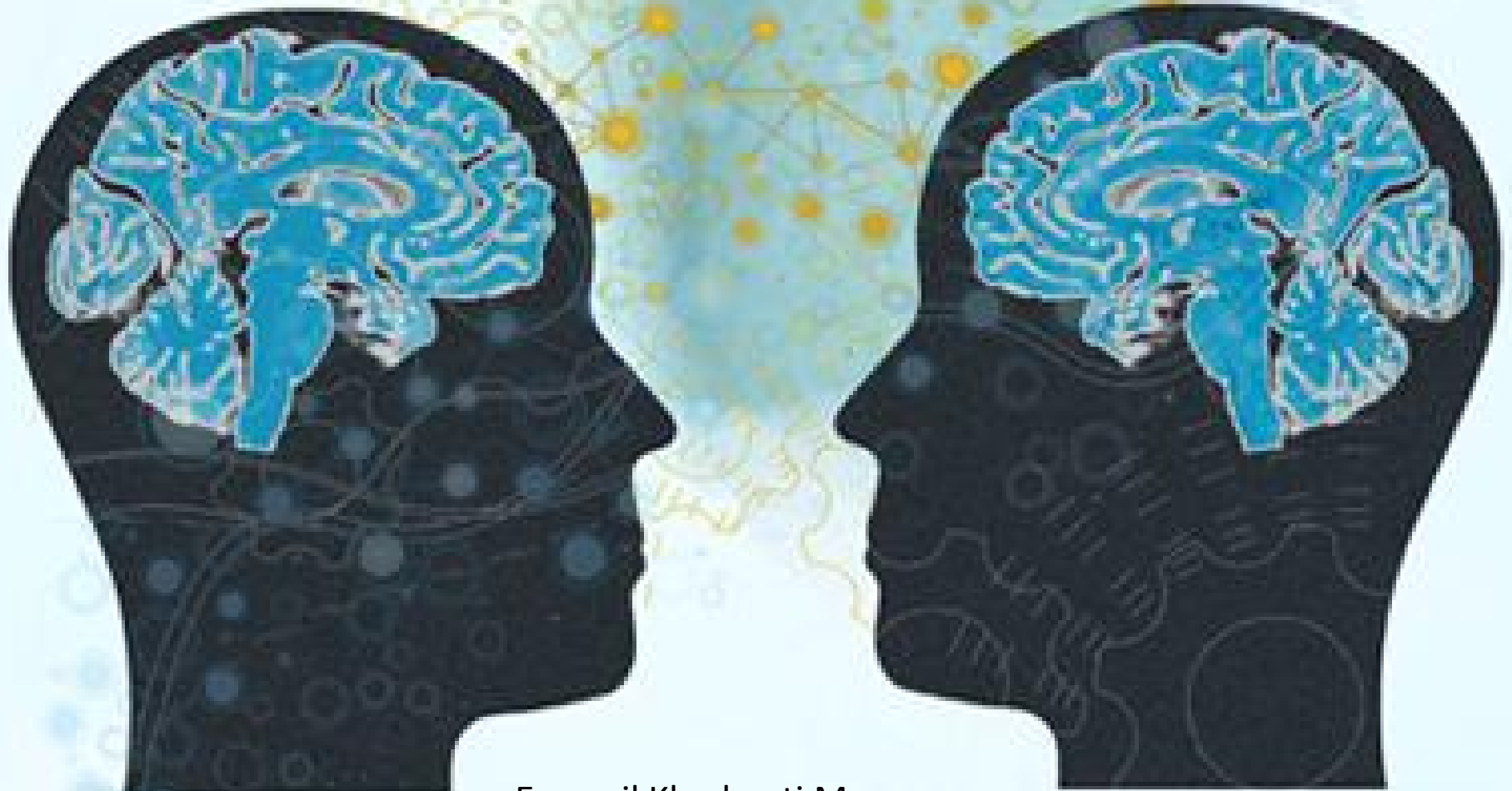


Social Neuroscience and Health inequalities: A New Approach



Esmail Khedmati Morasae,
CBPR Center, TUMS,
2014

Society and Mental Health

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"White Box" Epidemiology and the Social Neuroscience of Health Behaviors: The Environmental Affordances Model

