

“Speaking Ill of the Dead”

A Statistical Analysis of Media Sentiment Before and After Celebrity Deaths

Titouan Dupleich

Department of Decision Sciences
Bocconi University

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Supervisor: Prof. Alessia Melegaro
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Introduction

“De mortuis nil nisi bonum dicendum est.”
“Of the dead, nothing but good should be said.”

Death positivity bias (DPB)

“Forming more favorable perceptions and appraisals of the dead than the living.” (Allison and Eylon 2005, p. 6)

- Analysis of DPB in online media
- 7600 articles about 38 deceased celebrities (music, film, academia, sports, public affairs)

Motivation

Evidence of DPB

- Obituaries about general public and celebrities (Alfano, Higgins, and Levernier 2018; Heynderickx and Dieltjens 2016)
- ANOVA/Chi-squared on survey-based A/B tests (Allison, Eylon, et al. 2009; Hayes 2016)
- Chi-squared tests on post-death media articles (Rusu 2020)

Limitations of current literature

- Post-death assessment of texts without pre-death comparison
- Few studies on news articles have small sample size (max 697 articles about 8 celebrities)
- Mostly qualitative assessment of DPB

Research Questions

- **RQ1:** Does the media speak more positively about celebrities once they have passed away?
- **RQ2:** Which attributes of celebrities can account for variations in media response?
- **RQ3:** What themes are highlighted by the media before and after celebrities' passing? Can they help explain the death positivity bias?

Article collection

Event Registry Application Programming Interface (API)

- News intelligence platform that gathers online media articles
- Dictionary sentiment

Conditions for selection

- Celebrity name in title
- 100 pre- and 100 post-death articles

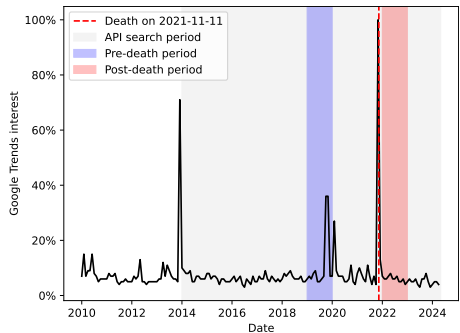


Figure: Example of pre- and post-death period selection for F.W. de Klerk

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Methodology

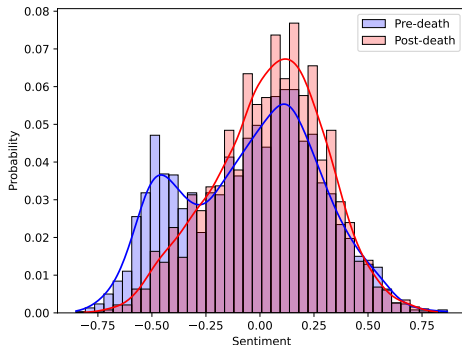


Figure: Probability distributions of pre-death and post-death sentiment for all articles ($n = 7600$)

- 1 One-sided Mann-Whitney U test (Mann and Whitney 1947)
- 2 Effect size: rank biserial correlation (Cureton 1956)
- 3 Bootstrap

$$H_0 : P(Y > X) \leq P(X > Y)$$

$$H_1 : P(Y > X) > P(X > Y)$$

- X : pre-death dist.
- Y : post-death dist.

Results

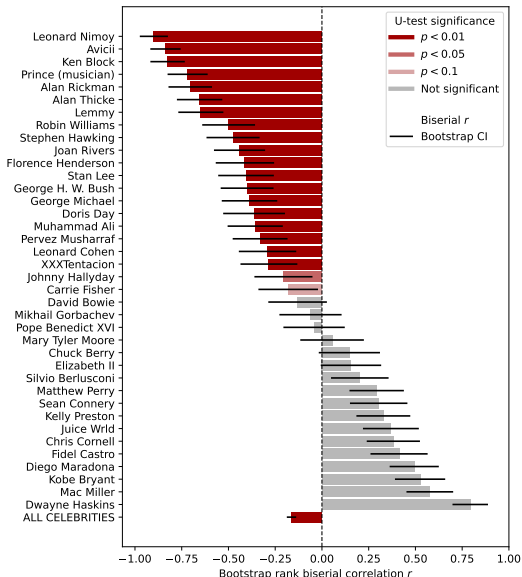


Figure: One-sided Mann-Whitney U-tests and effect sizes

- Evidence of DPB
- Strong signal for some celebrities
- No effect or reverse relationship for others

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Methodology

- Each pre-death article randomly paired with a post-death article about the same celebrity to compute sentiment difference distribution $D = \{d_1, d_2, \dots, d_{3800}\}$:
 - ① x_c : sentiment of random pre-death article about celebrity c
 - ② y_c : sentiment of random post-death article about celebrity c
 - ③ $d_c = y_c - x_c$
- ANOVA test on D based on celebrity features
- Tukey's Honestly Significant Difference (HSD) tests

