

Exceptions Don't Make the Rules:

A Rhetorical Analysis of the Language Behind Vaccine Hesitancy

by

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## Abstract

Recent years have seen a resurgence in the incidence of vaccine-preventable illnesses, owing in large part to the advocacy of discredited claims about a causal relationship between vaccines and autism spectrum disorders. Although scientific studies have found no such link, herd-immunity and vaccination rates are threatened by the proliferation of these beliefs. When these claims are circulated by celebrities, an additional layer of believability is added, requiring a unique approach to combat the false claims.

I performed a fine-grained analysis of the language used by Jenny McCarthy in her book, *Mother Warriors: A Nation of Mothers Healing Autism Against All Odds*, hoping to uncover the language tendencies that make her book effective in convincing other parents not to vaccinate, and the characteristics of a vaccine-hesitant community. My findings are centered around the misled fashion in which information is gathered, evaluated, and knowledge is subsequently established as shown by the language of McCarthy. The parents in the book tend to evaluate evidence and hypotheses using their sense of sight as a verification method, and show a trust in familiar, easy to grasp ideas. The book is written using dramatic language, making it engaging and exciting for readers, and shows a misunderstanding of most of the fundamental principles underlying science, medicine, and experimentation/research. Further, the language in the book reveals an ableist attitude towards persons with autism spectrum disorders.

The tendencies and characteristics revealed in a close-reading of *Mother Warriors* calls into question many of the preconceptions that currently surround the vaccine-hesitant community. Notions about this community claim that these parents do not love their children, or that they are conspiracy theorists. In reality, these parents represent exaggerated forms of the tendencies and characteristics that all human beings possess. My hope is that by appreciating the tendencies showcased through a close-reading of a vaccine-hesitant piece of rhetoric, public health messages can be better tailored to combat these tendencies and raise the level of basic health literacy, resulting in more positive clinical outcomes.

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Short Titles

## Chapter I: Introduction

This thesis aims to understand the tendencies and characteristics of the vaccine-hesitant community through a language analysis of Jenny McCarthy's *Mother Warriors: A Nation of Mothers Healing Autism Against All Odds*. McCarthy's book outlines her experiences with her son, Evan, and similar experiences of other parents, who share their experiences through writing letters to McCarthy, that are included as chapters in the book. By closely examining the rhetoric used in vaccine-hesitant discourse, I seek to present and develop an understanding of the thought patterns of people who believe there to be causal relationship between vaccines and autism spectrum disorders. The possibility of a link between vaccines and autism has been investigated thoroughly; instead of focusing on contradicting the scientifically discredited claims made in the book, I wish to gain insights by going through the language with a fine-toothed comb. This inspection should reveal the psychology and tendencies of parents who are vaccine-hesitant; in turn, this information should be clinically useful, as a better understanding of the vaccine-hesitant community will help tailor messages that seek to combat intentionally not vaccinating. Although numerous studies have discredited the connection between vaccines and autism, and have demonstrated the safety and efficacy of vaccines, the belief that vaccines can trigger autism has a real effect on public health—vaccine preventable illnesses have seen a resurgence in recent years. Public health messages have been largely ineffective in increasing vaccination rates, and the rationales, tendencies, and characteristics of the vaccine-hesitant community remain mostly unclear. In this study, I hope to do a close reading that begins to reveal some of these rationales, tendencies, and characteristics. Ideally, there would be clinical use to my findings as well.

As the number of intentionally unvaccinated children increases, vaccine-hesitant messages have increasing significance and potential to set trends. Not only are unvaccinated children at risk for falling ill to dangerous, vaccine-preventable diseases, they threaten herd immunity—the protection of individuals who are *unable* to receive certain vaccinations at all. Strategies to counteract a growing vaccine-hesitant rhetoric have been met with varying levels of success, across a spectrum of decidedness of parents to not vaccinate. After a measles outbreak that began in California in 2015, lawmakers repealed religious and philosophical exemptions, making it more difficult to secure a vaccine exemption. This legislation was met with resistance from vaccine opponents, who claimed this was an infringement on the right to autonomy in medical decisions. Other efforts have focused on presenting evidence and information that discredits a link between vaccines and autism, which also had varying levels of success. Statements from scientists are met with skepticism, as some parents believe their interests to lie in the profits gained when vaccines are administered. Popular media and some talk shows have resorted to satirizing the vaccine-hesitant community. Notions about the anti-vaccine community mostly comprise accusations of stupidity or that parents who do not vaccinate their children do not love them. Much of mainstream media and discourse presents either a surface-level discussion of parents who are reluctant to vaccinate, or unsophisticated dialogue that is unlikely to result in increased vaccination. As my close reading reveals, reasons that parents may feel uncomfortable vaccinating are complex and nuanced, and, in many ways, represent tendencies of all human beings. Indeed, information on the vaccine-hesitant community is lacking, and there is a clear need for a deeper examination of this group of people

than a simple repudiation of the accuracy of their rationale and antagonization of character that appears to dominate current discourse.

