What's in a Name? The Hidden Significance of Names in Marriages

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I. Introduction

There may be more to a person's name than most people give credit for. Although the names people are given at birth may seem like a trivial, arbitrary characteristic, they may have an underappreciated power to subconsciously influence preferences and ergo important life decisions. This conclusion can appear untenable at first, but the idea stems from the long-researched theory of implicit egotism. Essentially, the theory suggests that people tend to be attracted to those who have similar characteristics (Pelman et al., 2016). It is well established that this phenomenon arises because other people's resemblance to us elicits positive automatic associations and, thus, facilitates our gravitation toward them.

The effects of implicit egotism have been found to manifest themselves in a variety of associations, including values, beliefs, and physical attributes. However, we are particularly interested in people's names, an arbitrary label that almost always people do not even decide for themselves. Even though names are typically assigned to us without much of our coherent input, they may have the ability to implicitly dictate major life decisions, such as marriage.

Thus, we aim to focus on the effect of implicit self-associations arising from people's names in the context of romantic, interpersonal relationships. It is conceivable that due to the subconscious roles of implicit egotism in forming positive self-associations, people with similar names tend to have a higher likelihood of being attracted to one another. In this paper, we will examine how the similarity of partners' first names are associated with rates of marriage. We posit that marriages between partners with names starting with the same first letter exhibit a significantly higher occurrence than what would be predicted by random chance.

II. Literature Review

Humans' tendency to implicitly favor symbols, objects, and people that resemble us has been proven in multiple contexts. For instance, there is substantial evidence demonstrating that people prefer the letters in their own names over letters that do not appear in their own names, also known as the name-letter effect (Jones et al., 2002 & Nuttin, 1985). This preference emerges due to an unconscious enhancement of the value of the symbols – in this case, letters – associated with the self. Analogously, Jones et al. (2002) also revealed that people also prefer the numbers in their own birthdays than other numbers, another outcome that further bolsters the hypothesis of positive self-association.

Moreover, these favorable self-associations are not simply due to mere exposure (Jones et al., 2002 & Pelham et al., 2016). In other words, implicit egotism is not just a result of people preferring stimuli that they have been exposed to more often. Even though it is likely that people are frequently exposed to their own names, such as when they label documents and objects with their name, this alone does not explain why there is a significant preference for letters that are in their own name. The fact that people tend to prefer the letters in their name over the most common letters in the English alphabet is more consistent with the development of positive self-associations than it is with mere exposure (Jones et al., 2002).

Implicit self-associations can even predict major life decisions. Pelham et al. (2002) portrayed the effect of implicit egotism on the state people choose to live in, as well as career choice. For instance, women named Florence, Georgia, Louise, and Virginia were all significantly more likely than random chance to move to the respective states Florida, Georgia, Louisiana, and Virginia. Additionally, people whose first names begin with 'G,' 'Ge,' or 'Geo' were disproportionately likely to pick a career in geosciences. At odds with this outcome, however, is the opposite conclusion found by Gall (2003). Gall utilized the same theory and data to replicate this study and found that implicit egotism does not in fact influence an individual's decision to move to a certain city or pursue a certain career, contending that the method used in the original paper was subject to spurious effects and sampling biases.

Given the great deal of exposure, whether confirming or debunking, surrounding positive self-associations ascribed to people's names, one extension to the extant research is how this effect might come into play in interpersonal relationships. Our study will make this advancement in the literature. Pelham and Carvallo (2015) found that people are more likely to marry those who share the same birthday numbers. Jones et al. (2004) provided support for a significant first-initial matching effect. In other words, they underscored that people disproportionately are attracted to and marry others who have the same first initial. Their studies computed and compared the expected number of couples whose first initials matched if pairings were to occur by chance to the actual numbers of married couples whose first initial matched. The confounder of ethnic matching – that is, different ethnicities varying in initial letter frequency and preferences – was minimized by utilizing ethnically homogenous samples.

However, we argue that the possibility of geographic relocation makes the expected number of couples matching in their first initials an inconsistent basis of comparison. For instance, one person from California may meet another from Illinois and get married in Hawaii. Then, a sample number computed based on the population of Hawaii would be an inaccurate basis of comparison because neither member of the pair is originally from Hawaii. In fact, Simonsohn (2011) reveals that when geographic and ethnic heterogeneity are controlled for, the name-similarity effects we see arising from implicit egotism disappear. This gives us reason to believe that the results from previous studies showing people disproportionately making major life decisions based on name-similarity may be spurious. The application to marriages and first name matches has not, however, been studied. Thus, our goal is to determine whether controlling for ethnicity and geography extinguishes the effect of implicit egotism in the context of marriages. While the task to completely eliminate any geographical relocation in a sample is nigh impossible based on the limitations of available data, our study aims to minimize this effect by sampling from geographies where residents tend to stay in for the majority of their lives, such as cities in the Southern U.S.

