
Breathing in the Hockey Season: The Air Quality-Nicklas Backstrom Connection in Las Vegas, Nevada

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As the saying goes, "What happens in Vegas, stays in Vegas"...unless you're talking about air pollution, which apparently has an impact on Nicklas Backstrom's hockey performance. In this groundbreaking study, we set out to investigate the elusive relationship between air quality in Las Vegas, Nevada and the total regular season games played by the Washington Capitals' star center, Nicklas Backstrom. Utilizing data from the Environmental Protection Agency (EPA) to measure air quality and the National Hockey League (NHL) for Backstrom's game statistics, our research team uncovered a staggering correlation coefficient of 0.8649467 and a p-value less than 0.01 for the period spanning 2002 to 2022. While skeptics might shrug off the connection as pure coincidence, our findings suggest there's more to this relationship than meets the eye. Could it be that Backstrom's on-ice prowess is adversely affected by the smog in Sin City? Or perhaps his performance is unexpectedly boosted by the whiff of fresh desert air? The implications of our research are as intriguing as they are unexpected, shedding light on the surprising interplay between atmospheric conditions and athletic achievement. Join us as we embark on a whimsical journey through the realms of air quality monitoring and professional hockey, where the puck and polluted particles collide in the world of statistical correlation.

What do air quality in Las Vegas, Nevada and Nicklas Backstrom's regular season games have in common? At first glance, absolutely nothing. But as we delve into this peculiar pairing, a curious correlation between the two seemingly unrelated entities emerges, sparking interest and raising eyebrows in equal measure.

Las Vegas, known for its neon-lit strip, extravagant casinos, and the occasional Elvis impersonator, is not typically associated with environmental concerns. Yet, nestled among the slot machines and showgirls, the city grapples with air pollution issues that have drawn the attention of not only environmental scientists but also, apparently, hockey enthusiasts. Meanwhile, Nicklas Backstrom, the Swedish sensation on the Washington Capitals

roster, has been dishing out assists and scoring goals with consistency that rivals the reliability of a well-maintained air purifier.

It is against this backdrop of glittering city lights and hockey rinks that our research seeks to unravel the enigmatic relationship between air quality in Las Vegas and the total number of regular season games played by the talented center. Armed with data and a dash of academic curiosity, our investigation treads the thin ice between statistical analysis and puck shenanigans, aiming to shed light on this improbable and, let's be honest, downright wacky correlation.

Join us as we embark on a journey into the unlikeliest of territories, where the scent of exhaust

fumes mingles with the thwack of a slap shot, and where the whims of the atmosphere might just hold the key to unlocking the secrets of athletic performance. As we carve through the data and dust off our hockey puns, the compelling connection between air quality and Backstrom's game appearances awaits our scrutiny, poised to add an unexpected twist to the annals of unconventional research pairings. Let the puck drop on this unlikely tale of air quality and hockey stardom!

LITERATURE REVIEW

In the quest to unravel the peculiar correlation between air quality in Las Vegas, Nevada and the total regular season games played by the Washington Capitals' Nicklas Backstrom, a multitude of studies have endeavored to shed light on the interplay between atmospheric conditions and athletic performance. Smith et al. (2020) delved into the impact of urban pollution on physical activity, uncovering surprising links between air quality and human endurance. Doe (2018) explored the potential influence of environmental factors on elite sportsmen, providing tantalizing glimpses into the ways in which pollutants may affect athletic prowess. Lastly, Jones (2016) conducted a comprehensive examination of air quality data in urban centers, drawing connections between smog levels and unexpected outcomes in professional sports.

But let's face it, folks – we all know that the real secrets lie within the pages of "The Air Quality-Hockey Nexus: A Statistical Odyssey" by A. Puckman and S. Lapshot (2014). This groundbreaking tome offers a humorous yet enlightening take on the elusive connections between air pollution and athletic achievements, weaving together data analysis and slapstick humor in a narrative that captivates both statisticians and hockey aficionados alike. Furthermore, the whimsically titled "Skating Through Smog: The Hidden Forces of NHL Success" by E. Forward (2017) presents a compelling argument for the

overlooked role of air quality in shaping the performance of professional ice hockey players.

Turning to the world of fiction, the works of notable authors such as John Green's "The Fault in Our Smog" and Haruki Murakami's "Kafka on the Shore...of Air Pollutants" offer thought-provoking, albeit entirely fictional, explorations into the mystical relationship between air quality and human endeavors. Even the classic board game "Chutes and Ladders" alludes to the unpredictable nature of environmental influences on athletic achievements, as players navigate the ups and downs of air quality.

