

Violence in the mentally ill triggered by spikes in serum serotonin caused by dramatic drops in allergen levels.

Tariq Khan
*Department of Computer Science
University of Nebraska at Omaha,
Omaha, Nebraska, USA*

It is known that humans are sensitive to their environment, mentally ill or unstable individuals can be "triggered" into impulsive and violent activities from spikes in serum serotonin, serum histamine level is directly proportional to environmental allergen levels, and serum serotonin level is inversely proportional to serum histamine levels. Data appears to show a clear "pattern match" between the date of violent acts from mentally ill individuals and crashes or dramatic decreases in environmental allergen levels (especially when the allergen or pollen level decreases to zero) indicating a possible precursor or triggering relationship. This knowledge could be used as a potential predictor for law enforcement and medical agencies with modern technology tracking near real-time data per city.

Serotonin: ...serotonergic neurons ... play an important part in a variety of psychiatric conditions from anxiety disorders to schizophrenia as well as behavioral impulse-related disorders (violence, substance abuse, obsessive control, etc...)

A scientific motto, often demonstrated to be true, is that "biology drives psychology." The advent of near real-time tracking of allergen levels in given cities has led to a possible predictive model from known human serum biochemistry of histamine and serotonin interactions versus observed year-over-year acts of violence from mentally unstable individuals. This model can be useful, if not critical, for law enforcement, general public awareness, and public safety. Knowing the heightened level of risk during the annual time of year that major allergen or pollen levels drop to zero in a given city, can theoretically help save lives. Law enforcement, emergency services (911) staff, medical staff, as well as mentally ill patients themselves, knowing the factors in play, can take actions or be in a heightened state of awareness for the noted small window of time and literally track it on simple and public websites like <https://weather.com/> and www.pollen.com. "Normal" individuals may even be able to observe, track, or understand simple impulsive behaviors from similar, albeit manageable, increases in blood serum serotonin levels leading to excess confidence and risk taking from the biochemistry of the associated crash in airborne allergens of pollen that thus lowers serum histamine levels.

There is a remarkable "pattern match" where mentally unstable individuals almost always (especially relative to those that had already been planning or staging an act of violence or terror or gun violence) will be triggered, i.e. they "cannot resist the impulse," to act during a surge in blood (brain) serotonin levels due to a sudden and large drop in environmental allergen levels, that crashes serum histamine, causing the aforementioned spike in blood (brain) serotonin (histamine and serotonin are proven to be inversely related in human biochemistry). Thus, right after the "peak" and especially during the final "drop-off point to zero" of annual tree, grass, and ragweed pollen, but especially spring tree pollen like juniper pollen in the United States, we find the times of highest risk perfectly matching violent events especially single shooter gun violence. Events matching this prediction including the Las Vegas concert shooting 10/1/17, the Southerland Springs Texas Church shootings 11/5/17, the Parkland, Florida school shooting 2/14/18, the Pittsburgh, Pennsylvania Synagogue shooting 10/27/18, the 3/17/21 Acworth (Atlanta) Georgia Asian spa shooting, the 3/22/21 Boulder Colorado King store shooting, and possibly even the 2001 terrorist attacks known as nine-eleven, 9/11/2001, all appear to match this model with extreme precision.

Large public events during fall ragweed pollen and especially spring tree pollen dates of final pollen level decline can be monitored with increased awareness noting that airborne pollen levels will peak and decline following temperature drops and increases (as winter temperatures approaches in the fall they will drop especially from frost and as summer temperatures approach in the spring after tree pollen peak usually in March), moving from North to South in the fall and from South to North in the spring i.e., moving down and up latitudes. Thus, we see how the Las Vegas event precedes the Texas shooting in the fall as ragweed weed pollen levels have yet to finish further south in the United States where temperatures are still warm enough.

The effect of excess blue-light or sunlight that increases dopamine is also noted in year-over-year crime increases, especially in youth crime, each summer especially during the annual peak sunlight week every June 21st or the week right after this summer solstice. Also, the subtle impact of sunlight reflected off of snow on the ground that boosts dopamine - via dopa-receptors in the back of our eyes - perhaps also indicative of why so many humans "like snow" as it literally is chemical anti-depressant trigger.

