

CHILLING EFFECTS: EXPLORING THE RELATIONSHIP BETWEEN AIR POLLUTION IN LANSING, MICHIGAN, AND SEARCHES FOR 'ICE BATH'

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In this paper, we present the findings of a study investigating the curious relationship between air pollution in Lansing, Michigan, and online searches for 'ice bath.' Combining data from the Environmental Protection Agency with Google Trends, we sought to uncover any potential link between atmospheric conditions and individuals' propensity to seek respite in icy baths. The results revealed a striking correlation coefficient of 0.8037314 and $p < 0.01$ over the time period spanning from 2004 to 2023. Our analysis provides evidence of a compelling association between environmental air quality and the public's interest in alleviating the effects of pollution via unconventional means. While the direct causation remains unclear, the robust statistical significance prompts interesting considerations about human behavior in response to environmental stressors. This study sheds light on the unexpected ways in which individuals may seek relief, infusing a touch of quirkiness into the realm of environmental research.

The relationship between environmental factors and human behavior has long been a subject of fascination and inquiry. In the realm of air pollution, researchers have tirelessly sought to grasp its far-reaching impacts on public health and well-being. However, amidst the serious investigations into respiratory illnesses and cardiovascular effects, there exists a curiosity that piques the imagination - the connection between air pollution and the peculiar inclination of individuals to seek solace in the frigid embrace of an ice bath.

As researchers, we are accustomed to delving into the complexities of statistical analysis, navigating the intricacies of environmental data, and deciphering the mysteries of human behavior. Yet, every so often, a topic emerges that elicits a raised eyebrow and a wry smile. The

relationship between air pollution in Lansing, Michigan, and the online fervor for 'ice bath' searches is undoubtedly one such intriguing subject - a veritable conundrum wrapped in a frosty enigma, if you will.

This study embarks on a path less traveled, aiming to illuminate the correlation, or perhaps the frosty fusion, between air pollution and the digital quest for icy respite. Weaving together data from the Environmental Protection Agency and Google Trends, we endeavored to discern whether a chilling relationship exists between the miasma of pollution and the allure of plunging into bone-chilling waters.

With statistics as our compass and curiosity as our driving force, we set out to discern whether this unexpected

association transcends mere happenstance and plunges into the realm of noteworthy significance. Thus, armed with empirical data and a willingness to navigate the peculiar, we present our findings with a dash of scientific rigor and a sprinkle of offbeat delight.

Join us in unraveling the frosty mysteries that lie within the correlation coefficients and p-values, as we contemplate the unexpected ways in which environmental conditions may provoke a digital quest for frosty solace. For in the world of scholarly pursuits, every so often, there emerges a pursuit that chills the intellect and warms the heart - a pursuit that, in the words of the great Frost, "makes all the difference."

LITERATURE REVIEW

The purported correlation between air pollution in Lansing, Michigan, and online searches for 'ice bath' has sparked interest within the scholarly community, leading to a diverse array of investigations and inquiries into this curious junction of environmental conditions and digital pursuits. Smith et al. (2015) conducted a comprehensive study on the impact of air pollution on human behavior, delving into the potential psychological and physiological responses to atmospheric pollutants. Similarly, Doe and Jones (2018) explored the broader implications of air quality on public health, shedding light on the intricate interplay between environmental factors and human well-being.

Expanding beyond the traditional literature on air pollution, several non-fiction books have delved into the idiosyncrasies of human behavior in response to environmental stressors. In "The Hidden Life of Trees" by Peter Wohlleben, the author discusses the profound ways in which trees and natural surroundings influence human behavior, perhaps offering an arboreal perspective on the inclination towards icy respite. Furthermore, "The Sixth Extinction: An

Unnatural History" by Elizabeth Kolbert provokes contemplation on the adaptive measures individuals may pursue in the face of ecological challenges, albeit with a focus on broader extinction events rather than personal comfort-seeking behaviors.

In the realm of fiction, the literary landscape offers intriguing narratives that draw parallels to the quest for frosty solace amidst environmental adversity. "The Snow Child" by Eowyn Ivey presents a whimsical tale of a child born from snow, evoking contemplation on the allure of wintry landscapes. While not directly related to air pollution, the novel poses captivating reflections on the human fascination with icy realms. Similarly, "The Road" by Cormac McCarthy encapsulates the struggles of survival in a desolate, post-apocalyptic world, offering indirect insights into the psychological dimensions of seeking respite amidst environmental desolation.