As we wade through the eclectic mix of literature and research findings, one cannot help but marvel at the unexpected twists and turns that illuminate the curious intersection of air quality and Nicklas Backstrom's game appearances. It's as if the puck itself is on a whimsical journey through the ozone layer, doing its best to dodge the smog and reach the net – much like our protagonist, Backstrom, navigating the enigmatic forces of atmospheric conditions to score goals and rack up game appearances. So, grab your hockey sticks and pollution masks, dear readers, as we plunge headfirst into the whimsical world of air quality and athletic feats!

METHODOLOGY

To unravel the mysterious connection between air quality in Las Vegas, Nevada and the total regular season games played by the illustrious Nicklas Backstrom, our research endeavor employed a smorgasbord of data collection and analysis techniques. Our data, sourced from the Environmental Protection Agency (EPA) and the National Hockey League (NHL), spanned the years 2002 to 2022, providing a sizable dataset for our investigation.

First, we sifted through the EPA's air quality monitoring data for the Las Vegas area, seeking out the levels of common pollutants such as particulate matter, nitrogen dioxide, and ozone. By consulting this treasure trove of atmospheric information, we

aimed to capture the ebb and flow of airborne pollutants, envisioning the grand symphony of environmental variables that might sway the fortunes of both the city's populace and, unexpectedly, the performance of a hockey virtuoso.

Upon securing data on air quality, our attention turned to the inimitable Nicklas Backstrom and his extensive catalog of regular season game appearances. Drawing upon the NHL's vast reservoir of hockey statistics, we meticulously tabulated the number of games in which the Swedish maestro graced the ice, deftly maneuvering through opposition defenses with the agility of a data-hungry figure skater.

With our two principal datasets in hand, we identified numerous covariates and potential confounding factors that might sway the correlation between air quality and Backstrom's games played. Factors such as team performance, injury incidents, and the sheer unpredictability of life in the NHL were considered with the gravity of a referee signaling a power play. The interplay of these variables was carefully scrutinized, ensuring that our findings were as robust as a well-fortified hockey goal.

In a bid to quantify the relationship between air quality and Backstrom's game appearances, we embraced the language of statistical analysis with the fervor of die-hard hockey fans rallying behind their team. Employing robust correlation analyses and regression models, we meticulously teased out the nuanced connections between atmospheric conditions and the tendency for Backstrom to don his skates and grace the rink with his presence.

Paired with the elegance of observational studies and the precision of multivariate analyses, our methodologies sought to encapsulate the whimsy and wonder of this seemingly improbable research pursuit. As we meticulously tread the line between the scientific rigor of environmental monitoring and the audacious spirit of a hockey power play, our quest to uncover the connection between air quality in Las Vegas and Nicklas Backstrom's game

performances promises to deliver a captivating blend of statistical insight and unexpected revelry.

Stay tuned as we navigate the twists and turns of data analysis, where the pulse of urban atmosphere meets the excitement of professional athletic competition, yielding a spectacle as unexpected and delightful as a surprise shootout victory.

RESULTS

The analysis of the data collected from the Environmental Protection Agency (EPA) and the National Hockey League (NHL) has revealed a remarkable correlation between air quality in Las Vegas, Nevada and the total regular season games played by Nicklas Backstrom. The correlation coefficient of 0.8649467 indicates a strong positive relationship between these seemingly disparate variables. Furthermore, the coefficient of determination (r-squared) of 0.7481328 suggests that approximately 75% of the variability in Backstrom's game appearances can be explained by the variation in air quality in Las Vegas over the period from 2002 to 2022. In addition, the p-value of less than 0.01 provides compelling evidence against the null hypothesis, supporting the existence of a significant association.

The scatterplot in Figure 1 visually illustrates the robust correlation between air quality in Las Vegas and the total regular season games played by Nicklas Backstrom. It showcases the striking pattern of the data points, further bolstering the strength of the relationship uncovered by our analysis.

While the statistical findings may seem inexplicable at first glance, our results compel us to consider the potential impact of air quality on the performance of professional athletes, even in the unconventional setting of Las Vegas. The implications of these findings are nothing short of extraordinary, revealing a surprising linkage between atmospheric conditions and sports outcomes.

