

Differentiating the Effects of Androgenic and Anti-androgenic Oral Contraceptives on Rodent Behavior

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Background

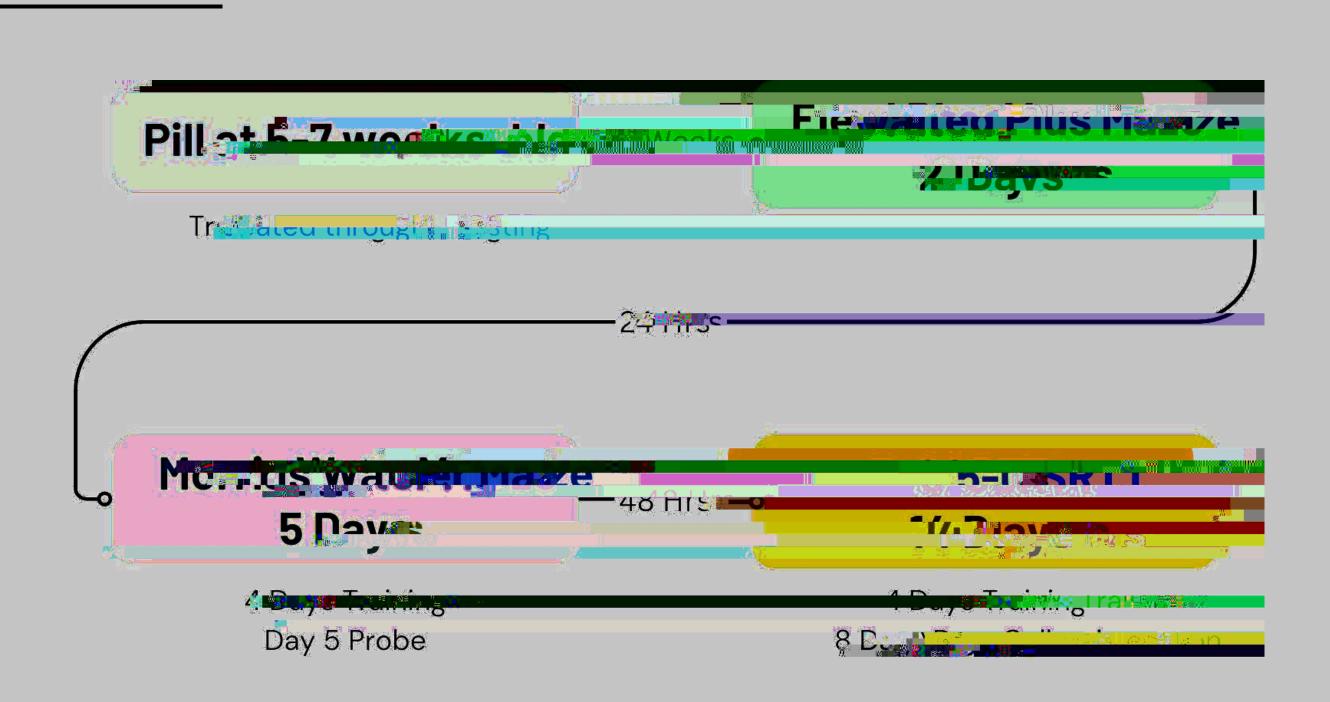
- 25.9 % of contraceptive users take the pill¹
- The pill can be categorized as androgenic or antiandrogenic, with relative masculinizing and feminizing effects on cognition and behavior
- BC is known for side effects on mood, and androgenicity may be linked to increased anxiety²
- Better spatial learning and memory performance seen among males, possible role of androgens³
- Improved attentional abilities associated with androgens and testosterone⁴

Method

<u>Subjects</u>



Timeline



Materials

Figure 1. Behavioral Testing Apparatus'

- Left: Elevated plus maze: anxiety levels
- Middle: Morris water maze: spatial abilities
- Right: Five-Choice Serial Reaction Time Test: selective attention

