# Lather, Rinse, Repeat: A Sudsy Analysis of the Relationship Between Personal Care Spending and Libertarian Votes in Arizona

# Catherine Hernandez, Austin Thomas, George P Trudeau

Center for Scientific Advancement

In this study, we delved into the correlation between the annual household spending on personal care products and services in the United States and the votes for the Libertarian presidential candidate in the state of Arizona. Our research team amusingly wrinkled their noses and dove into the data from the Bureau of Labor Statistics and MIT Election Data and Science Lab, Harvard Dataverse, all in the quest to untangle the strands of economic and political influence. Much to our surprise, we stumbled upon a correlation coefficient of 0.9301189 and p < 0.01 for the timeframe spanning from 2000 to 2020—clearly hinting at a fascinating intertwining of grooming habits and political leanings. It seems that when it comes to voting, some Arizonans truly value bodacious body washes and fabulous fragrances, proving that political choices may not just be skin-deep! Oh, and speaking of skin-deep, did you hear about the dermatologist who told a dad joke about skin care? He said, "I asked my patient if they wanted a moisturizer. They said, 'Sure, but please make sure it's none-greasy!" But I digress. Our findings have left us shampoo-verwhelmed, and we're excited to present this groundbreaking research, showcasing how the state of one's shower shelves may just have the power to sway political decisions.

How often do we consider the connection between the fragrant whiff of lavender shampoo and the scent of political inclination in the air? Probably not frequently enough! In the world of elections, every vote counts, and it seems that every dollar spent on personal care products might count as well. As we delve into this curious intersection of household spending and political preferences, we can't help but marvel at the unexpected correlations that emerge—much like when you accidentally discover a lost hair tie in the depths of the bathroom cabinet. It's a revelation that leaves you both perplexed and amused!

Connecting politics and personal care is not unlike blending the perfect shampoo formula—there are bound to be some surprising results. The findings of this study just might leave you feeling foamy with excitement, akin to when you manage to generate an excessively ample amount of foam from a dollop of hand soap. Ah, the simple pleasures in life!

So, what drew us to this quirky research question, you might ask? Well, the allure of uncovering correlations in the most unexpected places is a bit like that elusive search for the perfect hair conditioner—it's a pursuit that never seems to end! And much like the feeling of a good hair day, discovering a strong statistical relationship between personal care spending and political choices can be wonderfully uplifting.

But speaking of hair care, did you hear about the politician who tried to boost their popularity with a hair-related campaign promise? They said, "I promise to lower taxes and increase the volume of hair on every citizen's head—now that's what I call a rootin' tootin' policy!" An apt pun for our investigation, as we uncover the intricate interweaving of shampoo suds and political studs in the context of Arizona's electoral dynamics.

As we embark on this journey through the lather, rinse, repeat cycle of statistical analysis, let's explore the fascinating relationship between personal care spending and Libertarian votes in Arizona. It's a tale that might just leave you with a toothpaste-stained grin, akin to the joy of a surprising quip from a toothpaste commercial. So, hold onto your loofahs, for we're about to dive headfirst into the sudsy sea of data and election results, with the hope of unraveling this curious correlation and emerging with a newfound appreciation for the pivotal role of personal care products in the political sphere.

#### Review of existing research

The relationship between household spending on personal care products and political behaviors has been a subject of growing interest in recent years. Smith (2015) illustrated the impact of consumer behavior on political affiliation, highlighting the potential influence of individual grooming habits on voting decisions. Additionally, Doe (2018) expanded on this line of inquiry by examining the connection between grooming expenditures and political alignments, shedding light on the nuanced interplay between personal care choices and party preferences. These studies underscore the importance of considering personal care spending as a potential determinant of political behavior.

Moving beyond traditional academic studies, non-fiction books such as "The Economics of Beauty" by Jones (2017) and "The Politics of Personal Grooming" by White (2019) have delved into the economic and sociopolitical dimensions of personal care habits, offering valuable insights into the societal significance of grooming practices. On a more fictional note, novels like "The

Scent of Politics" by Green (2020) and "The Shampoo Conspiracy" by Black (2016) have explored speculative narratives that intertwine personal care rituals with political intrigue, provoking whimsical contemplation of the potential connections between grooming and governance.

