# Sniffing Out Snoop Dog: The Link Between Berlin's Dirty Air and Google Searches for the Furry Rapper

## Colton Henderson, Alexander Tucker, Giselle P Tate

### Global Leadership University

In this study, we set out to investigate the unlikely connection between air pollution levels in Berlin, New Hampshire, and the frequency of Google searches for the notorious rapper, Snoop Dog. As we delved into the data from the Environmental Protection Agency and Google Trends, it became clear that there was more to this correlation than meets the eye. With a correlation coefficient of 0.8149822 and a p-value of less than 0.01 for the time period spanning from 2004 to 2023, the evidence was compelling. Our findings shed light on the intriguing relationship between environmental factors and pop culture interests. It seems that as the air quality in Berlin deteriorates, more residents turn to the internet in search of Snoop Dog – perhaps as a way to escape the smoggy reality or to simply Snoop around for some fresh air! This study not only provides a novel perspective on the influence of air pollution on human behavior but also offers a lighthearted reminder that sometimes, the most unexpected connections can emerge from the most unlikely sources. After all, who would have thought that analyzing air pollution data could lead us down the Snoop Dog's Doggystyle?

Have you ever wondered if the quality of the air we breathe could influence our musical preferences? Well, it turns out that there might be more to this question than meets the nose. In this study, we unmask the connection between air pollution levels in Berlin, New Hampshire and the frequency of Google searches for the one and only Snoop Dog. Just like a sneaky armpit, the relationship between these variables caught our attention, and we simply couldn't resist digging deeper into the data.

Air pollution is a hot topic, and not just because it makes the atmosphere sizzle. With increasing global concern about its detrimental effects on human health and the environment, researchers are eager to sniff out any unexpected implications. Meanwhile, Snoop Dog, with his undeniable charisma and catchy tunes, has been floating on the waves of pop culture like a laid-back surfer catching some Cali rays. But who would have thought these seemingly unrelated elements could collide in such a funky way?

As we embark on this journey, it's important to recognize the relevance of conducting research in uncharted territories. Like a funky beat, the thrill of uncovering new connections and shedding light on unforeseen relationships is at the heart of scientific exploration. Who knows, perhaps by the end of this study, we'll all be rolling in the green with our newfound understanding of nature's influence on our musical tastes!

#### *Review of existing research*

As we embark on our quest to uncover the peculiar connection between air pollution levels in Berlin, New Hampshire and Google searches for the iconic rapper, Snoop Dog, we encounter a myriad of studies that have delved into the complexities of environmental influences on human behavior. Smith et al. (2010) emphasize the far-reaching impact of air pollution on mental health, demonstrating a link between polluted air and increased stress levels in urban populations.

It's like they say, air pollution doesn't just take a toll on your lungs; it can also cloud your judgment. If only we could filter out those pesky pollutants as easily as we filter through our music playlists!

Building on this foundation, Doe (2015) explores the psychological effects of living in atmospheres with higher levels of pollutants, showing a correlation between air quality and changes in individual preferences for recreational activities. Consequently, one might find themselves searching for musical escapes on the internet, perhaps even stumbling across some doggystyle tunes in the process.

It's truly remarkable how the air we breathe can influence the melodies that make our hearts sing. It's like a musical symphony conducted by Mother Nature herself, with Snoop Dog's tunes just adding that extra flair like a funky bassline that nobody can resist.

Jones (2018) contributes to our understanding by examining the cultural impact of air pollution, shedding light on how environmental factors shape consumer behavior. The study provides insights into the ways in which individuals seek comfort and solace amidst environmental challenges, suggesting that turning to Google for a hit of Snoop Dog's music might serve as a form of coping mechanism in polluted environments.

It seems that amidst the haze of polluted air, humans turn to Snoop Dog like a breath of fresh air - or at least the closest thing they can find to it on the internet! Furthermore, in "The Air We Breathe: A Comprehensive Study" by Green and Clean (2019), the authors delve into the impact of air quality on everyday life. Their findings reveal the intriguing possibility that individuals seek solace in music during times of heightened environmental stress, potentially leading them to seek refuge in the smooth sounds of Snoop Dog's music.

A breath of fresh air indeed, or at least a breath of Snoop Dog – whichever clears the mental smog first, right?

On a more fanciful note, "The Lorax" by Dr. Seuss explores the relationship between environmental degradation and human behavior, showcasing how the deterioration of the environment can spark unexpected desires for whimsical solutions - much like the yearning for some Snoop Dog tunes in the midst of polluted air.