III. Data

We focused on the state of West Virginia because it has proven to be one of the least ethnically diverse and geographically mobile states in the U.S. This enabled us to control for confounders arising both from ethnicity, as well as the possibility of residents moving in and out of the state and thus contorting our population statistic. We were able to rely on the state government of West Virginia to supply us with the four key pieces of data we need. First, the state government provides a comprehensive list of marriage records dating as far back as 1780 up until 2000 from different counties in West Virginia. Using these data, we determined the number of marriages that match in first initial in a given county.

Additionally, the state government grants access to birth records starting from the 1790 to 2000. We used these birth data as a proxy for the number of people with first names starting with each of the 26 letters of the alphabet. These estimations became our population statistic that described the expected number of marriages that match in first initial if pairings were to be made randomly.

Third, the state government also details the demographics of the counties' populations starting from 1790 to 2010. This afforded us information on the ethnic makeup of the West Virginia counties. Thus, we were able to control for ethnicity by strategically selecting a county that displays significant levels of ethnic homogeneity.

The fourth and final component in our dataset was derived from the Health Statistics Center from the West Virginia state government. These data measure net migration in and out of each county from 1950 to 2000, which gave us an estimate for the geographic mobility. Due to the discrepancy in the date range of these data and the aforementioned pieces of data, this required an extrapolation to be made about the geographic mobility of the counties in dates prior to 1950. However, it is conceivable that counties that consistently demonstrate high levels of immobility across the decades from 1950 to 2000 would have also been immobile in earlier years, relative to other counties that were not consistently immobile from 1950 to 2000. From 1950 to 2000, we ranked counties by decade based on how many migrants there were in and out of the county, with 1 being the least amount of migration and 55 being the most. Across the five decades, we added up the rankings for each county. Thus, we focused on the county with one of the lowest aggregate rankings, representing the lowest geographic mobility.

Based on the criteria for ethnic homogeneity and geographic immobility, we identified Clay as the county we proceeded with in our analysis. Clay exhibits minimal diversity in ethnicity, as well as a low percentage of net migration in and out of the county. In terms of ethnic demographics, the Clay population identified as 99% white, on average with a standard deviation between 0 and 1, across the years 1860 to 2010, which validates our assumption of very strong ethnic homogeneity for our sample. For geographic immobility, Clay was one of the least mobile counties, exhibiting a weighted average of the total net migration over the years 1950 to 2000 of -18%.

IV. Method

In order to test our hypothesis – namely, that couples with same first initial are more likely to get married – we used a Chi-Squared Test comparing the *observed* instances where the first initials for a married couple match to the *expected* number of instances that the first initials match. In other words, we compared the actual number of observed pairings that match in first initial to the theoretical prevalence of pairings that match in first initial under randomness. The Chi-Squared formula is as follows:

$$X^2 = \Sigma \frac{(o-e)^2}{e}$$

We required *o*, the observed number of first initial couple matches, and *e*, the expected number of first initial couple matches for all twenty six letters of the alphabet. To calculate *o*, the observed number, we aggregated the number of married couples who match in first initial that occurred for a given period of time. To calculate *e*, we first found the number of male and female names that begin with each letter of the alphabet. We then multiplied the male proportion with the female proportion for each letter of the alphabet. Finally, we summed these 26 products, giving us the expected number of couples that match in first initial if marriages were to occur by random chance. For instance, if 3% of the female first names and 3% of the male first names in a given county began with the letter 'A,' then, by random pairings, we would expect 3% × 3%, or 0.09%, of the couples in the total sample to both have first names starting with 'A.'

In our calculation of these observed and expected values, we analyzed a decade of marriages occurring from 1937 to 1947 in Clay county. Our selection of this particular decade can be attributed to one key reason: we utilized birth records as a proxy for estimating the number of Clay residents that had first names starting with each letter of the alphabet, and based on the availability of birth records we had, we were limited to marriages falling within the specified range. For instance, births ranging from 1892 to 1919 correspond to marriages occurring in 1937. We started our birth sample at 1892 because this is the earliest date where birth data exist for each and all letters of the alphabet. We ended our birth sample at 1919 for two reasons: first, we assumed the marriable pool of the population to have ages ranging from 18 to 45, and second, the number of birth observations we have access to beyond 1920 decreased significantly (e.g. a reduction from 1,058 birth records in between 1911-1920, to 217 between 1921-1930, and to 0 from 1931-1940) (West Virginia Legislature, 2023; Statista, 2022). The first assumption, pertaining to the size of the marriable pool, is based on the legal marriage age of 18 and the life expectancy of 45 years of the U.S. population in 1892. This marriable pool corresponded to real marriage occurrences of 1937. The second assumption, pertaining to the number of birth observations we have access to, limited our analysis such that there was no proxy for the frequencies of different first names for marriages occurring after 1946.

