

Neocortex conflicts with basal ganglia

Conflict between neocortex and basal ganglia in psychosocial domains. The neocortex is associated with higher-order reasoning, decision-making, and social cognition, while the basal ganglia influence procedural learning, emotional regulation, and habit formation.

Key Findings from Research:

1. Conflict Between Reason and Emotion

- **Takakusaki (2008)** examined the forebrain's control of behavior, exploring how basal ganglia inhibit certain locomotor and emotional responses while the neocortex promotes conscious decision-making. This dynamic influences the psychological conflict between reason and emotion.

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2. Moral Dilemmas and Decision-Making

- Rosenbloom et al. (2012) investigated how the basal ganglia and neocortex process high-conflict moral dilemmas, highlighting their roles in integrating emotional and logical elements of decision-making.

[Read the study](#)

3. Neural Basis of Psychological Processes

- Wickens (1997) analyzed how the basal ganglia compute behavioral outcomes from neocortical inputs, emphasizing their role in translating cognitive intentions into actions.

[Full text](#)

4. Dynamic Social Action and Mentalizing

- Overwalle et al. (2024) used meta-analyses to reveal how neocortex, basal ganglia, and cerebellum work together to process dynamic social actions and maintain social cognitive functions.

[Access study](#)

5. Psychosocial Impacts of Subcortical and Cortical Interactions

- Lieberman (2001) discussed the evolutionary relationship between basal ganglia and neocortex, particularly their contributions to language and psychosocial behavior in humans.

[Details here](#)

6. Dementia and Behavioral Conflicts

- Terry et al. (1983) studied how neocortical degradation in dementia interacts with basal ganglia functions, often leading to conflicts in emotion regulation and social behavior.

[Explore further](#)

7. Emotion and Memory Integration

- Tucker & Derryberry (1992) explored how the convergence of basal ganglia and neocortical inputs regulates emotions and supports memory formation in

psychosocial contexts.

[More information](#)

8. **Human Memory and Sensorimotor Learning**

- Gabrieli (1998) discussed how the basal ganglia and neocortex contribute to memory and skill acquisition, providing insights into how conflicts arise when adapting to new environments.

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9. **Brain Networks for Social Defeat**

- Panksepp et al. (2007) highlighted the role of basal ganglia and neocortex in processing social defeat and its implications for psychosocial stress responses.

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10. **Functional Models of Basal Ganglia-Neocortex System**

- Frank & O'Reilly (2007) presented computational models showing how these brain regions resolve decision-making conflicts by integrating executive and emotional control.

[Access study](#)