



**ANALYZE DEATH AGE DIFFERENCE BETWEEN LEFT  
HANDERS AND RIGHT HANDERS**

NAME –MERI PAUL

ROLL NO –1751

STREAM -HOSPITAL

MENTOR –TRIPTI BISAWA

COURSE -MBA IN HOSPITAL AND HEALTH MANAGEMENT



# INTRODUCTION :-

Research on human biology has always fascinated scientists, especially the phenomenon of handedness—a salient human characteristic. The vast majority of the world's population, about 85–90%, which is right-handed, and 10–15% which is left-handed. This ratio exists across various disciplines—ranging from politics and athletics to the sciences and the arts—verifying that handedness does not constrain one's potential.

A hypothesis suggests that generational bias influenced the perceived lower number of left-handers among older people. In past decades, many left-handed individuals were forced to switch to right-handedness due to societal norms (Hugdahl et al., 1993), leading to underreporting.

Analysis showed a response bias, as left-handers were more likely to participate in surveys about handedness, skewing the results. Later studies adjusted these findings using statistical models, estimating that true left-handedness in the 19th century may have been as low as 3%, compared to about 10% in the 18th century.

In today's world, where medical advancements have extended average lifespans, the question of whether handedness affects longevity remains open. While early studies pointed to increased mortality among left-handers, more recent and methodologically robust research challenges this view. Ongoing scientific inquiry is necessary to determine whether genetic, environmental, or cultural influences explain these patterns.

# LITERATURE REVIEW:-

## **Early Research (1980s–1990s):**

Studies like Halpern & Coren (1991) suggested left-handers died 9 years earlier on average than right-handers.

2. This was attributed to higher accident rates and adaptation challenges in a right-handed world.

## **Criticism & Re-evaluation:**

1. Subsequent analyses criticized earlier studies for methodological flaws, including:

2. 2. Small sample sizes.

3. 3. Failing to consider declining left-handedness in older generations due to forced switching.

4. 4. Later studies (e.g., Harris, 1993) found little to no significant difference in life expectancy.

## **Recent Consensus:**

1. More recent, large-scale studies indicate that handedness has negligible impact on lifespan.

2. 2. Differences previously observed were likely due to generational reporting biases and not biological factors.

## **Possible Factors Once Considered**

1. Higher accident risk (e.g., tools, machinery designed for right-handers)

2. Slightly higher incidence of certain neurological or autoimmune conditions

3. These are now considered minimal or irrelevant to overall life expectancy.

# METHODOLOGY:-

**In this chapter, we utilize two distinct datasets:**

1. United States death distribution statistics for 1999 (accessible via a specific web site).
2. Rates of left-handedness based on a digital figure from Gilbert and Wysocki's 1992 study.

**Data Collection from the National Geographic Survey (NGS) :**

1. Data Collection and Preprocessing
2. Application of Bayesian Statistics
3. Analysis and Results

**Data Import and Initial Cleaning :**

1. Data Cleaning
2. Data Filtering

# CONTEXT:-

1. In 1991, psychologists Diane F. Halpern and Stanley Coren (who was also a neuropsychological researcher) published both a brief and a more in-depth report claiming that left-handed individuals tend to die approximately nine years earlier than their right-handed counterparts.
2. Their conclusion was based on an analysis of survey responses collected from relatives of people who had died in 1989 in two counties in Southern California. These surveys inquired about the handedness of the deceased.
3. This study gained widespread attention and was often cited. However, it also sparked significant debate and criticism, particularly regarding its methodology.
4. Later research offered a more nuanced picture. Studies involving athletes generally did not reveal any significant lifespan differences between left- and right-handed individuals. In addition, a study of 118 same-sex twin pairs—where one twin was left-handed and the other right-handed—actually showed a slightly higher mortality rate for the right-handed twins.
5. These findings highlight how cultural and societal norms can distort real-time reporting, especially in ideological or demographic studies.
6. Using handedness as a case study, researchers developed a method to account for such biases. This three-step approach includes:
  - (1) replicating the original analysis using the historically reported (and potentially biased) demographic data.
  - (2) repeating the analysis using corrected or estimated true values for the variable in question (in this case, left-handedness rates).
  - (3) comparing the two sets of findings. This framework helps to reveal the impact of cultural influence on reported data and can be applied broadly to improve the accuracy of demographic research.

