## Review

# The Wiener-Take-All: Exploring the Correlation Between Highschoolers in the US and Nathan's Hot Dog Eating Competition 

Caroline Horton, Alice Thomas, Gavin P Tompkins<br>Center for the Advancement of Research


#### Abstract

This study aims to delve into the apparent link between the number of highschoolers in the US and the hotdogs consumed by the champion of Nathan's Hot Dog Eating Competition. Despite the seemingly unrelated nature of the two variables, our research uncovers a striking correlation coefficient of 0.9238591 and $p<0.01$ for the years 1990 to 2022. The findings suggest a potential hidden influence of highschoolers on the competitive eating world, nudging the hotdog consumption trends of the reigning champions. This curious connection may provoke further investigation into the unanticipated impact of educational demographics on gastronomic achievements.


As we delve into the realm of statistical analysis and gastronomic feats, it becomes abundantly clear that the interplay between seemingly disparate variables can often yield surprising correlations. Such is the case with our study, where we endeavor to elucidate the intriguing relationship between the number of highschoolers in the United States and the prodigious hotdog consumption of the illustrious victors of Nathan's Hot Dog Eating Competition.

While one might initially dismiss these variables as unrelated, our preliminary analysis has unearthed a correlation coefficient that could make even the staunchest skeptics raise an inquisitive
eyebrow. With a coefficient of 0.9238591 and a p-value of less than 0.01 for the years 1990 to 2022, the statistical connection between these factors is as unmistakable as the scent of grilling franks at a summer barbecue.

The intersection of highschoolers and competitive binge eating may seem as outlandish as a physics professor at a chili cook-off, but our investigation aims to elucidate this enigmatic relationship with unwavering scientific rigor. By peeling back the layers of data and employing robust statistical methods, we hope to shed light on this peculiar correlation and perhaps inject a
dash of levity into the typically austere world of academic research.

Even as we embark on this research endeavor, we cannot help but ponder the myriad ways in which highschoolers, hotdogs, and competitive eating intersect. Could it be the youthful exuberance fueling the contestants' gustatory endeavors, or perhaps the sheer magnitude of highschoolers collectively exerting a subliminal influence on the reigning champions' appetites?

In the grand tradition of esoteric correlations and unorthodox research pursuits, the Wiener-Take-All study promises to unravel an unexpected saga at the intersection of educational demographics and competitive consumption. Let us embark on this scholarly odyssey, armed with our data, our skepticism, and perhaps a touch of irreverent humor, to unravel the tantalizing enigma of hotdogs, highschoolers, and the savory statistics that bind them.

## Prior research

The apparent correlation between the number of highschoolers in the United States and the hotdogs consumed by the champion of Nathan's Hot Dog Eating Competition has baffled and intrigued scholars and enthusiasts alike. While the initial connection may seem as unlikely as a unicorn in a hot dog costume, the burgeoning body of research in this domain suggests that there may be more to this curious relationship than meets the eye.

In "Statistics of Competitive Eating," Smith and Doe delve into the world of competitive eating with a focus on the tantalizing triumphs at Nathan's Hot Dog

Eating Competition. Although their work primarily centers on the techniques and training regimens of competitive eaters, a passing mention is made of the potential external influences on contestants' consumption patterns. Meanwhile, Jones et al. in "Demographic Dynamics: A Comprehensive Analysis" explore the complex interplay between demographic shifts and societal phenomena, hinting at the far-reaching impact of educational demographics on seemingly unrelated spheres.

Expanding beyond the realms of traditional research, we encounter a myriad of seemingly unrelated non-fiction works that inadvertently shed light on the enigmatic correlation in question. "The Economics of Fast Food" by Ronald McDonald, not to be confused with the founder of a well-known fast-food chain, presents a comprehensive exploration of the economic forces driving the consumption of fast food, including hotdogs. Similarly, "The Highschoolers' Dilemma: From Cafeteria to Competition" seamlessly weaves together the narratives of highschoolers' dietary choices and the competitive eating landscape.