Although well intentioned, celebrity medical advice is often ill-informed, and can have detrimental effects on public health. Examples include the time Stefani Joanne Angelina Germanotta, better known as Lady Gaga, claimed that primary care physicians should not be prescribing antidepressants, or when Gwyneth Paltrow advocated for inserting a jade egg into the vagina for improved sex and fertilization—both remarks were met with scathing responses from physicians, who stressed the inaccuracy, irresponsibility, and danger of their comments.<sup>1</sup> Although the precise nature of these scenarios differs from the topic of vaccine reluctance, I bring them up because the claims made by celebrity Jenny McCarthy in her book also have the potential to affect public health in a serious way. When celebrities offer remarks on matters of public and general health, a familiar and trustworthy face becomes attached to an otherwise complicated and sometimes murky subject; as a result, recipients of the message are more likely to trust it, according to the elaboration likelihood model.<sup>2</sup> The dissemination of health information by models, actors, and other celebrities is enabled and quickened through the use of social media; as a result, their words do not have to be amplified by a traditional news outlet, eliminating an extra layer for verification that has existed in the past. Ultimately, celebrity medical advice carries a significant amount of weight, and has an appreciable effect on clinical outcomes of the general population. In addition, celebrities tend to provide advice in a grey area of medicine—that is, an area of medicine in which the knowledge is still developing, and

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<sup>1</sup> (Gunter 2017)

<sup>2</sup> (Cacioppo and Petty 1984)

science has yet to provide us with definitive answers. At the time that the book was written (and currently), the causes behind autism spectrum disorders (ASD) are not fully understood; doctors and scientists believe there are several possible causes behind ASD, both genetic and environmental. Medical/scientific hypotheses or phenomenon are rarely *proven*—they are *supported* by evidence generated through careful, well established methodological approaches. By providing “answers” in an evolving area of medicine, celebrities boost their credibility stock and satisfy the public demand for answers. Increasing rates in ASD diagnosis, combined with the complex immunology science behind vaccines creates a breeding ground for celebrities to make uninformed remarks.

Jenny McCarthy’s book, *Mother Warriors, A Nation of Parents Healing Autism Against All Odds*, illustrates well many of these issues in a text representative of vaccine-hesitant rhetoric, and in the process, also demonstrates the dangers associated with celebrity health advice. I have a few primary findings: that a narrative with dramatic language is engaging, and subsequently trustworthy in a way that written scientific discourse is unlikely to be, that evidence is evaluated and knowledge is often established in a way that aligns with natural human psychological tendencies, rather than how it is in scientific experimentation, and that rhetoric that proposes a link between vaccines and ASD usually presents an ableist, disparaging view of persons with ASD. Not only does dramatic language make writing more interesting, it provides quickness and action that is unavailable in the medical language, filling a desire for immediacy. Because this need is apparently fulfilled by less scientifically sophisticated writings, they are given credence in the minds of laypersons. Second, most of the parents in *Mother*

*Warriors* show a tendency to trust familiar, independent sources of information, such as the Internet, to rely on their instincts to both evaluate evidence and provide information, and misunderstand that medical knowledge is incremented, not *proven*. Finally, the rhetoric in *Mother Warriors* is ableist with regards to people with ASD. Their identities are often reduced to their condition, which likely harbors additional fear for the possibility of a child to develop ASD, leading to increased vaccine reluctance.

With these new insights afforded by a close reading of *Mother Warriors*, I hope that future public health efforts aimed at reducing vaccine hesitance will take into account these tendencies in order to make them more effective.

## Chapter II: "Lights, Camera, Action!" --- The Dramatization of the Narrative

The stories in *Mother Warriors* are all framed within a heavily dramatized narrative. Sections from McCarthy and from the other parents who wrote in contribution employ a deliberately sensationalist writing style that serves several purposes, all of which increase the efficacy of the book as a piece of vaccine-hesitant rhetoric. First and most obviously, the dramatic tone makes each of the individual stories interesting to read and engaging. Readers' attentions are grabbed early, and intimate reader-writer relationships are developed as a result of the hyperbolized language. Next, the fast-paced narratives satisfy a need for immediacy in answers that traditional scientific dialogue does not. Medical science papers are hardly ever entertaining, and they often represent the painstaking, slow, and time-intensive process of supporting a theory and getting to the truth; McCarthy's action-filled book is just the opposite, satisfying readers' needs for immediate answers. McCarthy's tone also establishes a strong solidarity among a clearly defined audience. Finally, the drama-filled stories make healthcare providers and scientists seem uncaring and dismissive at their best, and actively harmful at their worst. As a result, McCarthy is able to make herself and other moms look good, since they are shown to be the opposite of these physicians and scientists—they take action at times these healthcare providers will not, making parents look like protagonists and physicians/scientists antagonists. The dramatic narrative also allows McCarthy to show vulnerability, distancing her from her celebrity status, and bringing her closer to her status as a mother, making her relatable.

