

Mapping the entire field of autism causation studies in one article

When one looks at the big picture, the answer becomes clear



TOBY ROGERS

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I. INTRODUCTION

It seems to me that the proper way to understand the autism epidemic is to read everything that has been written on autism causation, throw out any studies that are characterized by a financial conflict of interest or fatally flawed study design, and see what patterns emerge from the papers that are left. During my [doctoral thesis](#) I reviewed about 80 of the top studies in autism epidemiology and toxicology. That was groundbreaking at the time because the vast majority of mainstream scholars don't have the courage to discuss any papers that threaten the profits of powerful industries.

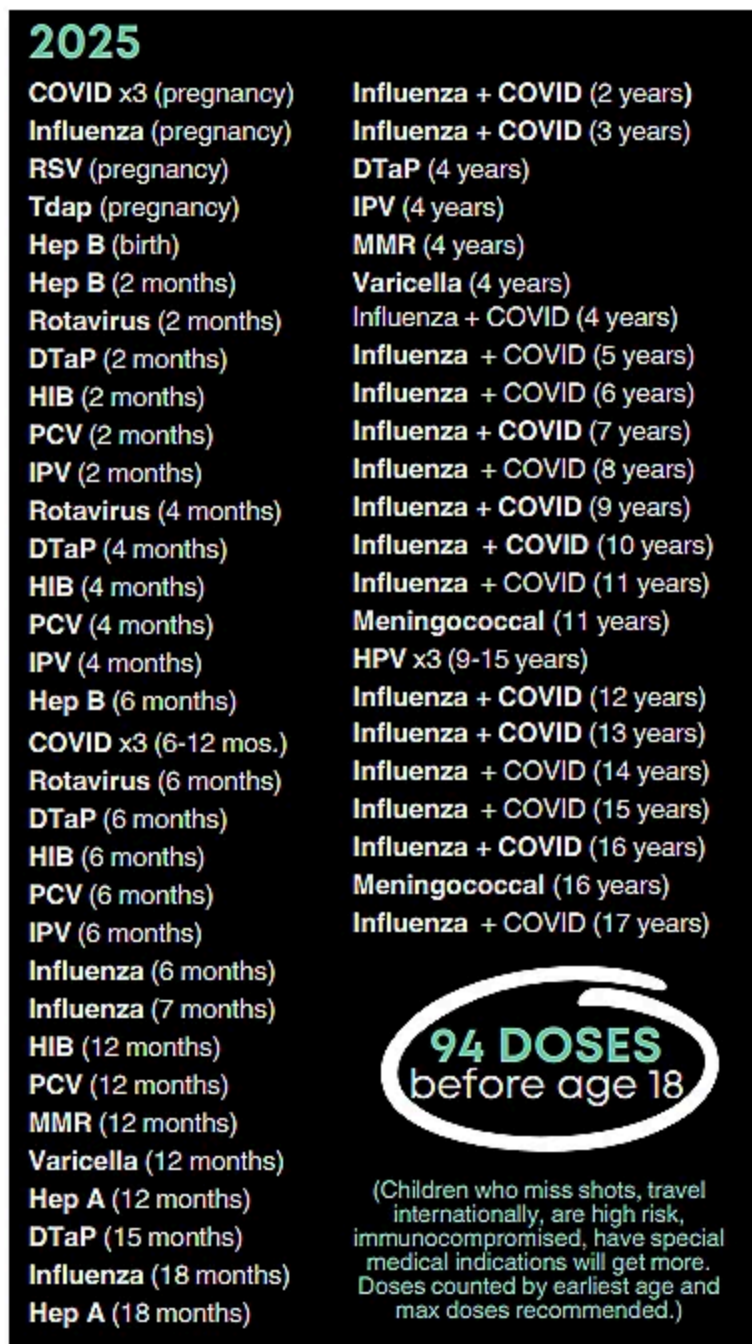
As I've continued to work in this space over the last six years I now realize that there are about 1,000 autism causation studies in the English language focused on the U.S. It's daunting to think about trying to wrap one's head around a field that large. So most public health officials just grab a favorite study here or there to justify their biases and that is exactly the wrong way to approach this topic. There has to be a better way of working through the available knowledge on this issue.

Now I believe that I've figured out how to map the entire field of autism causation studies in one article. If you sat down to read each article individually, it would likely take you several years. But as I will show below, you don't necessarily have to do that. There is a way to move through all of the literature at a meta level that I believe leads to the right answer and a viable plan for how to stop the autism epidemic.

Let's start with a quick introduction and then get into the different types of studies

In the early 1980s, vaccines were so harmful that vaccine manufacturers routinely lit in court. They lobbied the U.S. Congress to pass the 1986 National Childhood Vaccine Injury Act to give themselves liability protection. And they pinky-swore to make vaccines safer but there was no legal mechanism in the bill to enforce that promise they never did.

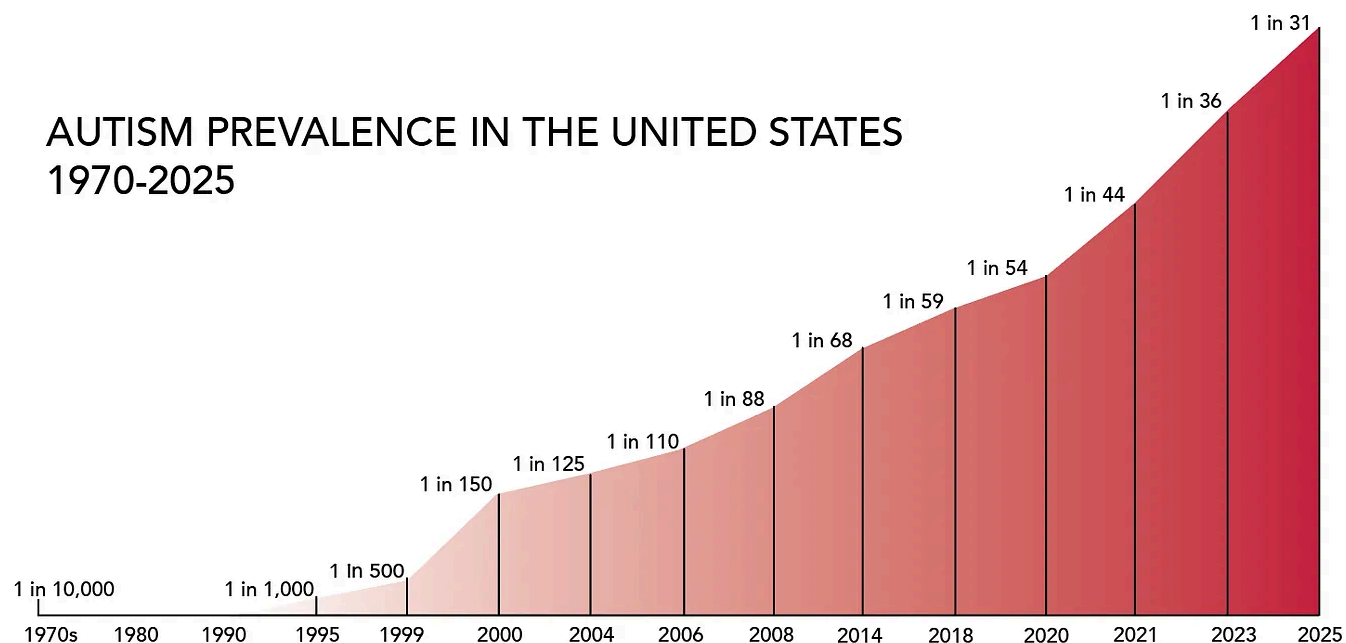
Pharmaceutical companies proceeded to add as many vaccines as possible to the schedule. Prior to 1986, there were 3 routine vaccines totaling 7 injections. Today the CDC's Maternal and Child & Adolescent vaccine schedules include 19 vaccines requiring 76 injections with 94 total doses of antigen (I'm actually less worried about the antigens than the other ingredients in the shots).



