# Cultural Dynamics and Persistence in Baby Naming Trends: An Analysis of Influences and Longevity in the United States

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## Abstract

This report explores the evolving landscape of baby naming trends in the United States, highlighting the influence of cultural factors such as popular media and prominent public figures. By analyzing data spanning from 1910 to 2014, we examine the persistence of popular names and identify gender-specific patterns. Our findings reveal a significant decline in the persistence of boys' names since the 1990s, contrasted with the resilience of girls' names. Additionally, we investigate the impact of actor names on naming conventions using regression models, uncovering substantial correlations between popular actor names and increased name counts in movie titles. These insights underscore the interplay between cultural dynamics and societal preferences in shaping naming trends.

## 1. Introduction

The realm of baby naming trends in the United States has evolved significantly over the years, influenced by a myriad of social and cultural factors. Understanding these influences not only provides insights into societal trends but also reflects broader cultural shifts. As we delve into the data, we observe intriguing patterns such as the impact of popular movie actor names on baby naming conventions. Moreover, analyzing the longevity of these trends reveals whether certain names endure over generations or whether others quickly fade into obscurity.

## 2. Data

This report primarily considers, three data sets. All take the form of panel data. The first details baby naming conventions, providing the the count of a particular name for years ranging from 1910 to 2014. The other two data sets are comprised of actor credits and titles released by HBO. Given that

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**Contributions:**
*So, how about that airline food?.*

both of these data sets shared an ID column referring to a specific title, these data sets were joined into a single. It details, a titles release year, its name, who acted in it, the character they played, its popularity, review score, and so on.

## 3. Naming Conventions

In examining baby naming trends in the United States, one intriguing aspect is the persistence of popular names over time. The agency that we analyse the rank correlation, specifically using Spearman rank correlation, between each year's 25 most popular boys' and girls' names and those of the subsequent three years. This approach allows us to assess whether today's favored names continue to dominate in future years, providing insights into the longevity of naming trends. As such, this investigation aims to confirm or refute the agency's suspicion that since the 1990s, popular name trends have shown reduced persistence compared to earlier decades.
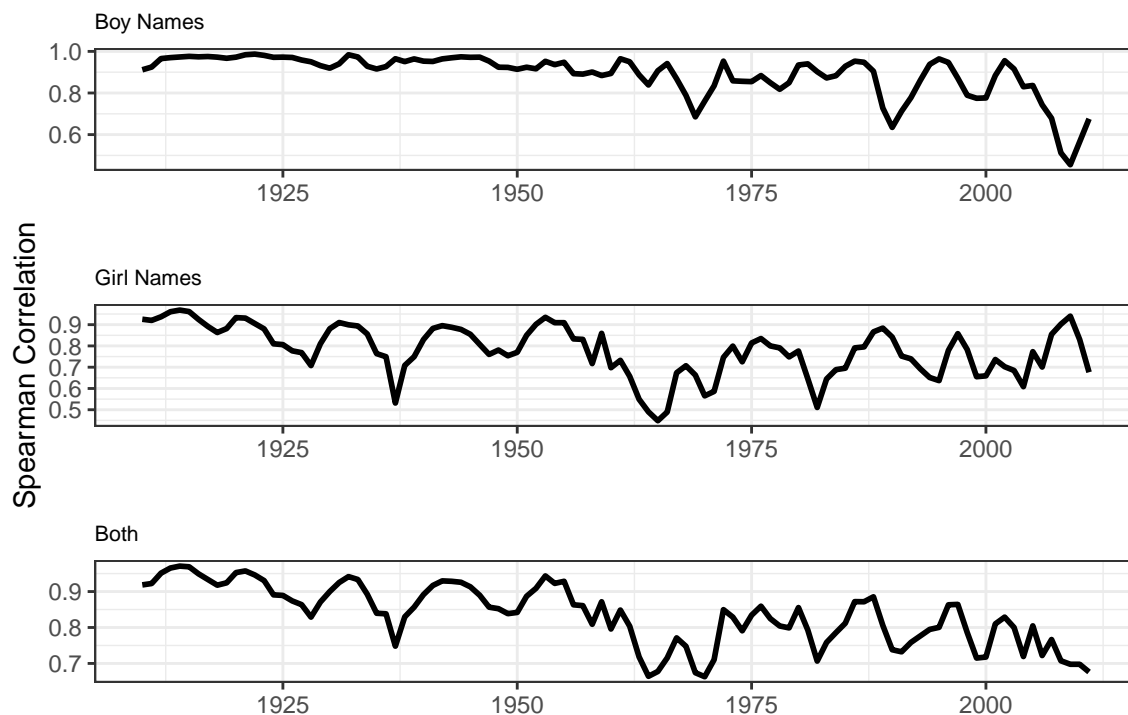


Figure 3.1: Spearman Correlations Over Time.

As can be seen in Figure 3.1, there is a clear divergence in persistence between boys' and girls' naming trends. Boys' names have exhibited a notable decline in staying power since the 90's when compared to earlier decades. In other words, boys have a faster turnover in naming preferences.