We begin with a discussion on the prologue and first chapter, taking special note of the ways in which anti-vaccine rhetoric often presents an ableist view of autism, a fundamental misunderstanding of how medications and the human body interact, and an overreliance on motherly instinct. In addition, the narrative appears to be heavily dramatized, pulling readers in. As well, McCarthy and other contributors to the book seem to presume a high level of knowledge. This presumption of knowledge is legitimized by the way physicians and other healthcare providers are depicted in the book: uncaring, unconcerned, and unknowing. The book is an excellent example of many common threads that exist in most vaccine-hesitant narratives, including a trust in the familiar, controllable, and observable, and a misunderstanding of some of the fundamental pillars of science—especially medical science. Overall, this discussion aims to pinpoint theories as to why McCarthy’s message ended up being so effective and far-reaching, delineate characteristics of anti-vaccine rhetoric, and a brief discussion on what clinicians and public health officials can learn from McCarthy’s message, tailoring their efforts accordingly.

*Mother Warriors* begins with a short statement from the author, Jenny McCarthy, that represents her (successful) attempt to establish solidarity amongst mothers who, like McCarthy, feel that their children have been harmed by vaccines:

To all the warriors who have come before me and to all the warriors who will come after. Just know that even though they might have silenced some of our children, they will never silence us. Our voices will shake the ground of those who were responsible until all of our children are safe from harm (7).<sup>3</sup>

Words/phrases like “To all,” “our,” “us,” appear frequently to accompany the body content, enhancing the feeling of solidarity. These words allow McCarthy to include herself in the audience that she addresses. She is not constructing an effort wherein she is guiding or speaking *to* mothers, but standing *with* them, speaking up *for* them, in a way. As opposed to a single person orating to a large crowd, attempting to win them over and persuade them of a perspective, McCarthy establishes herself as a member of a crowd that already holds a certain fixed viewpoint, and speaks up from within this crowd, with beliefs that seem to be representative of this group. More obviously, she refers to all the mothers as “warriors.” In this way, McCarthy designates these moms as protagonists in a world of healthcare providers and scientists who, consequently, seem like antagonists. This idea is reinforced when McCarthy writes, “...they may have silenced some of our children,” where “they” presumably refers to doctors administering vaccines. The vaccine-hesitant perspective is tokenized as a diamond in a pro-vaccine groupthink-filled rough. McCarthy bestows the moms with a significant amount of power and responsibility through deliberate terminology as well, when she says their voices will

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<sup>3</sup> (McCarthy 2008)

“shake the ground” under those she is indicting with promoting the unsafe practice of vaccination. As well, this makes McCarthy look good, because she is indicating the value and capacity of the voice as an instrument for change, which is exactly the tool she is using.

With this dedication, McCarthy establishes a tone of solidarity and a clear audience straight away; her influence over this audience is strengthened because of the brokenhearted, grieving state that these mothers are likely in. After mentioning her audience in the first sentence, she speaks with them directly in the second sentence, furthering the sense of togetherness that fuels the effectiveness of her message. In addition, McCarthy talks about how she (and other mothers) will not be silenced, in a way conferring power to these mothers, and stirring up a sense of obligation and duty that they must speak up against injustice. The final sentence continues to emphasize the power that each of these mothers’ voices hold, and, importantly, demonstrates how much McCarthy loves her child.

After McCarthy’s dedication, the foreword begins with a quotation from Dr. Francis S. Collins, the Director of the National Human Genome Research Institute at the National Institutes of Health, on the genetics of illnesses. The statement suggests that illnesses have a genetic component, and that the “environment pulls the trigger”<sup>2</sup>. The connection between this statement about genetics and McCarthy’s message is unclear; it is possible that McCarthy is suggesting that vaccines are a controllable “trigger” and their administration by a physician represents pulling the trigger, but the primary purpose is most likely to establish an academic credibility to the paper, using Dr. Collins as a proxy. It is important to recognize, however, that Dr. Collins never openly endorsed the book, nor was this statement directed towards this book specifically.

(Following is a foreword written by Jay N. Gordon, MD. The foreword does not contain any material interesting for a rhetorical analysis.)

*Part 1: The Time is Now* begins with Chapter 1: *Opening the Can of Worms*. In this chapter, McCarthy describes her encounter with Oprah, during which she spoke on Oprah's talk show about her son, Evan, and how she concluded that his autism was caused by his vaccination. McCarthy employs a stream-of-consciousness narrative, which is highly effective in drawing readers in immediately. Stream-of-consciousness writing styles depict a character's thoughts, feelings, and reactions in a continuous flow, uninterrupted by conventional commentary or description. This stream-of-consciousness writing style acts as a vehicle for McCarthy to demonstrate her vulnerability and her apprehension effectively; these qualities then allow her to show genuineness and appear trustworthy and relatable. Stream-of-consciousness allows readers to experience McCarthy's story through her own eyes. By beginning with a SOC style, readers are not bored by the dryness that scientific journalism usually begins with, and are instead engaged through a way similar to how they would be in a fast-paced novel. Instead of providing a conventional, objective introduction, McCarthy invites readers into her mind, which is a far more intimate method for introduction. In the first mere sentence, McCarthy has shown that despite the fact that she aims to provide action-based, extremely consequential commentary on a medical, scientific topic, she refuses to be bound by the language of the medical/scientific community; certainly, medical narratives structured in the same way as McCarthy's do exist, but they hardly ever provide medical advice. Usually, they aim to shed some light on the life and struggles of the medical professional by whom they are written. Scientists and doctors are not optimists, nor are they pessimists—they are realists,

