Ovulation, Stimulus Discrimination, and Mate Preferences

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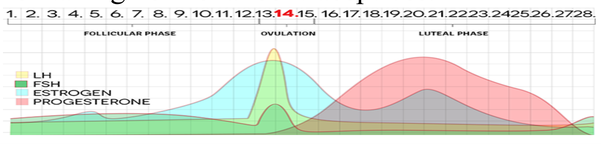
INTRODUCTION

- Women are the choosier sex when selecting a mate due to having a higher obligatory parental investment (Trivers, 1972). Because of this, women have adapted preferences aiding in their mate selection (Buss, 2006).
- Research suggests that women's mate preferences shift during ovulation as a way to secure high quality genes for their potential offspring. More specifically, ovulating women are more attuned and attracted to mates with more masculine and symmetrical features (which are indicators of high quality genes) (Thornhill & Gangestad, 2008).
- The purpose of our study is to test women's abilities to discriminate between different levels of masculinity and symmetry in faces and masculinity in walking patterns across different phases of their ovulatory cycle.
- Because ovulation is the time when conception is possible, choosing a low quality mate becomes especially consequential at this time. As such, we expect to find that ovulating women will be better able to discriminate between mating related stimuli than non-ovulating women and women taking hormonal contraceptives.



STUDY DESIGN

- Data collection is still on going, however, we plan to recruit 240 participants, 120 natural cycling women (experience a regular ovulatory phase in the cycle) and 120 women taking hormonal contraceptives, which prevents the occurrence of ovulation
- A within subject's design was used for this study, meaning that each participant completed two separate sessions, once at high fertility and once at low fertility.
- The forward counting method was used to schedule women by taking each participant's start date of their last period and the length of their ovulatory cycle in order to determine which phase of their cycle they were in and if they would complete their high or low fertility session first.

METHODS

- All participants completed the same computer survey for both their high and low fertility sessions.
- Natural cycling women began both of their sessions by completing a urine test to determine whether or not they were experiencing a surge in their luteinizing hormone (LH). A surge in LH indicated that the participant was ovulating and an absence of this surge indicated that they were not. This was important as it allowed us to confirm whether the participant was in the correct cycle phase for that session. Once we were able to confirm this, the participant went on to complete the computer survey.
- Women on hormonal contraceptives went through the exact same procedure as natural cycling women, but did not complete the urine test.

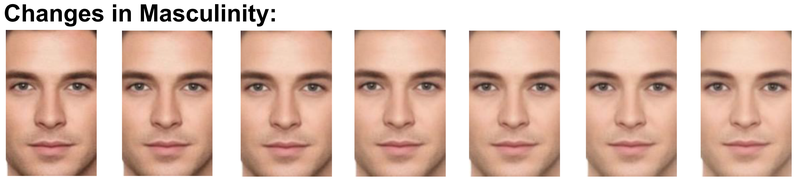
FACIAL DISCRIMINATION TASKS

- Two average asymmetrical faces and two attractive symmetrical faces were morphed together to create differences in symmetry. Two different attractive male faces were each morphed with an attractive female face to create differences in masculinity.
- Participants were asked to complete a forced choice task for each morph and had to compare the original face to faces that were morphed 0% to 30%, shown in 5% increments and were asked to indicate which picture they found more attractive.
- Participants also completed a changing face task where they were shown videos of each morph and were instructed to click on the screen if/when they saw a change.

0% 5% 10% 15% 20% 25% 30%

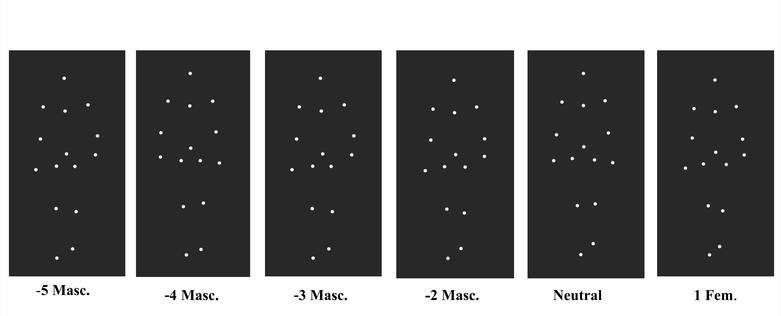
Changes in Symmetry:

Changes in Masculinity:



GAIT COMPARISON TASK

- The motion figure used in this task were animated point-like dots that were arranged to resemble the human form.
- The figures could be manipulated to display either a more masculine or more feminine gait. When creating this task, we used six different gaits with incremental differences from the most masculine to the most feminine.
- This portion of the survey consisted of seven separate gait comparison videos. Each gait task displayed two separate motion figure videos and asked participants which of the two they preferred.



RESULTS AND FUTURE DIRECTIONS

- Data collection is still ongoing. Once we have our results, the findings will be important because they will allow us to assess the impact of ovulation and hormonal contraceptives on detecting differences in mating cues.

REFERENCES

Buss, D. M. (2006). Strategies of human mating. *Psychological Topics, 15*(2), 239-260.

Thornhill, R., & Gangestad, S. W. (2008). *The evolutionary biology of human female sexuality*. Oxford University Press.

Trivers, R. (1972). *Parental investment and sexual selection*(Vol. 136, p. 179). Cambridge, MA: Biological Laboratories, Harvard University.

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Let's Talk Science

Past research shows that ovulating women are more likely to focus on physical characteristics such as attractiveness and masculinity when selecting a mate, possibly to secure high quality genes for their children at the time when conception is possible. Our study investigates women's ability to detect subtle differences in men's faces and walking patterns across their ovulatory cycle. We predict that ovulating women will be better able to detect these slight differences in comparison to when they are not ovulating and compared to women who take hormonal contraceptives.