No one in a position of authority bothered to measure the impact of the growing vaccine schedule on the health of children. Most regulators were auditioning for a job with Pharma because that's where the money is. Politicians depend on Pharma donations for their re-election campaigns. The mainstream news media get most of their revenue from Pharma advertising so they were never going to bite the hand that feeds them. Pharma invested heavily in public relations to lay siege to any remaining pockets of resistance.

Mercury (thimerosal) was grandfathered in as “Generally Recognized As Safe” because it’s easier to do that than actual safety testing. Aluminum adjuvants were allowed with only minimal safety testing — 1 man, 3 rabbits, and ever-moving goal posts (chapter of [my thesis](#) covers the regulatory history of aluminum adjuvants). The gold rush was on so vaccine manufacturers were free to add whatever they wanted to vaccines and they would all be approved because the regulators and the medical industry were captured mind, body, and spirit by Pharma.

The autism rate skyrocketed in the 1990s and has continued to increase ever since. Rates of ADHD, life threatening allergies, autoimmune disorders, asthma, childhood cancers, diabetes, and epilepsy soared too and those are probably vaccine injuries as well. But autism spectrum disorder (ASD) is more costly than those other conditions because it’s a lifelong disability with no known effective treatment (some parents have been able to recover their children through holistic and alternative therapies but the percentage who are successful in doing so is still in the single digits).



At that point, the people who created the autism epidemic had to pretend to look for the cause. But they had to make sure to never find the actual cause because then the flow of research funding would stop and lots of these doctors and scientists would go to jail or be hung from lampposts by angry parents of injured kids. So an entire industry was created to cover up the autism epidemic.

II. TWENTY-TWO STUDIES IN THE VACCINE COVER-UP

Since 2000, more than twenty scientific studies have concluded that there is no association between vaccines and autism. The most widely cited studies are:

- Fombonne & Chakrabarti, [2001](#);
- Madsen et al., [2002](#);
- Mäkelä, Nuorti, & Peltola, [2002](#);
- Pichichero, Cernichiari, Lopreiato, & Treanor, [2002](#);
- Hviid, Stellfeld, Wohlfahrt, & Melbye, [2003](#);
- Madsen et al., [2003](#);
- Nelson & Bauman, [2003](#);
- Stehr-Green, Tull, Stellfeld, Mortenson, & Simpson, [2003](#);
- Verstraeten et al., [2003](#);
- Wilson, Mills, Ross, McGowan, & Jadad, [2003](#);
- Andrews et al., [2004](#);
- Heron & Golding, [2004](#);
- Smeeth et al., [2004](#);
- Honda, Shimizu, & Rutter, [2005](#);
- Fombonne et al., [2006](#);

- Miles & Takahashi, [2007](#);
- Thompson et al., [2007](#);
- Baird et al., [2008](#);
- Hornig et al. [2008](#);
- Schechter & Grether, [2008](#); and
- Tozzi et al., [2009](#).

Most of these are studies that claim no association between MMR or thimerosal-containing vaccines and autism, which is odd because the CDC's own internal research shows that both of these types of vaccines do indeed cause autism (see [2011](#) statement from William Thompson and [2014](#) SafeMinds analysis of FOIA documents obtained from former CDC researcher turned GSK executive Thomas Verstraeten).

J.B. Handley also documents the conflicts of interests and fatal flaws in study design for most of these papers on a brilliant website called [14studies.com](#).

More recently, vaccine supporters have made a last stand with Hviid et al. ([2019](#)) but that study is also fatally flawed (for example the autism rate in their sample was more than 65% lower than in the general Danish population; see analysis in Hammond, Varia, & Hooker, [2025](#) and James Lyons-Weiler, [2019](#)).

Furthermore even though randomized, double-blind, placebo-controlled trials are the gold standard of biomedicine, none of the studies listed above has a proper control group of unvaccinated children (the Informed Consent Action Network provides the details [here](#)). The failure to conduct proper double-blind RCTs renders all of these studies scientifically invalid.

And just like that we've demolished the entire basis for the claim that vaccines do not cause autism.

III. FIVE LARGE AUTISM GENETICS STUDIES

In the 1990s, the Human Genome Project captured the public's imagination and the government's scientific spending. Claiming that autism is genetic was a win-win because it offered the hope that autism might be curable through genetic engineering.

The federal government then sank more than \$2 billion into searching for the gene(s) for autism... and found nothing that explained more than [1%](#) of cases.

Not to be outdone by the federal government, private foundations also sought to prove that autism is genetic and failed categorically.

The genetic explanation for autism has always been problematic because there is no such thing as a genetic epidemic — the human genome just doesn't change that fast.

[AGRE](#)

The Autism Genetic Resource Exchange ([AGRE](#)) was established in 1997 by the Cure Autism Now (CAN) foundation, a predecessor organization to Autism Speaks (which later merged with CAN in 2007). [AGRE](#) collected genetic (DNA) and phenotypic (clinical, behavioral) data from 2,000 families with at least one member diagnosed with ASD and made the data freely available to qualified researchers globally. This led to the production of [169](#) scientific journal articles but no major breakthroughs that get any closer to understanding autism causation or treating autism symptoms. Below I explain more why and how all of these gene studies fail in a similar fashion.