Delving into the realm of fiction, "The Hotdog Diaries" by Frank Furter and "Highschool Hijinks: A Culinary Chronicle" by Patty O'Furniture provide whimsical yet oddly resonant accounts of the intersections between highschoolers, hotdogs, and unexpected triumphs. While these works may not adhere to the rigorous standards of academic research, they offer captivating narratives that mirror the quixotic nature of our investigation.

In a serendipitous turn of events, social media posts have surfaced, providing anecdotal accounts of highschoolers expressing pride and elation at the accomplishments of Nathan's Hot Dog Eating Competition champions. The fervor and enthusiasm displayed in these posts hint at a potential undercurrent of highschoolers' influence on the competitive eating landscape, serving as an intriguing supplement to our quantitative findings.

The confluence of academic, non-fiction, and fictional literature, coupled with the anecdotal evidence from social media, serves to underscore the multifaceted nature of the inquiry at hand. As we proceed with our exploration, this eclectic blend of sources promises to inject a dash of mirth into our pursuit of unraveling the profound mysteries of highschoolers, hotdogs, and the unexpected correlations that bind them.

## Approach

To examine the curiously robust relationship between the number of highschoolers in the United States and the prodigious consumption of hotdogs by the champion of Nathan's Hot Dog Eating Competition, our research team conducted an extensive analysis utilizing data from the years 1990 to 2022. The primary sources of information included the National Center for Education Statistics and the ever-reliable treasure trove of knowledge, Wikipedia. Although some may question the veracity of data obtained from the latter, we took great care to validate the information through cross-referencing and rigorous fact-checking.

The methodology employed in this study harnessed the power of quantitative analysis, harnessing the wiles of statistical procedures
to wrangle the data into submission. We merrily skipped through the fields of regression analysis and correlation coefficients, armed with a cornucopia of spreadsheet wizardry and number-crunching prowess to unveil the hidden connections between highschoolers and hotdogs. The use of such quantitative methods allowed for a systematic exploration of the relationship, free from the capricious sway of anecdotal evidence and hunches.

Furthermore, in our quest for enlightenment, we also dabbled in time series analysis, allowing us to sift through temporal patterns and unearth any temporal fluctuations in the consumption of buns and links. It was not unlike embarking on a gastronomic safari through the annals of historical data, tracking the migration of hotdog consumption trends across the years with the precision of an intrepid scientist tracking elusive prey.

In addition to these time-honored statistical methodologies, we also indulged in a spot of data visualization, crafting colorful bar charts and captivating line graphs to illustrate the trends and co-movements of our variables. With the artistry of a master chef embellishing a gourmet dish, we arranged the data points and regression lines into aesthetically pleasing visualizations, ensuring that the complex interplay between highschoolers and frankfurters would not escape the discerning eye of the observant reader.

Moreover, the research team conducted sensitivity analyses to discern the robustness of the discovered correlation, subjecting the data to rigorous stress tests and probing the connection from every conceivable angle. Just as a chef insists on multiple tastings
before deeming a dish fit for the palate, we subjected our findings to relentless scrutiny, ensuring that the connection between highschoolers and hotdogs endured the harshest of statistical gustatory trials.

Ultimately, through the judicious amalgamation of statistical tools, data validation, and a hint of scholarly whimsy, we endeavored to peel back the layers of correlation between highschoolers in the U.S. and the consumption of hotdogs by the victors of Nathan's Hot Dog Eating Competition, offering a veritable feast of findings for the discerning academic palate.

## Results

The analysis of the data collected yielded a robust and eye-catching correlation coefficient of 0.9238591 and an r-squared value of 0.8535157 for the years 1990 to 2022. With a p-value of less than 0.01 , the statistical relationship between the number of highschoolers in the US and the hotdogs consumed by the Nathan's Hot Dog Eating Competition champion is as unmistakable as a condiment-drenched bun at a summer cookout.

In Figure 1, a scatterplot graphically illustrates the formidable correlation between the two variables. The plot practically screams, "Look at me, I'm as statistically significant as a jumbo-sized hotdog in a world of cocktail franks!"

This unexpected connection between highschoolers and competitive hotdog consumption prompts a veritable smorgasbord of hypothetical explanations. Perhaps the fervor of youth secretly fuels the champions' insatiable appetites or the sheer presence of highschoolers exerts a
subliminal influence on the competitive eaters, akin to the scent of sizzling sausages wafting through the air.


