# From Berlin to Nepal: The Unexpected Connection Between Air Pollution and Kerosene

## Charlotte Harrison, Austin Travis, Gavin P Tyler

### Global Innovation University

In this study, we delve into the unforeseen connection between air pollution in Berlin, New Hampshire, and the consumption of kerosene in Nepal. Armed with data from the Environmental Protection Agency and the Energy Information Administration, our research scrutinizes the correlation between these seemingly disparate factors. Lo and behold, we discovered a correlation coefficient of 0.7416928 and a p-value less than 0.01 for the years spanning 1981 to 2021. Venturing into uncharted territories, we sought to unearth the mystery behind this unlikely link. Much to our surprise, the results revealed a compelling relationship that would leave even the most seasoned researchers gasping for breath. Our findings underscore the impact of kerosene usage in Nepal on the air quality in Berlin, New Hampshire, shedding light on a connection previously overlooked. As we embarked on this quest for knowledge, we couldn't help but marvel at the convergence of these two distant entities. It's a kerosene-cidence that such an unexpected relationship exists, providing a fresh perspective in the realm of environmental research. Buoyed by these revelations, we invite fellow researchers to join us in unraveling the intricate web of interconnected global phenomena.

As the world grapples with the far-reaching consequences of environmental degradation, it becomes increasingly vital to untangle the intricate web of interrelated factors contributing to air pollution. While much attention has been directed towards local sources of pollution, our study takes a truly global perspective, revealing a fascinating connection between distant locales – Berlin, New Hampshire, and Nepal. This unexpected correlation not only sheds light on the far-reaching implications of kerosene usage but also challenges conventional wisdom in environmental research.

Much like a well-timed dad joke, the connection between air pollution in Berlin and kerosene usage in Nepal sneaks up on us when we least expect it, leaving us both baffled and charmed. The quirkiness of this association underscores the need to delve deeper into the complex interactions between seemingly unrelated phenomena.

The picturesque town of Berlin, nestled in the White Mountains of New Hampshire, may seem worlds apart from the mountains of Nepal where kerosene is a common household fuel. However, as our study unveils, it appears that the winds of change are more far-reaching than initially assumed. The metaphorical winds are indeed blowing the unexpected connection of air pollution across continents, posing thought-provoking questions and opening new avenues for exploration.

While the correlation may seem akin to comparing apples to oranges, the statistical evidence proves otherwise, painting a vivid picture of a world intricately connected by environmental forces. It's akin to realizing that the apple actually did not fall far from the orange tree, leaving us to marvel at the interconnectedness of the world in a way that even Newton wouldn't have predicted.

As we venture deeper into this unexpected nexus, our paper not only aims to elucidate the correlation but also to highlight its staggering implications. Like a good old dad joke, it's time to tease apart the layers of this unexpected relationship, revealing the hidden punchline that has eluded us for so long. So, join us as we unwrap this surprising connection, for we are about to embark on a journey that will leave you both pondering and grinning at the marvels of our shared environmental tapestry.

#### Review of existing research

In "Air Pollution in Urban Environments," Smith et al. examined the various contributors to air pollution in urban centers, highlighting the impact of industrial activities, vehicular emissions, and biomass burning. Similarly, Doe and Jones, in "The Global Impact of Household Fuel Use," delved into the widespread use of kerosene in developing countries, emphasizing its implications for indoor and outdoor air quality.

It's an enlightening read, really shedding some light! Speaking of shedding light, did you hear about the guy who invented Lifesavers? He made a mint!

Moving on, "Emissions and Their Effects on Atmospheric Composition" by Brown and Green provides comprehensive insight into the chemical composition of air pollutants and their effects on the atmosphere. Likewise, Black and White, in "The Household Energy Transition," delve into the shifting trends in household energy consumption, with a particular focus on the use of traditional fuels such as kerosene. It's almost like these authors are crafting a narrative as captivating as a Dickens novel. Speaking of, isn't it ironic how Charles Dickens' "Great Expectations" could apply to our lofty hopes of solving environmental issues?

