

Social-Cognition: A Link to Understanding Skin Bleaching in Tanzania

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INTRODUCTION

- Skin bleaching, the process of chemically lightening the skin, has become increasingly prevalent and problematic in Africa due to the use of caustic agents (e.g., battery acid, washing powder, toothpaste) that are mixed with commercial bleaching products already high in hydroquinone, mercury and lead.
- Research suggests that skin bleaching is a major contributor to the high incidence of skin cancer, leukemia, liver and kidney failure and skin atrophy in Africa.
- Despite these major health complications, much of the existing research has ONLY focused on the prevalence of skin bleaching in North, West, and Southern Africa.
- To date, little research has focused on skin bleaching in East Africa even with rates nearing 30% in Tanzania, one East African nation.¹
- Understanding aspects of social cognition for this demographic can assist in the development of useful prevention and health promotion programs.
- Cognitive models suggest individuals with concerns about negative evaluation have a low threshold for appraising salient stimuli as threatening, which leads to biased attention for threat cues.^{2,3}
- Negative evaluation concerns are linked to biased attention for references for salient threat stimuli^{5,7} and the development of maladaptive compensatory behaviors such as skin bleaching.
- Stimulus characteristics influence emotional face processing; individuals show different affective, neural, and psychophysiological responses to faces of different skin tones.⁸
- Dot probe attention bias measures may be particularly useful with individuals with negative evaluation concerns for whom angry faces with overvalued characteristics such as light skin tone may be especially salient.
- Our aims were to compare attention bias to threat conveyed by dark- and light-skinned faces between Tanzanians who engage in skin bleaching and those who do not and to examine associations between attention bias and self-reported reasons for skin bleaching in adults who engage in the practice.
- This research is the first effort to measure attention bias toward threat as a correlate and potential mechanism of skin bleaching in East African women.



HYPOTHESES

1. Adults who bleach their skin will exhibit biases to attend to threat cues, particularly when they are displayed light-skinned faces.
2. Attention bias will be strongest in those who report bleaching their skin to avoid negative evaluation from others.

METHOD

Participants

Selected from a simple random sample (n = 25) of Tanzanian men and women consisting of local community leaders, healthcare professionals, educators, religious leaders, regulators, bleachers, cosmetic producers and basic community members.



Setting

- Research was conducted in Dar es Salaam, Tanzania at a local location convenient to the participant.
- Interviews were administered by either English or Kiswahili speaking researchers (per participants preference)

Procedure

- Georgia State University IRB approval and research clearance from Tanzanian government was obtained
- Consent forms were completed by all participants
- Participants first engaged in an individual interview session with a trained researcher from Georgia State University or from Muhimbili University of Health and Allied Sciences
- Participants were administered the computer task after a training session
- Each participant was compensated (\$20USD) for their participation

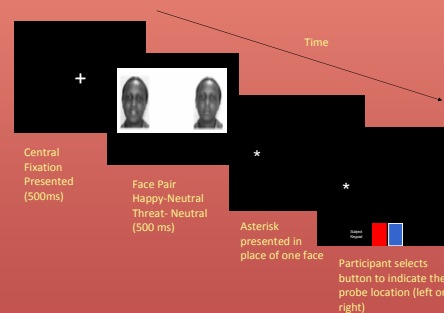
MEASURES

90-Minute Individual interview (Lewis et al, 2009)

- A 58-question instrument consisting of structured and unstructured questions was created to obtain qualitative data relating to participants knowledge/awareness of skin bleaching, personal experience with skin bleaching, how they feel the government should or should not be involved in skin bleaching, and the overall effectiveness of laws to prevent skin bleaching.

Diverse Dot Probe (DDP) (Tone et al, under review)

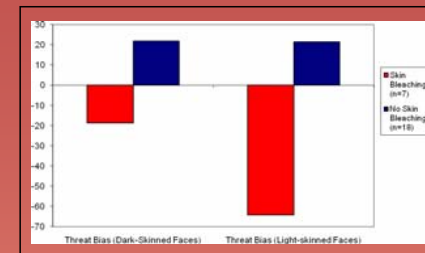
- The dot probe is a computer task that is commonly used to assess attentional bias consisting of 80 randomly ordered trials containing 32 positive-neutral face pairs, 32 threat-neutral face pairs, and 16 neutral-face pairs.
- Scores based on emotion bias were calculated by subtracting the response time to probes that replace neutral pictures from response time to probes that replace emotionally balanced (happy or threatening) pictures. These are scored as threat bias and happy bias scores.



RESULTS

We observed a significant interaction between skin bleaching behavior and stimulus skin tone in predicting bias toward facial threat cues when participant gender was co-varied:

$$F(1,25) = 7.09, p = .01$$



DISCUSSION

- The findings provide support for our hypothesis that stimulus skin tone moderates associations between skin bleaching behavior and attention bias for threat.
- Tanzanian adults who engage in skin bleaching show patterns of attention bias that are moderated by stimulus skin tone.
- Adults who engaged in skin bleaching were more avoidant of angry faces than were those who did not bleach their skin. Effects were strongest for avoidance of light-skinned faces exhibiting anger.

LIMITATIONS

- Small sample size
- The ideal setting (a quiet dark room with no distractions) was typically unavailable for taking the task in Tanzania.
- There were a number of participants who had limited computer knowledge or were unfamiliar with computers altogether.

IMPLICATIONS

- This research contributes to the knowledge of the social-cognitive factors that support skin bleaching
- Attention retraining tasks that reduce threat bias may also help in efforts to change attitudes about skin bleaching.

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