[SSC](#)

As readers of this Substack [will remember](#), Jim Simons (1938 – 2024) was a billionaire hedge fund manager with a daughter with autism. He wanted to invest some of his wealth in addressing autism and many of the top scientists in the country took advantage of him by [telling him](#) that autism was likely genetic. Jim set up the Simons Foundation and proceeded to spend over \$300 million searching for the gene(s) for

autism. The Simons Foundation Autism Research Initiative (SFARI) launched a project called the Simons Simplex Collection (SSC) in 2007 that gathered genetic, clinical, and behavioral information from approximately 2,600 “simplex” families — those with a child diagnosed with ASD, unaffected parents, and typically one unaffected sibling. SSC has produced [132](#) peer-reviewed publications and identified “102 risk genes.” But it has produced no major breakthroughs that get us any closer to understanding autism causation or treating autism symptoms.

[ASC](#)

In 2010, the Autism Sequencing Consortium ([ASC](#)) was founded by [Joseph Buxbaum](#) at the Icahn School of Medicine at Mount Sinai, New York and supported by the Broad Institute and NIH. Like other multi-million dollar health studies, ASC launched with a [breathless promotional article](#) in a major journal. Rather than focusing on the whole genome, ASC focuses on sequencing the exome which is “the portion of the genome that contains all the exons, which are the protein-coding regions of DNA.” The claim is that the exome “represents a small percentage of the total genome, about 1-2%, but it contains a majority of the known disease-related genetic variations.”

To date, the ASC has sequenced approximately 50,000 exomes from ASD cases, unaffected siblings, and parents. A search of PubMed shows [22](#) peer-reviewed publications associated with ASC. In [2020](#) they published a paper highlighting the identification of 102 genes in autism and in [2022](#) they identified 72 more. These sorts of studies produce excited headlines in the mainstream media but no breakthroughs that get us any closer to understanding autism causation or treating autism symptoms.

IN 2011, A COMPREHENSIVE STUDY OF TWINS AND AUTISM SHOWED THAT AUTISM IS NOT PRIMARILY A GENETIC DISORDER... AND THIS MADE NO DIFFERENCE IN THE TRAJECTORY OF THE INDUSTRY

In the early 2000s, as the autism rate soared, political leaders in California wanted to better understand what was happening. So California contracted with sixteen of the

best geneticists in the U.S. and gave them access to all birth records in the state. They produced a study titled “Genetic heritability and shared environmental factors among twin pairs with autism” (Hallmayer et al., [2011](#)) which is the most comprehensive study of twins and autism to date. They found that genetic heritability explains at most 38% of ASD cases; in two places they explain that this is likely an overestimate. So at least 62% of autism cases (and likely significantly more) are caused by something other than genes. But the search for the gene(s) for autism had already become a large and very profitable industry and this study showing that autism is NOT primarily genetic did little to slow the growth of this field.

[MSSNG](#)

As the cost of genetic sequencing went down, Autism Speaks launched the [MSSNG](#) study in 2014. MSSNG is not an acronym, the leaders of the study just liked the way it sounded (it’s pronounced “missing”). They’ve sequenced the genomes of 13,801 individuals belonging to what they call family “trios” (two parents and one affected child) or “quads” (two parents and two affected children). To date, MSSNG has produced [138](#) peer reviewed publications. They claim to have identified 134 “genes associated with autism” but again produced no major breakthroughs that get us any closer to understanding autism causation or treating autism symptoms.

[SPARK](#)

Undeterred by the failure of all genetic research projects to date, the Simons Foundation massively expanded their genetic research portfolio with a new project in 2016 — the Simons Foundation Powering Autism Research for Knowledge ([SPARK](#)). As of 2025, SPARK has enrolled over 100,000 individuals with ASD and 250,000 total participants (including family members) across the U.S. Recruitment is facilitated by 31 clinical sites (mostly major pediatric research hospitals). To date, SPARK has produced over [40](#) peer-reviewed publications. Thus far they’ve identified “ten new autism-risk genes” but no major breakthroughs that get us any closer to understanding autism causation or treating autism symptoms.

STRAIGHT UP CENSORSHIP

As the failures of the Simons Foundation genetic research efforts mounted, rather than change course they hired the editor of Retraction Watch, Ivan Oransky, to push for retraction of studies that question the genetic narrative in connection with autism research. Given that there is an entire multibillion dollar industry built up around gene and autism studies, scientific journals are more than happy to accede to Oransky's requests to censor the narrative on behalf of their patrons.

WHY STUDIES OF GENES AND AUTISM FAIL (THIS WAS KNOWABLE IN THE EARLY 2000S BUT MOSTLY IGNORED BECAUSE THERE WAS SO MUCH MONEY TO BE MADE)

The human genome contains 3.1 to 3.2 billion base pairs. When one feeds thousand human genomes with several billion base pairs each into a computer and asks it to look for an association, it will certainly find many based on chance alone. But it's the classic problem of "correlation is not causation."

One of the world's foremost epidemiologists, John Ioannidis, points out in "Why Most Published Research Findings are False" ([2005](#)) that only about 1/10th of 1% of these sorts of fishing expeditions ("discovery oriented exploratory research with massive testing" — usually nutrition and genetic studies with large numbers of variables) are reproducible.

As Sheldon and Gruber show in their book *Genetic Explanations: Sense and Nonsense* ([2013](#)) the entire theory of the case that single (or even multiple) genes code for a particular disease has unraveled in recent years.

Generally speaking, the Mendelian understanding of genes has been replaced in recent years by a completely different paradigm. British philosopher of science John Dupré of the University of Exeter argues in his book *Processes of Life: Essays in the Philosophy of Biology* ([2012](#)) that DNA is neither a blueprint nor a computer code for biological

outcomes but rather a sort of warehouse that the body can draw upon for a range of different purposes:

The assumption that identifiable bits of DNA sequence are even “genes” for particular proteins has turned out not to be generally true. Alternative splicing of fragments of particular sequences, alternative reading frames, and post-transcriptional editing — some of the things that happen [naturally] between the transcription of DNA and the formatting of a final protein product — are among the processes the discovery of which has led to a radically different view of the genome.... Coding sequences in the genome are therefore better seen as resources that are used in diverse ways in a variety of molecular processes and that can be involved in the production of many different cellular molecules than as some kind of representation of even a molecular outcome, let alone a phenotypic one (pp. 260-265).

The people who actually study genetics know that, at least when it comes to autism genetic determinism is dead. But there is a fortune to be made from pretending otherwise. So the story that is sold to government and private foundations is that the “genes for autism” are out there somewhere just waiting to be found if only they will keep the research money flowing.

Government plays along with this ruse because funding genetics research keeps scientists away from studying toxicants which might threaten powerful interests. The result is an entire multibillion dollar research industry that produces hundreds and hundreds of peer-reviewed articles that never get us any closer to understanding autism causation or providing a cure.