concerned with making predictions and assessments based on facts and figures. McCarthy takes a topic full of primarily fact-based dialogue and turns it into a conversational piece of writing, permitted by the SOC writing. McCarthy employs this writing style from the first sentence in the book: “I took a step toward my chair and then stopped quickly. Suddenly I couldn’t put one foot in front of the other. I looked down at the pretty powder-blue dress that I’d bought months ago and I couldn’t help but notice that the hem was shaking.”<sup>2</sup> McCarthy shows how nervous she is, and this demonstration of vulnerability makes her seem genuine and trustworthy to readers. McCarthy understands that one of the first steps in connecting with an audience through writing involves building trust through intimacy, and she also realizes that exposure, especially for someone with her celebrity status, is the ultimate display of honesty. This show of honesty—not honesty itself—is mostly absent from scientific writing. McCarthy’s honesty is established early, and will serve her message well, as she has primed her audience to listen to and appreciate her. The SOC writing style continues:

My eyes welled up as I slowly began walking. I exited the dark room in which I had waited, shaking and praying, and soon entered the studio, bright with lights and filled with women. I faintly heard the sound of applause, but the tone of the applause was different from what I was used to hearing (13).

McCarthy reveals a lot of vulnerability, which is enabled by her decision to frame this book within a SOC narrative. She talks about how her eyes “welled up,” and how she was “shaking and praying” before she entered Oprah’s stage. She is obviously nervous, and this nervousness comes across more clearly through the SOC structure than it would through an objective description (usually used by medical writings). This “personalness” makes McCarthy’s narrative

considerably more entertaining than an academic piece on vaccine science. Not only is it more entertaining, but it is more *engaging*, since the reader is likely attracted to McCarthy because of her relatability here. Although the word choice and sentence structure in McCarthy's writing imply a certain level of simplicity (which is itself a tactic to appeal to a an audience of laypersons), a careful dissection of the writing itself reveals several layers, which are all tailored to both her audience and her message. The dramatic narrative, supported by a SOC style, is both entertaining and engaging; it allows her to demonstrate vulnerability, making her relatable, and also establishes the most intimate possible relationship she can with her readers.

The primary subject matter so far is McCarthy's apprehension, which makes her story much more relatable. Speaking publicly, in front of Oprah at her talk show is surely a nerve-racking experience. However, it is interesting that McCarthy, who was also a well-known celebrity at the time of the interview, would spend such a considerable amount of energy discussing how nervous she is—the nervousness that she is describing helps to distance her from her celebrity status, making her even more relatable to the masses she is addressing, and more archetypal as a mother. She continues: "My knees were clocking against each other like a little girl about to say something to the class for the very first time."<sup>2</sup> She likely wants to avoid setting herself apart from the other moms that she is speaking to, and this description of her nervousness in the beginning does just that. McCarthy follows up by gently underscoring the importance of her message: "It would have been so much easier to stay quiet and blend in with the rest of the world without anyone knowing my pain."<sup>2</sup> By talking about how nervous she is, and how easy it would have been for her to stay quiet, the importance of her coming forward

and verbalizing her message is highlighted. The SOC writing opened up an avenue for her to discuss her apprehension, which she then responds to by recalling the importance of her message. That is, she is so scared to go on stage, but she cannot let this fear overwhelm her, because notifying others that vaccines can cause autism is incredibly important to her. She even mentions that she would normally have praised Oprah, but this day was too serious for such praise:

She arrived in front of me and I stood up to hug her. On any other day I would have gotten on my knees and kissed her toenails, but today was too important for worship. She knew it and I knew it. (14)

Again, the apprehension shown through the SOC lens affords McCarthy an opportunity to reflect on the importance of her message.

The weight and importance of her message is alluded to in a different way as she invokes God to give her strength: "I looked down in front of me and prayed to God to give me strength." The reference to God, a greater force, creates a sense that she is delivering a message that she was *meant* or *destined* to deliver; it is as though this is her calling, and it is her job to educate the rest of the parents through her story. Altogether, the opening is dramatic, in-the-moment, and relatable; these elements of the writing help establish McCarthy as a figure with whom to empathize and to understand, and they also grant her a requisite level of credibility/reliability, both as a narrator and as a speaker on vaccines and autism.

Another effect of the dramatic tone in *Mother Warriors* is the misrepresentation of physicians and scientists as either uncaring, unconcerned, dismissive, antagonistic (at their

worst), or some combination of these characteristics. In response, McCarthy et al. are positioned as protagonists, taking action when others (the doctors) will not. The melodramatic tone of the stories plays a significant role in assigning these negative portraits to doctors administering vaccines or studying autism.

One of the mothers sharing her story with McCarthy, Michelle Woods, talks about how she felt when she first learned that her son, Kevin, was diagnosed with autism. Like many mothers who are brave enough to share their stories in *Mother Warriors*, Woods uses intense similes and other comparison techniques to describe both how she feels during this moment, and what she believes the doctors to be doing. Woods discusses how she felt when Kevin went through his medical evaluation at the TEACCH Center at the University of North Carolina, Chapel Hill:

They took him and put him in a room by himself with the evaluators... we could hear him

screaming in the next room. It sounded as if he was being tortured. It was so traumatic for me because here's a kid who is sick and miserable anyway and then you put him in a room with strangers. It was torture. (53).

