

Neural Basis of Mammalian Parent-infant relationship

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Abstract

Mammalian infants require intense care to grow up, including nursing (of mother's milk), protection, and education. To guarantee the survival of their young, parents are equipped with innate motivation to nurture them. Infants are also born with attachment instincts, including crying, clinging, and following their caregivers. These drives are hard-wired in the mammalian brain, yet postnatal learning experiences are required to refine the neural circuits and enable the actual behaviors in a given environment. The family bond experienced in early life forms the foundation of various kinds of social behaviors in the adult. Therefore the "good-enough" parent-infant relationship is important to prevent psychological and social problems, including delinquency, child maltreatment, and stress vulnerability.

The lecture consists from three parts, 1: the influence of parental care on infant development, including some historical background of the research field, 2: the neural mechanism of filial attachment behaviors, 3: the mechanism of parental behaviors.

I would also draw your attention to the ethical issues arising from the recent technological advancement to directly manipulate neuronal functions. Current scientific knowledge and technologies enable us to solve problems of animal (and theoretically, human) behaviors by directly manipulating the brain mechanisms, and the discussion not only among scientists but also with general public and law makers is much needed.

I hope that this talk would encourage young researchers to join this emerging and exciting research field of behavioral neuroscience.