

The Dark Side of Emotion in Decision Making

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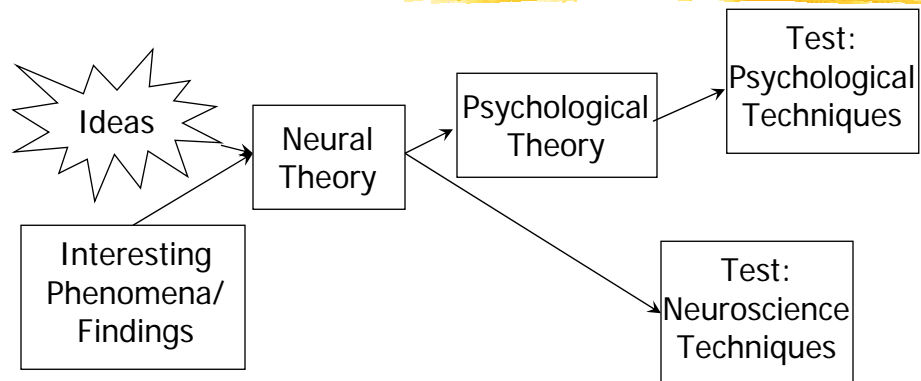
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My goal for this talk...

- ⌘ Dovetail the talk with the main theme of this pre-conference
- ⌘ "How Neuroscience can Inform ~~Consumer Research~~ Decision Making Research"

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How Neuroscience can inform...



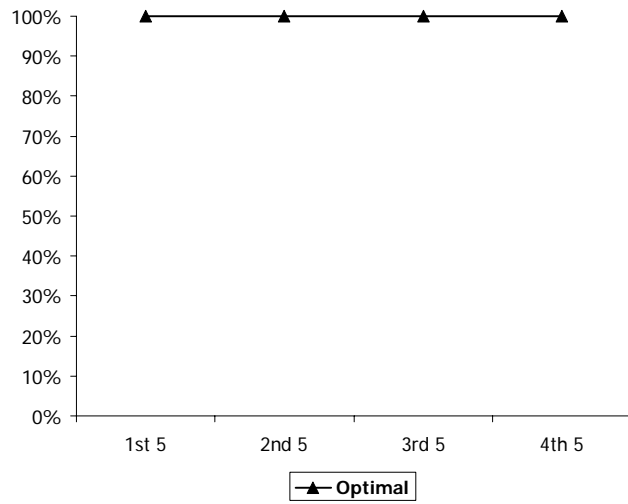
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The investment task (U. Gneezy)...

- ⌘ Several rounds of investment decisions
- ⌘ To begin with, participant endowed with \$20
- ⌘ Each round, participant can decide to invest \$1 or decide not to invest
- ⌘ If participant decides to invest, 50% chance of losing the \$1, and 50% chance of winning \$2.50

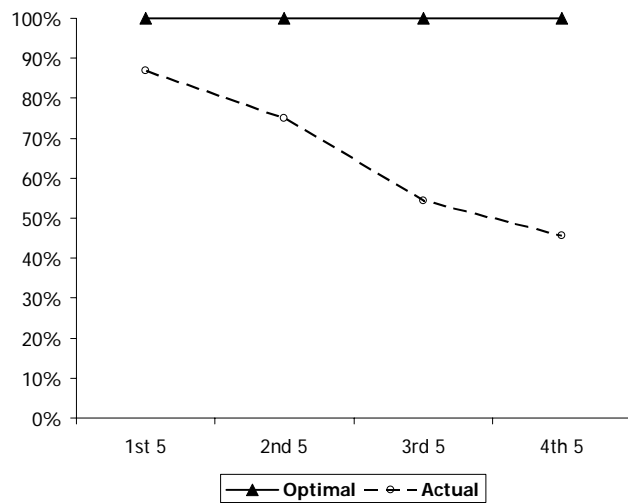
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The optimal strategy...