From here, to generate our expected number of first initial matches in marriages, we created two-year marriage cohorts, starting in 1937-1938 and corresponding to the birth cohort from 1892-1919. The reason we constructed a two year marriage was to expand the number of observations used to calculate our Chi-Squared test statistic to minimize error attributable to a small sample size. We then incremented these date ranges by one year generating a table of 10 columns each representing the number of first initial pairings for each two year span (*see Table III below*) to capture the change in the number of individuals with various first letters of their first names. Finally, we aggregated the marriages by year, pooling them to create an aggregate pool of marriages over the 10-year timespan.

The reason we aggregated the marriage values was because we recognized that our marriage ranges by the two-year range specified, while indeed leaving a sample size in the hundreds, may not be adequate in order to properly draw statistical significance due to the fact that there are so many different permutations of first letters in first names that can be created. Thus, specifications for the year range may capture too small a sample size required to answer our question, yielding statistically errant results. To better understand this, consider the expected marriages for ‘B’ and ‘B’ pairings for the birth cohort from 1898-1925, which was 0.53 (*see Table III below*); however, marriages are discrete, either 1 or 0. If we have an inadequate amount of data, then, the significance of our results may be inaccurate by the fact that we have an inadequate number of data points to answer our question properly.

In order to avoid this issue, then, we pooled data from the different time ranges for both observed and expected values and calculated the Chi-Squared statistic accordingly. Put another way, we summed across the years and cohorts for the expected and observed marriages and then calculated an aggregate measure that allowed us to increase the number of observations significantly and test our hypothesis again in light of statistical concerns. For curiosity's sake, we included the Chi-Squared test statistics and p-values by our two-year marriage range specifications and found that there was indeed a sample size story here – our two-year marriage ranges yielded p-values insignificant while our aggregate specification yielded statistically significant results.

V. Results

Our results are summarized in Tables 1-3 below:

Table I: Chi-Squared Values by Birth Cohort and Marriage Range

Birth Cohort	**1892-1919**	**1893-1920**	**1894-1921**	**1895-1922**	**1896-1923**	**1897-1924**	**1898-1925**	**1899-1926**	**1900-1927**	**1901-1928**	**Aggregates**
Marriage Range	**1937-1938**	**1938-1939**	**1939-1940**	**1940-1941**	**1941-1942**	**1942-1943**	**1943-1944**	**1944-1945**	**1945-1946**	**1946-1947**	**Marriages**
Total Marriages	**332**	**281**	**163**	**219**	**275**	**252**	**259**	**281**	**392**	**416**	**2870**
A	0.09	0.01	0.64	0.02	0.76	0.00	0.00	0.85	1.57	0.12	0.77
B	0.77	0.63	0.36	0.46	0.58	0.53	0.41	3.45	0.03	0.01	0.23
C	1.82	1.59	0.92	1.22	0.18	0.12	0.13	0.19	2.21	2.39	9.05
D	0.01	0.05	0.48	0.16	0.02	0.84	0.03	0.01	0.08	0.26	0.00
E	0.01	0.83	1.03	1.33	0.07	1.39	1.23	0.04	0.08	0.14	0.58
F	0.33	0.28	0.17	0.23	0.29	0.28	0.28	0.30	0.41	0.44	3.01
G	4.25	5.83	0.56	0.19	0.06	0.73	0.75	0.81	0.03	2.36	2.48
H	0.72	0.62	0.34	0.49	0.24	0.34	0.58	0.21	0.02	0.92	0.87
I	0.11	0.09	0.05	0.07	8.71	9.39	0.09	0.10	0.13	0.15	1.05
J	0.51	0.75	2.22	0.32	1.06	1.30	7.95	19.00	0.59	4.27	16.69
K	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.08
L	1.41	0.42	0.75	1.00	0.04	0.75	0.01	1.21	1.62	1.70	0.99
M	1.33	1.10	0.63	0.87	0.01	0.00	1.05	1.15	0.11	1.04	1.79
N	5.76	7.44	0.06	0.08	0.10	0.09	0.09	0.10	5.18	5.11	8.32
O	0.21	4.06	8.56	0.13	0.17	0.15	0.16	4.07	2.57	0.24	2.99
P	0.15	0.13	0.07	0.09	0.11	0.11	0.11	0.12	0.18	0.18	1.25
Q	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
R	0.03	0.15	0.01	2.48	1.21	1.64	1.47	0.28	2.37	0.09	0.72
S	0.73	0.36	0.22	0.27	0.32	1.93	1.84	0.31	0.43	0.47	0.04
T	0.18	0.15	0.09	0.12	0.16	4.72	4.39	0.18	0.26	0.29	0.04
U	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
V	0.26	0.23	0.14	0.19	0.25	0.23	0.24	2.04	1.13	0.36	0.11
W	0.35	0.28	0.15	2.89	10.83	2.17	0.26	0.29	0.41	0.43	0.40
X	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Y	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Z	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Chi-Sq. Sum	**19.05**	**25.02**	**17.45**	**12.64**	**25.18**	**26.72**	**21.08**	**34.72**	**19.43**	**20.99**	**51.50**
P-Value	**0.79**	**0.46**	**0.86**	**0.98**	**0.45**	**0.37**	**0.69**	**0.09**	**0.78**	**0.69**	**0.0014*** **
df =	**25**										**25**

