

# Wellbeing in Modern Society: An Evolutionary Mismatch Perspective

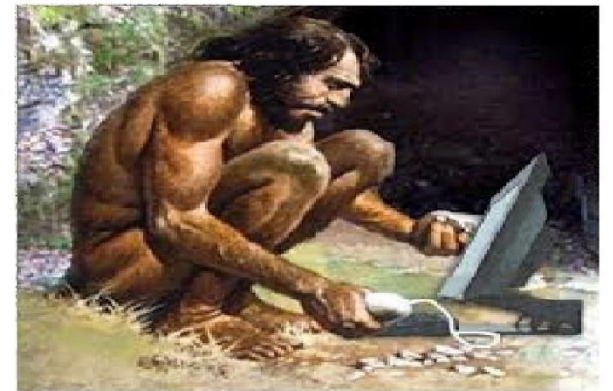
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- Mainly based off my recent and ongoing research which is summarized here: <https://theconversation.com/human-culture-is-changing-too-fast-for-evolution-to-catch-up-heres-how-it-may-affect-you-227711>



- Scope:

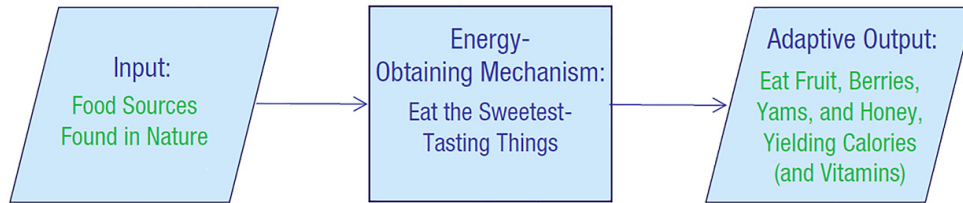
- Introducing an evolutionary perspective to understanding modern problems
- Demonstrating how culture can interact with evolutionary factors
- Kickstarting conversations on how such a perspective might guide the design of solutions



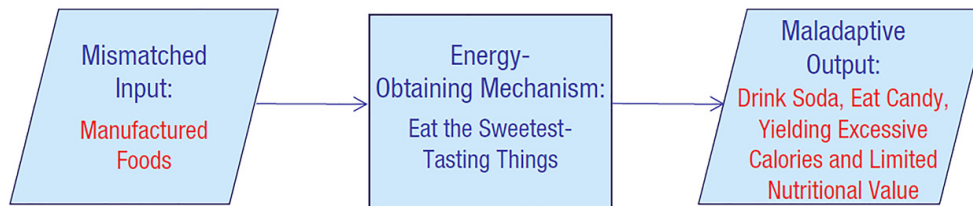
# Evolutionary Mismatch

- **Mismatch** occurs when an adaptation fails to produce adaptive outcomes due to problematic (e.g., evolutionarily novel) inputs

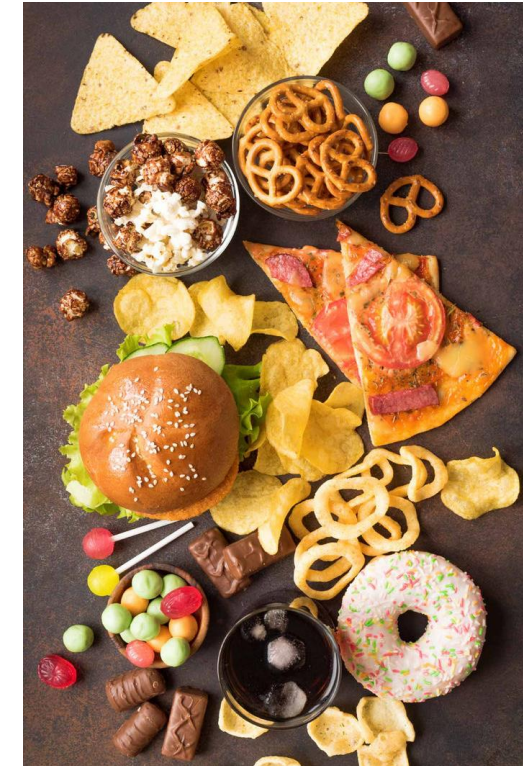
a Evolved Mechanisms Functioning in a Natural Environment



b Evolved Mechanisms Processing Mismatched Inputs



- such as
  - moths and nocturnal flies flying toward lamps
  - male giant jewel beetles mating with beer bottles
  - the classic sweet tooth in humans

