Human Demography of Pre-1925 and Post-1975 Deaths on Gravestones

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**Abstract**

The human demography research project demonstrates clear survivorship curves that compares the deaths of the pre-1925 and post-1975 eras. Though it shows statistical information, mortality rates can also differ in regions based on many factors such as sex, fitness, and health. The project took place in Farmville, VA. The project was used to determine the rate of deaths and compare many factors of the deaths during the two eras. Gravestones were viewed and tallied for the mortality rate between men and women. These tallies were charted, and later graphed. The results indicated that there was a lower survivorship in the pre-1925 generations and also showed that the mortality rates were higher for infants and younger children. For post-1975 older males had higher mortality rates than women, and in pre-1925 middle-aged women had higher mortality rates than men. The results also concluded that post-1975 generations lived longer, and that the mortality rate is decreasing. This is extremely important because these results conclude that the advancement in medical and health provisions are in fact saving lives.

**Key Words**

* Demography
* Diversity
* Era
* Generations
* Gravestones
* Health
* Medical
* Mortality
* Provisions
* Statistics

**Introduction**

Mortality rates were influenced by catastrophes, generations, and natural causes. Natural occurrences in the environment, such as the plague or crop flourishment, can increase or decrease the mortality rate. Scientists have been studying mortality rates for years in different locations and times. This study was conducted in Farmville, Virginia. A data collection of gravestones was tallied between males and female’s mortality rates during the pre-1925 and post-1975 eras. Due to malnourishment, the mortality rates among adults was predicted to be higher in the pre-1925 era, but with further research it showed that the mortality rates were higher with infants because of the impact of their immune systems (Berrutt, Richmond, et al. 2017).

The purpose of this study was to find the difference in death rates between the two set eras, and find the reasoning behind the proposed numbers. We took note of the needed research and questioned, why were the mortality rates so different? We hypothesized that the pre-1925 had a lower survivorship than the post-1975.

**Methods**

*Site description and conducted study*

Statistical numbers were collected at a cemetery in Farmville on September 5, 2017. The men and women’s gravestones were charted on separate tables to keep the data separate. Half of the student’s tallied gravestones for the dates during the pre-1925 and the other half collected tallies for post-1975. Data from all groups were compiled into a data table.

*Conditions affecting data collection*

There were various conditions that affected the data collection. The first issue resided in amount of area that the cemetery took up. There were not enough students to chart every gravestone in the cemetery. The second issue was the ability to read the gravestones. Some gravestones were brittle, broken, or weathered down. Therefore, making it almost impossible to distinguish a name or date. Third a conflict with gender neutral names arose. We did not chart those names which faulted the data. The last problematic error was nature. Moss, leaves, and high grass covered many of the gravestones. To ensure that no damage was done to the piece of property those gravestones were not messed with or charted.

*Data analysis*

The tallies in the age intervals 0-116 years old and the data collected were put together in an excel spread sheet to construct life tables and survivorship curves. In this process, the data showed a clear analysis of the mortality rates among females and males.

**Results**

Both eras had high mortality rates between the ages of 71-86. Pre-1925 had the highest mortality rates of the two eras for the ages 0-36. The deaths for pre-1925 were mainly infants for men and 76 years of age for women. The mortality for post-1975 was 70.1754% before the age of 81 for males and 50% before the age of 86 for females. The most deaths from the gravestones collected were charted for pre-1925 at 192 deaths for both men and women. The deaths of post-1975 were only 182 for both men and woman (Fig. 1 and 2).

**Discussion**

The overall results displayed that females and males had higher mortality rates at different ages between the pre-1925 and post-1975 eras. Many of these deaths could have been from catastrophes, child birth, and natural causes. Statistics from post-1975 state that “7.2 women died per 100,000 births in 1987, that number swelled to 17.8 deaths per 100,000 live births in 2009 and 2011” (Marin 2015). The death rate for child birth is steadily increasing, declaring an issue in medical practices. Thus, creating a conflicting subject with the idea that all health and medical treatment has improved. Though this may be true, “the annual death rate of males from influenza and pneumonia (all forms) as primary’ causes per 100,000 population for the four-month period was 891 in Indiana, 886 in Kansas, and 2,300 in Philadelphia, while the annual death rate of females was 882 in Indiana, 831 in Kansas, and 2,104 in Philadelphia” (Davis, W.H., et al. 1920). Since this era, the death rate of influenza and pneumonia has drastically declined due to prosperous medical practices. Medical practices have flourished in good and bad ways causing rising and declining mortality rates. In the article *Genetic influence on human lifespan and longevity* it states that “human family studies have indicated that a modest amount of the overall variation in adult lifespan (approximately 20-30%) is accounted for by genetic factors” (Hjelmburg, Iachine, Skytthe, et al. 2006). Another article shows a comparison between men and women by stating “men live shorter lives than woman because of the effects of resource availability, infectious disease, and senescence” (Møller, Fincher, Thornhill 2009). It is in fact shown in the results that there is higher mortality rates in males than females. Both articles show a drastic comparison between both eras clearly defining the hypothesized reasoning in some of the deaths.

 Some biases that could have taken place during the methods of collection and location, could have been from the researchers themselves. Seeing infant gravestones could defer us from wanting to add them to the statistic because it is an emotional impact. The graveyard could have been an issue as well because it doesn’t give a full statistic of all the gravestones in the world.

 The main concern and bigger picture to take from this research is the facts that have been stated. Clear evidence shows that medical and health provisions have helped reduce the mortality rate. Effects from natural causes, catastrophes, and child birth have had a large impact on the death rates. From this research I hope that we can continue finding new statistics in various locations on the deaths and reason of death in other populations.

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**Literature Cited**

Berrut, S., P. Richmond, and B. M. Roehner. 2017. Age spectrometry of infant death rates as a probe of immunity: Identification of two peaks due to viral and bacterial diseases respectively. Physica A:Statistical Mechanics and its Applications 486:915–924.

Davis, W. H., and J. B. Mitchell. 1920. Special tables of mortality from influenza and pneumonia. Indiana, Kansas, and Philadelphia, Pa. September 1 to December 31, 1918. Govt. Print. Off.Washington..

Hjelmborg, J., I. Iachine, A. Skytthe, and J. Vaupel. 2006. Genetic influence on Human Lifespan and Longevity:312–321.

Maron, D. F. 2015, June 8. Has Maternal Mortality Really Doubled in the U.S.? [https://www.scientificamerican.com/article/has-maternal-mortality-really-doubled-in-the- u-s/](https://www.scientificamerican.com/article/has-maternal-mortality-really-doubled-in-the-%09u-s/).

Møller, A., C. Fincher, and R. Thornhill. 2009. Why men have shorter lives than women: Effects of resource availability, infectious disease, and senescence. American Journal of Human Biology 21:357–364.

**Figure Legends**

Figure 1. Males and Females survivorship are compared together on a logarithmic scale, the deaths were taken from gravestones death dates dated before 1925.

Figure 2. Males and Females living years are compared together on a logarithmic scale, the deaths were taken from gravestones death dates dated after 1975.

**Figures**

Living years

Living years