Populations are heterogeneous because individuals differ in many ways due to sex, age, size, etc. Some differences might be obvious but others remain unobserved.

Using sophisticated statistical models, unobserved differences are unraveled in an Antarctic seabird population. Three groups of individuals are found.

SUPERHEROES recruit and mate EARLY. They breed often and raise MANY offspring successfully, at the expense of their own survival and longevity.

EGOCENTRICS delay recruitment, breed often, and raise many chicks throughout their life. However, they often fail to raise their chicks to independence. Perhaps because they allocate their energy to their own survival and have a longer life span.

LOOSERS are less likely to reach adulthood. They mate for the first time at older age, and skip breeding often.

These three groups of individuals differ in the number of offspring they expect to raise throughout their lifetime and their life expectancy: a source of variance called individual unobserved heterogeneity.

In addition, every life event: living or dying, breeding or failing, is like a lottery. Thus lifetime reproduction and longevity will also vary because of chance alone, a source of variance called individual stochasticity.

In southern fulmar, individual stochasticity contributes more to variance in longevity and lifetime reproduction than does individual unobserved heterogeneity.