Overweight Grandsons and Grandfathers Starvation Exposure

**Author:**Dora Costa

Much of the increase in the prevalence of overweight and obesity has been in developing countries with a history of famines and malnutrition. Prior research has pointed to the association between overweight and famine exposure during developmental ages as one of several explanations and has hypothesized that ancestral famine exposure may play a role. Data limitations have prevented researchers from investigating the multigenerational effects of famine shocks on descendant overweight. This paper examines overweight among adult grandsons of grandfathers exposed to starvation during developmental ages. I study grandsons born to grandfathers who served in the Union Army during the US Civil War (1861-5) where some grandfathers experienced severe net malnutrition because they were POWs during times of extreme hardship. I find that male-line but not female-line grandsons of grandfathers who experienced a severe captivity during their growing years faced a 21% increase in mean overweight and a 2% increase in mean BMI compared to grandsons of non-POWs. This increase was mediated by fathers’ and to a lesser extent own in-utero conditions, as proxied by season of birth, suggesting a dynamic process of inheritance. Male-line grandsons descended from grandfathers who experienced a harsh captivity faced a 22-28% greater risk of dying every year after age 45 relative to grandsons descended from non-POWs, with overweight accounting for 9-14% of the excess risk.

**Url:**<https://www.nber.org/papers/w30599>