On a slightly different note, "Breaking Bad" and "Alaska: The Last Frontier" are two television series that offer a glimpse into the daily lives of individuals facing environmental challenges, albeit in drastically different settings. As researchers, we found valuable insights in these shows, even if we had to endure a few eye-rolling moments at the same time.

But, wait, there's more! "Dune" by Frank Herbert and "Into Thin Air" by Jon Krakauer, although works of fiction, provided us with a fresh perspective on environmental extremes and the unforeseen consequences of human activities. These books ignited our imaginations and made us ponder the unexpected connections that permeate the natural world, mirroring our own investigation into the Berlin-Nepal correlation.

This literature review brings to light the diverse strands of research that have woven the fabric of our understanding of air pollution and energy consumption. As we dig deeper into the unexpected relationship between air pollution in Berlin, New Hampshire, and kerosene usage in Nepal, we are reminded that even in the world of academia, a well-placed joke can breathe life into our scholarly pursuits.

#### Procedure

To investigate the intriguing connection between air pollution in Berlin, New Hampshire, and kerosene consumption in Nepal, our research team ventured into uncharted territory, armed with an arsenal of statistical tools and an unyielding sense of curiosity. Our data collection extravaganza commenced with meticulous extraction from databases of the Environmental Protection Agency and the Energy Information Administration, serving as our trusty treasure maps in this odyssey of discovery. Utilizing data spanning from 1981 to 2021, we delved into the depths of cyberspace, navigating the digital seas in search of the elusive correlation.

In a series of events that might seem straight out of a detective novel, we immersed ourselves in the art of data wrangling, employing convolutional neural networks to sift through terabytes of information with the precision of a bloodhound on the scent of a curious case. Through an ingenious amalgamation of complex algorithms and a touch of good old-fashioned intuition, we meticulously sieved through the sea of data, uncovering patterns that had long eluded the grasp of conventional analysis. It was a bit like untangling a ball of yarn only to find a surprising cat's toy at its core – unexpected, yet undeniably thrilling.

Employing advanced statistical analyses, including linear regression models and Pearson correlation coefficients, we sought to gauge the strength and direction of the relationship between air pollution in Berlin and kerosene usage in Nepal. With each calculation and iteration, we dissected the data like expert puzzle solvers, assembling the pieces into a coherent picture that would ultimately reveal the surprising connection that had lain hidden in plain sight. Like a well-crafted dad joke, our methods combined meticulous precision with a dash of unexpected humor, keeping us on our toes as we navigated the maze of data.

Furthermore, we engaged in a rigorous exercise of sensitivity analysis, exploring the robustness of our findings across different time periods and sub-samples. This process was akin to adjusting the focus on a camera lens, honing in on the crux of the relationship while ensuring that our conclusions stood the test of time and circumstance. Much like a classic dad joke, our analyses aimed to deliver a punchline that left an indelible impression, giving credence to the surprising connection we had uncovered.

In the spirit of a scientific expedition, we acknowledge the limitations of our study, as no research endeavor is without its challenges and uncertainties. However, armed with our trusty statistical compass and a healthy dose of academic rigor, we ventured forth, poised to shed light on the curious link between air pollution and kerosene usage, knowing that we were about to embark on an intellectual journey that would both unravel mysteries and impart a healthy dose of scientific amusement.

#### Findings

The analysis of data from the Environmental Protection Agency and the Energy Information Administration revealed a strong positive correlation between air pollution in Berlin, New Hampshire, and the consumption of kerosene in Nepal. The correlation coefficient of 0.7416928 and an r-squared of 0.5501082 for the period from 1981 to 2021 unequivocally demonstrates the association between these seemingly distant phenomena.

Fig. 1 presents a scatterplot illustrating the robust relationship between air pollution in Berlin and the use of kerosene in Nepal. The data points hug the trend line as closely as a bear hug, leaving little room for doubt about the compelling connection between the two variables.

It's truly a gas to see such a strong correlation emerge between air pollution in Berlin and kerosene usage in Nepal, proving that when it comes to environmental impacts, the world is indeed smaller than we think.



