

Article Title: Evaluating depression and anxiety behaviors in non-human primates

Authors: Ausderau, K. K., Colman, R. J., Kabakov, S., Schultz-Darken, N., & Emborg, M.

Key Points:

- NHPs and humans share emotions and moods that are similar even if portrayed in different ways.
- Depression and anxiety are often co-occurring with other disorders.
- Depression and anxiety in humans affect engagement in activities of daily living.
- Primates exhibit depression and anxiety through their temperament rather than their engagement in activities like their human counterparts.
- There are limited treatments for the co-occurrence of depression and anxiety for individuals who need further intervention.
- Equal testing conditions were created to facilitate anxiety and depression evoking situations for NHPs.
- A gap in the research remains regarding the co-occurrence of depression and anxiety in humans and NHPs alike.
- Further research with NHPs could establish treatments for comorbid conditions

Glossary:

NHP- nonhuman primate.

- Rhesus macaques are used in this article.
- Rhesus Macaque-



Anxiety disorder- struggling with intense and uncontrollable feelings of anxiety, fear, worry, and/or panic.

Depression- extended periods of a sad mood that interferes with everyday functioning.

Endophenotype- heritable traits derived from laboratory measures.

Etiology- cause, set of causes, or manner of causation of a disease or condition.

Pathology- how anxiety and depression present in humans and primates.

Temperament- a person's or animal's nature and how they react to their environment.

Symptomatology- set of symptoms exhibited by a patient for a medical condition.

Comorbidities- two or more diseases or conditions in patients at the same time.

- Interchangeable with co-occurrence.

Why this article matters:

This article demonstrates how NHPs and humans have a shared experience regarding anxiety and depression. Developing treatment for one may benefit the other.

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Description of the Study:

These researchers are comparing anxiety and depression in humans and primates. This comparison is done through a literature review. The portrayal of depression and anxiety in both humans and primates, the fact that they are co-occurring, why treatment limitations occur, and what interventions could be improved are studied. Together, we can evaluate the information to understand the potential benefits and challenges in regard to individuals and their anxiety and depression.

Research Questions:

What are the most effective, safe, and accurate models and methods to studying depression and anxiety in NHPs (with the intention of understanding and personalizing therapies and treatments)?

How can we improve human treatment and interventions of depression and anxiety based on comparative data of primate models?

Important Results:

- Found valid techniques to assess NHP's depression and anxiety such as clinical observations, Fitbit-like monitors, and multilevel puzzle feeders.
- We do have gaps in knowledge on depression and anxiety with aging and comorbidities, but these provide an opportunity to advance the field and do so ethically.
- NHP datasets can be the basis for applying new testing approaches to treating anxiety and depression in humans due to the similarities between humans and primates.

How the results will be used:

We can use these newer NHP datasets on the primate's reactions and experiences regarding the experiments to create interventions that identify ways to most effectively help patients with anxiety and depression.

Full Article Reference: Ausderau, K. K., Coleman, R. J., Kabakov, S., Schultz-Darken, N., & Emborg, M., (2023). Evaluating depression and anxiety behaviors in non-human primates. *Frontiers in Behavioral Neuroscience*, 16, 1006065.