

Does the Facial Width-to-height Ratio and Testosterone Level Predict Social Dominance?

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Background

- Dominance is a commonly used strategy to maintain and gain social status.
- High baseline testosterone level were found positively correlated with aggression, desire for power and risk taking behavior (Geniole et al, 2019; Ronay & Von Hippel, 2010).
- fWHR predicts aggression (Haselhuhn, Ormiston, & Wong, 2015) and threats behavior (Geniole et.al, 2015) in humans, which were contributing factors to dominance.
- Past literature showed inconsistent evidence on the predicting effect of facial width to height ratio (fWHR) and testosterone levels on perceived dominance.

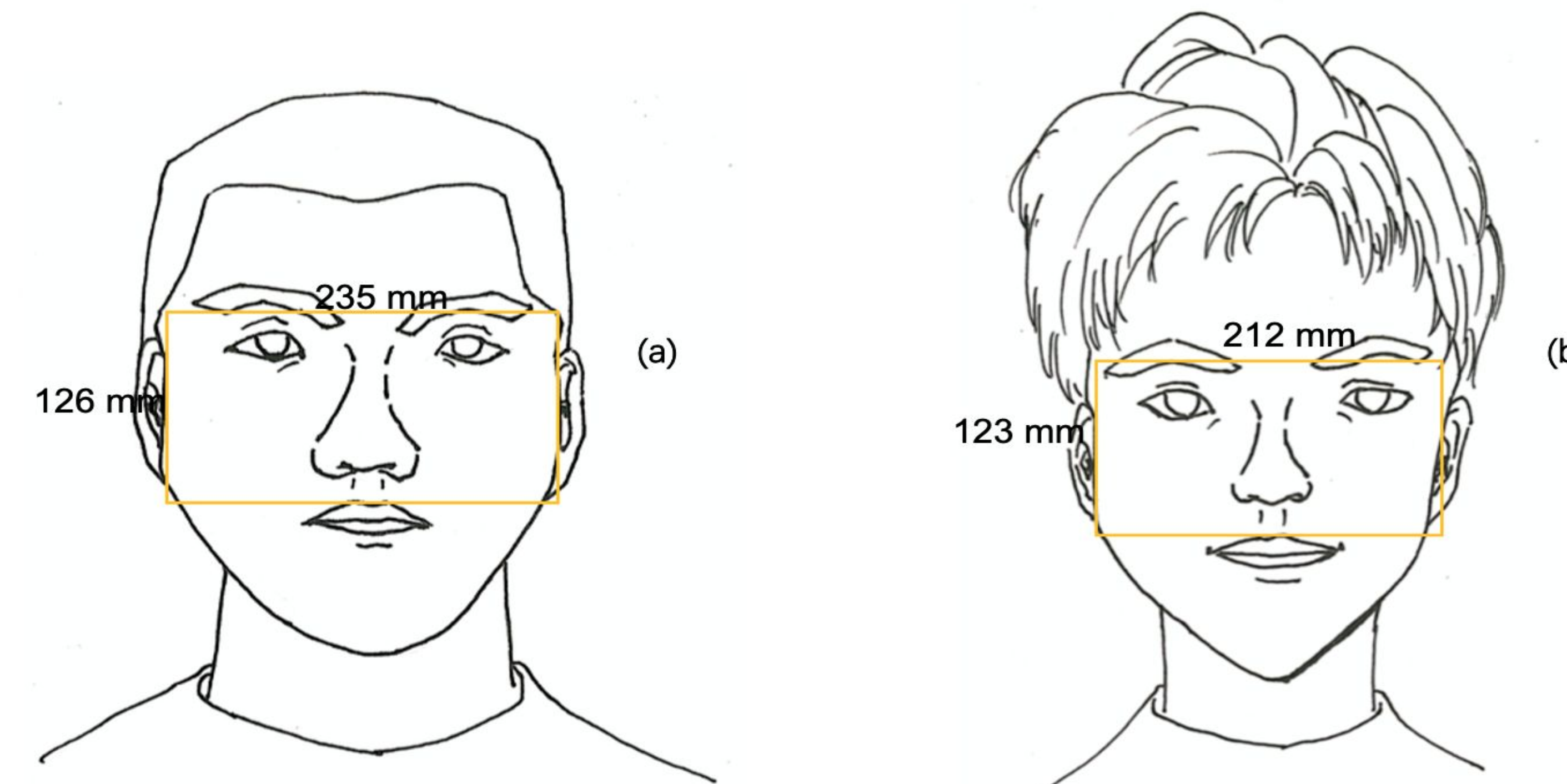
Hypothesis:

H1: Testosterone will positively predict perceived social dominance.

H2: fWHR will positively predict perceived social dominance.

H3: The two factors, testosterone and fWHR, may also interact with each other in predicting perceptions of social dominance level.

EXAMPLES OF HIGH AND LOW PERCEIVED DOMINANCE MEN



Note:

- (a) is a relatively more dominant male individual with a $fWHR=235/126=1.87$
- (b) is a relatively less dominant male individual with a $fWHR=212/123=1.72$

Methods

- **Testosterone.** Saliva testosterone samples were collected from a racially diverse sample of male targets (n = 76; 36 Asian, 22 White, 5 Middle Eastern, 1 Hispanic, 12 unspecified)
- **Ratings of Dominance.**
 - 27 undergraduate raters provided ratings on perceived dominance of the 72 male targets.
 - The mean of the two questions (“He enjoys having control over others” ; “He is willing to use aggressive tactics to get his way”) were taken as the rater’s dominance rating on the target (r = .75, p < .001).
- **fWHR.** Two independent coders measured and coded the fWHR of the male targets as specified in previous literature (Geniole et.al, 2015).

Result

PERCEIVED DOMINANCE PREDICTED FROM fWHR AND TESTOSTERONE

	B	β	t	p
Testosterone	0.00	.02	0.21	.84
fWHR	0.70	.18	1.50	.14

Note: B is the unstandardized loading efficient while β is the standardized version.

- In contrast to H1, analysis of our samples suggests no significant relationship between testosterone level and perceived dominance.
- A non-significant positive trend emerged when predicting dominance from fWHR (r = .18, p= .14)
- Ethnicity was shown to be a potential mediating factor when predicting dominance from fWHR.

Discussion

Limitation: The pictures used to measure fWHR were not taken for this particular study. Rather, they were taken for a larger study. Thus, although the pictures were somewhat standardized they were not perfectly controlled to be used for a fWHR measurement.

Future direction: The influence of ethnicity on perceived dominance level deserves further exploration.

Acknowledgement

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Reference

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