#### Procedure

To embark on this groovy research endeavor, we turned to the Environmental Protection Agency's Air Quality System to collect data on pollutant levels in Berlin, New Hampshire. We gathered information on various air pollutants such as ozone, sulfur dioxide, nitrogen dioxide, and particulate matter, with the intention of getting to the root of the funky air quality situation in Berlin. Our team of data miners dug through the digital soil like enthusiastic gardeners, cultivating a rich dataset that would allow us to breathe life into our analysis.

With our gas masks firmly in place, we then tapped into Google Trends to retrieve the frequency of searches for the legendary rapper, Snoop Dog. It was like using a musical map to navigate the turbulent winds of internet searches, hoping to find the elusive treasure that was our data correlation. As we sifted through the virtual haystack for mentions of the Doggfather, we couldn't help but ponder if we were barking up the right tree or if we were simply chasing our own tails.

Once we amassed our righteous dataset spanning the years 2004 to 2023, we conducted thorough statistical analyses to tease out the relationship between air pollution levels and Snoop Dog searches. We employed a combination of time-series analysis, regression modeling, and cross-correlation techniques. It was like trying to synchronize the beats of two distinct songs to see if they harmonized in a rhythm that would make even Snoop himself nod in approval.

To determine the strength and significance of the association, we calculated the Pearson correlation coefficient between the air pollutant concentrations and the volume of Snoop Dog searches. This coefficient, symbolized by the letter "r," served as our compass in navigating the stormy seas of data, guiding us toward the heart of the correlation. We recognized the importance of setting sail with a sturdy rudder, especially when venturing into uncharted, foggy waters of the statistical sea.

In addition to exploring correlation, we conducted time series analysis to uncover potential lag effects between changes in air pollution levels and subsequent shifts in Snoop Dog search volumes. It was like playing a musical call-and-response with the data, waiting to hear if the chorus of air pollution was answered by the verses of Snoop Dog queries in a lyrical dance of cause and effect.

Furthermore, we performed regression analyses to control for potential confounding variables such as population demographics, seasonal trends, and other environmental factors. Much like a DJ adjusting the sound levels to create a balanced mix, we strived to ensure that the melody of our findings was not distorted by extraneous noise or unexpected instrumentals.

Finally, to assess the statistical significance of our results, we calculated p-values and confidence intervals, ensuring that our findings were more than just statistical noise in the melody of research. It was like double-checking the tuning of our scientific instruments to make sure that our findings were truly hitting the right notes.

In the end, after harmonizing our scientific methods and navigating the treacherous currents of data, we arrived at a resounding conclusion that would make any music lover nod in agreement. The connection between air pollution in Berlin and searches for Snoop Dog was not just a fleeting tune in the wind but a melody with a catchy chorus that resonated through the digital airwaves. We hope this study will inspire future researchers to march to the beat of their own drum and embrace the unexpected harmonies that await in the unlikeliest of places. After all, sometimes the best research is as surprising as a welltimed key change in a catchy song!

#### Findings

Our investigation into the connection between air pollution levels in Berlin, New Hampshire, and the frequency of Google searches for Snoop Dog has resulted in some intriguing findings. The statistical analysis revealed a strong positive correlation of 0.8149822, indicating a robust relationship between the two variables. This correlation coefficient suggests a strong association, but it's not just hot air - the r-squared value of 0.6641959 indicates that approximately 66.42% of the variability in Google searches for Snoop Dog can be explained by changes in air pollution levels. It's clear that this connection is not just blowing smoke!

The p-value of less than 0.01 further solidifies the significance of our findings, providing strong evidence that the observed relationship is not due to random chance. As the air quality in Berlin took a turn for the smoggier, there was a notable surge in searches for the iconic rapper. It seems the residents of Berlin were not only gasping for clean air but also reaching for the nearest search engine to quench their thirst for Snoop Dog's distinct brand of music and charisma.

The scatterplot (Fig. 1) paints a compelling picture of the relationship between air pollution and Google searches for Snoop Dog. Like a pair of harmonious notes, the data points align in a way that visually exemplifies the strength of the correlation. It's as if the pollution particles and Snoop's signature rhymes were dancing together in perfect harmony, underlining the unexpected symmetry between environmental conditions and musical inclinations.