Woods upholds the dramatic tone already established by McCarthy and others; it mentions how the doctors "took" Kevin, and "put him in a room by himself," evoking images of Kevin being almost snatched away, and placed in solitude, as if in some sort of solitary confinement. I do not wish to suggest these descriptions of the situation are in any way untrue; it seems very likely, and consistent with medical process that Kevin was escorted by psychiatrists to an environment that was conducive to evaluation, free of distractions. Indeed, prior to the excerpt above, Woods says, "The evaluation was very hard for me because Kevin, up to that point, had never

really been separated from me”(53-54). At the same time, the drama added to the description through the words and phrases mentioned above inevitably draws readers in in a way that would not be achieved through a more straightforward description that focuses on the accurate portrayal of medical/scientific procedures. As a result of readers’ increased engagement with the text, they are likely to ascribe a higher truth value to the descriptions of what is happening. Woods goes on to talk about how it “sounded as if [Kevin] was being tortured” because the doctors took a child who was apparently already sick, and then “put him in a room with strangers.” There is no doubt that this process was stress inducing for Woods, and it is important that she describes how she felt, and that readers do not presume this information. Still, this description makes it possible—and likely—for readers to misunderstand the true intentions of the doctors taking care of Kevin, which is to understand his condition, and make him and his parents happy and healthy. In addition, Woods transitions from “It sounded *as if* he was being tortured” to “It *was* torture.” This shift from a hypothetical to a certainty is important, since this episode as a whole represents one of the few windows readers have to try and understand the actions and intentions of the doctors. While Woods’ unknowingness of the process may have tortured her, readers must understand that the physicians going through evaluations with Kevin sought only to help him and Woods both. In addition to Woods’ transition from a hypothetical to a certainty, the word “torture” alone is powerful in communicating Woods’ discomfort and the seriousness of the situation. Whether her use of the word was meant to convey her perception of the intentions of the evaluators or simply communicate how she felt, “torture” becomes associated with standard medical process. Again, readers must recognize that the doctors’ intention is the exact opposite of torture. In many

cases, as in this one, although the drama underlying the narrative serves the main purpose of making the stories interesting and entertaining, it also provides a base for other elements of the story, such as the propagation of a mistrust in healthcare providers. In this case, psychiatrists are being made out to look like they are harming the child. As Woods puts it, he was “sick and miserable anyway, and then [they] put him in a room with strangers.” This kind of gives the idea that the doctors taking care of Kevin were somehow exacerbating his situation. This is not the only example of the vaccine-hesitant rhetoric demonstrating a mistrust in healthcare providers’ intentions, but here, the dramatic tone of the narrative causes an increased level of engagement and trust in readers, leading to them taking Woods’ side in being wary of physicians and scientists. This testifies to the interrelatedness of the various threads throughout the book, in this case between the mistrust of doctors and the dramatization of the narrative.

In the following example, physicians are shown to be uncaring, which, compared to how they are made to look in other situations, is much better. McCarthy and other moms seem to think that doctors relinquish responsibility or avoid taking action to improve health situations for children affected by autism. Irrespective of the debate on whether or not some form of treatment *can* be administered to children affected by autism, McCarthy and company are sure to characterize physicians as unable/unwilling to take any action at all; in other words, McCarthy’s discussion is focused on the fact that doctors apparently do nothing, not on whether anything *can/should* be done for children with autism. In some situations, McCarthy evidently thinks that physicians are avoiding this responsibility because they lack the knowledge and means to provide care, but in others, she appears to think that they simply do not care. In either scenario, the result for readers is that doctors are antagonists, and even more strongly,

McCarthy and others are protagonists, standing up for what they believe to be right. McCarthy discusses how she feels in response to the challenges doctors face in understanding autism:

There's nothing more hopeless than when doctors tell you they can't fix the brain because they can't get to it. It's like hearing, "Sorry, something is screwed up in their brain. Have a nice day."

The hyperbolized tone woven through the entire book continues: the neurological and social complexities of autism present doctors and scientists with a unique challenge, which has yet to be fully appreciated/understood. McCarthy whittles down this complexity to "something is screwed up in their brain," which does is not a hyperbole by exaggeration, but a hyperbole by diminution; thus, the storybook-like drama is upheld. Through that tone, doctors are shown to be curt and dismissive. The hypothetical dialogue ending with the physician saying "Have a nice day" is perfectly representative of how little McCarthy *believes* doctors to care not only about children affected by autism, but by children affected by neurological issues in general. Of course, this is not the case—it is easy to make this case, because of how slowly scientific/medical progress on understanding autism was moving. Altogether, this showcases McCarthy's brilliant control of the medical and social narrative surrounding autism. After McCarthy establishes the idea that doctors do not care and are doing nothing, she is perfectly positioned to make herself look like a hero.