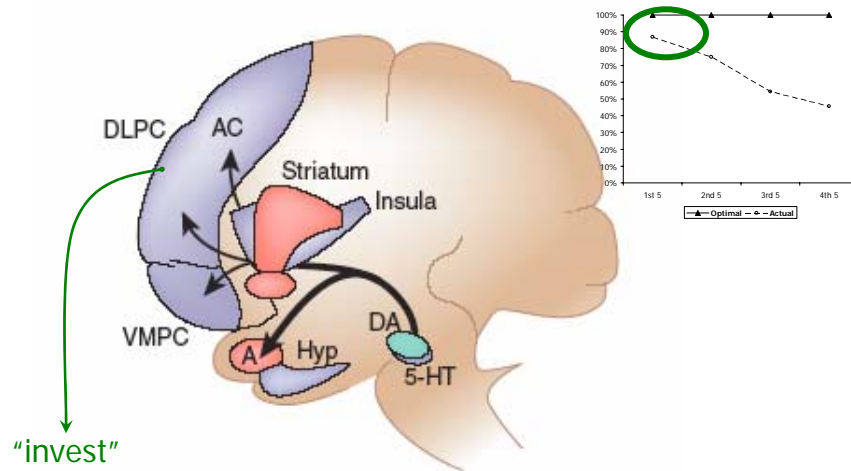
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Typical results with "normals"...



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Early rounds - Cognitions...



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Emotional circuitry...

⌘ Low-Road (stimulus/outcome-based) emotions:

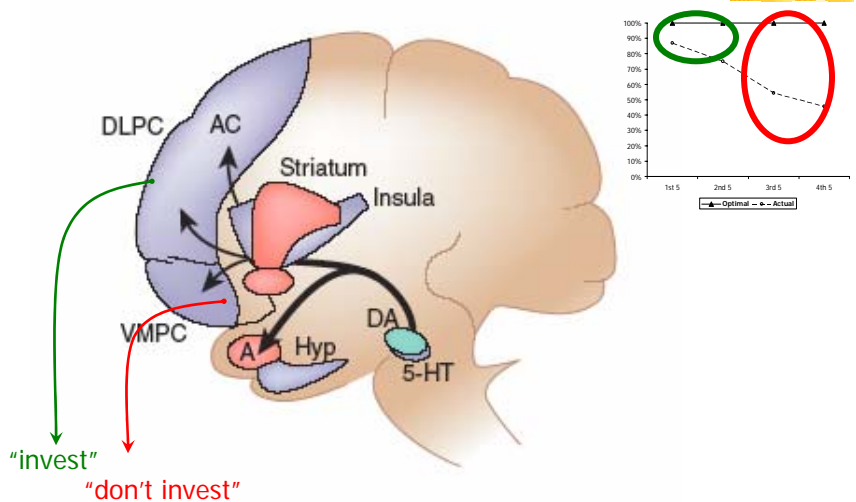
☒ amygdala/striatum

⌘ High-Road (memory/decision-based) emotions:

☒ VMPFC, insula/somatosensory cortex

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As the task unfolds - emotions come into play...



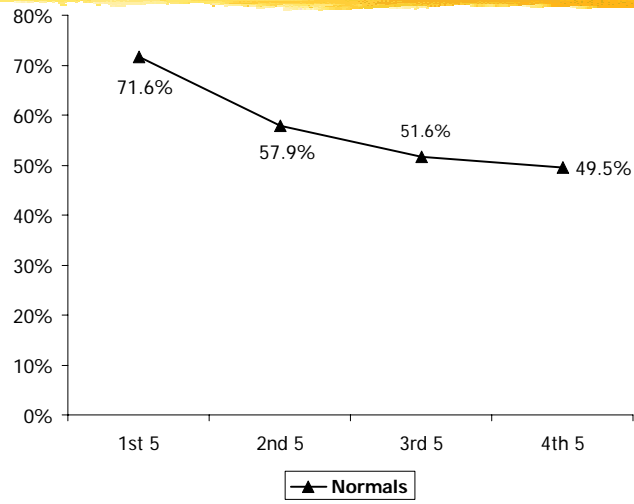
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Study with Patients...