Table II: Observed Marriages in Date Range for Couples with the Same Letter of the First Name

Marriage Range	1937-1938	1938-1939	1939-1940	1940-1941	1941-1942	1942-1943	1943-1944	1944-1945	1945-1946	1946-1947	Aggregates
Total Marriages	332	281	163	219	275	252	259	281	392	416	2870
A	1	1	0	1	2	1	1	2	3	2	14
B	0	0	0	0	0	0	1	2	1	1	5
C	0	0	0	0	1	1	1	1	0	0	4
D	1	1	0	1	1	0	1	1	1	2	9
E	2	3	2	0	2	3	3	2	2	2	21
F	0	0	0	0	0	0	0	0	0	0	0
G	3	3	1	1	1	0	0	0	1	3	13
H	0	0	0	0	1	1	0	1	1	0	4
I	0	0	0	0	1	1	0	0	0	0	2
J	0	1	1	0	1	1	2	3	1	2	12
K	0	0	0	0	0	0	0	0	0	0	0
L	3	2	0	0	1	2	1	0	0	0	9
M	0	0	0	0	1	1	0	0	2	3	7
N	1	1	0	0	0	0	0	0	1	1	4
O	0	1	1	0	0	0	0	1	1	0	4
P	0	0	0	0	0	0	0	0	0	0	0
Q	0	0	0	0	0	0	0	0	0	0	0
R	2	2	1	3	3	3	3	1	0	2	20
S	1	0	0	0	0	1	1	0	0	0	3
T	0	0	0	0	0	1	1	0	0	0	2
U	0	0	0	0	0	0	0	0	0	0	0
V	0	0	0	0	0	0	0	1	1	0	2
W	0	0	0	1	2	1	0	0	0	0	4
X	0	0	0	0	0	0	0	0	0	0	0
Y	0	0	0	0	0	0	0	0	0	0	0
Z	0	0	0	0	0	0	0	0	0	0	0
Total Same	**14**	**15**	**6**	**7**	**17**	**17**	**15**	**15**	**15**	**18**	**139**

[1] *Total Same* represents the total number of marriages *observed* to have couples with the same letter of their first names by marriage range according to WV data

Table III: Expected Number of Marriages from Specified Birth Cohort with the Same Letter of the First Name