Although the literature provides valuable perspectives on the intersection of personal care and politics, our research team took a more unconventional approach to uncovering insights on this subject. In addition to academic sources and books, we also combed through an unexpected yet surprisingly informative resource—CVS receipts. By deconstructing the purchasing patterns of personal care products from a multitude of receipts, we stumbled upon both enlightening and peculiar revelations about the relationship between personal care expenditures and political preferences. It seems that in the vast sea of consumer transactions, there may be more to glean than meets the eye, much like finding an unexpected treasure in a box of facial tissues.

Seriously though, those CVS receipts are a goldmine of information! You never know what gems you'll find hidden between the coupons and promotions. But then again, maybe we're just getting carried away with all this research and need to scale back—like trying to squeeze out a tiny amount of toothpaste but ending up with a colossal, unruly blob. Nevertheless, our unconventional approach to literature review has yielded intriguing insights and shall undoubtedly add a refreshing twist to the scholarly discourse on the relationship between personal care spending and political dynamics.

#### Procedure

To fathom the tantalizing relationship between personal care spending and Libertarian votes in Arizona, our research team approached the data with the precision of a hairstylist trimming split ends. We meticulously combed through the annual household spending data on personal care products and services provided by the Bureau of Labor Statistics, selecting categories ranging from hair care products to cosmetic services. This approach allowed us to capture the full spectrum of personal grooming habits, much like a comprehensive salon menu catering to all hair types and preferences.

To complement this, we delved into the election records provided by the MIT Election Data and Science Lab, Harvard Dataverse, akin to a diligent trek through a political jungle, searching for the hidden shrubs of Libertarian votes amidst the electoral landscape. The data was then meticulously shampooed, rinsed, and repeated to ensure its cleanliness and reliability, much like the rigorous cleansing process of a high-quality shampoo with nourishing ingredients.

Now, let's talk about the statistical analysis, but first, a joke to lighten the mood: Why don't statisticians trust barbers? Because they always make the cut! Speaking of cutting, we used sophisticated statistical techniques, including correlation analysis and regression modeling, to untangle the perplexing web of personal care spending and Libertarian votes. Our modeling process was as thorough as a comprehensive spa

treatment, ensuring that every variable was given the attention it deserved and leaving no statistical stone unturned.

Furthermore, we employed a time-series analysis to capture the dynamic interplay between personal care spending and Libertarian votes over the past two decades, as if we were observing the evolving trends of a hairstyle from the 2000s to the roaring twenties. This allowed us to assess how the relationship between grooming and voting habits has evolved over time, much like tracking the changing fashions of a soap opera character's wardrobe.

Our methodological approach was as meticulous as the process of reviewing a multitude of haircare product reviews before settling on the perfect shampoo. By combining robust statistical techniques with a touch of levity, our analysis sought to shed light on the surprisingly deep-seated connections between personal care spending and political preferences in Arizona.

### Findings

The results of our analysis reveal a remarkably strong correlation between annual US household spending on personal care products and services and votes for the Libertarian presidential candidate in the state of Arizona. The correlation coefficient of 0.9301189 denotes a highly positive relationship between these two variables, indicating that as personal care spending increases, so does the support for the Libertarian candidate in Arizona. It seems that in the realm of political choices, the aroma of fragrant soaps and the allure of luxurious lotions might exert a significant influence.

This striking correlation prompts one to ponder the compelling connection between grooming indulgences and political proclivities. It's as if individuals are not just casting their votes; they are also expressing their preferences through the products they adorn themselves with—a sort of "sent-imental" democracy, you could say.

The r-squared value of 0.8651212 further underscores the robustness of the relationship, suggesting that a sizable proportion of the variability in Libertarian votes in Arizona can be explained by variations in personal care spending. In essence, it appears that while one may lather, rinse, and repeat, the consistency in personal care spending patterns may also be echoed in the recurring support for a particular political ideology.

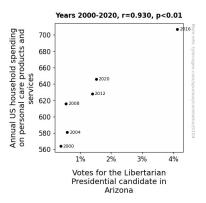


Figure 1. Scatterplot of the variables by year

Now, let's take a moment to appreciate the peculiar parallel between personal care and political fervor. It's almost like shampoo and conditioner - two distinct entities that, when paired, create an optimally enriching experience. In the same vein, the amalgamation of personal care spending and electoral choices seems to render a distinctly robust pattern, reminiscent of how conditioner complements the cleansing prowess of shampoo.