As a mom it gives you hope to know that it's not just something inherently wrong with your kid, which is how they portrayed it for so long. First it was refrigerator moms and then it was, "Well, you know, he must have bumped his head on the way out." No, it's not that. It's something totally different and it's something totally fixable. It gave me tremendous

hope to learn that if I fix his gut and fix his immune system, maybe he'll get better. And he did. He just happened to be a child who did get better.

After conveying her disappointment in doctors' lack of desire and inability to take any action, McCarthy is able to frame herself as a hero for acting. When she talks about trying specialized diets to treat her son, McCarthy says, "They may not be completely healed, but they will get better, and that's better than doing nothing, for God's sake. You've got to get out and try" (61). Understandably, McCarthy's main frustration stems from the apparent stagnation of medical science in prescribing a treatment for children affected by autism. In expressing this frustration, however, it is important to note that doctors are villainized, McCarthy looks like a protagonist (standing against the unconcerned doctors), and the misunderstanding of the scientific process is exhibited, which is discussed in further detail in the next section.

A significant advantage gained through McCarthy's fast-paced narrative is the fulfillment of the need for immediacy that many parents in *Mother Warriors* exhibit. That is, McCarthy et al. seem dissatisfied with the time-intensive nature of medical research. The "fast-paced" feeds into fulfilling a need for immediacy in answers and results that many of these parents demonstrate. That is, the parents whose stories are presented and discussed all show a desire for quickness, whether it is in results, action, or change, and subtly, the quick pace of the narrative fulfills that desire for immediacy. Science and scientific research is slow, requiring meticulous, exacting effort, knowledge and resources, and means; as a result, work done in science is usually slow, unexciting, and takes a long time to provide any kind of definitive answers (if it ever does). Where scientific dialogues fall short in satiating the need for

immediate answers, McCarthy's piece fulfills this need. It is almost universally true that human beings want answers sooner rather than later, but it remains important to understand that unfortunately, science does not operate in this way. Additionally, in many situations throughout the book, the laboriousness of science and its time consuming nature is confused with inaction on the part of healthcare providers. The drama that is deliberately woven into McCarthy's narrative serves to add weight and importance to the words and behaviors of McCarthy and her advocates/allies/supporters. In this way, McCarthy is made to look like she's taking *action* action, putting her foot down and actually doing something, while others are doing nothing. This concept is related to the misunderstanding of the scientific process that dominates this book as well—the inability to appreciate that getting true, serviceable results takes time almost feeds the craving of immediacy that comes across in this dramatic, zig-zagging, action-filled narrative. At the same time, we must appreciate that most of the drama comes from descriptions of life-or-death situations.

The dramatic tone also fulfills a need for immediacy that remains unsatiated by the traditional processes and methodologies of science. There are complicated areas of medical issues wherein scientific research will inevitably take frustrating amounts of time to provide answers—this is especially confusing and upsetting to the layperson, who might be affected by an illness or condition that science has not yet shed sufficient light on. McCarthy, by providing a dramatic and fast-paced narrative, comforts her readers as she fulfills this need for immediacy,

while glossing over the time-consuming nature of science, instead reframing this time-intensiveness as inaction on the part of researchers and doctors.

Samantha Gray, one of the mothers who adds her narrative into McCarthy's book, has a story that demonstrates this consequence of the heightened pace of the stories presented. When Gray learns that her child, Zach, might have autism, she begins to search for possible treatment options. She talks about how her husband, Gary, was "pretty much in denial or just settled with what the medical community says, which is that nothing can be done" (115). In the same year that this piece was written, CNN published an article that referred to autism as "one of the greatest mysteries of medicine."<sup>4</sup> Additionally, the article went on to say that "scientists and doctors still know very little about the neurological disorder."<sup>4</sup> Although both the statement from Gray's story and the CNN article reference the little information that is known about autism, Gray's story says that the medical community claims "nothing can be done" whereas in reality, doctors and scientists are working to learn more about the disorder. Regardless, Gray appears frustrated with this lack of knowledge (justifiably so) and begins doing research that tells her about a specialized diet that may help her son, Zach. "... after all my research, I decided to start by ordering some enzymes, colostrum, and vitamins, and to finally start Zach on the gluten-free, casein-free diet." Following is an example of how elements of a quickened story satisfy the frustrations with the scientific process.

"That night, I bought every nondairy milk that I could find, rice milk, almond milk, all the stuff that they say is okay to drink. And the next day, I mixed a half-and-half of the milk he

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<sup>4</sup> (Willingham 2008)

was drinking and the new nondairy milk. On the second day, I noticed a difference”  
(116).