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Social

Why Our Brains Are
Wired to Connect

Matthew D. Lieberman

Peter A. Hall *Editor*

Social Neuroscience and Public Health

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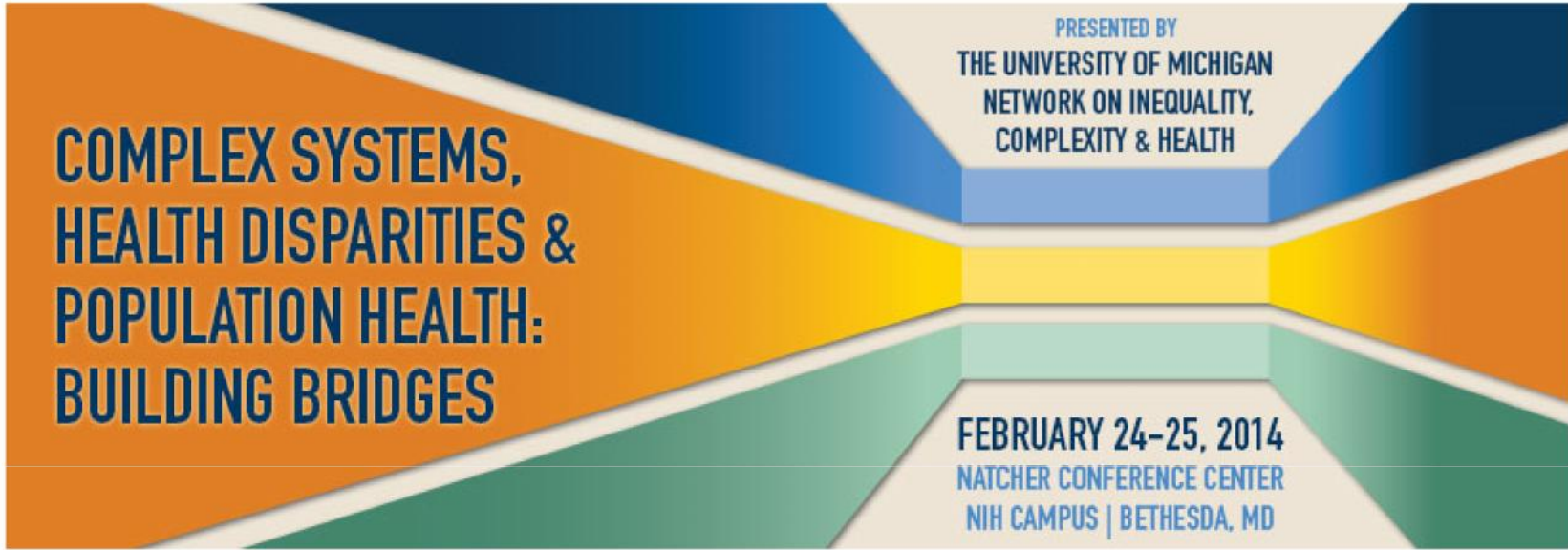
Monday, December 19, 2011

Social Neuroscience

How a Multidisciplinary Field Is Uncovering the Biology of Human Interactions

By: John T. Cacioppo Ph.D. and Stephanie Ortigue Ph.D.