Results

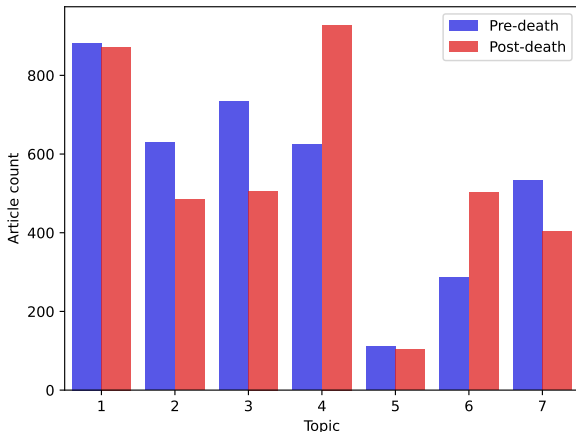
- Industry
 - Strong DPB in entertainment industry (music, cinema)
 - No signal in other industries (sport, public affairs, academia)
- Cause of death
 - DPB for deaths by suicide, illness, assassination, natural, and cardiorespiratory failure
 - No signal for other causes (accident, overdose, undisclosed)
- Age at death
 - The older the celebrity, the stronger the DPB
 - Except for deaths at 90+ years old
- Little to no effect detected for other features

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Methodology and Results

Topic modelling with Non-negative Matrix Factorisation (NMF)



- ① Cinema
- ② Public affairs, leadership
- ③ Music
- ④ Family, tribute
- ⑤ Justice, treason
- ⑥ Crime, drugs
- ⑦ Sport

Figure: Pre- and post-death distributions of articles for each topic

Results (cont.)

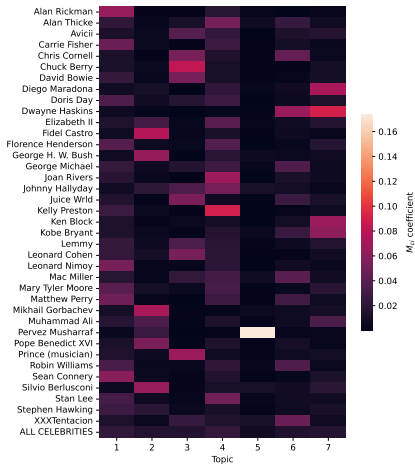


Figure: Heatmap of topic distribution by celebrity

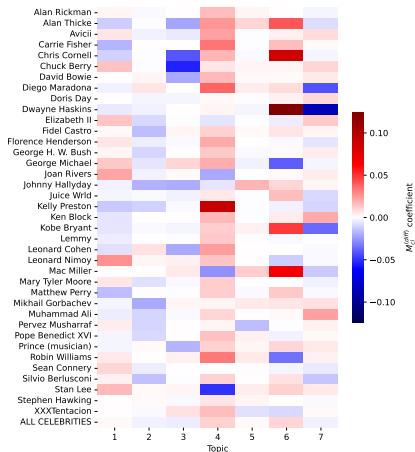


Figure: Heatmap of difference in topic distribution by celebrity

Results (cont.)

- NMF correctly identified topics associated with celebrities
- But, not very useful in explaining the DPB

Discussion

Key takeaways

- RQ1: Evidence of small DPB, in line with previous research (Allison, Eylon, et al. 2009; Hayes 2016)
- RQ2: Especially for entertainment industry and death at older age (except 90+)
- RQ3: 7 relevant topics identified but not explaining DPB

Limitations	Ideas for future research
Short article search periods Mostly focused on US males Dictionary sentiment Sentiment vs. Topic model	Longer periods Extend to other demographics More sophisticated model (Hardeniya and Borikar 2016) Topic-level sentiment (Pathak, Pandey, and Rautaray 2021)

References



Alfano, Mark, Andrew Higgins, and Jacob Levernier (2018). "Identifying virtues and values through obituary data-mining". In: *The Journal of Value Inquiry* 52, pp. 59–79.



Allison, Scott T and Dafna Eylon (2005). "The demise of leadership: Death positivity biases in posthumous impressions of leaders". In: *The psychology of leadership: New perspectives and research* 295.



Allison, Scott T, Dafna Eylon, et al. (2009). "The demise of leadership: Positivity and negativity biases in evaluations of dead leaders". In: *The Leadership Quarterly* 20.2, pp. 115–129.



Cureton, Edward E (1956). "Rank-biserial correlation". In: *Psychometrika* 21.3, pp. 287–290.



Hardeniya, Tanvi and Dilipkumar A Borikar (2016). "Dictionary based approach to sentiment analysis-a review". In: *International Journal of Advanced Engineering, Management and Science* 2.5, p. 239438.



Hayes, Joseph (2016). "Praising the dead: On the motivational tendency and psychological function of eulogizing the deceased". In: *Motivation and Emotion* 40, pp. 375–388.



Heynderickx, Priscilla C and Sylvain M Dieltjens (2016). "An analysis of obituaries in staff magazines". In: *Death studies* 40.1, pp. 11–21.



Mann, Henry B and Donald R Whitney (1947). "On a test of whether one of two random variables is stochastically larger than the other". In: *The annals of mathematical statistics*, pp. 50–60.



Pathak, Ajeet Ram, Manjusha Pandey, and Siddharth Rautaray (2021). "Topic-level sentiment analysis of social media data using deep learning". In: *Applied Soft Computing* 108, p. 107440.



Rusu, Mihai S (2020). "Celebrities' memorial afterlives: Obituaries, tributes, and posthumous gossip in the Romanian media deathscape". In: *OMEGA-Journal of Death and Dying* 80.4, pp. 568–591.