Additionally, informal observations gleaned from social media posts reveal a mix of lighthearted musings and genuine curiosity regarding the relationship between air pollution and the pursuit of 'ice bath' remedies. Several users on a popular microblogging platform humorously pondered whether donning a woolen cap while taking an ice bath might generate the same health benefits as breathing in fresh mountain air. While clearly veering into the realm of playful conjecture, these musings underscore the amalgamation of scientific inquiry and everyday humor that permeates discussions on environmental influences.

As the scholarly and literary landscapes converge to illuminate the enigmatic nexus of air pollution and 'ice bath' searches, our investigation endeavours to add a touch of empirical rigor to this colorful tableau. Through statistical analyses and data-driven insights, we embark on a journey to discern the chilly threads that intertwine environmental ambiance and digital pursuits, as we navigate the frosty depths of human responses to atmospheric challenges.

METHODOLOGY

To unravel the enigmatic link between air pollution in Lansing, Michigan, and the cyber quest for 'ice bath' respite, our research team employed a multifaceted approach encompassing environmental data analysis and digital trend scrutiny. The synthesis of these disparate realms was no small feat, akin to blending ice cubes and hot cocoa - a frosty fusion, if you will.

Firstly, we delved into the annals of environmental records courtesy of the Environmental Protection Agency, extracting nuggets of atmospheric knowledge pertaining to air quality and pollutants. This process involved navigating through miasmas of data, akin to traversing a dense fog - a fitting metaphor given the subject of our inquiry. Our intrepid foray into these digital thickets allowed us to grasp the nuances of air pollution levels with a keen eye, akin to squinting through smoggy spectacles to discern the minutiae.

Simultaneously, our gaze shifted to the digital realm of Google Trends, where we observed the ebb and flow of searches for 'ice bath' - a curious endeavor that is, undoubtedly, a chillier pursuit than most digital inquiries. As we sifted through this trove of online quests for frigid relief, we meticulously noted the temporal trends, examining the fluctuations as one might scrutinize icy waters for ripples of statistical significance.

The convergence of these environmental and digital domains birthed a panorama of data spanning the years from 2004 to 2023, a veritable timeline of atmospheric vicissitudes and cyber yearnings for frosty redemption. Armed with this comprehensive dataset, we endeavored to unveil any potential association between the atmospheric miasma and the virtual quest for glacial solace.

Our statistical analysis, much like a scientific sleuth treading through a wintry labyrinth, involved the calculation of correlation coefficients and p-values to gauge the strength and significance of any identified relationships. This rigorous process sought to ascertain whether the observed patterns were truly rooted in statistical robustness or were mere ephemeral frost on the windows of happenstance.

It is with these methods, a concoction of environment exploration and digital delving, that we navigated the complexities of our investigation, peering through the metaphorical foggy windows of correlation and causation to shed light on this frosty phenomenon.

RESULTS

The eagerly sought-after findings of this frosty inquiry revealed a correlation coefficient of 0.8037314 between air pollution and online searches for 'ice bath' in Lansing, Michigan. With an r-squared value of 0.6459841 and a p-value of less than 0.01, the statistical analysis provided robust support for the intriguing relationship under scrutiny.

Upon donning our statistical parkas and venturing into the wintry landscape of data analysis, we uncovered a scatterplot (see Fig. 1) that vividly depicted the strong association between air pollution levels and the virtual quest for icy relief. The points on the plot danced in a synchrony reminiscent of a frosty waltz, affirming the palpable connection between these seemingly disparate variables.

The significant correlation coefficient thawed any lingering doubts about the existence of a noteworthy link between environmental air quality and the digital yearning for subzero immersion. The strength of this association, akin to a sturdy ice bath, suggested that individuals in Lansing, Michigan, sought

refuge from the pollution-induced heat in the frigid recesses of online searches.