As the search for an “autism gene” repeatedly failed, geneticists came up with a placeholder theory that they call “genetic dark matter” patterned after the dark matter in astrophysics that is said to make up most of the universe — that astrophysicists cannot explain or measure. The idea is that a gene for autism must surely exist but it

they do not have the tools to detect it yet. This has kept the grant money going for now. But the entire scheme is untenable.

For more on the boondoggle of the mythical search for the “gene(s) for autism” please see my article, “Nearly everything that we’ve been told about genes and autism is wrong” ([2025](#)).

IV. FOUR LARGE EPIGENETIC STUDIES

[CHARGE](#)

The University of California, Davis launched the Childhood Autism Risks from Genetics and the Environment ([CHARGE](#)) study in 2003 to investigate environmental causes and risk factors for autism and developmental delay. It is led by one of the most respected and widely-published environmental epidemiologists in the world, Irva Hertz-Picciotto. CHARGE is a case-control study where researchers identify children age 2 to 5 with autism and compare them with similarly matched children without a diagnosis of autism. They have enrolled more than 2,000 autism families in their studies and produced foundational reports on the effects of:

- air pollution (e.g., particulate matter, nitrogen dioxide, ozone)
- pesticides (e.g., organophosphates, pyrethroids, carbamates)
- heavy metals (e.g., mercury, lead, cadmium)
- per- and polyfluoroalkyl substances (PFAS)
- polychlorinated biphenyls (PCBs)
- nutritional factors (e.g., folic acid, vitamin D)
- flame retardants (e.g., polybrominated diphenyl ethers – PBDEs)
- maternal metabolic conditions (e.g., obesity, diabetes) and
- volatile organic compounds (VOCs).

To date, CHARGE has generated [144](#) peer reviewed publications. But I recently discovered that none of their studies controls for vaccines (vaccinated vs. unvaccinated, number of vaccines, timing of vaccines, etc.) as a possible confounding factor — even though in many cases that information is available to them. **The failure to control for vaccine exposures renders all of the CHARGE studies unreliable.**

To be clear, all of the toxicants they study are a problem, can likely cause autism, and should be better regulated or banned. What I'm saying though is that one cannot measure the relative impact of each of these chemicals without including a variable for the potentially confounding effect of vaccines.

So for example, a brilliant CHARGE study, Shelton et al. ([2014](#)) found that mothers who lived within 1.5 km (less than 1 mile) of agricultural fields sprayed with various pesticides had elevated risks of autism in their offspring. But who is most likely to live that close to the fields? Farmworkers and other low income residents. So it is also possible that the children born to women who live closest to agricultural fields get lower quality vaccines through the Vaccines for Children Program and this explains the higher autism risk. Or perhaps these children were not vaccinated at all and the increased autism risk is entirely from pesticides. But we'll never know the relative risk of each factor because Shelton et al. (2014) did not control for vaccination status.

Or take another example. Lots of CHARGE studies claim that supplementation with folic acid during the first month of pregnancy reduces autism risk. But vaccines and other toxicants can cause dysregulated folate metabolism. And for some of these women, supplementing with folic acid increases autism risk in their offspring because their bodies cannot convert folic acid to folate (see Raghavan et al. [2018](#)). By failing to control for the number of vaccines taken by the mother before and during pregnancy we are unable to unravel the relative effects of genetic mutations, vitamin supplementation, vaccines, and pesticides.

Why would some of the best epidemiologists in the world spend so much time, money, and effort and then make a mistake this *basic*? The answer is pretty straightforward

the field of autism research is so polarized and politicized that everyone involved with these studies knows that if they include vaccines as a variable they would instantly lose all of their research funding and be blacklisted from future research funding. That principled, and scientifically necessary decision would immediately and permanently end their careers. So they avoid the variable that shall not be named even though the omission renders all of their work unreliable.

I would just add that all of these mainstream autism causation studies fail in a similar way — they engage in circular reasoning (the logical fallacy in which the premise of an argument assumes the conclusion to be true).

- The vaccine studies assume that vaccines are safe and effective so they never bother with a proper placebo group that might prove otherwise.
- The gene studies assume that genes are the cause so they just gather trillions of data points until they can find a spurious association (the gene studies don't control for vaccination status even though the possible mutagenic effects of vaccine ingredients on DNA is an ongoing concern).
- And the epigenetic studies assume vaccines could not be a factor so they don't control for them (in spite of the fact that some of the toxicants they are studying in the environment are the same toxicants being injected directly into children's bodies).

CHARGE (and other epigenetic studies that I describe below) are following standard practice in epidemiology that typically does not consider vaccination status a confounding variable in examining environmental risk factors for autism. But that's precisely the problem — standard practice in each of these research fields assumes away the question of vaccines rather than studying it. The political economy of autism causation research is such that these scholars will likely never fully understand the autism epidemic because they are prohibited from stepping outside the constraints of circular reasoning (not because they are bad people per se but because assuming away

politically explosive problems is how these professions survive in the face of overwhelming corporate power).

[MARBLES](#)

In 2006, the UC Davis MIND Institute launched the Markers of Autism Risk in Babies – Learning Early Signs ([MARBLES](#)) study. MARBLES is a prospective longitudinal study for pregnant women who already have a biological child with autism.

Information about each participant's genetics and environment is collected through a number of sources, including:

- Blood, urine, hair, saliva, and breast milk, as well as through home dust sample in order to obtain a comprehensive picture of the environment surrounding each pregnancy.
- They also conduct interviews with the mother and access medical records in order to uncover more information about any behavioral aspects or trends that may contribute to the development of autism.
- Mothers maintain detailed diaries tracking health symptoms, diet, and product use during and after pregnancy.
- They also conduct standardized assessments of the child's development up to 3 months of age.

To date they have enrolled 460 pregnant women with an 84% retention rate. One branch of the MARBLES study produced [71](#) peer-reviewed publications. Another branch — that studied fecal microbiome, the fecal glycome, and measures of household environmental exposures in infants who do and do not subsequently develop autism — produced [80](#) peer reviewed publications.

