# Article information:

Neurobiology of secure infant attachment and attachment despite adversity: a mouse model - Roth - 2013 - Genes, Brain and Behavior - Wiley Online Library
<https://onlinelibrary.wiley.com/doi/full/10.1111/gbb.12067>

# Article summary:

1. Attachment across mammalian species represents the processes that maintain and regulate long-term social relationships.

2. The lack of secure attachment to the caregiver, attributable to both environmental and biological factors, is associated with subsequent behavioral problems and psychopathologies.

3. A mouse model was developed to determine the conservation of sensitive periods of conditioned responses to abusive stimuli in infant mice, which are readily amenable to genetic manipulation, and examine neural correlates of their learned behavior.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article "Neurobiology of secure infant attachment and attachment despite adversity: a mouse model" explores the neurobiological processes underlying infant attachment, particularly in the context of aversive parenting. The study uses a mouse model to examine the conservation of sensitive periods of conditioned responses to abusive stimuli in infant mice and to examine neural correlates of their learned behavior.

Overall, the article provides a detailed account of the study's methods and findings. However, there are some potential biases and limitations that should be considered.

Firstly, the study only focuses on one strain of mice (129S6/SvEv), which may limit its generalizability to other strains or species. Additionally, while the authors acknowledge that environmental and biological factors can contribute to insecure attachment, they primarily focus on the effects of aversive parenting on attachment. This narrow focus may overlook other important factors that contribute to attachment outcomes.

Furthermore, while the study provides evidence for lasting effects of early-life adversity on adult behavior and amygdala responsivity in rats, it is unclear how these findings translate to humans. The authors do not provide sufficient evidence or discussion regarding the applicability of their findings to human populations.

Additionally, while the article notes that animal care and experimental procedures were approved by an Institutional Animal Care and Use Committee following NIH guidelines, it does not provide information about any potential risks or ethical considerations associated with using animals in research.

Finally, while the article presents both odor-stroke conditioning (secure attachment) and odor-shock conditioning (abusive infant-caregiver interactions), it primarily focuses on the latter. This may create a biased perspective towards negative outcomes associated with insecure attachment rather than exploring potential positive outcomes associated with secure attachment.

In conclusion, while this article provides valuable insights into neurobiological processes underlying infant attachment in mice, it is important to consider potential biases and limitations in interpreting its findings. Further research is needed to explore how these findings apply to human populations and to consider a broader range of factors that contribute to attachment outcomes.

# Topics for further research:

* Factors contributing to infant attachment outcomes beyond aversive parenting
* Generalizability of mouse model findings to other species and strains
* Applicability of mouse model findings to human populations
* Ethical considerations and potential risks associated with animal research
* Positive outcomes associated with secure infant attachment
* Long-term effects of early-life adversity on adult behavior and brain function in humans

# Report location:

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