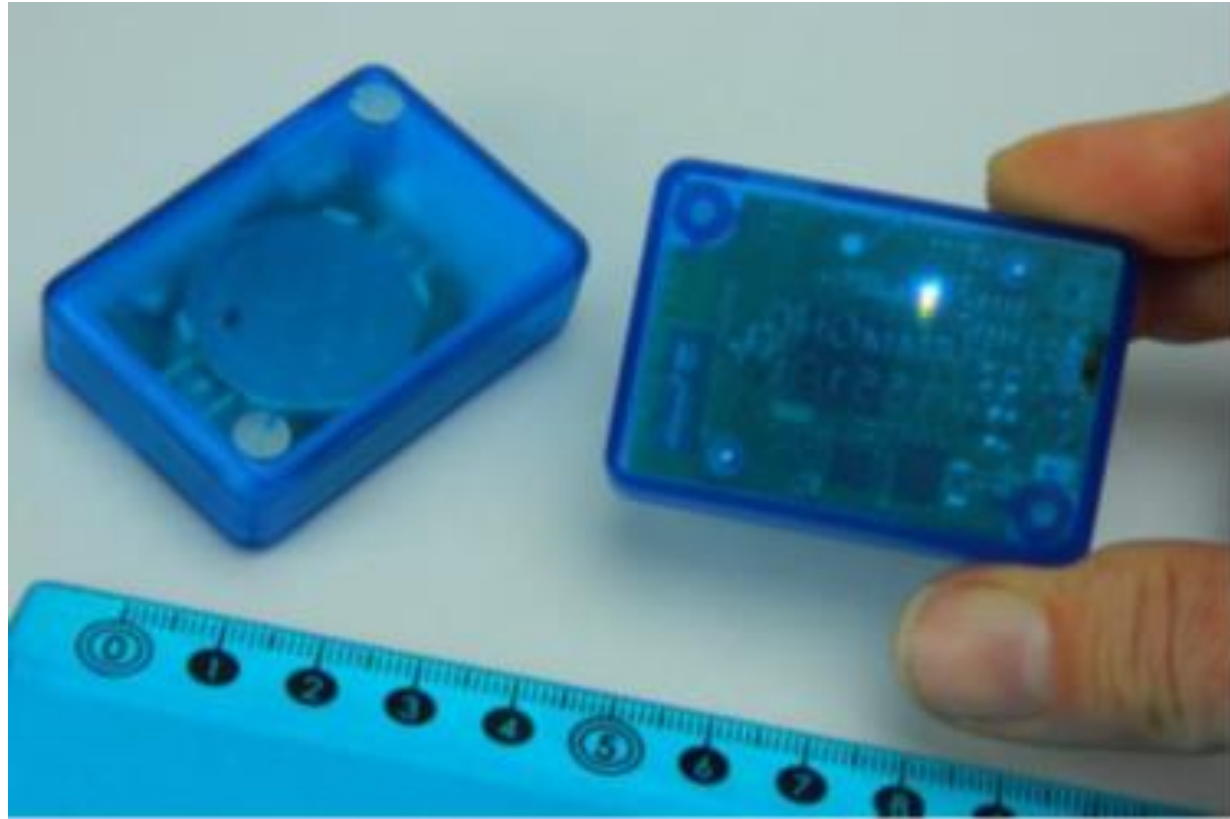


(Kaplan et al. 2009)