With a study design that comprehensive one would imagine that they would be able to figure out autism causation fairly quickly. But once again, MARBLES studies do not control for vaccines (vaccinated vs. unvaccinated, number of vaccines for the mother

and child, timing of vaccines, etc.) even though they have access to that information. **The failure to control for these known and potentially large toxic exposures renders all of the MARBLES research unreliable.**

When I was writing my doctoral thesis I was very impressed by epigenetic studies including MARBLES because they were so complex and looked at toxicological variables that most mainstream scientists lacked the fortitude to study. I read as much as I could and included detailed summaries in my thesis. But now that I know that they never controlled for vaccines I find these studies deeply troubling. MARBLES *prospective* study that follows women who already had one child with autism through subsequent pregnancy and they never gave these women informed consent because they did not discuss with them the dangers of vaccines. For researchers to then turn these children — many of whom developed autism because of this lack of informed consent — into *data* for their peer-reviewed published papers, I believe violates the Hippocratic Oath, the Declaration of Helsinki, and the Nuremberg Code.

[SEED](#)

In 2007, the CDC launched the **Study to Explore Early Development (SEED)** — a multi-site, case-control study to identify risk factors and early indicators of autism spectrum disorder and other developmental disabilities in children aged 2 to 5 years. SEED has enrolled over 4,500 families, including more than 1,500 children diagnosed with autism, across multiple phases of the study. The study uses parental questionnaires, clinical assessments, biospecimen collection, and medical record reviews to gather data on genetic, environmental, and behavioral factors that may influence autism risk. The budget was over \$5 million a year and the study is still ongoing. To date, the SEED study has produced [54](#) peer-reviewed publications. None of the SEED studies control for vaccines (vaccinated vs. unvaccinated, number of vaccines for the mother and child, timing of vaccines, etc.) even though they have access to that information. **The failure to control for these known and potentially large toxic exposures renders all of the SEED research unreliable.**

[EARLI](#)

In 2008, the NIH and Autism Speaks launched the Early Autism Risk Longitudinal Investigation ([EARLI](#)) study — a multi-site prospective cohort study aimed at identifying environmental and genetic factors contributing to autism spectrum disorder. It enrolled over 260 pregnant mothers who already had a child with ASD, following the younger siblings through age 3 to examine possible environmental risk factors and genetic contributions for autism. The consortium includes Johns Hopkins University, UC Davis, Drexel University, the University of Pennsylvania/Children's Hospital Philadelphia, and Kaiser Permanente Northern California.

One branch of EARLI (primarily looking at diet, nutrition, and phthalate exposures produced [39](#) peer-reviewed publications; another branch (primarily looking at industrial air pollution and exposure to heavy metals) produced [40](#) peer-reviewed publications; and a third branch (primarily looking at air pollution from freeways and diesel-powered trucks) produced [9](#) peer-reviewed publications. **But none of these studies controlled for vaccines (vaccinated vs. unvaccinated, number of vaccines for the mother and child, timing of vaccines, etc.) thus rendering all of the EARLI results unreliable.**

The best case I can make for these large epigenetic studies is that the researchers assume that everyone is vaccinated and everyone got the same vaccines at the same time so they don't need to include that variable. None of that is true, but just for the sake of argument let's pretend that the researchers believe this. The large epigenetic studies then measure the harms from other toxicants in addition to the base rate that includes the fact that everyone is vaccinated. But that's not necessarily true either. There are likely synergistic effects between various toxicants, vaccines, and systems in the body (endocrine, immune, digestive, etc.) so we cannot know the relative harms from these other toxicants without knowing what vaccines the person has already received.

Anything that causes an immune activation event — an infectious disease, a toxin, or a vaccine — can cause autism. But research from Thomas and Margulis ([2016](#)) shows that the autism rate in children with no vaccines is 1 in 715 and the autism rate in vaccinated children is 1 in 31. So these large epigenetic studies that fail to control for vaccines can help explain the 1 in 715 autism cases but they are unlikely to help stop the autism epidemic unless they radically change their protocols.

One last note on this section: three large gene studies described above (ASC, SSC, and SPARK) share their data with the National Database for Autism Research ([NDAR](#)) which in turn shares its data with the Environmental influences on Child Health Outcomes ([ECHO](#)) Program. The four large epigenetic studies described here (CHARGE, MARBLES, SEED, and EARLI) all share their data with ECHO as well. Access to ECHO is controlled through the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) Data and Specimen Hub ([DASH](#)). But gatekeepers at DASH make it nearly impossible for independent researchers to access the data (I've applied repeatedly and been turned away every time). So American taxpayers have spent several billion dollars generating autism data and the public cannot get access to it even as the autism epidemic grows larger every year.

V. SO THEN THAT LEAVES US WITH A MUCH NARROWER SET OF STUDIES FOR UNDERSTANDING AUTISM CAUSATION

The key study that helps us to understand the relative impact of the different toxins that contribute to causing autism was led by Sally Ozonoff at UC Davis and it was published in [2018](#). Using a brilliant study design she showed that up to 88% of autism cases are characterized by autistic regression — the child was developing normally then suddenly over the course of hours, days, or weeks the child lost eye contact, speech, and the ability to socialize with others. This suggests an acute toxic exposure and we now have eyewitness testimony from hundreds of thousands of parents that acute toxic exposure that preceded the autistic regression was a “well baby” vaccine appointment with a pediatrician.

The holy grail in autism research is to find vaccinated vs. unvaccinated studies. Thankfully there are now six good studies that we can rely on.

GALLAGHER & GOODMAN ([2008](#) & [2010](#))

Gallagher and Goodman ([2008](#)), using data from the National Health and Nutrition Examination Survey 1999–2000, found that boys who received all three doses of the hepatitis B vaccine (n = 46) were 8.63 times more likely (CI: 3.24, 22.98) to have a developmental disability including autism than boys who did not receive all three doses (n = 7).

Gallagher and Goodman ([2010](#)), using data from the National Health Interview Survey 1997–2002, found that boys “who received the first dose of hepatitis B vaccine during the first month of life had 3-fold greater odds for autism diagnosis (n = 30 with autism diagnosis and 7,044 without autism diagnosis; OR = 3.002; CI: 1.109, 8.126)” as compared with “boys either vaccinated later or not at all” (p. 1669).

And that’s just the effect of one shot. No one knows the effect of doing that 76 more times but that’s what’s recommended by the CDC Child & Adolescent Vaccine Schedule.

MAWSON ([2017A](#) & [2017B](#))

Anthony Mawson was a visiting professor of epidemiology at the Jackson State University School of Public Health with a thirty-year career in epidemiology and a long publishing track record including two publications in *The Lancet*. In [2017](#), Mawson and his co-authors designed “a cross-sectional survey of homeschooling mothers on their vaccinated and unvaccinated biological children ages 6 to 12” and they worked with the National Home Education Research Institute, a homeschool think tank, to implement the study. They obtained results for 666 children of which 405 (61%) were vaccinated and 261 (39%) were unvaccinated. The study controlled for

race, gender, adverse environment (not defined), antibiotic use during pregnancy, preterm birth, and ultrasound during pregnancy.