Figure 1. Scatterplot of the variables by year
Evidently, the insatiable hunger for hotdogs transcends the realm of mere culinary delight, weaving itself into the intricate tapestry of educational demographics with all the finesse of a master pâtissier crafting an elaborate confection.

While the unorthodox nature of this correlation may raise a few eyebrows, it certainly spices up the usually bland world of statistical analysis - much like a welltimed dash of chili powder enlivens an otherwise pedestrian dish. This unexpected confluence of educational statistics and competitive eating unveils a rich and flavorful narrative that invites further investigation, promising an eclectic blend of academic rigor and unwavering culinary curiosity.

## Discussion of findings

The notable correlation coefficient of 0.9238591 and a p-value of less than 0.01 between the number of highschoolers in the US and the hotdogs consumed by the

Nathan's Hot Dog Eating Competition champion substantially bolsters the accumulating evidence of this quirky relationship. Our findings align closely with the whimsical yet oddly resonant accounts in "The Hotdog Diaries" by Frank Furter and "Highschool Hijinks: A Culinary Chronicle" by Patty O'Furniture, which, although framed as works of fiction, seem to echo the unexpected correlation revealed in our empirical analysis.

It is intriguing to note that our statistical exploration mirrors the tantalizing triumphs featured in the "Statistics of Competitive Eating" by Smith and Doe, who also hinted at the potential external influences on contestants' consumption patterns. While their focus primarily lay in the techniques and training regimens of competitive eaters, our work uncovers a startling link between educational demographics and the remarkable feats at Nathan's Hot Dog Eating Competition.

The unexpected convergence of educational statistics and competitive eating provides an amply flavorful narrative, akin to a culinary delight that not only satiates but also piques the senses with its unanticipated zest. Our findings serve as a testament to the serendipitous connections that lay dormant within the labyrinth of numerical data, waiting to be unearthed with the precision of a skilled archaeologist delicately brushing away layers of soil to reveal a hidden treasure.

The formidable correlation between the number of highschoolers in the US and the hotdogs consumed by the Nathan's Hot Dog Eating Competition champion unveils a rich tapestry of enigmatic correlations, exuding the piquancy of a marinated relish dancing
on the taste buds. It challenges traditional notions of causal relationships, injecting a dash of mirth into the seemingly staid discipline of statistical analysis, much like a well-timed quip enlivens a formal gathering.

With the indomitable rapport established between highschoolers and competitive hotdog consumption, our study implores further research to unpack the intricate dynamics underpinning this unexpected correlation. This foray into the uncharted terrain of educational demographics and gastronomic achievements promises an enchanting blend of academic rigor and unwavering culinary curiosity, creating a delectable fusion where science and absurdity joyfully coalesce.

## Conclusion

In conclusion, our study has unearthed a startling and sausage-tially significant correlation between the number of highschoolers in the US and the hotdogs engulfed by the reigning victors of Nathan's Hot Dog Eating Competition. The robust correlation coefficient of 0.9238591 is as eye-catching as a ketchup stain on a crisp white lab coat, leaving little room to doubt the statistical significance of this peculiar relationship.

The implications of this unorthodox correlation are as tantalizing as a plump, perfectly grilled hotdog on a summer day. Could it be that the exuberant energy of high school teens indirectly fuels the voracious appetites of the competitive eating champions, or perhaps the sheer presence of so many adolescent palates subliminally steers the hotdog consumption trends of the reigning superstars?

It is clear that the connection between educational demographics and gastronomic achievements runs deeper than a bun full of condiments. As we unweave the intricate tapestry of this unexpected correlation, we are reminded that statistical analysis, much like a finely crafted dish, can hold surprising flavors and nuanced layers that captivate and confound in equal measure.

However, it is safe to say that further research in this area would be as unnecessary as bringing $a$ bib to a competitive eating competition. The statistical bond between highschoolers and Nathan's Hot Dog Eating Competition champions is as firm as a well-grilled sausage, leaving little room for doubt and much room for amusement in the world of academically rigorous but unexpectedly entertaining research.

