

RESEARCH SPOTLIGHT

Maternal Criticism and Children's Neural Responses to Reward and Loss¹.

Reason for the study: Research evidence suggests that parental criticism is linked to depression, anxiety, oppositional defiant disorder, and other internalized and externalized behavioral concerns in children and adolescents. Parental criticism is usually defined as expressing hostility toward a child's character rather than describing specific behaviors that need to be changed. No study has identified how criticism increases negative outcomes for children, but one possibility is that children who experience criticism are less likely to respond to typical reward programs.

Methods:

- Children (ages 7-11) and their biological mothers were included.
- Children with developmental or learning disabilities were excluded.
- Children were presented with a task designed to activate the reward centers of the brain.
- Mothers were asked to describe their child for 5 minutes uninterrupted. This task has been shown to measure expressed criticism toward children.
- During the "reward" task, children were receiving an EEG to identify activation of the reward and loss systems in the brain.

Results:

- All children, regardless of maternal criticism had higher activation in the reward system than the loss system (indicating children respond better to rewards than punishments).
- Children whose mothers scored "high" on the measure of criticism had less activation in the reward system and the loss system (indicating that children who experience maternal criticism have a harder time responding to both rewards and punishments).
- When parental and child anxiety and depression were controlled for, the results were the same (indicating that it is expression of criticism, not mental health, that is impacting the reward and loss systems).

Conclusion:

- While not fully generalizable, the findings do indicate that children with critical parents experience a blunted response to both rewards and punishments.
- Results also indicate that children with critical parents may not be learning from experiences typically prescribed for behavior management (i.e., reward charts, punishments, etc.).
- While future research is needed, the results suggest that family therapy focused on increasing the positive relationship between parent and child, and particularly, reducing parental expressions of criticism, may help increase the response that children have to rewards and punishments.

¹ James, K. M., Foster, C. E., Tsypes, A., Owens, M., & Gibb, B. E. (2021). Maternal criticism and children's neural responses to reward and loss. *Journal of Experimental Child Psychology*, 211, 105226.