Graphing the Lifespans of the Prime Ministers in India*

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1 Data source

I used web scraping to extract all the data in the table from the Wikipedia page about prime ministers of India (WIKIPEDIA 2024). This table includes Portrait, Name (born–die) Constituency, Term of office & mandate Duration in years and days, Other ministerial offices held, Political Party, Government, Head of State. The only variable I utilized was Name (born–die) Constituency. I separated this column to create five variables: name, date (from born year to death year), born (the born year), died (the died year) and age_at_death in R (R Core Team 2022). Using date, born, died and age_at_death, I created one table and one figure.

This process used packages Dplyr (Wickham et al. 2023), Janitor (Firke 2023), ggplot2 (Wickham 2016), Knitr(Xie 2014), Rvest (Wickham 2022), Xml2 (Wickham, Hester, and Ooms 2023), Tidyr (Wickham, Vaughan, and Girlich 2024), Stringr (Wickham 2023b), and Forcats (Wickham 2023a).

2 Findings

There are a total of 15 prime ministers in the dataset. According to Table 1, six of them surpassed the age of 90, including the two who are currently alive. Meanwhile, one prime minister lived less than 50 years, and two lived less than 70 years. Gulzarilal Nanda stands out as the Prime Minister who lived the longest, reaching the age of 100 before his death in 1998. Examining the data on their ages at the time of death, we can tell that the ages at which the Prime Ministers in India passed away vary widely, ranging from the relatively young age of 47 in the case of Rajiv Gandhi to the advanced age of 100 for Gulzarilal Nanda.

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*Code and data in this analysis is available at: https://github.com/Elaineyi1/Prime_Minister_India_timeline

Table 1: The Birth Year, Death Year and the Age of Death of Prime Ministers of India

| name	born	died	age_at_death
Jawaharlal Nehru	1889	1964	75
Gulzarilal Nanda	1898	1998	100
Lal Bahadur Shastri	1904	1966	62
Indira Gandhi	1917	1984	67
Morarji Desai	1896	1995	99
Charan Singh	1902	1987	85
Rajiv Gandhi	1944	1991	47
Vishwanath Pratap Singh	1931	2008	77
Chandra Shekhar	1927	2007	80
P. V. Narasimha Rao	1921	2004	83
Atal Bihari Vajpayee	1924	2018	94
H. D. Deve Gowda	1933	NA	NA
Inder Kumar Gujral	1919	2012	93
Manmohan Singh	1932	NA	NA
Narendra Modi	1950	NA	NA
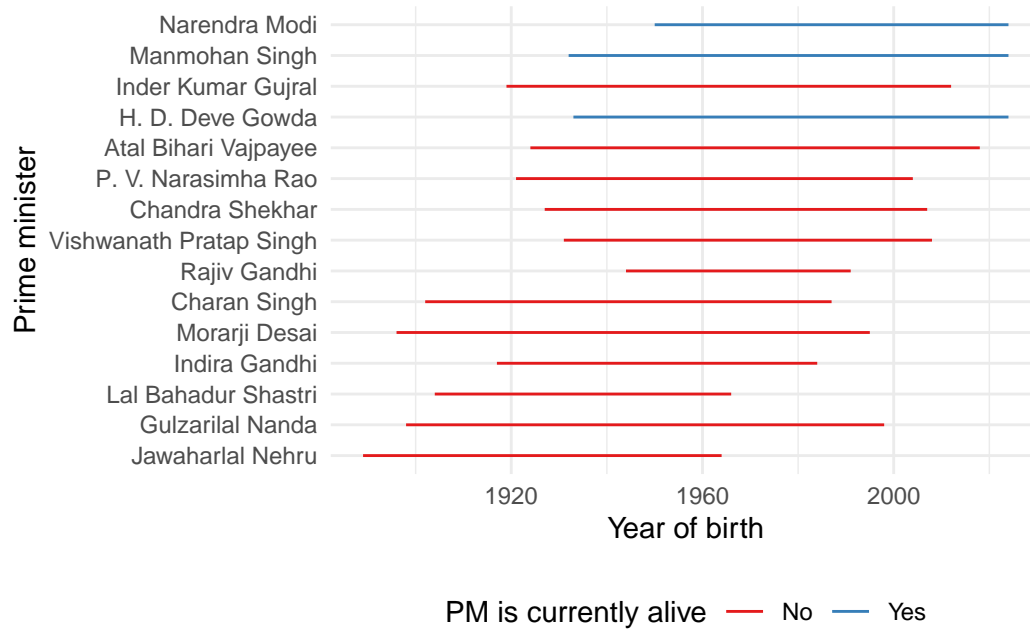
Figure 1: The Life Timeline of the Prime Ministers in India

Figure 1 visualizes the lifespans of the prime ministers and illustrates the overlap in their lifetimes. Red lines represent the prime ministers who have passed away, while the blue lines

represent that these prime ministers are still alive. Figure 1 reveals that Charan Singh and Morarji Desai have relatively extended lines, indicating prolonged lifetimes compared to the prime ministers before and after them. Since the sequence in figure 1 is based on the their terms, we can see Chandra Shekhar, Vishwanath Pratap Singh and Rajiv Gandhi assumed the role of prime minister at a relatively young age.

3 Discussions

Creating the variables — name, date, born, died and age_at_death took longer than I expected. The need to separate columns and employ 'digit' methods added an extra layer of complexity. However, the process became fun when I created a timeline visualizing the lifespan of the prime ministers and how their lifetimes overlap. The resulting horizontal timeline representing birth and death years of the prime ministers is very clear, with different colours indicating whether the prime minister is currently alive or not. Reflecting on the experience, what I would do differently next time is to combine some of the 'mutate' statements to reduce redundancy. If I work on the prime minister data for another country with more prime ministers, I would classify them based on gender and age when they became prime minister to see how these factors might influence their lifespan. Moreover, if presented with a dataset containing prime ministers from another country, particularly one with a larger pool of leaders, I would consider classifying them based on gender and age at the commencement of their prime ministership. Such an analysis could explore additional insights into the potential influence of these factors on their lifespan, making the paper more informative.

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