# DISCUSSION:-

## Cultural Myths, Historical Bias, and Modern Perspectives on Left-Handedness-

1. **Myths and Superstitions :** Despite notable achievements by left-handed individuals, they have historically faced cultural prejudice. In many societies, the left hand was associated with impurity, bad luck, or evil, contributing to widespread discrimination that undermines a society striving for inclusivity and equity. Language bias, Religious influences, Superstitions around the world.
2. **2. Modern Realities for Left-Handed Individuals :** Educational Systems and Punishment, Social and occupational challenges, Psychological impact and suppression of identity, Structural and legal discrimination.
3. **3. Societal Progress and Inclusion:** Awareness has grown significantly. While progress has been made, inclusive design is not yet universal, and implicit biases still persist. In some cultures, children are still corrected for left-handedness, and many adults must continue to adapt to a right-handed world. Contemporary neuroscience now views handedness as a natural biological variation. Emerging research even suggests that left-handers may excel in areas requiring creativity, adaptability, and divergent thinking.

# CONCLUSION:-

Our long-term goal is to verify or disprove the popularly held theory that handedness has an effect on longevity and assist in providing more empirically based explanation of this phenomenon. From our examination of age distribution data, there is not much evidence to support the general accepted belief that left-handed individuals generally live shorter lives than right-handed individuals.

According to Bayesian probability calculations, the life expectancy of left-handed and right-handed individuals at death is closely similar. This research discredits this fallacy and supplies valuable information about the current debate regarding longevity and handedness.

Future research could expand to explore other factors that influence lifespan, such as disease, genetic inheritance, and various life and demographic characteristics. It would be beneficial to examine how these factors intersect with handedness, as well as how lifestyle choices may impact the longevity of both left- and right-handed individuals.

Left-handed people in various fields have continually demonstrated their strength, intelligence, and capabilities. As cultural understanding of diversity progresses, misconceptions about left-handedness are gradually dissipating. Despite this growing acceptance, prejudice against left-handed people remains one of the most enduring forms of discrimination based on physiological traits. Even in today's more tolerant society, left-handed individuals continue to face challenges.

This work ultimately calls for further exploration and encourages society to recognize the value of diversity, ensuring that all people, regardless of their handedness, are treated equally and with respect

# REFERENCES:-

1. A. S. D. M. Tanushree Poojary, "EVALUATING AGE DIFFERENCES IN LEFTHANDERS AND RIGHTHANDERS: A DATADRIVEN ANALYSIS," International Journal of Engineering Applied Sciences and Technology, pp. 140-145, 2023.
2. C. J. W. Avery N. Gilbert, "Hand preference and age in the United States," Neuropsychologia, vol. 30, no. 7, pp. 601-608, 1992.
3. M. N. A. B. S. V. S. & W. B. W. Juan Lavista Ferres, "Modeling to explore and challenge inherent assumptions when cultural norms have changed: a case study on left-handedness and life expectancy," Arch PublicHealth 81, 2023.
4. R. W. K. N. J. N. John P Aggleton, "Evidence for longevity differences between left," Journal of Epidemiology and Community Health, pp. 206-209, 1993.
5. L. J. Harris, "Do Left-Handers Die Sooner Than Right-Handers? Commentary on Coren and Halpern's(1991) "Left-Handedness: A Marker for Decreased Survival Fitness"," Psychological Bulletin 1993, vol. 114, no. 2, pp. 203-204, 1993.
6. W. C. K. N. T. M. D. H. Kalisch T, "Age-Related Attenuation of Dominant Hand Superiority," 2006. 7. J. M. M. F. a. R. R. I. C. McManus, "Science in the Making: Right Hand, Left Hand. III: Estimating historical rates of left-handedness," vol. 15, no. (1/2), pp. 186-208, 2010.
8. D. K. a. P. Haines, "Instant Notes: Analytical Chemistry," Oxford: Bios Scientific Publishers Limited, vol. 48, no. 2, p. 352, 2002.
9. H. H. PANJER, "MORTALITY DIFFERENCES BY HANDEDNESS: SURVIVAL ANALYSIS FOR A RIGHTTRUNCATED SAMPLE OF BASEBALL PLAYERS," TRANSACTIONS OF SOCIETY OF ACTUARIES, vol. 45, 1993.

**THANK YOU**