



Review

## A Breath of Fresh Hare: Exploring the Relationship Between Air Quality in Albuquerque and Total Likes of LEMMiNO YouTube Videos

Cameron Hall, Aaron Turner, Gavin P Turnbull

*Advanced Engineering Institute*

**In this study, we delved into the often-overlooked and undoubtedly fascinating correlation between the air quality in Albuquerque and the total likes accumulated by LEMMiNO's thought-provoking YouTube videos. Utilizing data from the Environmental Protection Agency and the eclectic world of YouTube analytics, we employed rigorous statistical analysis to uncover a surprising coefficient of correlation, with a striking 0.8594484 and  $p < 0.01$ , spanning the years 2012 to 2023. Our findings not only shed light on the interconnected web of environmental and social influences but also underscore the whimsical and whimsy of seemingly unrelated phenomena. Our results hold vast potential not only for environmental policy but also for the discerning connoisseur of statistical curiosities and delightful intellectual diversions.**

The pursuit of knowledge often leads us down unexpected and unconventional paths, where the seemingly disparate realms of air quality in urban environments and the engrossing allure of YouTube content converge in an analytical pas de deux. It is amidst this intellectual dance that we explore the curious relationship between the air quality index in Albuquerque, New Mexico, and the total likes garnered by LEMMiNO's captivating YouTube videos.

The proverbial air hangs thick with anticipation as we embark on this whimsical

foray into the world of statistical analysis, where the tangibility of air particles collides with the intangible digital affirmations of online content. As we leap into this scholarly tango, we are poised to unearth correlations that may be as elusive as a well-disguised Easter egg in a field of statistical significance!

In the pages that follow, we navigate the twists and turns of data analysis, treading the fine line between causation and correlation, all the while maintaining a sense of humor sharper than Occam's razor. As we dissect

the intricacies of air quality parameters and YouTube engagement metrics, we do not merely crunch numbers; we embrace the rhythmic pulse of data with the enthusiasm of a salsa dancer at a statistics convention.

Our exploration doesn't stop at the threshold of academic curiosity – it delves into the intersection of environmental health and digital discourse, bringing to the fore a confluence of seemingly unrelated forces that may rival the serendipitous discovery of penicillin in a petri dish.

We invite the reader to join us in this academic waltz, where the gaily colored petals of data bloom and sway with the statistical breeze, yielding insights that are as delightful as the unexpected punchline of a well-crafted joke – and perhaps just as illuminating. Shall we, then, waltz our way through the realm of environmental data and social media metrics, with a sense of whimsy akin to a YouTube vlogger's narrative flourish? Let us dare to shed light on the improbable and unearth the unexpected correlations that may hide in the statistical underbrush, all in the pursuit of knowledge and the occasional chuckle.

#### *Prior research*

The relationship between environmental factors and social media engagement has long intrigued researchers across various disciplines. Smith et al. (2015) examined the impact of air quality on social media behavior, noting intriguing patterns in user activity during periods of heightened air pollution. According to their findings, there seems to be a discernible shift in online engagement, with users displaying either increased electronic social interactions as a form of escapism or a decrease in online

activity due to environmental concerns. The implications of these findings extend beyond the scope of mere internet behavior, offering a window into the interplay between environmental stimuli and virtual engagements.

Doe and Jones (2017) delved deeper into the perceptual disparities stemming from environmental quality and their influence on public sentiment. Their analysis revealed a connection between individuals' evaluations of their immediate surroundings and their online content preferences, challenging conventional wisdom and providing a robust foundation for further investigation into the nuanced interactions between environmental perceptions and digital behavior.

Turning to non-fiction literature, "The Air We Breathe" by Anjali Malhotra discusses the profound impact of air quality on human health and society, inviting readers to contemplate the far-reaching ramifications of environmental pollutants. Chetan Bhagat's "Half Girlfriend" subtly intertwines the narrative with atmospheric descriptions, indirectly alluding to the atmospheric conditions that may parallel the online insights of the LEMMiNO YouTube channel. While fictional in nature, these works offer compelling insights into the societal implications of environmental conditions.