- ⌘ 3-cell, between-subjects design
- ⌘ 15 target-patients, 19 normal-controls, and 7 patient-controls (w/ focal lesions, near but not in components of the neural circuitry that is critical for processing emotions)
- ⌘ Matched on various attributes:
 - ☑ Age, years of education
 - ☑ Basic neuropsychology
 - ☑ Memory
 - ☑ Executive function
 - ☑ Perception

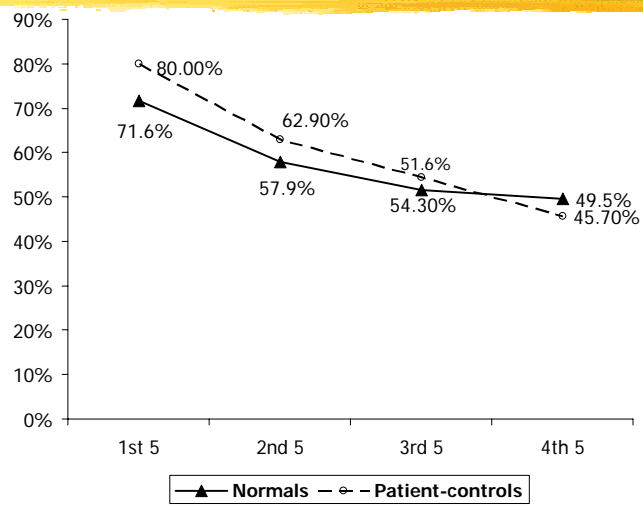
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% of rounds RPs decided to invest...



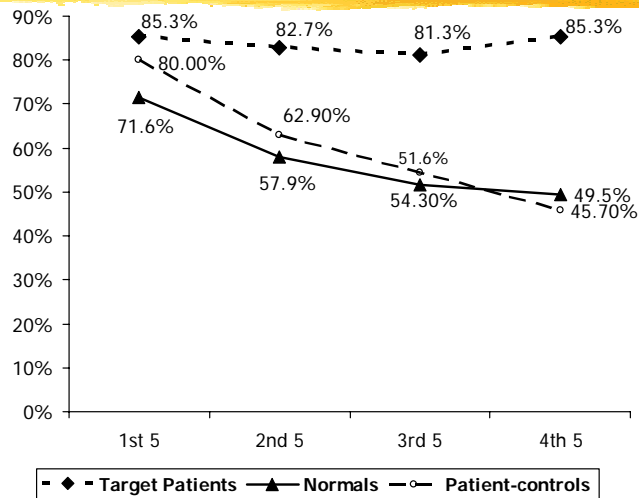
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% of rounds RPs decided to invest...



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% of rounds RPs decided to invest...



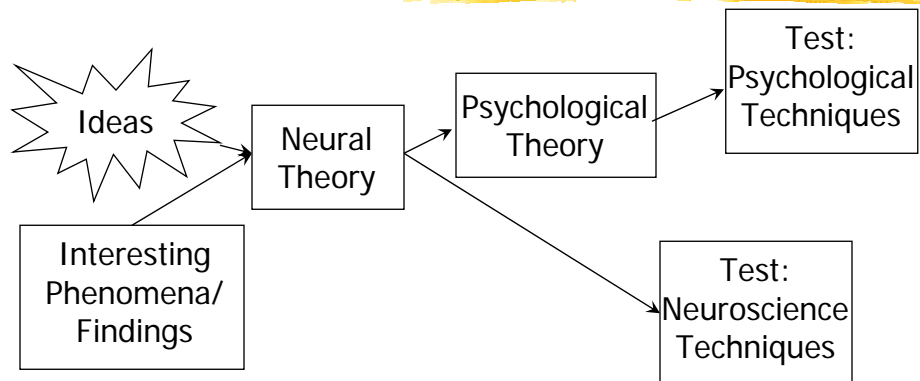
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Overall...

