Are Perceptions of Behavioral Phenotypes and Social Value Influenced by Perceptual Cues to Mortality Risk?

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Background:

- **Life History Theory:** Within the lifespan of all living organisms, time and energy are limited resources. These resources are used in ways that maximize the survival and reproduction of the organism in the face of trade-offs.
- **Present vs. future reproduction:** Organisms trade-off resources to either present-oriented strategies (i.e., current reproduction) or future-oriented strategies (i.e., future reproduction).
- **Fast—slow life strategy:** The strategy organisms use is partially determined by their current external environment and somatic health:
  - Fast life strategy – harsh and unpredictable environments
  - Slow life strategy – safe and predictable environments
- **Mortality risk:** Within-species variation on various physiological and psychological traits are calibrated in response to an individual's mortality risk across development (Chua et al., 2016; Del Giudice et al., 2015)
  - Problem: Lack of valid methods to measure mortality risk (Griskevicius et al., 2011)
  - Idea: Life insurance policies → mortality risk estimation
    - Insurance companies use actuarial science (based on a massive amount of data) to calculate individuals' mortality risk

Research Aims:

- **Hypothesis:** Mortality risk predicts behavioral strategies
- Develop a measure for testing predictive effects of mortality risk on life history variation (e.g., present vs future orientation; mating strategies) by extracting mortality risk information from individuals' life insurance policies
- **Predictions:** (1) Individuals can assess another individuals' mortality risk with accuracy based on visual cues to mortality; (2) how these assessments influence social perception and outcomes

Methods & Materials (Pilot Study):

- **Participants:**
  - Life Insurance Policy Holders ($N = 272$)
- **Eligibility:**
  - Must have purchased a life insurance policy within the last 5 years
- **Measures:**
  - Demographics, height and weight
  - Life History Rating Form (LHRF; $\alpha = 0.88$) (Dunkel et al., 2016)
    - E.g., "Ambitious; sets high personal goals"; "Impulsive, has little self-control (r)"
  - Four items from the Sociosexual Orientation (SOI) Inventory (SOI; $\alpha = 0.77$) (Jackson & Kirkpatrick, 2007)
    - E.g., "Hopes to have a relationship that lasts the rest of her life"; "Enjoys casual sex with different partners (r)"

Pilot Study Results:

Mortality Risk Predicts Behavioral Strategies
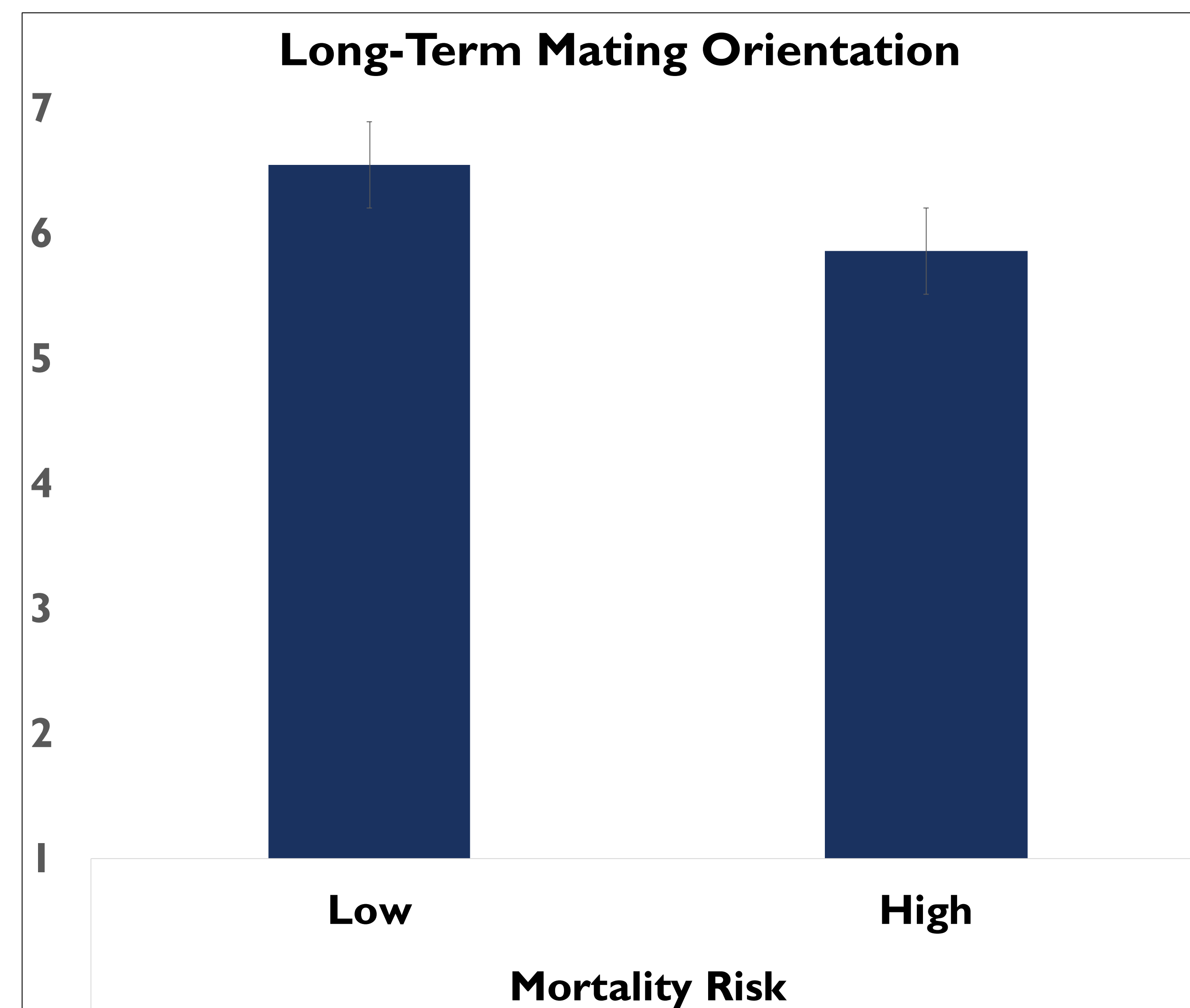
Figure 1a. Sociosexual Orientation Inventory Scores. SOI scores differ by life insurance mortality risk rating.
- High mortality = more sexually promiscuous
- Low mortality = more restricted sociosexual orientation
- $F(1,271) = 7.70$, $p=.006$, $d=.46$

Figure 1b. Life History Rating Form Scores. LHRF scores differ by life insurance mortality risk rating.
- High mortality = present orientation
- Low mortality = future orientation
- $F(1,271) = 10.52$, $p=.001$, $d=.53$

Expected Results:

- Pilot study supports prediction that mortality risk predicts indicators of present vs. future orientation
- Ongoing study to replicate and extend findings on within-species variation:
  - Impulsivity and riskiness
  - Actual behavioral decision/future discounting
  - Childhood environment
  - Intelligence
  - Parental engagement
  - Sexual maturation
- Use standardized photographs, videos, and voice recording to test the prediction that observers can accurately assess mortality risk from facial and vocal cues (and determine how this impacts person perception)

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Acknowledgements:

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