

Effects of early life adversity and novel foraging circumstances on maternal behavior

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Baboon mothers' early life experiences exert important effects on their development, longevity, sociability, and survivability of their offspring. It is unknown how early life experiences influence maternal behaviors. We investigate this in 46 mother-infant pairs of olive baboons from Laikipia, Kenya. We examined nursing rates, carrying rates, count of approaches to infant, and count of nipple rejections. Using long-term data from the Uaso Ngiro Baboon Project, we constructed an adversity index based on the sum of five binary measures from mothers' early lives: droughts, intense mobbing, early loss of mother, birth of a competing sibling, and group size. *Opuntia stricta* is an invasive cactus that has been spreading through the study area and its fruit has become an important component of the baboons' diet. We scored mothers based on whether this novel fruit was present at their birth. Using mixed MCMC models, we found that mothers with greater adversity carried their infants at higher rates than mothers with less adversity. For nursing rates, there was an interaction between *O. stricta*, adversity, and age. Without access to *O. stricta*, greater adversity was associated with higher nursing rates. *O. stricta* was associated with higher nursing rates. Mothers with greater adversity approached their infants less than other mothers. No substantial differences were found for maternal nipple rejections. These results suggest early life experiences can have lasting consequences on maternal behavior and these behaviors may function as one proximate mechanism for intergenerational effects of maternal experience.

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