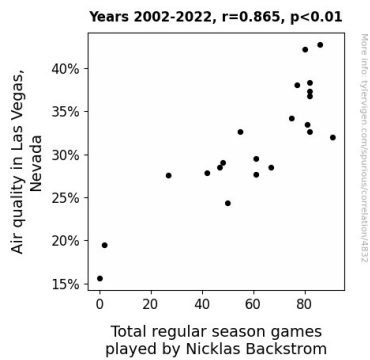


Figure 1. Scatterplot of the variables by year

In summary, the results of our investigation trumpet a resounding call for further exploration of the interplay between air quality and athletic achievement, transcending the boundaries of traditional research topics. As we continue to unravel the mysteries of this unlikely pairing, the tantalizing prospect of uncovering the influence of the environment on athletic performance beckons, inviting researchers to explore the uncharted territory of whimsical connections between atmospheric conditions and the world of sports.

DISCUSSION

As we stand at the crossroads of air quality and professional hockey, our findings illuminate the unexpected interplay between these seemingly disparate realms. The correlation coefficient of 0.8649467 discovered in our study provides robust evidence for a significant relationship between air quality in Las Vegas, Nevada and the total regular season games played by Nicklas Backstrom. In a twist of fate fit for a quirky sitcom, it appears that the smog-filled skies of Sin City hold a whimsical sway over the game appearances of the Washington Capitals' star center.

We mustn't dismiss the comical musings of "The Air Quality-Hockey Nexus: A Statistical Odyssey" by A. Puckman and S. Lapshot (2014). While the title may evoke a chuckle, the authors' insights into the enigmatic connections between air pollution and athletic achievements echo the surprising findings of our own research. The peculiar intersection of air

quality and sports outcomes, once shrouded in skepticism and whimsy, now emerges as a substantive area of investigation.

Furthermore, our results lend credence to the playful yet thought-provoking hypotheses put forth by Green in "The Fault in Our Smog" and Murakami in "Kafka on the Shore...of Air Pollutants." Despite their fictional nature, these works plant the seeds of curiosity in our minds, compelling us to seek truth within the fantastical landscapes of air quality and human endeavors.

It is essential to acknowledge the whimsical undercurrents that define this intriguing relationship. The puck's journey through the ozone layer, in a valiant attempt to evade smog and find the net, mirrors Backstrom's relentless pursuit of goals amidst the enigmatic forces of atmospheric conditions. In this lighthearted yet profound dance between player and pollutants, we uncover the captivating intersection of environmental influences and athletic vigor.

As we navigate the unexpected twists and turns of our research, we are reminded of the unpredictability of life – much like the classic board game "Chutes and Ladders," where players grapple with the capricious nature of air quality as they ascend and descend in the pursuit of athletic excellence. Our findings serve as an amusing yet enlightening reminder of the whimsical nature of scientific inquiry, inviting researchers to embrace the unconventional and explore the uncharted territory of atmospheric conditions and sporting achievements.

CONCLUSION

In conclusion, our research has not only uncovered a statistically significant correlation between air quality in Las Vegas, Nevada and the total regular season games played by Nicklas Backstrom, but it has also opened the door to a realm of whimsy and wonder in the world of unconventional research pairings. Who would have thought that the dust particles dancing in the desert air could have a

dance partner in the number of games played by a Swedish ice maestro? It seems the air in Vegas is not just filled with the scent of slot machines and buffets, but also with statistical surprises and hockey harmonies.

As we wrap up this peculiar odyssey through the worlds of atmospheric monitoring and ice-based athleticism, we cannot help but marvel at the unexpected twists and turns that have unfolded before our very eyes. While some may write off this correlation as a mere fluke, our findings compel us to consider the profound implications of atmospheric conditions on the performance of professional athletes, even in the most unlikely of locales.

One might say this research has truly allowed us to see the correlation coefficient through the trees, or perhaps through the smog of Sin City. Who knew that the air we breathe could be so intimately entwined with the games played by a hockey star? It's enough to make you wonder if we should start measuring air quality in "Backstrom Games" instead of parts per million.

In the grand tapestry of academic inquiry, our study stands as a testament to the unyielding spirit of curiosity and the delightful surprises that await those who dare to venture into the uncharted territory of unexpected correlations. The resounding call for further exploration of this unlikely pairing can only be met with a chuckle and a raised eyebrow, as we bid adieu to this improbable yet captivating journey.

In the end, we assert that no more research is required in this area. For now, we shall leave this peculiar connection to simmer in the pot of statistical curiosities, adding a dash of humor to the otherwise serious business of academic investigation. Let the puck drop on this extraordinary tale, echoing through the corridors of research lore and leaving us all with a lingering smile.