- ⌘ Target-patients invested in more rounds (83.7%) than did normal-controls (57.6%) and patient-controls (60.7%)
- ⌘ At the end of 20 rounds, target-patients ($M = \$25.70$) were left with more money than normal-controls ($M = \$22.80$) and patient-controls ($M = \20.07)

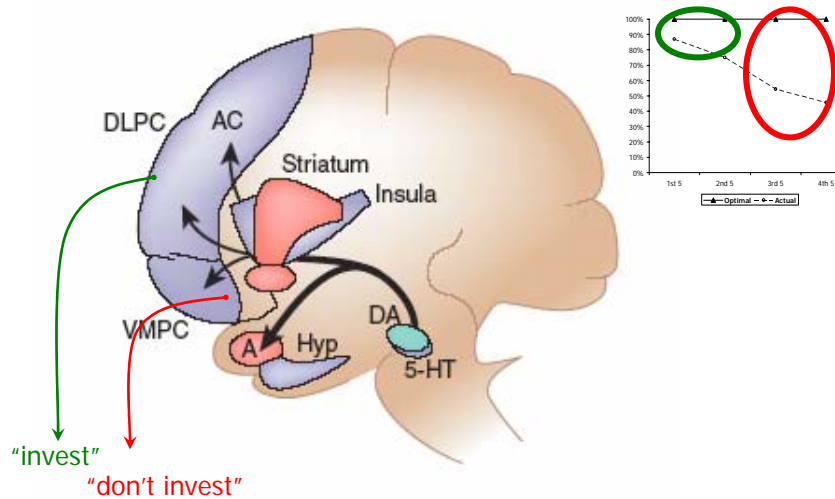
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How Neuroscience can inform...



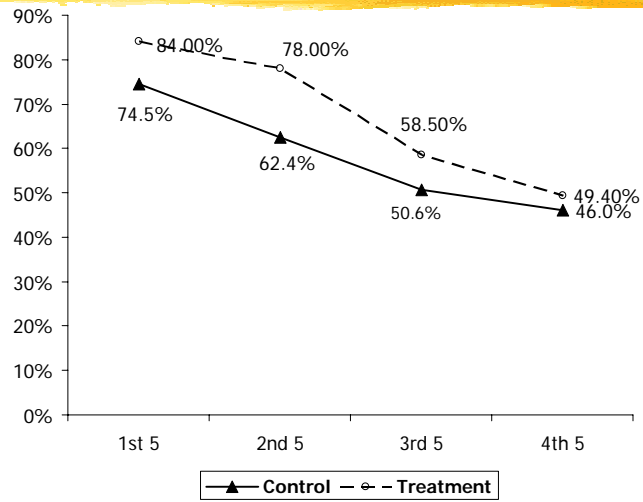
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Neural theory...



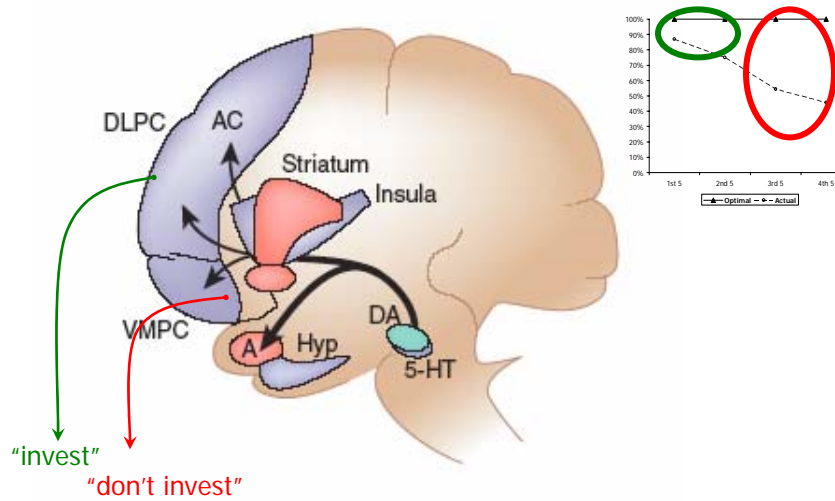
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Priming study...