**Figure 1.** Scatterplot of the variables by year

In conclusion, our study not only uncovers a remarkable link between air pollution and popular culture but also serves as a gentle reminder that sometimes, the most unexpected connections can emerge from the most unlikely sources. It seems that here in Berlin, New Hampshire, when the air gets hazy, the internet gets blazin' with searches for Snoop Dog. As we wrap up our findings, we've come to appreciate that in the grand symphony of life, even the most seemingly unrelated variables can come together in a catchy melody. So, next time you're feeling a little foggy about research possibilities, just remember - there may be some unexpected rap workings at play!

#### Discussion

The results of our study have unveiled an unexpected but robust relationship between air pollution levels in Berlin, New Hampshire, and the frequency of Google searches for the enigmatic rapper, Snoop Dog. Our findings align with prior research, showcasing a noticeable surge in search activity as air quality declines. It seems that as the residents of Berlin found themselves amid the smog, they turned to the internet to Snoop around for some musical respite.

Our statistics, with a correlation coefficient of 0.8149822 and a p-value of less than 0.01, validate the significant connection between these seemingly disparate variables. It's almost as if the data itself is whispering, "it's not just a bunch of hot air." The correlation coefficient indicates a strong association, suggesting that approximately 66.42% of the variability in Google searches for Snoop Dog can be attributed to changes in air pollution levels - a connection that is not just blowing smoke!

Our results echo the whimsical themes highlighted in prior literature, such as the unexpected desires and coping mechanisms prompted by environmental stress. As our findings fell into harmony with previous research, it became clear that the pollen of truth lay within the unlikely bouquet of air pollution and Snoop Dog's tunes.

The scatterplot (Fig. 1) visually captures the dance between air pollution and Snoop Dog searches, mirroring the unexpected symmetry between environmental conditions and human behavior. It's as if the pollution particles and Snoop's rhymes were two peas in a pod, dancing in perfect harmony. Who knew that polluted particles and rap lyrics could make such a harmonious pair? It's like an unexpected duet that no one saw coming – but boy, does it hit all the right notes!

As we thread the needle through the robust fabric of our results, we realize that, just like in the improbable tales of Dr. Seuss and Lewis Carroll, the fusion of air pollution and Snoop Dog's music has led us down an unexpected research rabbit hole. Who would have thought that the air in Berlin, New Hampshire, would have such an influence on the search habits of its residents? It's a breath of fresh air to see how even the most unrelated variables can come together to form a catchy melody in this grand symphony of life.

In summary, our research has not only broadened our understanding of the complex relationship between air pollution and human behavior but also tickled our scientific senses with the unexpected twists and turns along the way. As we take a moment to appreciate the lilting dance between smoky air and Snoop's mesmerizing tunes, we are reminded that in the world of research, there's always an unexpected rap waiting to drop its surprising beats!

#### Conclusion

In the midst of this comedic cacophony of research findings, it's time to wrap up our investigation into the unexpected yet undeniable connection between air pollution in Berlin, New Hampshire, and Google searches for the one and only Snoop Dog. Our study has shed light on the potent association, leaving us feeling like we've unraveled a mysterious, musical puzzle – it's as if statistical significance and rap stars were destined to collide in a wild symphony of data.

As we draw the curtain on this unconventional tale of scientific inquiry, it's hard not to crack a smile at the thought that, just like a catchy hook, our findings have hit all the right notes. Perhaps it's time to give a round of 'ap-paws' for the surprising harmony between smoggy atmospheres and Snoop Dog's magnetic allure.

In the grand finale of our academic escapade, we can confidently say that no more research is needed in this area. It seems we've uncovered the 'gin and juice' of this correlation, leaving us all with an unexpected, yet thoroughly satisfying, research experience.

And who could forget the classic tale of "Alice in Wonderland" by Lewis Carroll? With its whimsical portrayal of a topsy-turvy world, it's not too far-fetched to imagine individuals seeking solace in the dreamlike escapism of Snoop Dog's music, perhaps hoping to stumble upon Wonderland-like respite from the smog.

Just like "The Magic School Bus" and "Sesame Street," where the most unexpected connections and adventures unfold, it appears that the concatenation of air pollution and Snoop Dog's music has led us down a colorful and unexpected research rabbit hole. As we navigate through this labyrinth of studies, both serious and whimsical, one thing becomes abundantly clear: the relationship between air pollution and Snoop Dog is no laughing matter, but it sure does lead to some unexpected and laughterinducing connections!