Example 1.

On late Sunday night October 1, 2017 in Las Vegas a psychopathic shooter killed scores of individuals at a concert with sniper type guns from a hotel window. One cannot debate the status of "mental illness" here but the observation relates to why did he choose or act on 10/1? This model or theory suggests to look at the daily levels of allergens in that season (in this case ragweed levels) that on 10/1/17 in Las Vegas (see diagram) were plummeting on 10/1/17 and reached zero on 10/2/17 thus causing dramatic changes in brain serotonin (in any individual in that area) but perhaps setting off a chemical instigator or trigger in the shooter or any psychopathic individual in that city of Las Vegas at that time. It must also be noted that Las Vegas is one of the "brightest" or sunniest cities in the United States and mentally unstable individuals have even been known to have seizures from the excess blue light from the flood and intensity of light so we have yet another possible factor to monitor.

On November 5, 2017, twenty six worshippers were murdered in a shooting from a mentally unstable individual in the First Baptist Church of Southerland Springs in Southerland Springs, Texas. Ragweed pollen crashed to zero that day.

On February 14, 2018, seventeen school kids were killed in Parkland Florida by a mass shooting from an expelled student. Tree pollen spiked that day and later in that day crashed. The shooting was at the end of the school day.

On October 27, 2018, eleven innocent worshippers were murdered in Pittsburgh, Pennsylvania in a synagogue shooting from a mentally insane shooter. Fall ragweed pollen crashed to zero that day.

<https://m.accuweather.com/en/us/parkland-fl/33067/weather-forecast/337605>
<https://weather.com/>

On March 16, 2021, eight people were killed in spas in the Acworth suburb of Atlanta by a single young gunman who apparently had a sexual addiction.

<https://www.pollen.com/forecast/historic/pollen/30101>

On March 22, 2021, mass shooting at King Soopers supermarket in Boulder Colorado with a single gunman killing ten people. <https://www.pollen.com/forecast/historic/pollen/80301>

One can speculate that higher levels of pollen in the United States than the rest of the world, especially in the spring, and the increase in the number of frost-free days (possibly from global warming via climate change) is an actual cause of higher gun violence in the United States.

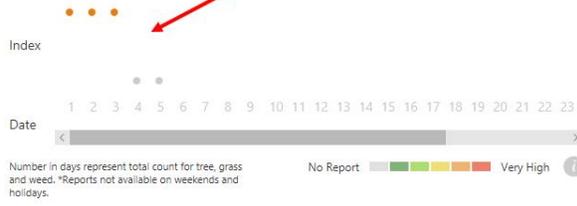
Source: <https://www.climate.gov/news-features/climate-and/climate-allergies>

Source: <https://www.nebrwesleyan.edu/academics/majors-and-minors/biology/pollen-count/pollen-count-archives>

HISTORICAL POLLEN COUNTS

◀ Nov 2017 ▶

San Antonio, TX (Source)

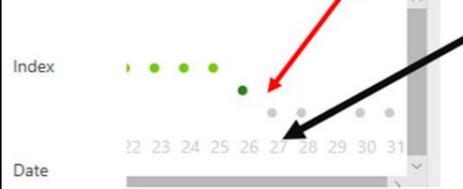


Southerland Springs Church shooting 11/5/17

HISTORICAL POLLEN COUNTS

◀ Oct 2018 ▶

Pittsburgh, PA (Source)



Pittsburgh, PA Synagogue Shooting 10/27/18

HISTORICAL POLLEN COUNTS

◀ Sep 2017 ▶

◀ Oct 2017 ▶

Las Vegas, NV (Source)



Las Vegas concert shooting 10/1/17

<https://m.accuweather.com/en/us/parkland-fl/33067/weather-forecast/337605>

Today's Pollen Forecasts

TREE POLLEN RAGWEED POLLEN MOLD GRASS POLL

High

Tree pollen levels will be high. Plan activities and medication accordingly.