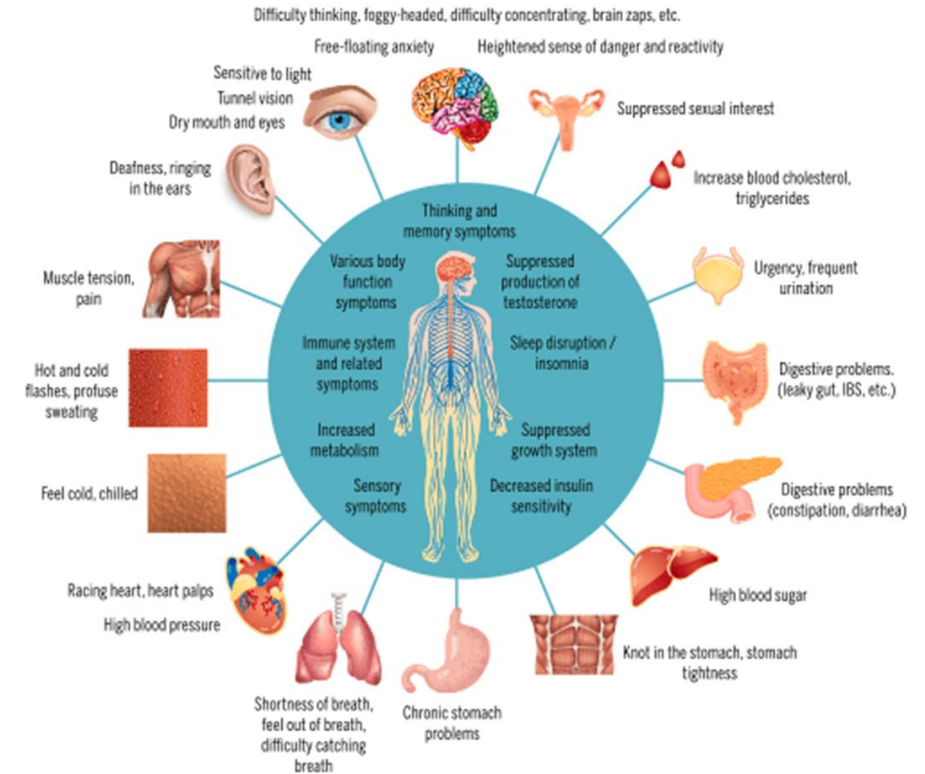




# More findings on mismatch in humans

- Hyper-inflammatory conditions such as irritable bowel disease and multiple sclerosis
  - modern medicine and hygiene practices eradicated helminthic worms that co-evolved with early humans to help regulate our immune system
- Modern technologies/settings both hyperstimulate (resulting in addiction, insomnia) and understimulate (resulting in boredom, ADD/ADHD symptoms)
- Chronic exposure to idealized images of people in mass media resulting in body image issues
- Ancestral humans lived in small, kin-based nomadic tribes comprising ~150 close-knit individuals
  - modern humans living in sprawling cities populated by hundreds of thousands of strangers can end up feeling isolated and lonelier

## How Hyperstimulation Can Affect The Body



# Sources of Evolutionary Mismatch in Modern Environments

	Ancestral Environment	Modern Environment
Population size	~150	Hundreds of thousands; crowded
Environmental features	Natural; e.g., foliage, savannah	Urban; e.g., concrete buildings, cemented roads
Societal structure	Egalitarian	High inequality
Lifestyle	Nomadic, natural diets	Sedentary, artificial diets
Economic arrangement	Primitive; barter trade	Advanced; capitalistic
Technological penetration	Basic; simple tools	Advanced; e.g., cars, computers, etc
Informational complexity	Low	High; e.g., mass media, information technology, social media
Social complexity	Low	High; e.g., complex hierarchies, social monitoring

Needs that are affected:

- **Biophilic** needs
- Need for **certainty**
- Need for **stimulation**
- Need for **status**
- Need for **belonging**
- **Social monitoring** needs
- **Mating** needs
- etc...

