Daily Diary Study: Mood Shifts Across the Follicular And Luteal Phases of the Menstrual Cycle

Isabelle Sturgill, Savannah Hastings, BS, Sarah E. Hill, PhD,
Texas Christian University

Background

- An increase in dysphoric mood has been documented in women during the Luteal Phase of the menstrual cycle (Reed et al., 2008).
- The dominant hormone during the luteal phase, progesterone, fluctuates heavily throughout the luteal phase and has been associated with affective symptoms and exacerbation of psychosomatic syndromes (Stefaniak et al., 2023).
- Susceptibility to negative mood throughout the menstrual cycle varies greatly from female to female (Stefaniak et al., 2023).
- The within-subjects design (i.e., sampling every other day) of this study allows for an improved analysis of mood shifts between phases of the menstrual cycle.

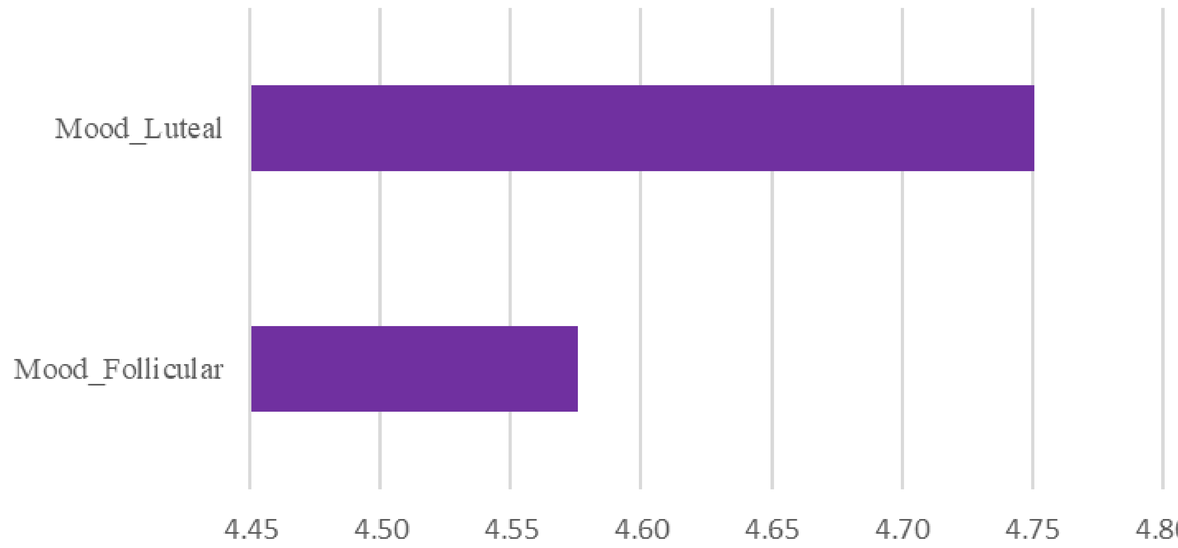
Research Question

- How does mood shift across the luteal and follicular phases of the menstrual cycle?

Hypothesis

- We predicted that the participants would have a greater negative mood symptoms in the luteal phase when compared to the follicular phase
- We predicted that mood will differ significantly between the subphases of the cycle as well (i.e., early follicular, ovulatory, early luteal, late luteal)

Figure 1. *Mean Mood Score In Luteal versus Follicular Phase*



Note. No significant differences were found between the follicular and luteal phases, although data collection is ongoing

Methods

- (N = 13) female participants took a questionnaire about their current mood and experiences every 2 days throughout their menstrual cycle
- Using the backward counting technique, we estimated the participants luteal and follicular phases
- Participant responses were averaged within their luteal and follicular phases, as well as their respective subphases
- Responses were analyzed for significant changes in mood between each phase

Mood Questionnaire

Please indicate how you are feeling today (in the last 24 hours).

In general, how was your mood today?

- Extremely bad/negative
- Moderately bad/negative
- Neutral
- Good/positive
- Moderately good/positive
- Excellent

Results

- Results are preliminary as data collection is still ongoing.
- No significant differences were detected between the follicular and luteal phases.
- The results are currently trending in the opposite direction of the hypothesis.

Discussion

- The ongoing research will help researchers in the field understand differences in mood between menstrual cycle phases.
- Differences in menstrual cycle subphases have previously been overlooked and will over new avenues of research focused on women's mental health

References

- Reed, Stephanie Collins, et al. **"Changes in mood, cognitive performance and appetite in the late luteal and follicular phases of the menstrual cycle in women with and without PMDD (premenstrual dysphoric disorder)."** *Hormones and Behavior*, vol. 54, no. 1, June 2008, pp. 185–193, https://doi.org/10.1016/j.yhbeh.2008.02.018.
- Stefaniak M, Dmoch-Gajzlerska E, Jankowska K, Rogowski A, Kajdy A, Maksym RB. **Progesterone and Its Metabolites Play a Beneficial Role in Affect Regulation in the Female Brain. Pharmaceuticals (Basel).** 2023 Mar 31;16(4):520. doi: 10.3390/ph16040520. PMID: 37111278; PMCID: PMC10143192.