Social neuroscientists boost our knowledge of the biology of animal and human interactions in areas as diverse as drug abuse, pair-bonding, and



**COMPLEX SYSTEMS,
HEALTH DISPARITIES &
POPULATION HEALTH:
BUILDING BRIDGES**


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Bethesda, Maryland

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Deadline to submit a poster (through the registration form): January 15, 2014

- 
- 1- Determinants of Population Health
 - 2- Overview of What We Know about Health Disparities
 - 3- Life Course and Developmental Perspectives
 - 4- Health Care Perspectives
 - 5- Socioeconomic Perspectives
 - 6- Institutional Perspectives
 - 7- Neighborhood Perspectives
 - 8- Behavioral Perspectives
 - 9- Cognition and Neurobiological Perspectives



Social Neuroscience

Public Health and Neuroscience

- Different epistemic stance but not irrelevant
- Public health: determinants, prevention, disease, population, community, social
- Neuroscience: nervous system, components, functions

- Social neuroscience: how social life gets into our neurons (under our skin)?,
- Confluence of brain and social life,
- Our need to connect with other people is even more fundamental, more basic, than our need for food or shelter.
- our brains react to social pain and pleasure in much the same way as they do to physical pain and pleasure.

- Because of this, our brain uses its spare time to learn about the social world – other people and our relation to them.
- **Social Brain:** secures our place in society, success, survival, well-being, health, etc.
- Behavior, social isolation/integration, social support/capital.....

Public Health \longrightarrow Society \longleftarrow Social Neuroscience

SN Theories

1- Picoeconomics

2- Mental Contrasting and Implementation Intentions (MCCI)

3- Temporal Self-Regulation Theory (TSRT)

Individual behaviors within the population, brain-based cognitive process and ecological context

Picoeconomics

It Describes a process of negotiation among competing interests within the mind, and how the brain values temporal proximity to assist in this process.

MCII

It discuss the process of furnishing implementation intentions, coupled with contrasting present and future states to generate effective pursuit of health-related goals.

TST

It outlines a new model for individual health behavior, positing a role for brain-based self-regulatory resources in explaining health behavior trajectories.

Health Inequalities (HI)

Environmental Affordances Model (EAM)

Psychosocial theory of HI

Marmot and Wilkinson:

Disadvantage → Stress → Disease

A paradox:

Black (Hispanic), high rates of morbidity/mortality,
low rates of stress-related psychopathology
comparing to their white counterparts.

