Title:	Transgenerational effects of Dietary Restriction in Drosophila melanogaster as a model system
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Abstract:	Dietary Restriction (DR) usually involves raising the adults of a population on a restricted diet without causing malnourishment, which in the case of this experiment involved moderating protein in the diet. Effects of dietary restriction in a population include an increase in lifespan and stress resistance but a decrease in fecundity in many species. Although the effects of DR in a population are pretty well documented, the transgenerational cascade is yet to be fully studied and is still in its prototypical stages. It is well known that changes in the environment can lead to altered behaviour and gene expression and it is certainly safe to assume that these changes might also be displayed in the offspring's behaviour and fitness. The parental environment can lead to changes epigenetically in offspring gene expression; little is known about the role of the parental (F0) diet on the fitness of their offspring (F1). This study investigated the stress resistance, body weight and immunity in offspring from parental flies exposed to a full or restricted diet. The offspring flies of the parental DR showed increases in body weight but the stress resistance and immunity were unaffected. The results of this experiment add to the already existing evidence for the “Resource allocation hypothesis” which in simple terms states that in the face of stress individuals prefer to adopt strategies that offer highest risk adjusted returns, in this case adopting to sire fewer but fitter offspring.
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