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

The statistical significance of the correlation, with a p-value less than 0.01, further solidifies the unexpected nexus between these two geographically distant areas. This revelation prompts a reevaluation of our understanding of the global reach of environmental influences, reminding us that even across continents, our actions and choices are intimately intertwined.

The discovery of this unlikely link serves as a reminder that in the intricate tapestry of environmental phenomena, there are hidden threads that connect the seemingly unconnected. It's like finding out that your neighbor's cat and your best friend's dog are actually distant cousins – a surprising revelation that forces us to rethink our assumptions and consider the broader implications of seemingly isolated activities.

In summary, our findings not only unveil a remarkable correlation between air pollution in Berlin and kerosene consumption in Nepal, but they also beckon us to explore the myriad ways in which our choices reverberate across the globe. Like a well-crafted dad joke, this unexpected connection adds an element of surprise and delight to the otherwise somber landscape of environmental research.

#### Discussion

The striking correlation between air pollution in Berlin, New Hampshire, and the consumption of kerosene in Nepal has left us in awe, akin to the feeling of stumbling upon a well-timed pun. Our results not only bolster previous research, but they also unearth a connection that has eluded the scrutiny of environmental scholars.

Our findings echo the sentiments of Smith et al. and Doe and Jones, shedding light on the substantial impact of household fuel use on outdoor air quality. Just like a good dad joke, the correlation coefficient of 0.7416928 and the p-value less than 0.01 for the years from 1981 to 2021 pack a punch, leaving little room for doubt about the significance of this relationship.

Venturing into uncharted territories, we sought to unearth the mystery behind this unlikely link. Much to our surprise, the results revealed a compelling relationship that would leave even the most seasoned researchers gasping for breath. The correlation coefficient of 0.7416928 and a p-value less than 0.01 for the years spanning 1981 to 2021 shed light on a connection previously overlooked, much like a clever play on words that unexpectedly resonates with the audience.

Our study serves as a reminder that in the intricate tapestry of environmental influences, there are hidden threads that connect the seemingly unconnected. It's like finding out that your neighbor's cat and your best friend's dog are actually distant cousins – a surprising revelation that forces us to rethink our assumptions and consider the broader implications of seemingly isolated activities. Just as a well-crafted dad joke adds an element of surprise and delight, this unexpected connection beckons us to explore the myriad ways in which our choices reverberate across the globe. In the context of kerosene usage in Nepal and its impact on air quality in Berlin, this study demonstrates the ubiquitous influence of human activities on environmental conditions. It's a kerosene-cidence that such an unexpected relationship exists, underscoring the interconnectedness of global phenomena and prompting a nuanced understanding of the far-reaching consequences of seemingly local decisions.

#### Conclusion

In conclusion, our research has unmasked an extraordinary correlation between air pollution in Berlin, New Hampshire, and the consumption of kerosene in Nepal. This unexpected relationship, akin to discovering that the chicken really did come before the egg, has profound implications for our understanding of global environmental dynamics.

The statistical rigor of our findings, accompanied by a correlation coefficient of 0.7416928 and a p-value less than 0.01, leaves little room for doubt about the robust intertwining of these seemingly distant factors. It's truly remarkable how a small change in one part of the world, like switching to cleaner energy sources in Nepal, can ripple across the globe and impact air quality in a picturesque town like Berlin, New Hampshire. Talk about a twist in the wind!

Our study underscores the need for a broader perspective on environmental research, one that recognizes the intricate interplay between diverse regions and their distinct environmental behaviors. It's not just a drop in the ocean – every action, no matter how small or seemingly isolated, can send ripples through the atmosphere, much like a stone creating circles in a pond.

As we reflect on this unexpected convergence, it brings to mind an old dad joke - "Why do environmental researchers always carry a map? Because they like to envision the world as one big, interconnected playground!" Our findings emphasize the mirthful yet profound reality that the choices we make, whether in Nepal or New Hampshire, hold the power to shape the air we all share.

With that said, we assert confidently that further research is not needed in this area. The results of this study have uncovered a connection that is not only statistically robust but also conceptually enlightening. It's time for us to take this revelation and spread it around like clean air – because, after all, when it comes to the environment, knowledge is the wind beneath our wings.