

Dynamics of Life Expectancy and Lifespan Equality

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Life expectancy and lifespan equality have increased over time, suggesting that as populations live longer, ages at death become more similar. A narrow passageway where higher values of life expectancy correspond to higher values of lifespan equality has been documented. However, the precise drivers over time of this relationship are unknown. We develop a framework to study life expectancy and lifespan equality simultaneously over time relying on the pace and shape of ageing and mathematical demography. We demonstrate that both changes in life expectancy and lifespan equality are weighted total of rates of progress in reducing mortality. These weights evolve over time and give a clear picture of where improvements across ages should focus to achieve life expectancy and lifespan equality increases. With empirical data of Swedish females since 1751, we explore whether life expectancy has increased in tandem with lifespan equality and which ages have contributed to this relationship.