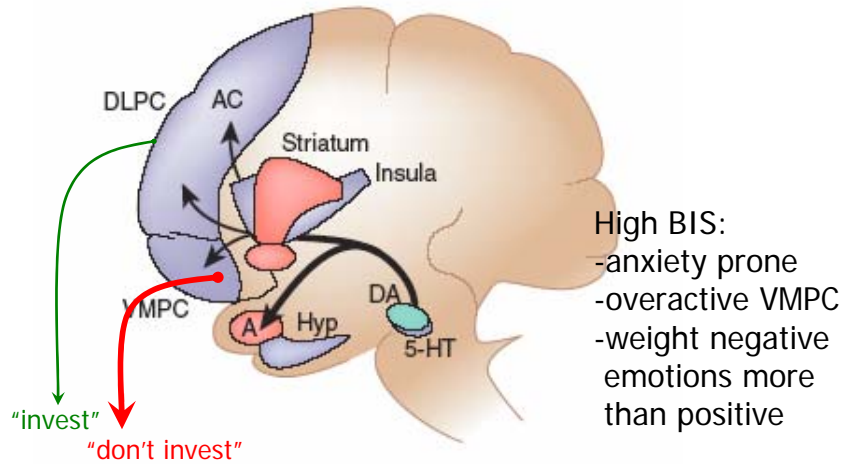
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Neural theory...



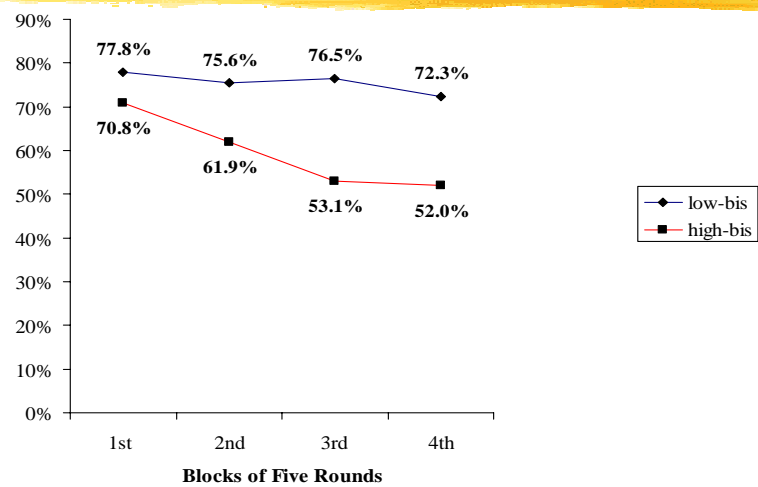
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BIS and the investment task...



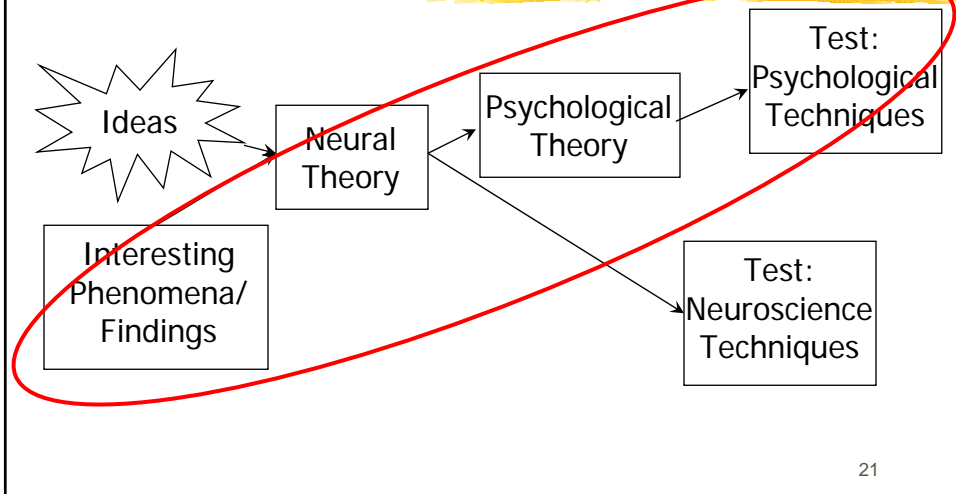
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(MS by) BIS study...



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How Neuroscience can inform...



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