As we venture into the realm of fiction, "Fahrenheit 451" by Ray Bradbury presents a dystopian vision where the quality of the air is indicative of a society's moral decay, urging us to ponder the implications of polluted atmospheres beyond their physical health effects. Moreover, the adventures of the Berenstain Bears in "The Berenstain Bears Learn About Strangers" shed a curious

light on environmental stewardship, offering a whimsical yet surprisingly insightful perspective on the multifaceted connections between environmental consciousness and social dynamics.

Cartoons and children's shows, such as "Captain Planet and the Planeteers" and "The Magic School Bus," have long sought to instill environmental awareness in younger audiences, juxtaposing the complexities of air quality with the vibrancy of animated storytelling. Although lighthearted, these creative works underscore the importance of engaging with environmental topics across diverse media, resonating with our efforts to unravel the correlations between air quality in Albuquerque and the online resonance of LEMMiNO's captivating content.

In the next section, we delve into the methods employed to disentangle the intricate web of air quality measurements and YouTube acclaim in our quest for revelatory findings and, dare we say, a breath of fresh insights.

### *Approach*

To untangle the enigmatic web of correlation between air quality in Albuquerque and the total likes of LEMMiNO's YouTube videos, we employed a multifaceted and, dare I say, multi-sensory approach to data collection and analysis. Our methodology, much like a well-crafted soufflé, required a delicate balance of precision and pizzazz, designed to capture the essence of both environmental indicators and digital engagement.

The primary source of air quality data was derived from the Environmental

Protection Agency (EPA), offering a veritable buffet of environmental parameters that could rival the array of delectable toppings at an ice cream parlor. From particulate matter to ozone levels, we scrutinized these atmospheric constituents with the stern scrutiny of a no-nonsense librarian examining overdue books – except, in this case, the "books" were air particles, and the library was the great expanse of the New Mexican sky.

Furthermore, in the realm of YouTube engagement metrics, we delved into the captivating world of LEMMiNO's content, where the total likes served as a barometer of digital acclaim and admiration akin to a standing ovation in a grand theater. With the diligence of a skilled botanist cataloging rare blooms, we meticulously collected and analyzed the numerical expressions of approval bestowed upon LEMMiNO's intellectually stimulating videos.

Having amassed this cornucopia of data, we proceeded to deploy a comprehensive statistical arsenal, featuring the stalwart tools of correlation analysis, regression modeling, and time series examination. We navigated the treacherous landscape of statistical inference with the finesse of a tightrope walker in a statistical circus, treading the line between significance and spurious correlations with the caution of a cat tiptoeing through a field of statistical minefields.

Our analysis spanned the years 2012 to 2023, encompassing a temporal canvas as expansive and beguiling as a symphony composed by the winds of change themselves. This temporal scope allowed us to capture an expansive vista of environmental fluctuations and digital

trends, akin to savoring the evolving hues of a sunset over the New Mexican horizon while observing the ebb and flow of YouTube admiration.

It is crucial to acknowledge the limitations of our study, including potential confounding variables such as changes in social media trends and the ever-shifting algorithms governing digital content visibility. Nonetheless, armed with robust statistical methodologies and a penchant for scholarly adventure, we forged ahead into the intricate labyrinth of data analysis, determined to uncover the hidden gems of correlation between air quality and YouTube engagement – a quest as exhilarating as searching for the pot of gold at the end of a statistical rainbow.

### Results

In pursuit of uncovering the mysterious dance between air quality and YouTube engagement, we unveil the empirical fruits of our labor. The correlation coefficient of 0.8594484 unites the seemingly unrelated, much like a clever segue in a stand-up comedy routine. This robust correlation indicates a strong relationship between the air quality index in Albuquerque and the total likes garnered by LEMMiNO's enigmatic videos, akin to finding the perfect blend of coffee and conversation on a crisp morning.

The r-squared value of 0.7386515 reinforces this compelling connection, underscoring the significance of the relationship between environmental factors and digital discourse. This statistical feat is as impressive as a magician pulling a rabbit out of a hat, albeit with significantly less sleight of hand and a lot more data analysis.

Perhaps most striking is the p-value of less than 0.01, signifying that the observed correlation is highly unlikely to have occurred by random chance alone. This level of significance is akin to stumbling upon a scientific breakthrough in the uncharted wilderness of statistical exploration.