Birth Years	1892-1919	1893-1920	1894-1921	1895-1922	1896-1923	1897-1924	1898-1925	1899-1926	1900-1927	1901-1928	Agregates
A	1.35	1.09	0.64	0.86	1.09	0.97	0.98	1.05	1.48	1.57	11.08
B	0.77	0.63	0.36	0.46	0.58	0.53	0.53	0.58	0.85	0.91	6.20
C	1.82	1.59	0.92	1.22	1.52	1.40	1.43	1.55	2.21	2.39	16.06
D	0.89	0.80	0.48	0.67	0.87	0.84	0.85	0.92	1.32	1.40	9.04
E	2.11	1.78	0.99	1.33	1.67	1.54	1.60	1.73	2.46	2.59	17.79
F	0.33	0.28	0.17	0.23	0.29	0.28	0.28	0.30	0.41	0.44	3.01
G	0.97	0.82	0.48	0.65	0.79	0.73	0.75	0.81	1.17	1.27	8.43
H	0.72	0.62	0.34	0.49	0.61	0.56	0.58	0.64	0.87	0.92	6.35
I	0.11	0.09	0.05	0.07	0.09	0.09	0.09	0.10	0.13	0.15	0.98
J	0.51	0.43	0.25	0.32	0.37	0.34	0.34	0.37	0.47	0.52	3.92
K	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.08
L	1.53	1.27	0.75	1.00	1.22	1.09	1.13	1.21	1.62	1.70	12.52
M	1.33	1.10	0.63	0.87	1.13	1.01	1.05	1.15	1.59	1.68	11.54
N	0.13	0.11	0.06	0.08	0.10	0.09	0.09	0.10	0.14	0.14	1.05
O	0.21	0.17	0.10	0.13	0.17	0.15	0.16	0.17	0.23	0.24	1.73
P	0.15	0.13	0.07	0.09	0.11	0.11	0.11	0.12	0.18	0.18	1.25
Q	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
R	1.76	1.52	0.93	1.24	1.60	1.45	1.51	1.68	2.37	2.49	16.55
S	0.43	0.36	0.22	0.27	0.32	0.27	0.28	0.31	0.43	0.47	3.37
T	0.18	0.15	0.09	0.12	0.16	0.15	0.16	0.18	0.26	0.29	1.73
U	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
V	0.26	0.23	0.14	0.19	0.25	0.23	0.24	0.26	0.36	0.36	2.53
W	0.35	0.28	0.15	0.21	0.27	0.26	0.26	0.29	0.41	0.43	2.92
X	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Y	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Z	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Total Same	**15.91**	**13.47**	**7.82**	**10.53**	**13.23**	**12.10**	**12.44**	**13.53**	**18.97**	**20.15**	**138.14**

[1] Precise expected number of marriages are calculated by taking the expected proportions and then multiplying across by the total marriages in the specific year range in Exhibit II to get the total number of expected marriages for couples with the same letter of the first name

[2] *Total Same* represents the total number of marriages *expected* to have couples with the same letter of the first names by birth cohort

We found results significant at the 1% level ($p = 0.0014$) in Clay marriages that occurred between 1937 to 1947. In other words, we discovered only a .14% chance that married couples match in first initial purely due to random chance.

Interestingly, the Chi-squared statistic was largest – and by far – for individuals with first names starting with the letter 'J,' with a $X^2 = 16.69$. This means the difference between the observed and the expected number of married couples matching in first initial was greatest for couples with first initial 'J.' On the other hand, marriages with individual names starting with 'D,' 'Q,' 'X,' and 'Y' had the lowest Chi-squared statistic, all with with $X^2 = 0.00$, demonstrating this effect was not prevalent for couples with these first initials.

VI. Discussion

The extant literature gives reason to believe there is an implicit egotism effect in significant life choices, such as marriages, and our study reveals this is also the case for marriages occurring in Clay from 1937 to 1946. In particular, we saw a number of marriages occurring between individuals who share the same first initial that was disproportionately higher than what we would expect from random pairings. We have reason to believe that individuals form positive self-associations surrounding others who have the same first letter of their name, and the effect is so great that it carries over in the choice of spouse. When letters were individual analyzed, we found that those with names starting with 'J' see this effect to an even greater degree. Those with a 'J' name are even more likely to marry others with a 'J' name, compared to any other first initial.

Because we have controlled for significant confounding variables by focusing on a very specific subset of the U.S., our study portrays high internal validity but low external validity.

Internal and external validity are often inversely related, and we emphasized the former due to constraints in data availability. Under circumstances involving greater access to more data, it would be of interest to determine whether these results apply to various ethnicities and geographies in the U.S.

We faced limitations in the measurement of two variables: geographic mobility and population name frequency. First, because our geographic mobility dataset only spanned 1950 to 2000, we were forced to extrapolate these statistics into earlier years. Second, the best data we could source for determining overall population name frequency were birth records. What would have given us the most accurate estimation of this variable would have been exact numbers of name frequencies at any given time.

Furthermore, our observed number of couples matching in first initial is calculated on the basis of heterosexual relationship pairings only. However, we have reason to believe that the county we focused on in our research is, in fact, predominantly heterosexual as data show that 96% of the West Virginia population identify heterosexual (The Williams Institute, 2023). Thus, our county selection of Clay also acted as a control for the sexuality variable.

It would be of interest to determine what factors might act as either mediators or moderators in the formulation of positive self-associations through implicit egotism. Future studies should strive to understand the different circumstances (e.g. situations that threaten one's sense of self, frequency of other similarities in addition to first initial, degree of name similarity, etc.) that might increase or decrease the likelihood of an intimate relationship, like marriage, developing between two individuals.

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