

EMOTIONAL REACTIVITY IS REDUCED FOLLOWING EARLY POSTNATAL EXPOSURE TO A NOVEL STIMULUS IN BOBWHITE QUAIL CHICKS

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Abstract Details

Neophobia, the fear of novelty, is a behavioral trait displayed by many animal species, in which novel stimuli are perceived to have aversive properties. This is typically associated with an increase in emotional reactivity (i.e. fearfulness). In this study, we investigated whether early postnatal exposure to a novel visual stimulus could reduce neophobia in bobwhite quail chicks (*Colinus virginianus*). The experiment consisted of three conditions which consisted of a no stimulus control, a test-only exposure control, and a postnatal exposure condition. The stimulus utilized was a moving decoy of a predatory hawk in flight, and was presented to chicks in the exposure condition from hatching to testing at 24 hrs of age. We predicted that chicks exposed to the hawk model would exhibit less emotional reactivity than both groups of naïve control chicks. All chicks were tested individually within a novel emergence box and T-maze apparatus. Results showed statistically significant differences between the groups tested in the presence of the visual stimulus (test-only exposure control and postnatal exposure condition). Exposed chicks displayed significantly greater distances traveled ($p = 0.010$), greater mean velocity ($p = 0.010$), and decreased immobile duration ($p = 0.027$) when compared to naïve chicks tested under identical conditions (i.e. hawk present). Taken together, these results indicate that chicks exposed to the novel visual stimulus following hatching showed decreased emotional reactivity (less fearfulness) during subsequent testing than did naïve chicks. Our results suggest that exposure to novel stimuli can moderate the development of neophobia during early life experience.

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