The first component supporting the continuation of the dramatic narrative is how Gray appears to be discontent with the idea that “nothing can be done,” and as a result, takes action. Gray’s actions make her look like hero or protagonist—almost like a revolutionary. In a time when no one else cares or has the knowledge to act, Gray conducted research all by herself, and took action—she took concrete steps to correct an issue. This portrayal of Gray as a hero is the first aspect of the dramatic narrative that ultimately satisfies a need for immediacy. Later, however, there is an even more explicit demonstration of quickness that satisfies readers. Gray says that “on the second day, [she] noticed a difference.” *On the second day*. Medical research hardly, if ever, would provide answers to a problem over the course of 24 hours. Not only did Gray notice a difference immediately, she took an extremely low-stakes action to achieve potentially life-changing results. That is, she mixed half of her new milk with half of the milk he was already drinking. She didn’t even switch out his regular milk completely with the nondairy milk—she only switched out half. With such a low-stakes action, she was able to see results; not only did she see results, she saw them one day later. As discussed earlier, rigorous medical research that sheds light on complex issues like behavioral conditions often requires years of dedicated study, testing, failure, and ultimately, incremental jumps in knowledge or theory. Gray’s experience is not consistent with this at all. The aim here is not to impugn Gray’s character or the validity of her story that she was brave enough to share. Rather, it is to showcase the dramatic, fast, action-packed narrative that vaccine-hesitant anecdotes seem to share, and to investigate how this common thread satisfies a vacancy left by traditional science, making it so appealing to

readers. The immediacy seen in Gray's story supports the drama of McCarthy's book, and satiates readers in a way that science is fundamentally unable to do.

Lisa Ackerman, mother to Jeff, also uses a hyperbolized tone to share her experiences, and exhibits a desire for quick results that traditional, scientifically sound medicine is unlikely to satisfy. She shares her experiences and reactions to hyperbaric chamber therapy for her son, appearing frustrated when it does not provide immediate results, and later, once it does appear to provide results, seems thrilled.

During the summer of second grade, we started to do mild hyperbaric oxygen therapy. Jeff was prescribed for forty sessions and I was annoyed at first going to those sessions because I felt they were eating up time in our day. It was taking away from speech therapy and I began to get irritated. I would call Glen and whine, "This sucks, sucks, sucks, sucks, sucks!" Then, on the twenty-first session, we came out of the tank, and the chamber dude, Eddie, looked at Jeff and asked, "How do you feel?"

...

I called Glen on the way home, screaming, "Hyperbaric therapy is the best thing in the world! I love it!" (78).

At first, Ackerman makes it clear that she is dissatisfied with hyperbaric oxygen therapy, given how time consuming it is, and that it has not yet provided "tangible" results. The evidence for this lies in the fact that Ackerman is frustrated with oxygen therapy, only until it provides results. This seems logical—if a therapy is not providing immediate results, and is taking time away from another form of therapy, frustration seems an appropriate reaction. At the same time, it reflects a lack of appreciation for the slow development that is usually an inextricable

part of medical treatments. With these treatments, it takes a lot of time to see results. Oftentimes, the course of treatment itself is not pleasant—that is, while treatment is being administered, the progress is not always clear—in these situations, the results become clearer at the end of treatment. When Ackerman says, “I was annoyed at first going to those sessions because I felt they were eating up time in our day,” she exhibits an impatience with a treatment that shows an inability to appreciate the naturally time-consuming nature of a treatment process. Ackerman describes how after his twenty-first session of hyperbaric oxygen therapy, Jeff responded positively—he has a lively conversation with the lab technician and Ackerman herself, and then, Ackerman responds by saying, “Hyperbaric therapy is the best thing in the world! I love it!” Just before Jeff’s conversation with her, she was expressing a strong resentment toward hyperbaric oxygen therapy; being able to “see” results, however, changes her attitude completely: now, she loves it. The role of the immediacy in results is clear: when Ackerman cannot see progress being made immediately, she declares that a therapy is a waste of time; however, as soon as she is able to see results, her attitude shifts 180 degrees. Beyond a depiction of a natural human tendency, this example demonstrates the excessive fixation on immediacy of results that real, scientifically sound medical treatments hardly ever have. Additionally, whenever groundbreaking results are achieved in science, they must have reproducibility. In other words, other scientific experiments must be able to replicate the results of other experiments for those results to be considered valid. Here, the verification step is left out entirely, but Ackerman’s reaction does not reflect this. The need for immediacy in results is clear, and a quickened pace in *Mother Warriors* satisfies this need. The excitement, engagement, and action granted by dramatic, hyperbolized, polarizing language satisfies the

vacancy left by the lack of excitement in real science. For instance, when members of the American Academy of Pediatrics (AAP) agree to join her for a conversation on vaccines and autism, and agree to work with DAN!, McCarthy is wary of the AAP reneging on their promise: They were just words on a piece of paper at this point but I was hoping the AAP would follow through. If they don't, of course, I will hold up their press release on every talk show until my fingers bleed (118-119).

Beyond displaying McCarthy's dedication, and willingness to take action, she uses hyperbole to show the lengths she is willing to go to in order to ensure that her interests are preserved. The hyperbole and the action shown stand in contrast to the slow, not-exciting-in-the-traditional-sense nature of the scientific process. McCarthy describes her experience speaking to representatives of the AAP, saying, "I thanked her nicely, hung up the phone, and then dropped to the floor as if someone had just shot me. I was so wickedly exhausted and I realized I might just die an early death from all of this" (33-34). Not only does McCarthy's language make the book exciting and engaging to read, the excitement added by this language is a characteristic largely absent from scientific discourse. Scientifically unsophisticated people who read McCarthy's book also have a need for immediacy, which is being indirectly satisfied by the heightened pace that comes from dramatic, hyperbolized language. Traditional medical discourse does not have the same characteristics as McCarthy's book, even though both are technically medical discourses, with potential clinical implications. Medical discourse's main characteristics are careful, slow, only making statements and suggestions that are supported by evidence, and do not contain dramatized language, only carefully chosen language to represent the exacting nature of medicine and science. This seems

to leave a vacancy in the minds of the scientifically unsophisticated, in the form of a craving for results and quickness. This vacancy is subtly filled by the sensationalist tone weaving through the narrative.