As one would expect, they found that vaccinated children were significantly less likely than the unvaccinated to have had chickenpox (7.9% vs. 25.3%; OR = 0.26; CI: 0.2, 0.4) and whooping cough (pertussis) (2.5% vs. 8.4%; OR = 0.3; CI: 0.1, 0.6).

The results for chronic illness were a different story. Vaccinated children were significantly more likely than the unvaccinated to have been diagnosed with

- a learning disability (5.7% vs. 1.2%; OR = 5.2; CI: 1.6, 17.4);
- ADHD (4.7% vs. 1.0%; OR = 4.2; CI: 1.2, 14.5);
- **autism** (4.7% vs. 1.0%; OR = 4.2; CI: 1.2, 14.5);
- any neurodevelopmental disorder (i.e., learning disability, ADHD or ASD) (10.5% vs. 3.1%; OR = 3.7; CI: 1.7, 7.9); and
- any chronic illness (44.0% vs. 25.0%; OR = 2.4; CI: 1.7, 3.3) (Mawson et al. [2017a](#)).

Mawson, Bhuiyan, Jacob, and Ray ([2017b](#)) conducted a separate analysis of the data on **preterm children** (aka “premies”), vaccination status, and health outcomes. The authors found:

- No association... between preterm birth and neurodevelopmental disability [NDD defined as learning disability, ADHD, and/or ASD] in the absence of vaccination.
- Preterm birth coupled with vaccination increased the odds of NDD by more than five-fold as compared to non-preterm children who were vaccinated (48% vs. 8.4%; OR = 5.4; CI: 2.5, 11.9).
- Preterm birth coupled with vaccination increased the odds of NDD by more than twelve-fold compared to preterm birth without vaccination (48% vs. 4.0%; OR = 12.0; CI: 0.67, 224.2, p=.024; but “not technically significant because no child in the sample with an NDD was both preterm and unvaccinated”).

- Preterm birth coupled with vaccination increased the risk of NDD by more than fourteen-fold “compared to children who were neither preterm nor vaccinated” (48% vs. 3.3%; OR = 14.5; CI: 5.4, 38.7).

If Mawson et al. ([2017b](#)) are correct, then the high rates of NDD amongst children born preterm may be due almost entirely to the effect of vaccination, rather than the early arrival.

HOOKER & MILLER ([2021](#))

Brian Hooker at Simpson University in California and independent researcher Neil Miller ([2021](#)), using survey data from respondents associated with three medical practices in the US, compared vaccinated children to unvaccinated children for the incidence of several chronic health conditions including autism. Vaccinated children were significantly more likely than unvaccinated children to be diagnosed with:

- severe allergies (OR = 4.31, 95% CI 1.67 - 11.1),
- **autism** (OR = 5.03, 95% CI 1.64 - 15.5),
- gastrointestinal disorders (OR = 13.8, 95% CI 5.85 - 32.5),
- asthma (OR = 17.6, 95% CI 6.94 - 44.4),
- ADHD (OR = 20.8, 95% CI 4.74 - 91.2), and
- chronic ear infections (OR = 27.8, 95% CI 9.56 - 80.8).

Vaccinated children were less likely to be diagnosed with chickenpox (OR = 0.10, 95% CI 0.029 - 0.36). But that’s a bad trade to make (increases in lifelong chronic illness in return for a decrease in a temporary rash).

The findings in this study on the relationships between vaccination and breastfeeding status and the relationship between vaccination and birth delivery status are particularly shocking:

Children who were “vaccinated and not breastfed” had a more than 12-fold higher risk of autism (OR = 12.5, $p < 0.0001$).

Table 9. Relationships between vaccination* and breastfeeding status,† with odds ratios (and p-values) based on “unvaccinated and breastfed” as the reference group.

	Unvaccinated + Breastfed Reference diagnoses/total	Unvaccinated + Not Breastfed OR (p-value) diagnoses/total	Vaccinated + Breastfed OR (p-value) diagnoses/total	Vaccinated + Not Breastfed OR (p-value) diagnoses/total
Allergies (severe)	Ref 13/848 (1.5%)	1.35 (0.66) 2/97 (2.1%)	4.09 (<0.0001) 25/418 (6.0%)	10.3 (<0.0001) 28/202 (13.9%)
Autism	Ref 7/848 (0.8%)	2.53 (0.23) 2/97 (2.1%)	6.67 (<0.0001) 22/418 (5.3%)	12.5 (<0.0001) 19/202 (9.4%)
Gastrointestinal Disorders	Ref 11/848 (1.3%)	0.79 (1.0) 1/97 (1.0%)	9.87 (<0.0001) 48/418 (11.5%)	17.1 (<0.0001) 37/202 (18.3%)
Asthma	Ref 5/848 (0.6%)	5.38 (0.040) 3/97 (3.1%)	10.7 (<0.0001) 25/418 (6.0%)	23.8 (<0.0001) 25/202 (12.4%)
ADD/ADHD	Ref 3/848 (0.4%)	- 0/97 (0%)	9.04 (<0.0001) 13/418 (3.1%)	24.2 (<0.0001) 16/202 (7.9%)
Ear Infections (chronic)	Ref 4/848 (0.5%)	2.20 (0.42) 1/97 (1.0%)	16.9 (<0.0001) 31/418 (7.4%)	32.6 (<0.0001) 27/202 (13.4%)

*The vaccinated cohort includes children who received any vaccine (fully and partially vaccinated children are counted together). † Exclusively breastfed for ≥ 6 months versus exclusively breastfed for ≥ 6 months.

Children who were “vaccinated and delivered via cesarean section” had a more than 18-fold higher risk of autism (OR = 18.7, $p < 0.0001$).

Table 10. Relationships between vaccination* and birth delivery status, with odds ratios (and p-values) based on “unvaccinated and vaginal delivery” as the reference group.

