Material efforts may be a major factor influencing the developmental changes in pregnancy, the maturation of the hypothalamic-pituitary-adrenal (HPA) axis in their progeny. Our results show an intergenerational inheritance of stress hormones in a free-ranging population of European hares. We propose that the lack of recovery of reproductive parameters during the early low phase of the hare cycle may be a result of the impacts of intergenerational inheritance of stress hormones caused by high predation risk during the decline phase.

Heritability of stress hormone levels resulted in a decline in reproduction. We have shown that a predator-induced increase in maternal stress hormone levels are echoed in their offspring, with stressors during pregnancy and lactation result in decreased reproduction. Maternal effects may be a major factor influencing the developmental changes in pregnancy, the maturation of the hypothalamic-pituitary-adrenal (HPA) axis in their progeny.