Predictors for exceptional human longevity may include birth order, place of birth and early-life living conditions, according to a recent Society of Actuaries (SOA) study that suggests there are several factors linked to one's longevity. The data indicates that first-born daughters are three times more likely to survive to age 100 compared to later-born daughters. The chances for exceptional longevity are minimal for sons having a birth order of four to six compared to those born earlier or later.

The research, developed by the SOA in partnership with researchers at the Center on Aging and the National Opinion Research Center at the University of Chicago, evaluated detailed family data for nearly 1,000 centenarians born in the U.S. between 1875-1899. Drs. Natalia Gavrilova and Leonid Gavrilov collected data from publicly available computerized genealogies of 75 million individuals identified in previous studies and validated ages and birth dates by linking records to the Social Security Administration Death Master File and reviewing U.S. censuses for years 1900, 1910 and 1920.

"The study supports the idea that early childhood conditions might be important for survival to advanced ages," said Dr. Natalia Gavrilova. "Limited access to parental care, including attention and supervision, may result in less attention being paid to the health and safety of later-born children, resulting in a higher risk of infections and malnutrition during early childhood."

The data further suggests that children born to parents who are farmers and childhood residence in the Western region of the U.S. may be indicators for subsequent survival to age 100. The study determined that children of farming parents who lived in the Mountain Pacific and West Pacific regions of the U.S. have a greater chance of surviving to age 100 than those from the Midwest and Northeast areas of the country.

"Without the type of food processing that's currently available, living on a farm 100 years ago meant fresher food with more nutrient value," said Thomas Edwalds, Fellow of the SOA and chairman of the project oversight committee. "This very well might correlate to prenatal and perinatal nutrition as factors of exceptional longevity."

People living to age 100 and beyond represent one of the fastest-growing age groups of the American population, increasing at a rate of about 4.1 percent each year.

"Actuaries are skilled at measuring risks, and this research helps us better understand the predictors of longevity and quantify the implications on society and business," continued Edwalds. "This research also illustrates that studies on human longevity could be modernized and advanced further by using new computerized data resources such as genealogies."