5

Parkland, FL

74°
8:58PM

3 DAY RADAR EXTENDED

Dust & Dander Forecast



Parkland, Florida school shooting 2/14/18

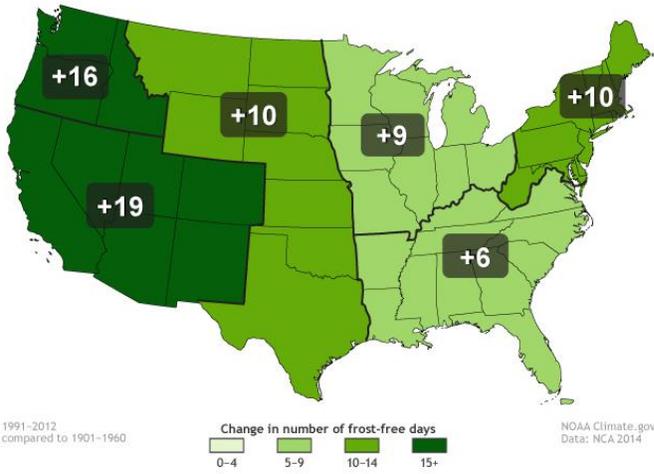
Acworth (Atlanta) Georgia Asian spa shooting 3/16/21 vs spring tree pollen level decline



Boulder Colorado King store shooting 3/22/21 vs spring tree pollen level decline



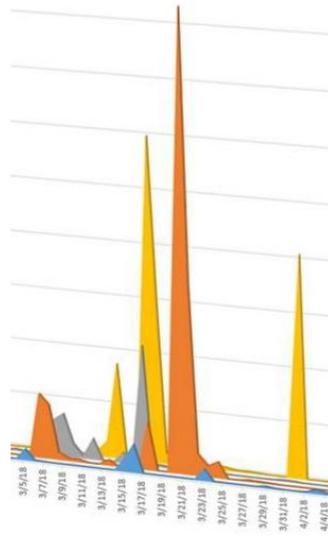
Observed increase in frost-free season



The frost-free season length, defined as the period between the last occurrence of 32°F in the spring and the first occurrence of 32°F in the fall, has increased in each U.S. region during 1991-2012 relative to 1901-1960. Increases in frost-free season length correspond to similar increases in growing season length. Figure adapted from the National Climate Assessment 2014.