In contrast, girls' names have shown greater resilience, consistently maintaining or exceeding their popularity levels from the 1990s. While girls' names experienced fluctuations with occasional peaks, they generally reverted to similar levels over time. When examining both genders collectively, the overall trend reveals a decline in the persistence of popular names across the board. This finding underscores shifting societal influences and perhaps evolving cultural dynamics such as interest in cinematic media.

## 4. Cultural Influences

We see this further in Figure 4.1 and Figure 4.2 below, showing that the top five most popular names overall have all past their peaks for both males and females and that naming conventions, while sticky, do not persist indefinitely. While their are likely many cultural and sociological factors that impact on this change, media is likely one of them.
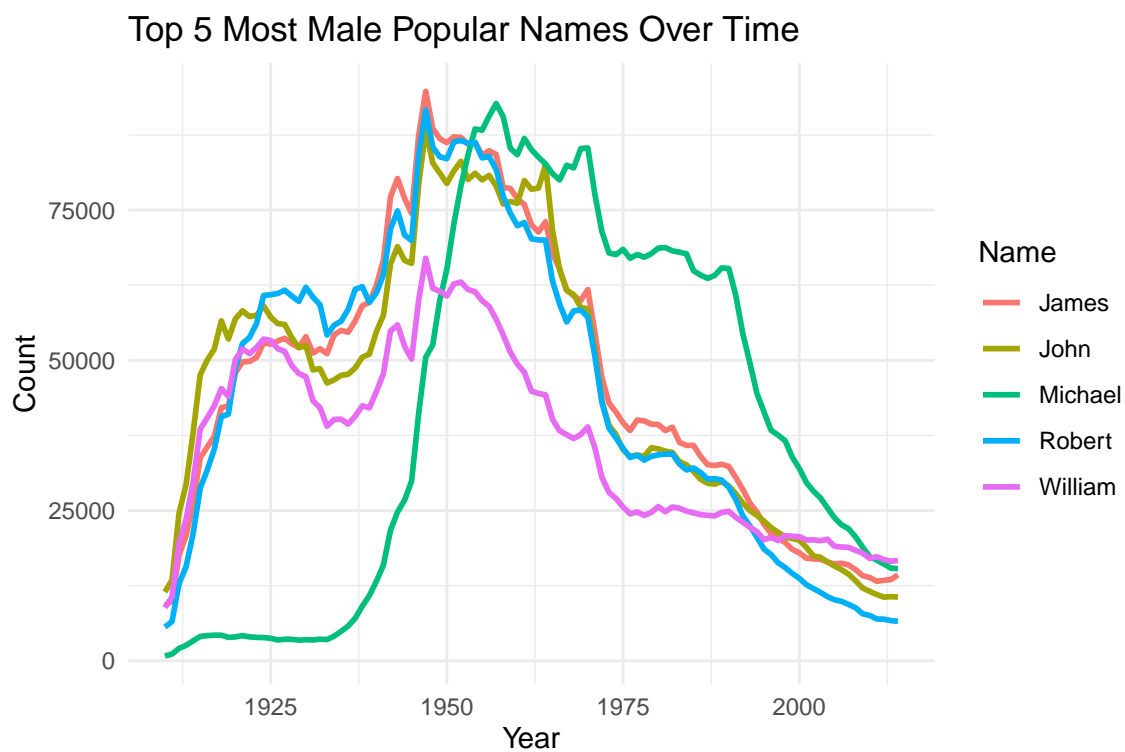