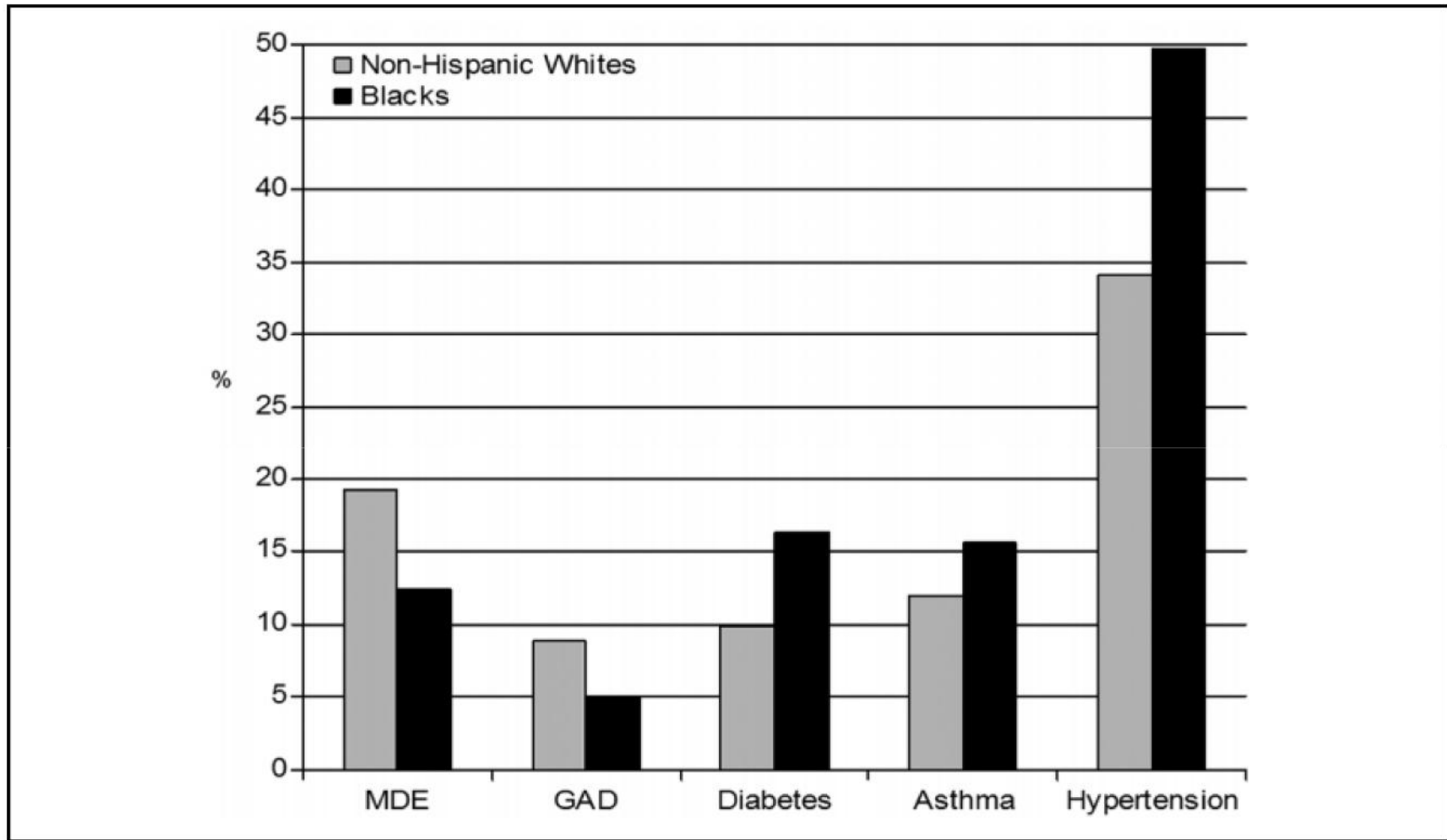


Figure 1. Lifetime prevalence of common psychiatric and chronic medical conditions by race/ethnicity: National Comorbidity Survey–Replication (2001–2003).