Source: <https://www.climate.gov/news-features/climate-and/climate-allergies>

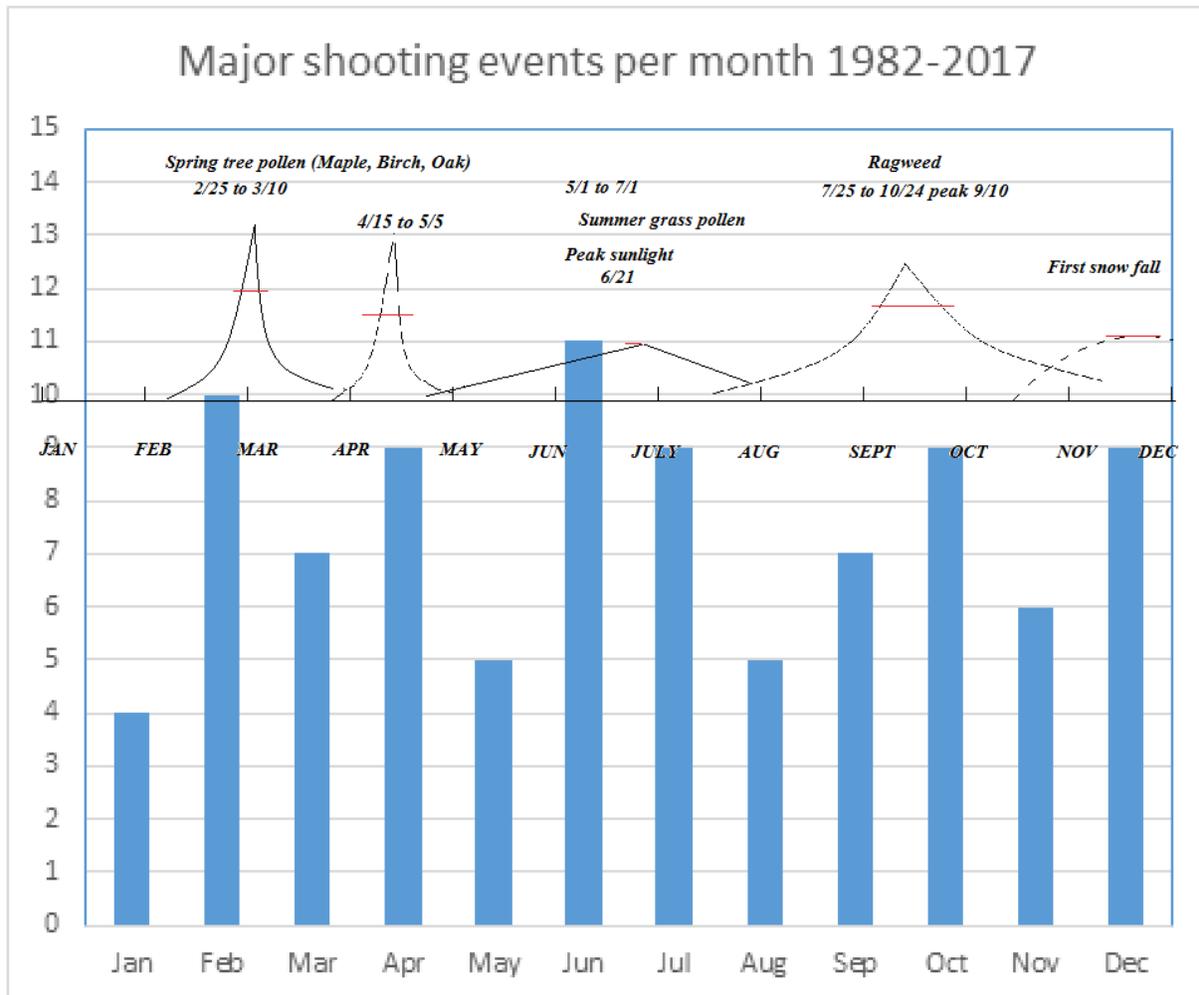
Year over years daily spring tree pollen levels in Nebraska



Source: <https://www.nebrwesjeyan.edu/academics/majors-and-minors/biology/pollen-count/pollen-count-archives>

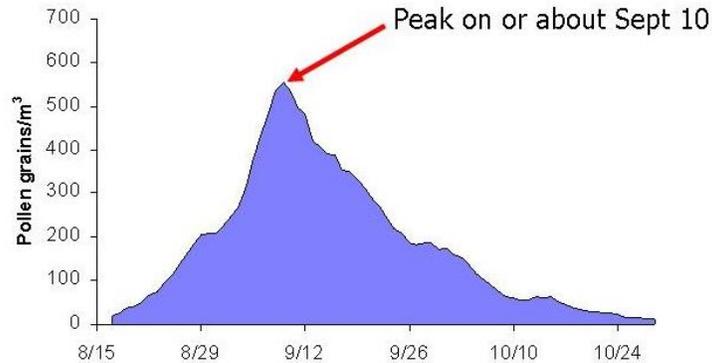
Example 2.

A second example involves the graph below showing 91 major shooting events in the United States from 1982 to 2017 separated by month. If we overlay that with the three major pollen bursts that occur in the continent we can see three obvious triangular increases or spikes in violence and the decreases that closely match the pollen levels. December proves to be the only month out of pattern, however the spike in December is likely due to political and religious drivers as well as social and depression related drivers (job layoffs, Christmas loneliness, or seasonal affective depression). It could also, in theory, be due to the first snowfall in the United States and the subsequent spike in dopamine from reflected sunlight and airborne allergen levels dropping suddenly as, instead of blowing around on leaves or in the wind, the allergens are suddenly and literally buried in snow.