	Unvaccinated + Vaginal Delivery Reference diagnoses/total	Unvaccinated + C-section OR (p-value) diagnoses/total	Vaccinated + Vaginal Delivery OR (p-value) diagnoses/total	Vaccinated + C-section OR (p-value) diagnoses/total
Allergies (severe)	Ref 9/802 (1.1%)	3.86 (0.017) 6/143 (4.2%)	7.41 (<0.0001) 37/477 (7.8%)	11.1 (<0.0001) 16/143 (11.2%)
Autism	Ref 5/802 (0.6%)	4.59 (0.034) 4/143 (2.8%)	9.19 (<0.0001) 26/477 (5.5%)	18.7 (<0.0001) 15/143 (10.5%)
Gastrointestinal Disorders	Ref 8/802 (1.0%)	2.86 (0.093) 4/143 (2.8%)	13.7 (<0.0001) 58/477 (12.2%)	23.1 (<0.0001) 27/143 (18.9%)
Asthma	Ref 3/802 (0.4%)	9.65 (0.0028) 5/143 (3.5%)	25.0 (<0.0001) 41/477 (8.6%)	17.9 (<0.0001) 9/143 (6.3%)
ADD/ADHD	Ref 3/802 (0.4%)	- 0/143 (0%)	11.7 (<0.0001) 20/477 (4.2%)	17.9 (<0.0001) 9/143 (6.3%)
Ear Infections (chronic)	Ref 4/802 (0.5%)	1.40 (0.56) 1/143 (0.7%)	22.3 (<0.0001) 48/477 (10.1%)	15.0 (<0.0001) 10/143 (7.0%)

* The vaccinated cohort includes children who received any vaccine (fully and partially vaccinated children are counted together).

These are the highest odds ratios I’ve ever seen in any study of autism causation. In just world the findings from this study would have been front-page news across the country and immediately led to Congressional hearings and regulatory action against vaccine makers, formula makers, and obstetricians/hospitals with high c-section rates. But because the mainstream media and the political system in the U.S. are completely captured by Pharma this study received little mention at all.

MAWSON & JACOB (2025)

Anthony Mawson and Binu Jacob returned with another groundbreaking study in (2025). The study population comprised children born and continuously enrolled in Florida State Medicaid program from birth to age 9. The analysis of claims data for 47,155 nine-year-old children revealed that:

1. vaccination was associated with significantly increased odds for all measured neurodevelopmental disorders (NDDs);
2. among children born preterm and vaccinated, 39.9% were diagnosed with at least one NDD compared to 15.7% among those born preterm and unvaccinated (OR = 3.5, 95% CI: 2.80, 4.57); and
3. the relative risk of autism spectrum disorder increased according to the number of visits that included vaccinations. Children with just one vaccination visit were 1.7 times more likely to have been diagnosed with ASD than the unvaccinated (95% CI: 1.21, 2.35) whereas **those with 11 or more visits that included vaccinations were 4.4 times more likely to have been diagnosed with ASD than those with no visit for vaccination** (95% CI: 2.85, 6.84).

We know what's causing the autism epidemic. The bloated, unscientific, profit-driven CDC vaccine schedules are causing the autism epidemic. The U.S. must immediately shift to a science-based, individualized, N-of-1 approach to immunization, with no liability protection for vaccine makers or the medical profession, and only those vaccines shown to produce more [benefits than harms](#) allowed on the market.

VI. CONCLUSION

Mainstream studies that attempt to prove that vaccines do not cause autism are all invalid because they do not have a proper unvaccinated control group.

The over two billion dollars spent searching for the “gene(s) for autism” has not been a good investment — other than to definitively rule out genes as the primary driver of the epidemic.

The large epigenetic studies are somewhat better designed and show courage in investigating toxicants made by powerful industries. Unfortunately their failure to control for vaccination exposures renders all of their conclusions unreliable.

So that leaves us with six very good vaccinated vs. unvaccinated studies that show that vaccines cause autism. Vaccination in general seems to increase autism risk about 4 fold (the range across these six studies is 3.002 to 8.63). Vaccinating premature babies (OR = 14.5), vaccination in the absence of breastfeeding (OR = 12.5), and vaccination + cesarean section delivery (OR = 18.7) causes autism risk to skyrocket. That’s what’s causing the autism epidemic, according to the best available scientific evidence.

The takeaway from all of this is that the entire field of autism research is a shambles. Parents of autistic children are spending what little money they have to fund proper scientific research while corporations, foundations, and the government use their considerable power to cover up the causes of the epidemic.

The good news is that tens of thousands of parents appear to have figured it out. The best available scientific evidence suggests that we can stop the autism epidemic by only allowing beneficial vaccines on the market ([a couple of live virus vaccines](#)) and giving them, if at all, under conditions of informed consent at later ages when the body’s immune system can respond appropriately. Reducing the over-use of cesarean section and birth drugs and supporting breastfeeding are also likely to produce large reductions in the autism rate. Somewhat smaller but still significant reductions in the autism rates are also likely through reducing all toxic exposures (including air pollution, pesticides, endocrine disruptors, other pharmaceuticals, etc.) for everyone.

Here’s the entire story in one infographic:

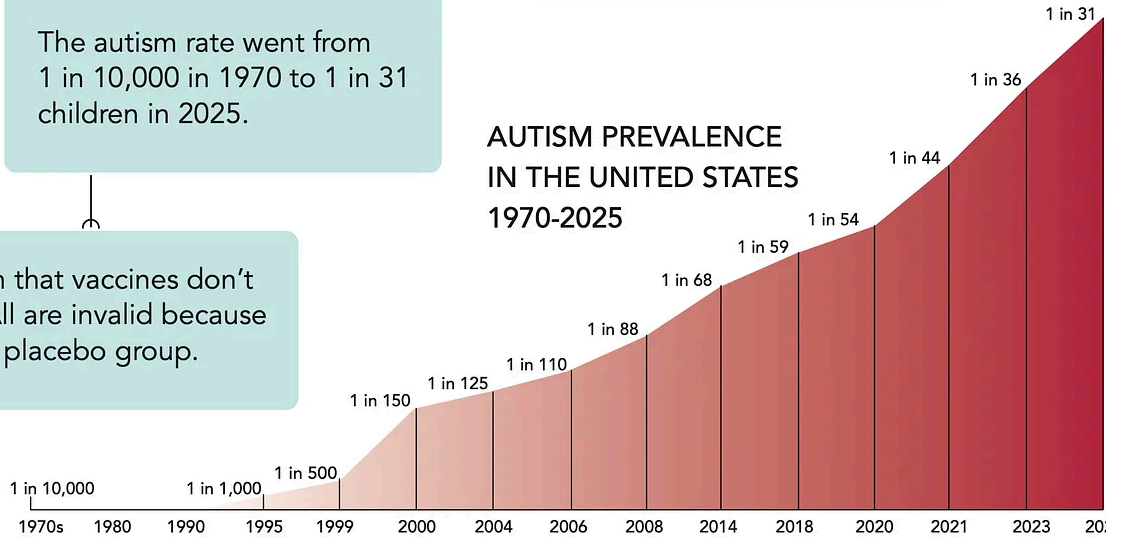
Mapping the Entire Field of Autism Causation Studies

The 1986 National Childhood Vaccine Injury Act gave vaccine makers liability protection.

The vaccine schedule increased from 7 shots to 76 shots over the next three decades.

The autism rate went from 1 in 10,000 in 1970 to 1 in 31 children in 2025.