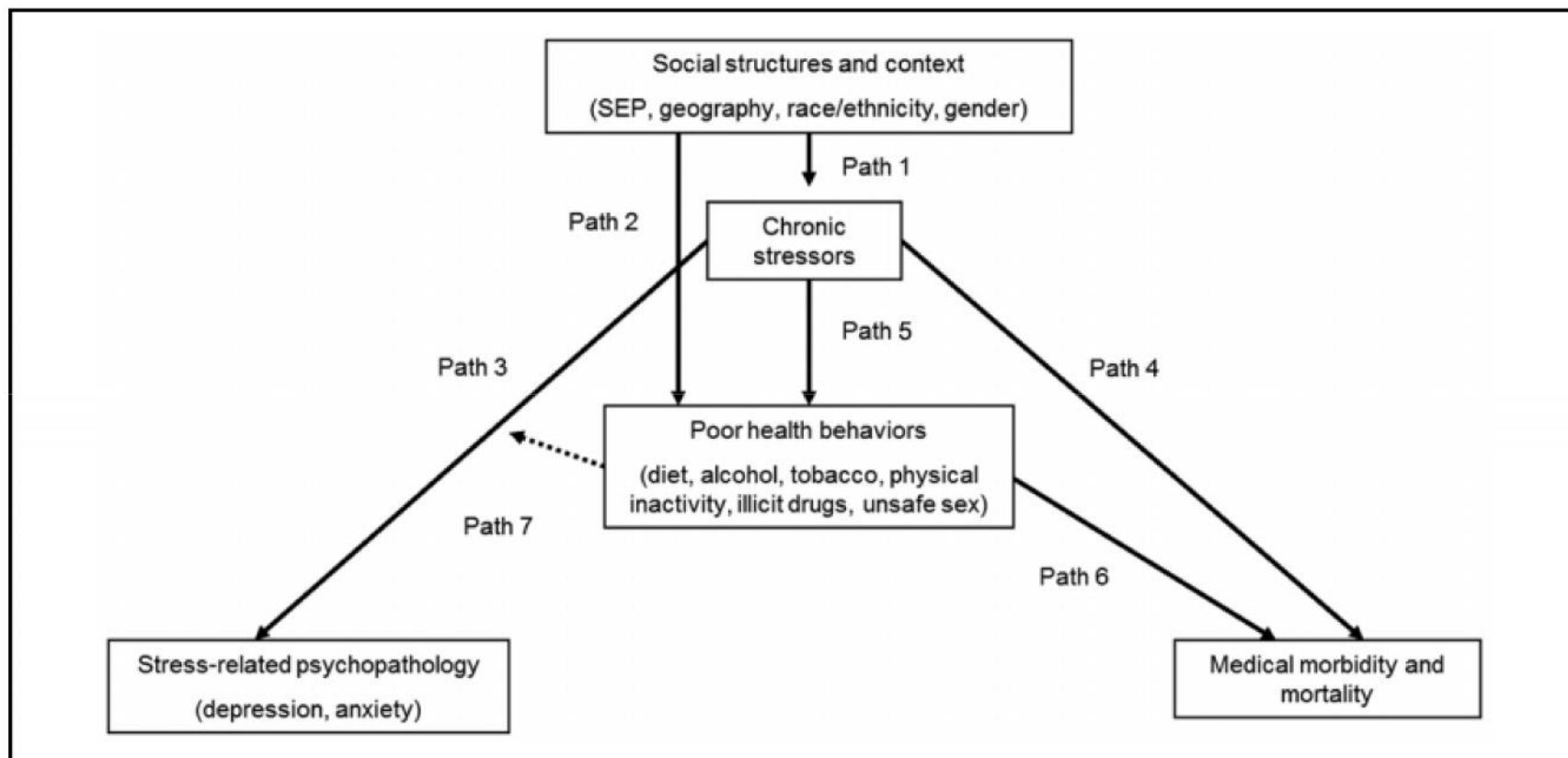


Figure 2. The Environmental Affordances Model.

Note: The Environmental Affordances Model incorporates status-based stressors, coping, and mental and physical health.

EAM premises

- 1-** The contextual environment serves as both a source of constraints (or stress) and a source of affordances— here, affordances are defined as opportunities to alleviate stress.
- 2-** Coping behaviors are influenced by cultural and social norms and contextual factors.
- 3-** All organisms (brains), including humans, engage in efforts to mitigate the immediate experience of distress when faced with stressful experiences.

Collectively, the intersection between individual characteristics and contextual factors prime individuals to engage in particular behaviors that alleviate immediate symptoms of psychological and physiological stress.

