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Neuromodulation in corticostriatal circuits: On deep brain stimulation and dopamine

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In our everyday life, we are constantly performing actions with a certain goal in mind, but we are also able to adjust our behavior to a constantly changing environment. Adaptation of goal-directed behavior relies on integrity of a network that consists of connections between the prefrontal cortex and striatum. Dopamine is an important neuromodulator in this network. The first part of this thesis investigates the role of dopamine in the control of adaptive behavior. Enhanced understanding of the neurobiological mechanisms that control adaptive behavior will not only increase our understanding of our everyday functioning, but may also provide insight in the dysfunctions underlying cognitive disturbances in psychiatric disorders.

The second part of this thesis investigates the cognitive and neurobiological effects of deep brain stimulation, a relatively novel treatment option in psychiatry. These studies show how preclinical studies can be used to enhance our understanding of the working mechanisms of deep brain stimulation in psychiatry.

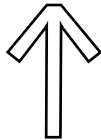
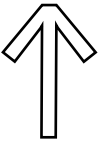
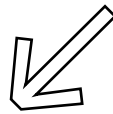
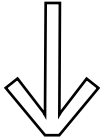
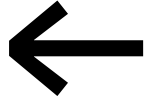
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on
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On deep brain stimulation and dopamine

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On deep brain stimulation and dopamine

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