# Social Status as an Adaptive Need/Goal

- Social status plays an important role in regulating behavior in group-living species
- People respond to higher status individuals with respect and deference rather than antagonism
- Higher status individuals perceived as more attractive allies/mates
- Thus, humans evolved to care about social status
  - attention toward cues of dominance, confidence, and prestige in others
  - self-evaluations of one's position in the status hierarchy
  - motivations to maintain a decent standing relative to others



# Social Status as an Adaptive Need/Goal

- Under “optimal” conditions, e.g., in hunter-gatherer/pre-industrial environments
  - small, tight-knit communities where people knew each other
  - egalitarian
  - low resource-hoarding
- instincts to maintain social status would improve our ability to live in groups, seek mates, and reproduce





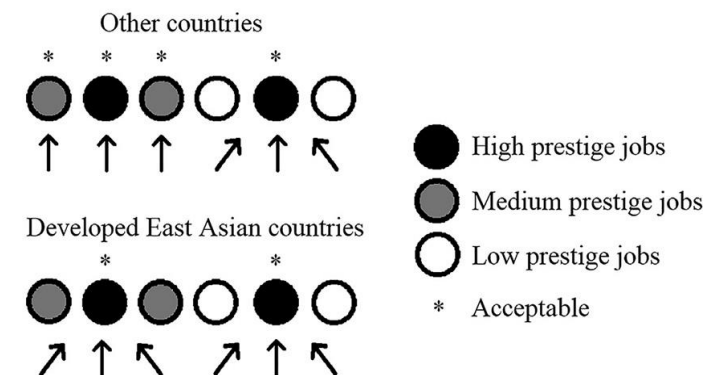
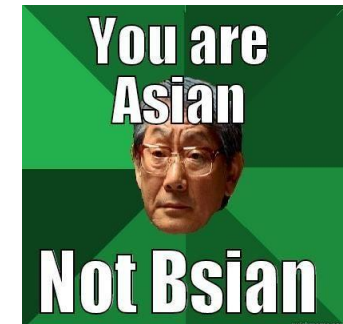
# Under Modern (Mismatched) Conditions

- Preoccupations with social status and competition intensify...
  - due to
    - high social inequality
    - social comparisons
    - increased quantification of competitive metrics
    - relative deprivation
    - crowdedness
  - lead to
    - social status anxiety, competition/education fever
    - increased materialism (e.g., going broke to look rich)
    - increased risk-taking (e.g., risky financial investments, cosmetic procedures)
    - increased competitiveness/reduced cooperativeness
    - increased selfishness/reduced prosociality
    - increased cynicism/reduced trust
    - internalizing behaviors (e.g., depression)
    - externalizing behaviors (e.g., aggression)
    - abandoning of traditional ideals (e.g., home ownership, marriage, building a career)



# Interaction with Culture

- Status mismatch dynamics are exacerbated in East Asian contexts
- East Asian cultures tend to value formal/“endowed” forms of status (e.g., educational certification, material possessions, career rank) over informal forms of status (e.g., charisma, dominance)
- East Asian striverism and aversion toward failure also play a role
- East Asian preoccupation with social status predicts
  - higher levels of materialism
  - less positive perceptions of prestige of available jobs
  - less favorable attitudes toward marriage and having children
  - poorer wellbeing





# Remedies?

- Reduce mismatch-driven competition for status
  - e.g., social inequality, social comparisons
  - leverage ancestral wisdom
- If the need for status is difficult to undo, expand the range of opportunities or niches where people can attain it
  - e.g., raise the prestige of lower status occupations, encourage people to take on meaningful roles that have value in society beyond competition
  - starts from children's early years where their interests are formed
- The aim is to design solutions that work with rather than against our human nature—collaborations welcome! [jose.yong@jcu.edu.au](mailto:jose.yong@jcu.edu.au)