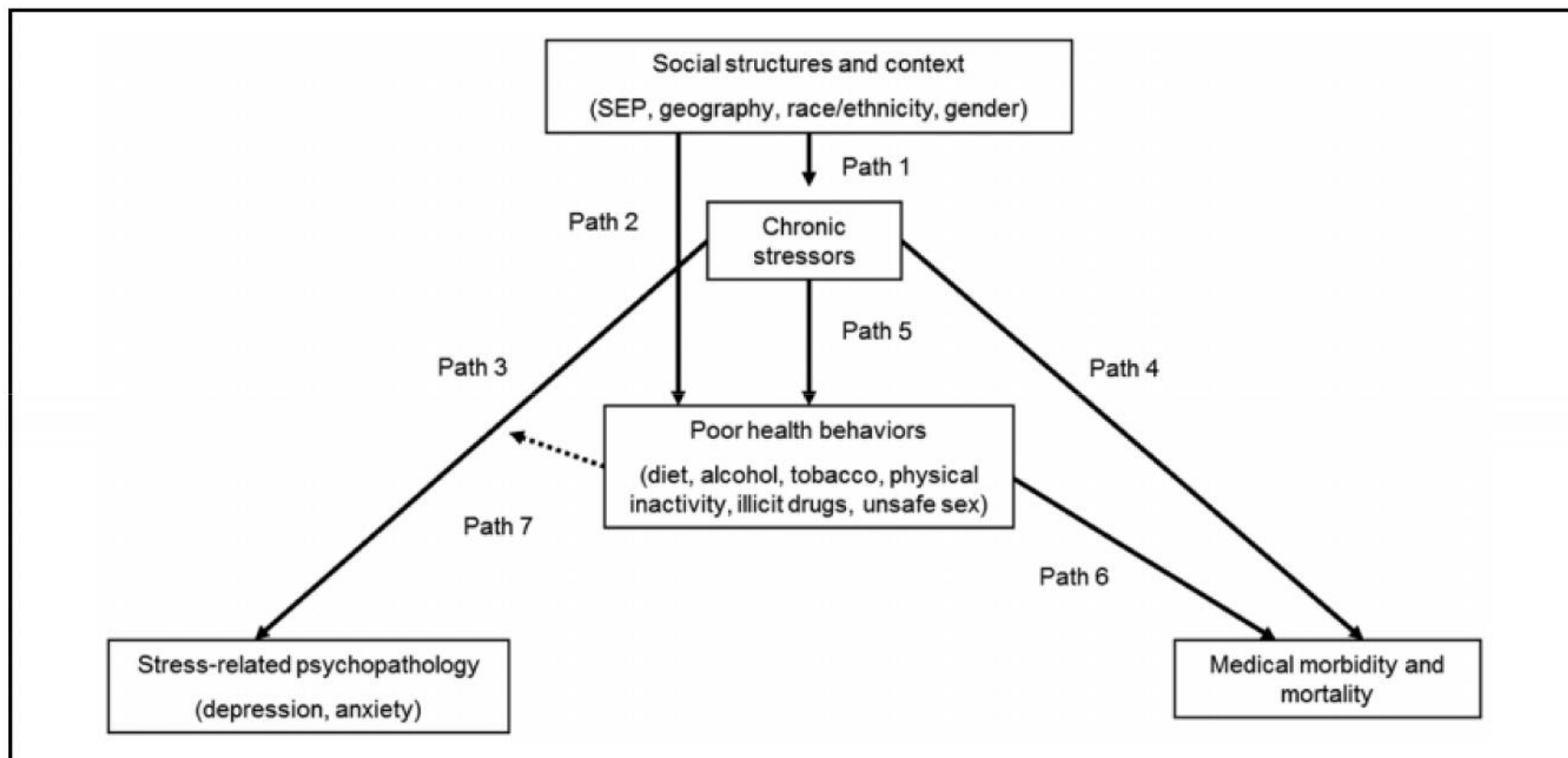


Figure 2. The Environmental Affordances Model.

Note: The Environmental Affordances Model incorporates status-based stressors, coping, and mental and physical health.

- Chronic stress: unpredictability + uncertainty
- vigilance + readiness to respond
- Self-regulatory behaviors= risk-taking, impulsivity, less delayed gratification, future discounting.
- Self-regulatory behaviors protect against psychopathology.
- Biologically embedded in a life-course

- Self-regulation is unequally distributed!!!

The biology of self-regulatory behaviors

- 1) The stress response system, including the HPA axis, cortisol, fight or flight
- 2) The reward/reinforcement system, including dopamine/endorphin pathways, limbic system, pain, pleasure,
- 3) Allostatic load (allostasis)

EAM advantages

- 1- Behavior
- 2- Physical health and mental health
- 3- pathway-driven

Implications (research and policy)

- 1- Fundamental cause model
- 2- Provide evidence-based interventions to prevent initiation or promote cessation of harmful behaviors,
- 3) Mitigate sources of stress (e.g., financial strain, exposure to trauma and violence) or reinforce positive resources (e.g., positive social networks),
- 4) Act on structural forces (e.g., high concentrations of fast food restaurants or alcohol outlets) that encourage engagement in these behaviors are more likely to succeed than efforts to modify any of these factors in isolation.

Thank you