Figure 4.1: Top 5 Male Names Over Time.
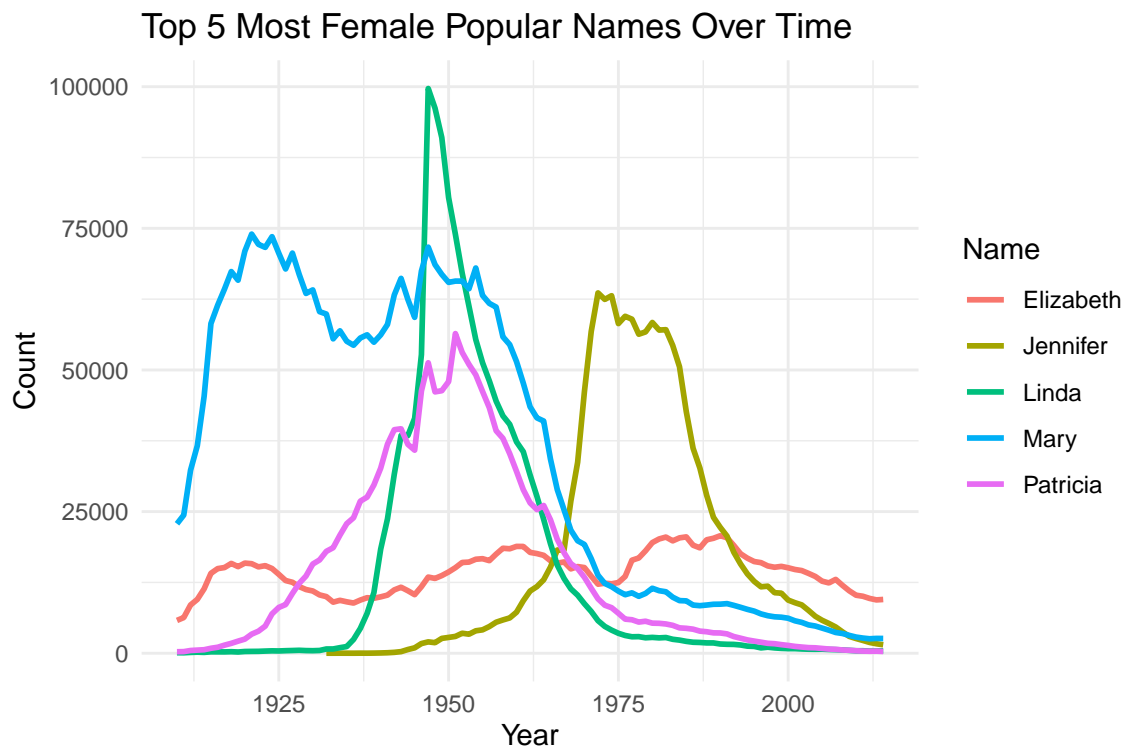
## Top 5 Most Female Popular Names Over Time



Figure 4.2: Top 5 Male Names Over Time.

We examine the potential of media by first joining the baby names data set to the actors and titles data set according to actor name and the titles release year. This gives us the count of a particular name in accordance with the name of the actor in the title for that titles release year. Using this data set, a dummy variable was created to indicate whether an actor with one of the top 5 most popular names for males and females was present. Subsequently, this dummy variable, along with a titles popularity and review score, was regressed on the count of a name in the titles release year using Ordinary Least Squares (POLS) to examine its impact.

|  | POLS | RE | FE |
| --- | --- | --- | --- |
| (Intercept) | -57.228 | 871.472 | |
| | (401.237) | (674.504) | |
| tmdb_popularity | -26.904 *** | -24.013 *** | |
| | (1.787) | (3.238) | |
| imdb_score | 730.198 *** | 555.109 *** | |
| | (58.197) | (98.131) | |
| Top_5_actor | 28911.165 *** | 28614.871 *** | 28416.289 *** |
| | (193.715) | (187.995) | (191.064) |
| N | 29375 | 29375 | 29375 |
| R2 | 0.436 | 0.443 | 0.445 |

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

A Breusch-Pagan test indicates significant heteroscedasticity, suggesting variability in error terms across observations, reinforcing the need for random effects or fixed effects models to account for such variance. Once accounted for, the results for male names highlight significant coefficients across all models, all of which indicate that an actor having one of the top 5 names greatly impacts on name counts for those names. A Hausman test further indicates that the Fixed Effects model is preferable due to its lower P-value, suggesting that unobserved heterogeneity is indeed present and should be accounted for.

|  | POLS | RE | FE |
|---|---|---|---|
| (Intercept) | 639.161 ** | 657.393 ** | |
| | (216.010) | (238.025) | |
| tmdb_popularity | -1.819 | -1.883 | |
| | (0.984) | (1.102) | |
| imdb_score | 143.022 *** | 138.471 *** | |
| | (31.426) | (34.684) | |
| Top_5_actor | 11577.976 *** | 11570.433 *** | 11641.610 *** |
| | (207.870) | (207.399) | (215.951) |
| N | 20653 | 20653 | 20653 |
| R2 | 0.131 | 0.131 | 0.133 |

*** p < 0.001; ** p < 0.01; * p < 0.05.

We see similar results for female names, however in this case a Hausman test provides a larger P-value, indicating that endogeneity may be present and that the Random Effects (RE) for controlling unobserved heterogeneity is prefered. Despite this, we still see a large positive impact on name counts when actress's have one of the top 5 names. Overall, for both male and female names, these findings underscore the substantial impact of actor name popularity naming conventions, providing valuable insights into consumer preferences.

## 5. Conclusion

In conclusion, our exploration into baby naming trends in the United States has unveiled a dynamic landscape influenced by a multitude of cultural and societal factors. Our analysis has shown that while overall naming trends appear to be stabilizing, there are distinct gender-specific patterns. Boys' names exhibit a noticeable decline in persistence since the 1990s, whereas girls' names demonstrate greater resilience over time. These trends reflect evolving cultural dynamics and possibly changing preferences influenced by various media and cultural icons. By linking baby names data with actor credits and title information, significant correlations between the presence of top 5 actor names and increased name counts can be observed. Overall, these findings underscore the intricate interplay between cultural influences, media representation, and societal preferences in shaping baby naming trends. Now take advantage of it and make some money.