AUTISM PREVALENCE IN THE UNITED STATES 1970-2025



22 studies claim that vaccines don't cause autism. All are invalid because they lack a true placebo group.

5 large gene studies **AGRE | SSC | ASC | MSSNG | SPARK**
Over two billion dollars spent and almost nothing to show for it because there's no such thing as a genetic epidemic.

4 large epigenetic (genes and environment) studies **CHARGE | MARBLES | SEED | EARLI**
They are all unreliable because they didn't control for vaccines.

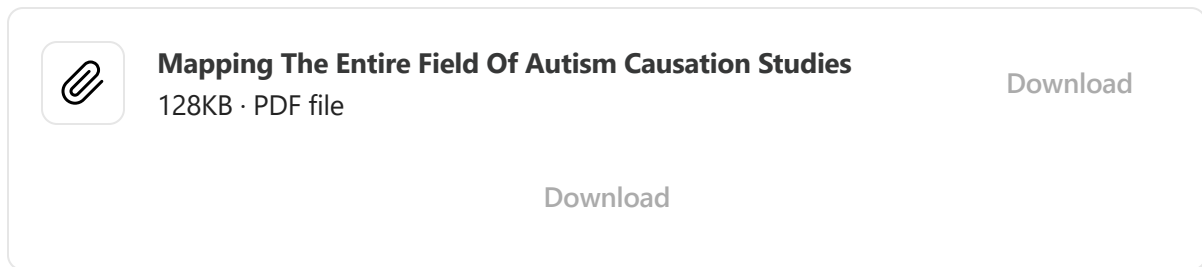
Ozonoff et al. 2018 is the key. Up to 88% of autism cases are characterized by sudden regression. This suggests an acute toxic exposure. We have eyewitness testimony from thousands of parents that the acute toxic exposure was vaccines.

6 vaccinated vs. unvaccinated studies

- Gallagher & Goodman (2008)** OR = 8.63
- Gallagher & Goodman (2010)** OR = 3.002
- Mawson et al. (2017a)** OR = 4.2
- Mawson et al. (2017b)** premies OR = 14.5
- Hooker & Miller (2021)** OR = 5.03
- vaccinated & not breastfed OR = 12.5
- vaccinated & c-section OR = 18.7
- Mawson & Jacob (2025)** OR = 4.4

Remove liability protection for vaccine manufacturers and the autism epidemic ends.

You can also download it as a PDF:



Update, May 22, 2025:

An astute reader pointed out that there are a handful of independent studies of other toxicants in addition to the studies I've described above. This is true and I covered them in my [thesis](#). But I will mention a few of them here:

Palmer et al. conducted a couple of fascinating studies on coal fired power plants and autism ([2006](#) and [2009](#)). Like the pesticide study I mentioned above, the failure to control for vaccines is a major limitation of these studies.

I like the two landmark EMF and autism studies by Martha Herbert and Cindy Sage ([2013a](#) and [2013b](#)). These studies mostly focus on the impact of EMF on cells, so they cannot control for vaccines per se.

Stephen Schultz has done groundbreaking studies on Tylenol and autism ([2008](#) and [2016](#)) although I really wish those studies would have controlled for vaccines because that's a major confounding factor. Bauer et al. ([2018](#)) is a systematic review of 9 Tylenol studies, although again, a failure to control for vaccines makes the effect sizes unreliable.

And then there are many independent studies outside the U.S. that are intriguing. For example, Larsson et al. (2009), in a study initially designed to look at allergies found that vinyl flooring in the parents' bedroom was associated with an increased risk of ASD by 140% (OR = 2.4; CI: 1.31, 4.40). Vaccines were not controlled for and may be a confounding factor.

I imagine we could pull together another 50 to 100 studies of toxicants that increase autism risk. But in my experience none of them control for vaccines even though there are a major confounding factor and none will have odds ratios as high as the six vaccinated vs. unvaccinated studies described above.

Blessings to the warriors. 🙏

Prayers for everyone fighting to stop the iatrogenocide. 🙏

Huzzah for everyone building the parallel society our hearts know is possible. 🙌

In the comments, please let me know what's on your mind.

As always, I welcome any corrections.



1,010 Likes · 256 Restacks

Discussion about this post

Comments Restacks



Write a comment...



freelearner  freelearner May 21, 2025

♥ Liked by Toby Rogers

I'm a biostatistician... the Hooker and Miller study made my jaw drop. You just don't see odds ratios that big, you just don't. You're absolutely right it should be front page news everywhere.

There's long been a rule that in every health study you control for smoking status pretty much no matter what, whether there is any particular reason to think it's a risk factor or not. It has "always a factor" status. Apparently vaccines have "never a risk factor" status and can never be included, just as smoking can never be excluded.

I see that parents not vaccinating and babies being breastfed are quite confounded with each other, which tracks with my personal experience in the homeschooling community. I wonder how much length of breastfeeding matters, as we non-vaxxers also tended to do extended nursing (often till 2-3). Also, very often home-birthers.

Sadly, in a homeschooling group with I'd say about half non-vaxxing and half vaxxing families, the kids who had been to recent vaccine well visits typically seemed dissociated, staring, fussy, and less social, though they often recovered and became the kids I remembered from previous get-togethers. I saw that in unvaxxed kids. An unvaxxed kid will look you in the eye like they're figuring out the entire universe right there in your pupils. I found this difference seriously disturbing for years. I'm convinced that a blinded study where developmental psychologists observed half recently vaxxed & half non-vaxxed kids would show that they could identify which were showing concerning signs with good accuracy.

Most moms never experience that kind of unvax/vax split in their mom's group, pre-school, etc... they don't get to observe it, and even if they notice something, they don't get to talk about it. In a certain sense, people will look back on this time, shocked and searching to explain our blindness, the way we now look back on mercury teething powders or mercurochrome.

♡ LIKE (98) 💬 REPLY



7 replies



Toby Rogers ✓ May 23, 2025

Author

Super interesting tidbit in a NY Times hit piece on the MAHA report today:

"The report diverges drastically from standard government thinking about chronic disease prevention. The Centers for Disease Control and Prevention declares that 'most chronic diseases are caused by a short list of risk factors: tobacco use, poor nutrition, physical inactivity and excessive alcohol use.

(This appears in the print edition but it is not on the NY Times website for some reason.)

Anyway, my point is, the large toxicological studies presumably control for these four factors — "tobacco use, poor nutrition, physical inactivity and excessive alcohol use" — because that's "star

practice." But that's an example of the circular reasoning I discuss in this article. They've decided these four factors are the only likely confounders so that's what they control for and thus it's all t they ever find.

♡ LIKE (16) 💬 REPLY



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