Results

Spatial Memory

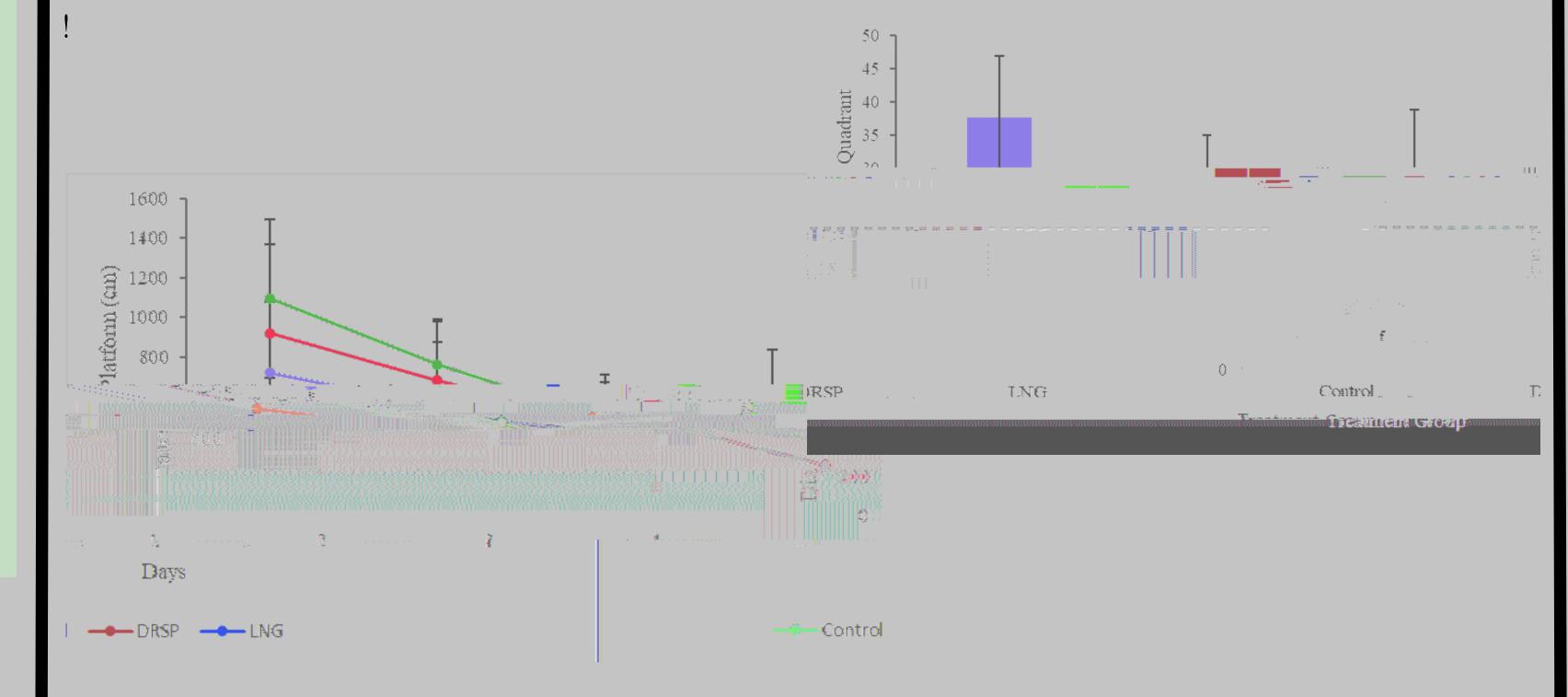


Figure 2. Morris Water Maze Performance.

- Left: Mean distances over four days for each group
 - Rodents became faster over the 4 days, displaying learning
- Right: Probe Trial Results of time spent in target quadrant
 - Control group spent significantly more time in target quadrant (p= 0.042) than both treatment groups, and time spent was significantly above chance.

<u>Anxiety</u>

Figure 3. EPM Time Spent in Open vs Closed Arms per Group. Groups did not differ in time spent in open or closed arms.



Selective Attention Figure 4. 5CSRTT Days to Criteria 1.(Right) • Groups did not differ in average days taken to reach TR3

Figure 5. Percentage of Rats to Advance

Conclusion

 OC's had little impact on anxiety but impaired spatial and attention abilities regardless of androgenicity