Example 3.

In a similar manner, the choice of the date for the terrorist attack in the United States known as nine-eleven (from the date of September 11 in 2001), was often associated to some sort of symbolic association with 911 as the "emergency" numbers used on standard telephones etc... However one must realize that every year the very peak of national ragweed, that directly impacts sleep, and thus REM sleep, and thus impulsivity "might" indicate the given range of possible dates a mentally unstable individual might ultimately "choose" (or be triggered) to act on the peak dates thus we can see from this extremely accurate graph of annual ragweed year to year output of ragweed levels how peak ragweed falls on 9/10 every year. Again overlay this to the gun violence diagram.



Example 4.

For another example, we can simply list the facts as noted in the online Wikipedia encyclopedia regarding the near-fatal events related to a Las Vegas trip by Lamar Odom where again we must consider the exact date and the location and note how it overlays to the model.

On October 13, 2015, Odom was hospitalized after being discovered unconscious at the Love Ranch, a brothel in Crystal, Nevada. He was in a coma and placed on life support in a hospital in Las Vegas for a few days before regaining consciousness. He had suffered several strokes and kidney failure. He was transferred from Las Vegas to a Los Angeles hospital by medical transport. In the aftermath of the incident, Kardashian withdrew her request for a divorce. She said they had not reconciled but she had withdrawn the divorce so that she might assist him in making medical decisions during his recovery.

Now what would lead a millionaire athlete to nearly end up dead from a partying binge? Let's consider again how biology can drive psychology. We have a darker skin individual traveling to a sunshine filled region. He is already somewhat depressed, most likely from normal season affective disorder as he works in the Northeast higher latitude. However he takes a trip to sunny Las Vegas but begins his trip already inadvertently setting up the trap of his fate. He begins on the plane with alcohol and eventually cocaine. Both have two major side effects. Both dilate pupils. But dilated pupils filled with bright Las Vegas sunlight has the potential to overload even a normal individual into a state of hyperactivity from dopa-receptors on the back of the retina of our eyes (thus boosting dopamine). But cocaine will also boost dopamine and alcohol is both a stimulant and depressant as it first boosts dopamine but then lowers it to below the initial level. This creates the "chase the dragon" scenario where an individual will continue to drink more to achieve the state of please or "happiness" of the elevated dopamine. However as his downward spiral continues we now add the sunlight and cocaine and we have an unachievable level of dopamine that leads in theory the individual to chase more and more of a "high" thus more cocaine and more alcohol and then even sex and then ultimately a state of excess that leads to the biological crash that puts him into a coma.

Note the ethics or legality of behaviors are not in question here but rather the interplay of biological and environmental factors leading to a psychological sequence of negative actions.

In summary, we need to consider the effect of the environment on the behaviors of individuals and how new models, tools, and patterns might explain and predict violent actions year-over-year with very close precision. Even going back to antiquity, we see pagan festivals on the autumnal and vernal equinox dates of 9/21 and 3/21 where it was thought that religious mysticism drove impulsive and liberal activities. However these same dates fall immediately after the known two major annual pollen bursts and crashes (tree pollen in spring and ragweed pollen in the fall) that have already lead to impulsive behaviors from the impact to sleep and REM sleep and breathing (hypoxia). The same is seen in the annual increase of crime in the first week of July. That week involves often young men with often too much free time and alcohol that, if they spend time outside, are exposed the brightest sunlight on the brightest week of the year (summer solstice is 6/21 or the longest day of the year) and thus we again have a dopamine boosting week combined with free time, hormones and alcohol and the possible consequences should be obvious.

But now, considering the known windows of the major allergen bursts and their known effects on human brain biochemistry, we must consider that there is a possible predictive likelihood of mentally unstable individuals being triggered on the date ranges of pollen crashes in the fall and spring of each year with exact dates relative to each city and easily seen from online data. These days, or given weeks, should involve increased monitoring by law enforcement and medical professionals of mentally unstable individuals, as well as the patients themselves, to avoid impulsive and possibly catastrophic events from the associated increase in serum serotonin.