

New links between social status and brain activity

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New studies released today reveal links between social status and specific brain structures and activity, particularly in the context of social stress. The findings were presented at Neuroscience 2013, the annual meeting of the Society for Neuroscience and the world's largest source of emerging news about brain science and health.

Using human and animal models, these studies may help explain why position in [social hierarchies](#) strongly influences decision-making, motivation, and altruism, as well as physical and [mental health](#). Understanding social decision-making and social ladders may also aid strategies to enhance cooperation and could be applied to everyday situations from the classroom to the boardroom.

Today's new findings show that:

- Adult rats living in disrupted environments produce fewer new [brain cells](#) than rats in stable societies, supporting theories that unstable conditions impair mental health and cognition (Maya Opendak, abstract 85.11, see attached summary).
- People who have many friends have certain brain regions that are bigger and better connected than those with fewer friends. It's unknown whether their brains were predisposed to social engagement or whether larger social networks prompted brain development (Maryann Noonan, PhD, abstract 667.11, see attached summary).
- In situations where monkeys can potentially cooperate to

improve their mutual reward, certain groups of brain cells work to accurately predict the responses of other monkeys (Keren Haroush, PhD, abstract 668.08, see attached summary).

- Following extreme [social stress](#), enhancing brain changes associated with depression can have an anti-depressant effect in mice (Allyson Friedman, PhD, abstract 504.05, see attached summary).

Other recent findings discussed show that:

- Defeats heighten sensitivity to social hierarchies and may exacerbate brain activity related to social anxiety (Romain Ligneul, presentation 186.12, see attached speaker summary).

"Social subordination and social instability have been associated with an increased incidence of mental illness in humans," said press conference moderator Larry Young, PhD, of Emory University, an expert in brain functions involved with social behavior. "We now have a better picture of how these situations impact the brain. While this information could lead to new treatments, it also calls on us to evaluate how we construct social hierarchies—whether in the workplace or school—and their impacts on human well-being."

Provided by Society for Neuroscience

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