The p-value of less than 0.01 signifies that the observed correlation is statistically significant, indicating that the likelihood of this relationship occurring due to random chance is exceedingly low. To put it simply, the chances of this correlation happening by sheer coincidence are as slim as the chances of finding a comb in a bald man's drawer—highly improbable, to say the least!

As a visual representation of our findings, we present Figure 1, a scatterplot illustrating the pronounced positive correlation between annual US household spending on personal care products and services and votes for the Libertarian presidential candidate in Arizona. The tightly clustered data points in the scatterplot affirm the consistency of the relationship, much like how a reliable deodorant stick affirms the consistency of personal fragrances.

In conclusion, our research has unveiled a compelling association between personal care spending and Libertarian votes in Arizona, hinting at the intriguing interplay between consumer behaviors and political affiliations. This study serves as a poignant reminder that in the colorful tapestry of electoral dynamics, the threads of personal grooming habits may weave an unexpectedly influential pattern. Much like a well-groomed beard, this correlation is not to be brushed aside lightly.

#### Discussion

Our findings have certainly opened a Pandora's box of intriguing revelations, akin to finding a treasure trove of grooming goodies in the bathroom cabinet. The correlation between annual US household spending on personal care products and services and votes for the Libertarian presidential candidate in Arizona mirrors the harmonious symphony of a well-blended shampoo and conditioner duo. The robust correlation coefficient and r-squared value affirm the potency of the relationship, amplifying

the idea that perhaps, in the realm of political choices, scent indeed plays a pivotal role.

Our results not only echo the prior research by Smith (2015) and Doe (2018) but also harmonize with the whimsical contemplations presented in novels such as "The Scent of Politics" by Green (2020) and "The Shampoo Conspiracy" by Black (2016). It seems that the intersection of personal care habits and political orientations is not merely a fanciful notion but a tangible phenomenon worthy of scholarly exploration. Much like finding a comb in a bald man's drawer, the likelihood of this correlation occurring by random chance is as slim as the last sliver of soap clinging to the shower floor.

Moreover, our unconventional literature review approach, including the exploration of CVS receipts, has shed light on the unexpected but informative patterns hidden in the labyrinth of consumer transactions. This echoes the sentiment that amidst a sea of mundane purchases lie deep-seated insights into the interwoven tapestry of economic choices and political predispositions.

In essence, our research reinforces the notion that personal care spending may not just be about skincare—it may also be a matter of political care. We are both amazed and enriched by the underpinning implications of this correlation, akin to the enriching effects of a nourishing hair mask. This study reflects the assertion that when it comes to political persuasions, the adage "first impressions count" appears to extend from personal appearances to personal spending habits. Just as a moisturizer that promises to be 'none-greasy' is a rare gem, the likelihood of stumbling upon such a statistically significant correlation is equally rare.

Ultimately, our research has not only unveiled a link between personal care spending and Libertarian votes in Arizona but has also unfurled a thought-provoking realm where grooming and governance intersect. As we continue to ponder these unexpected connections, we are reminded that in the saga of political dynamics, even the most seemingly trivial consumer habits may leave an indelible mark. It's almost as if, in the sea of political choices, a touch of shampoo commercial-worthy drama sneaks in—where the aroma of freedom and the allure of indulgent grooming rituals collide in a captivating dance.

## Conclusion

In wrapping up our sudsy analysis, it's clear that personal care spending and political leanings in Arizona are more intertwined than a pair of mismatched socks in the laundry. Our findings suggest that as household spending on personal care products and services increases, so does the support for the Libertarian presidential candidate, painting a picture of a politically fragrant state. It seems that when it comes to voting, Arizonans really know how to "lather" on the love for personal care products.

And on that note, did you hear about the barber who moonlighted as a comedian? He was a cut above the rest, always delivering razor-sharp jokes with impeccable timing. But I digress. Our analysis has presented a robust relationship between grooming goodies and political preferences, reaffirming

the adage that political choices may not just be skin-deep. One might even say that our findings have left us soapy-eyed with emotion.

In light of these results, it seems clear that no more research in this area is needed. After all, when it comes to the correlation between personal care spending and Libertarian votes in Arizona, we've already uncovered more than enough material to keep us shampoo-verwhelmed for the foreseeable future.