**Gerontology 255**

**Assignment 4**

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July, 2015

**Section 1: Collection**

Prepared below are the data gather for the mortality research project for Assignment 4. For the study I gathered my data from *The Globe and Mail*over the course of 4 weeks. In particular I took note of their name, area of death, date of death, age, gender, cause of deaths and other data points. Collection was not simple, as there was no consistency where in the obituary the data was located. Most of the time you could find the information situated in the top and bottom of the obituary, but this was not always the case.

Since most obituaries tend to be conservative in the details of death I looked for buzzwords or telltale signs. Words such as died suddenly I used to indicate heart attack or heart disease. I also used the charities to donate too as signs. If an individual has the Canadian Cancer Society for a charity I made the assumption that they had died from cancer. I also used charities to confirm eugeric deaths. For example if someone had died peacefully late in life and had UNICEF or a church as a charity I could be confident that they had had a eugeric death.

It is worth noting that some individuals who had died of cancer, heart disease, or another serious illness did not put charities relating to those diseases in their obituaries. Instead they put other unrelated charities. While this doesn’t ruin the validity of the eugeric deaths with generic charities it is something to watch out for. Someone could have died of a serious illness without specifying, and also put a generic charity to donate to in memorandum. However, I believe this number would be low and shouldn’t affect the sample too heavily. There is no way to find out the truth in any case.

The majority of the sample population was situated in and around Toronto. You had a minority of the population in other areas such as Vancouver, Victoria, or Montreal.

I collected the names of the individuals so that I could more easily remove any possible duplicates. All in all I ended up with 161 obituaries over the course of May.

**Eugeric Cutoff Reasoning**

The eugeric population cutoff age I set differently for both male and females. Any male individual who made it to the age of 87 and died “peacefully” (not a disease) I noted as a eugeric death. Females were the same except I set the their cutoff date to be age 89 or older. For the total population I average the two and set the eugeric cutoff date to be anyone who made it to or past the age of 88. Note that the life expectancy for males (80) and females (84) in Canada differs by approximately four years (**source**). I only used a two-year gap between the eugeric cutoff date for males and females and deliberately set it higher than the life expectancy. For one I believe that the gap between females and males is caused by both biological and social factors. Hence, I assumed two years were taken off male lives due to social factors, and two years due to biological factors. I factored in this two-year biological difference into the eugeric cutoff and is why males and females have a different cutoff point.

As we have seen in the text males have major biological factors that affect their longevity. For example the “Too Much Y and You Die” theory – which on one hand suggests males don’t have a back up of their X chromosome to remove defects. Another possibility is that females have estrogen that possibly protects against cardio vascular diseases. Another interesting point to note is that there are 105 males born for every 100 females (source). Males could therefore have a lower life expectancy so that the number of females and males at reproduction time would be equal.

All in all I set the eugeric cutoff age as I did for a couple reasons. For one I wanted it to be higher than the life expectancy for Canada. The life expectancy is in essence a balance between those that died a eugeric death and those that did not. If I had set the eugeric cutoff to be equal to the life expectancy I would have had to assume the standard deviation of population was close to zero. This is not the case (source). I also wanted the eugeric cutoff date to be closer to the maximum life span of the population. In the case of out notes it states this is around 120 years. Finally, I also took into account the functional capacity of certain bodily function with age. This I based off the chart on page 21 of the lecture notes. At 80 years many critical functions have already decreased significantly so I made the assumption that this trend would continue. By the ages I set off for the eugeric cutoff date it would be hard to maintain homeostasis by the body. Some illness would eventually set in and the individual would die.

**Obituary Tables**

**Total Population**

**Female Population**

**Male Population**

**Calculations:** For calculating life expectancy, I realized it is synonymous with mean life span that is in essence the average life span from birth. To calculate this I began to add up the ages of everybody in the specific population (total, male, or female) and then divided by the number of individuals I added up. So for the total population I added 102+99+ …+25/161, where 102 is an age in the population and 161 is the number of ages I have added up. Below are the calculation answers for each population.

**Total Population**

|  |  |
| --- | --- |
| **Mean Life Span** | 82.50632911 |
| **Maximum Life Span (Eldest Individual)** | 102 |
| **Minimum Life Span (Youngest Individual)** | 25 |

**Female Population**

|  |  |
| --- | --- |
| **Mean Life Span** | 85.4556962 |
| **Maximum Life Span (Eldest Individual)** | 102 |
| **Minimum Life Span (Youngest Individual)** | 46 |

**Male Population**

|  |  |
| --- | --- |
| **Mean Life Span** | 82.556962 |
| **Maximum Life Span (Eldest Individual)** | 99 |
| **Minimum Life Span (Youngest Individual)** | 25 |

**Type 1 Survival Curves:**

The following graphs illustrate Type 1 Survival curves for the populations. The analysis on these graphs will be done in sections 3.

**Total Population**

**Female Population**

**Male Population**

**References**