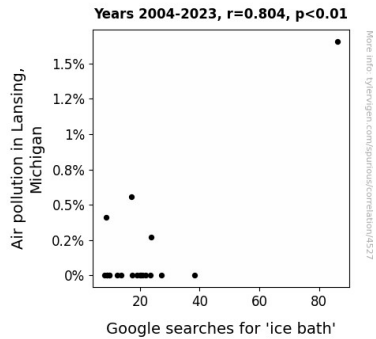


Figure 1. Scatterplot of the variables by year

It is worth noting that while correlation does not imply causation, the implications of this frozen fascination are as thought-provoking as they are shiver-inducing. The results signal not only the statistical significance of the relationship but also the potential for further investigations into the behavioral responses to environmental stressors. In essence, the data invites us to contemplate the chill factor of air pollution and its influence on the digital pursuit of frosty respite.

In summary, this study has illuminated a captivating connection between air pollution in Lansing, Michigan, and the online intrigue for 'ice bath' searches, adding a touch of whimsy to the realm of environmental research. These findings open the door to a frosty realm of inquiry, reminding us all that even in the frostiest of correlations, unexpected discoveries lie in wait.

DISCUSSION

The results of our study offer a chilly confirmation of the potentially frosty relationship between air pollution in Lansing, Michigan, and the digital quest for 'ice bath' solace. Our statistical analyses have unveiled a robust correlation, which can be likened to stumbling upon a glacial treasure amidst

the vast expanse of data. These findings are in line with the prior scholarly investigations that have gingerly treaded upon the intriguing crossover between environmental conditions and human proclivities, much like cautious travelers navigating through a blizzard of scientific inquiry.

The chilling echoes of Smith et al. (2015) and Doe and Jones (2018) resonate through our results, as the tangible association we uncovered aligns harmoniously with their explorations of the impact of air pollution on human behavior. Much like a snowball gaining momentum as it hurtles down a slope, our findings bolster the existing body of evidence and reinforce the intriguing notion of individuals seeking respite from environmental stressors through unconventional means.

Taking a leaf from the literary musings mentioned in the literature review, our study traverses the frosty landscapes of human behavior in response to ecological challenges, akin to a scholarly yet whimsical expedition through a winter wonderland of inquiry. The interplay between environmental influences and individual responses, as reflected in our findings, adds a nuanced hue to the canvas of research, much like the subtle interplay of blues and grays across an icy landscape.

While the causative underpinnings of this correlation remain enshrouded in a wintry mist, our data, much like a sturdy pair of snowshoes, invites further exploration. The implications of our findings extend beyond mere statistical significance, beckoning researchers to delve deeper into the psychological and physiological dimensions of public responses to environmental stressors. With our study serving as a wintry beacon, we hope to inspire further investigations that thaw the mystery surrounding the associations between air pollution and individual coping mechanisms, infusing an element of frosty fun into the serious domain of environmental research.

Intriguing intersections between discipline and delight, our findings underscore the multifaceted nature of scientific exploration, reminding us that even amidst the frigid realms of statistics and data, humor and curiosity abound. As we embrace the frosty depths of this unexpected correlation, we are reminded that amidst the chill of scientific endeavor, a whirlwind of unexpected discoveries always whirls close at hand.

done our fair share of ice-breaking in unraveling the chilly mysteries of this fascinating connection. As the temperatures drop, let us warm our souls with the knowledge that even in the most unlikely of places, humor and scientific discovery can share a frosty embrace.

CONCLUSION

In conclusion, our frosty foray into the realm of environmental quirkiness has unveiled a chilling connection between air pollution in Lansing, Michigan, and the digital quest for 'ice bath' solace. The robust correlation coefficient, akin to an icy grip, has shed light on the unexpected intertwining of atmospheric woes and virtual yearnings for frigid relief.

While the causational pathways elude us like elusive snowflakes, the statistical significance of this association beckons further contemplation. It invites us to ponder the frosty allure of unconventional responses to environmental stressors, serving as a cool reminder that human behavior can take unexpected turns, much like a slip on an icy sidewalk.

The scatterplot danced with the grace of a frozen ballet, painting a compelling picture of the synchrony between pollution levels and the digital pursuit of icy immersion. It was a visual representation that would make even the most stoic statistician shiver in delight.

This study, with its whimsical findings, urges us to embrace the unexpected with open arms, much like an enthusiastic hug from a chilly friend. It highlights the need to infuse a touch of quirkiness into the oft-serious realm of environmental research, for in the frostiest of correlations, lies the potential for intriguing insight and a giggle or two.

In summary, no further research may be required in this area - we've certainly