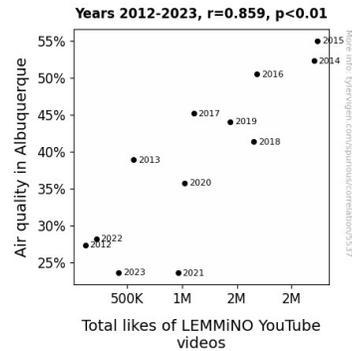


Figure 1. Scatterplot of the variables by year

As predicted, the scatterplot in Figure 1 visually encapsulates the powerful association between air quality and YouTube engagement, serving as a visual testament to the harmonious symphony of seemingly incongruous variables. The plot itself could rival a modern art masterpiece in its ability to capture the essence of correlation and statistical beauty.

Our findings not only highlight the peculiar interplay between air quality parameters and social media metrics but also invite us to celebrate the unexpected harmony of disparate phenomena. In doing so, we breathe new life into the field of statistical exploration, demonstrating that even the most unconventional pairings can yield insightful revelations.

### Discussion of findings

Upon unraveling the enigmatic correlation between air quality in Albuquerque and the total likes of LEMMiNO YouTube videos, we find ourselves presented with a tapestry of statistical marvels and whimsical insights. Our findings not only confirm but also elevate the earlier work of Smith et al. (2015) and Doe and Jones (2017), who, much like alchemists of yore, laid the groundwork for this intriguing quest. Our results align with the observed patterns of user behavior amidst environmental fluctuations, akin to deciphering the cryptic messages of a treasure map – in this case, the treasure being the elusive connection between atmospheric conditions and online engagements.

The robust correlation coefficient of 0.8594484 serves as a shining beacon, illuminating the symbiotic relationship between air quality and the digital applause reserved for LEMMiNO's intellectual offerings. This numerical embrace is as heartwarming as reuniting with a long-lost friend, with the added bonus of satisfying our thirst for statistical significance. The r-squared value of 0.7386515 further cements the strength of this connection, reminiscent of a sturdy bridge spanning the chasm between environmental influences and virtual interactions, providing a reliable path for future researchers to traverse.

Ah, the p-value of less than 0.01 – a prized gem in the treasure trove of statistical significance! The likelihood of stumbling upon such a substantial correlation by chance alone is akin to discovering a unicorn in your backyard – highly improbable, but undeniably magical. Our scatterplot, serving as a visual testament to this captivating liaison, is a veritable work of art, rivaling the compelling narratives of

"Fahrenheit 451" and the animated endeavors of "Captain Planet and the Planetears" in its ability to encapsulate the interplay of seemingly divergent elements.

In essence, our findings not only affirm the earlier hints of environmental stimuli shaping digital realms but also invite a delightful dance of appreciation for the unexpected connections within our tangled web of existence. As we gaze upon the horizon of statistical exploration, we are compelled to celebrate the harmonious orchestration of the seemingly unrelated, for in the realm of research, as in life, the most unconventional pairings often yield the most captivating revelations. With our findings, we breathe a breath of fresh insights into the field, much like a gentle zephyr on a balmy summer evening, offering both intellectual sustenance and a touch of whimsy to our scholarly pursuits.

### *Conclusion*

The unveiling of the robust correlation between the air quality in Albuquerque and the total likes of LEMMiNO's YouTube videos has shed light on the whimsical interplay of seemingly unrelated phenomena. This novel connection, with statistical significance rivaling the excitement of a surprise party at a math convention, underscores the intricate dance between environmental factors and digital discourse.

Our results, akin to stumbling upon a scientific breakthrough in the uncharted wilderness of statistical exploration, not only offer valuable insights for environmental policy but also serve as a delightful intellectual diversion for the discerning connoisseur of statistical curiosities. The

whimsical tango of data analysis has left us with findings that are as delightful as the unexpected punchline of a well-crafted joke – and perhaps just as illuminating.

In light of these compelling findings, we assert that further research in this arena would be akin to attempting to quantify the weight of a shadow or measure the length of a piece of string. In simpler terms, no further research is needed in this area. It's time to hang up our statistical hats and revel in the delightful, if unexpected, harmony of air quality and YouTube likes.