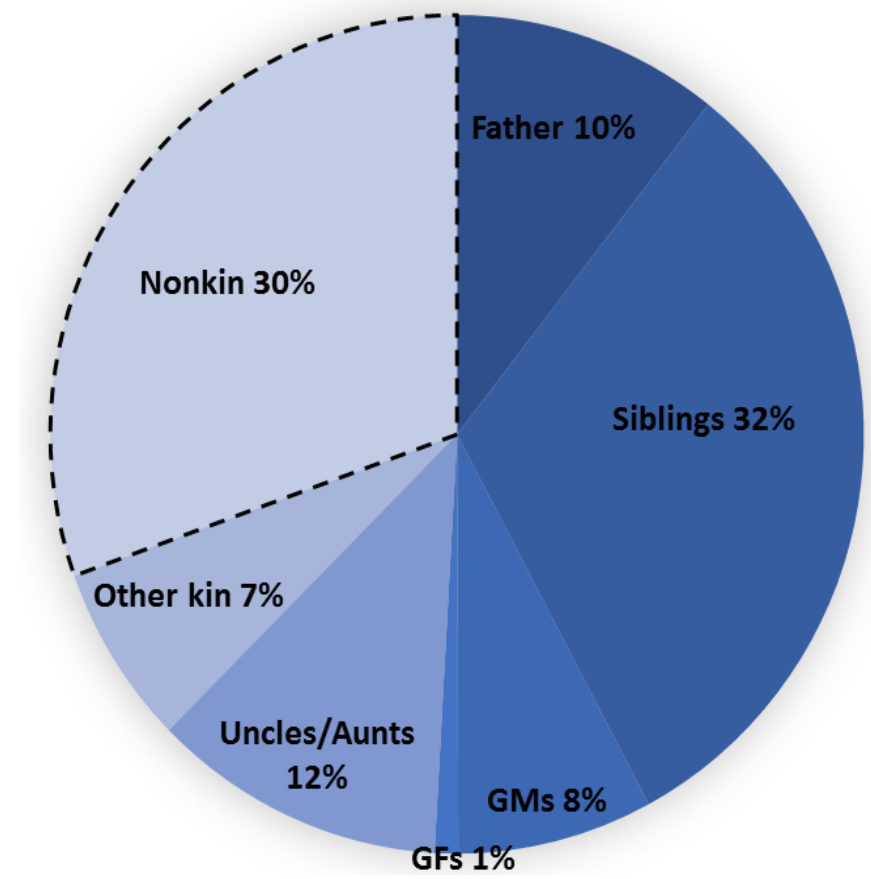
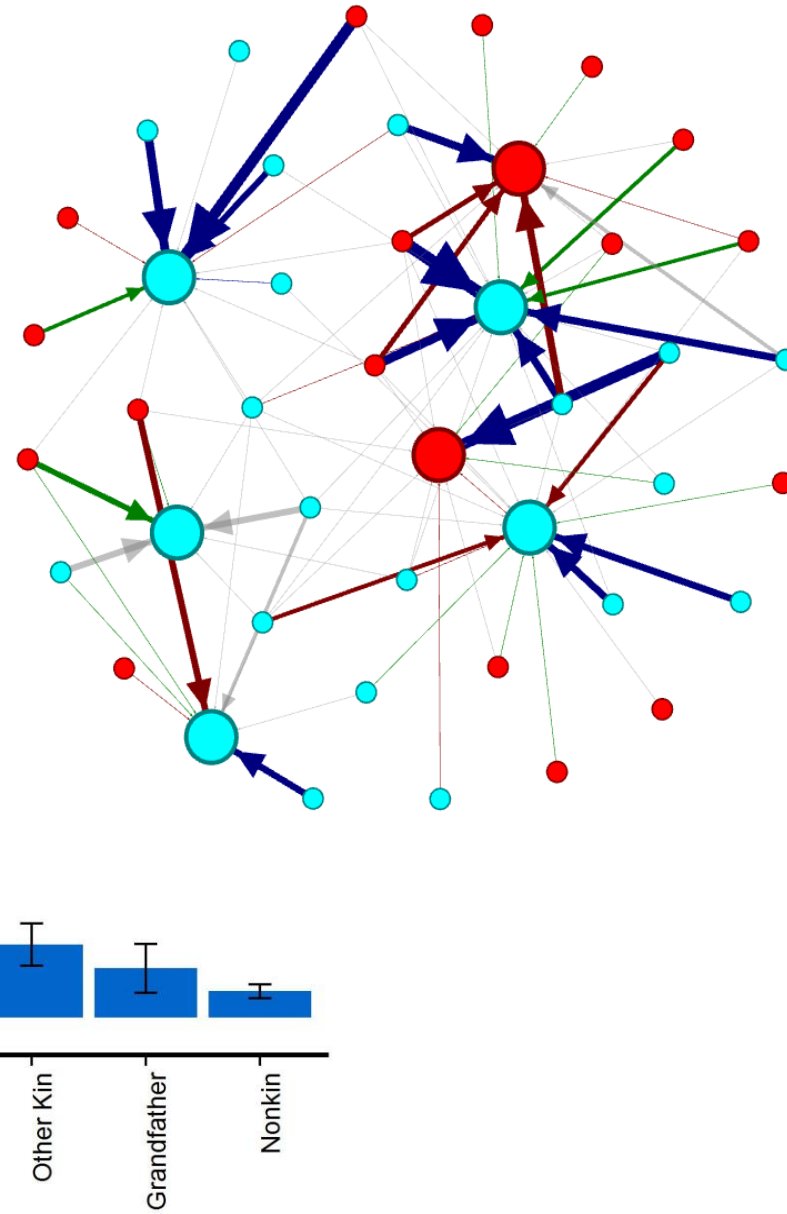
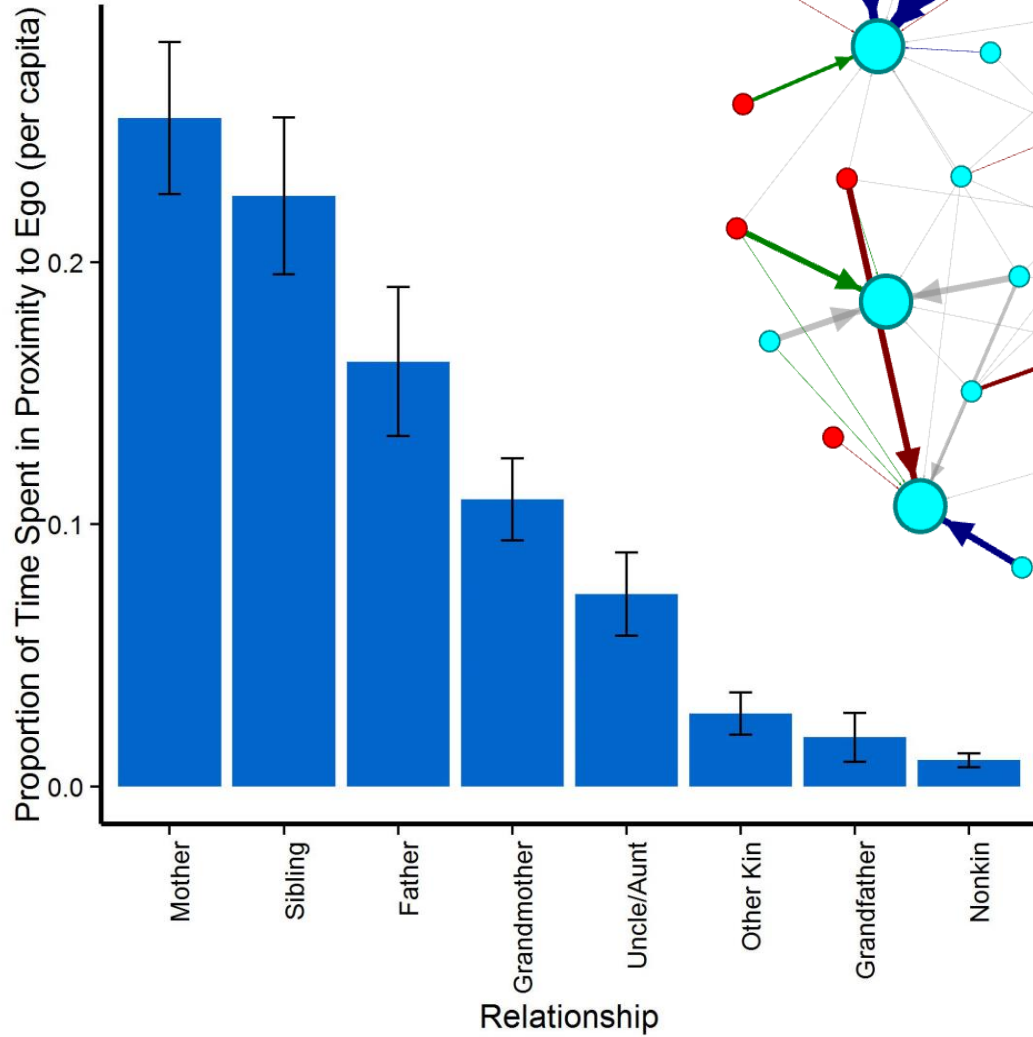
Sensitive Caregiving and Secure Attachment







Allocare

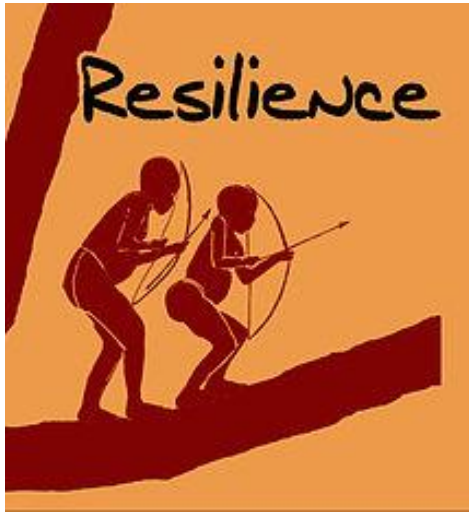


Possible support for mismatch and diseases of modernity hypothesis

- Large social and kin networks + stable interaction pool [depression; schizophrenia; autism]
- Present-orientation [anxiety]
- Very active [ADHD; depression]
- Secure attachment and independence [depression; BPD; anxiety]



Thanks!



The Leverhulme Trust