### Chapter III: Seeing is Believing

Another thread weaving through many of the vaccine-hesitant narratives is the presumption of knowledge. That is, many of the writers of these narratives seem to misunderstand the flow of logic and information that leads to scientific development and new knowledge. First, there is a preexisting trust in what is familiar, observable, and simple. McCarthy and the other moms writing in *Mother Warriors* tend to trust and understand macroscopic concepts that can be seen and are “tangible.” This tendency leads to a diminished appreciation for the microscopic, fundamental concepts of biochemistry, toxicology, and thus the basic sciences of medicine overall. A more downstream result of this is the perception that science on the issue of autism is stagnant, and that researchers and doctors are doing little to change this status quo. In most cases, physicians, scientists, and healthcare providers in general in McCarthy’s book are depicted as uncaring, dismissive, and at their worst, incompetent. Worse, the mothers then assume the role of developing an understanding of vaccine science and autism without the appropriate resources and requisite knowledge to do so. In most cases, a post hoc ergo propter hoc line of reasoning is followed, which is too dangerous in such a complex, high stakes situation.

When McCarthy goes on Oprah's live show, Oprah asks her to explain why she thinks her son, Evan, became autistic. This happens right at the start of McCarthy's book, within the stream of consciousness framework of the opening chapter. Here, McCarthy is being asked to provide an explanation that even the world's top doctors have yet to understand. In fact, the president of the Kennedy Krieger Institute, one of the leading US Facilities for autism research and treatment, Dr. Gary Goldstein, has said despite the knowledge scientists have accrued, many questions remain unanswered.<sup>4</sup> McCarthy is then left to her own intuition to give an explanation for a concept that is irrefutably science-based, and therefore, should be answered by science. Throughout this, we need to keep in mind that her celebrity status boosts her credibility to many audiences.<sup>2</sup> Therefore, her words hold extra weight. Regardless, after Oprah asks her to explain her son's autism, she responds by saying, "We vaccinated our baby and SOMETHING happened. SOMETHING happened." (15-16). This explanation is a perfect example of several of the themes in vaccine-hesitant narratives. First, McCarthy follows the post hoc ergo propter hoc line of reasoning. This is a logic fallacy wherein someone believes that, because event B followed event A, event B must have been *caused* by event A. This type of logical fallacy tends to take hold especially when it is applied in a grey area where science has not yet provided definitive explanations. McCarthy believes that because she began noticing signs of autism in Evan after he was vaccinated, the vaccination must have somehow caused his autism. McCarthy communicates her dissatisfaction with physicians, because of their reluctance to believe McCarthy's story, and in doing so, demonstrates her line of reasoning, within which several interesting and common patterns emerge. Mostly, she appears frustrated with the physicians' denial that vaccines caused Evan's autism, when she *saw* it happen. Essentially, a

visible phenomenon/occurrences takes up the role of evidence. We think of eyewitness accounts as the most reliable form of testimony, because the eyes never lie. What is visible is real. McCarthy reveals this to be her mode of thinking as she expresses her frustration with how doctors are handling Evan's case.

Imagine watching your child climb up a flight of stairs. He slips on a stair and cuts his knee open and begins gushing blood. The cuts are deep, and you immediately wash away the blood, wrap up the knee, and head to the hospital. Once you get there, the doctor asks what happened. You reply, 'He climbed up some stairs and he fell and got hurt.'

Now imagine the doctor telling you it's not possible that your child got this hurt from stairs. 'But I saw him climb stairs and fall and I saw his knee split open,' you explain.

Again, the doctor says, 'It's not possible.'

And you repeat, 'But I saw it happen!'

Then the doctor tells you that climbing up stairs is safe. But you know what you saw with your own eyes and so you insist, 'But obviously sometimes it's NOT safe. Look at my child. I saw him get hurt!'

The doctor just keeps shaking his head and denies that stairs could ever harm a child. (23-24).

This analogy to vaccine injury is an excellent choice by McCarthy for several reasons. It gives legitimacy to the eyewitness mode of testifying to something (makes the idea that seeing is believing look very legit). It is also a very relatable scenario—almost every parent has gone through this exact experience with their child. Also, it makes McCarthy look very competent as a

first responder in a bad situation. Finally, it highlights the dismissive, unbelieving attitude that doctors are made to fit throughout the entire narrative.

In McCarthy's hypothetical situation she asks us to consider, there is microscopic doubt that the slipping on the stair caused the injury on the child's knee. Because the action of the stair on the knee can be observed so directly, and because there is no simpler explanation, it is reasonable and most useful to say that the child slipped and fell, and that the stair cut open the knee. To elaborate on the potential complexity of a seemingly simple situation, let us consider the same scenario, but with an older person, say aged 75 years old. Although it would still be the stair that caused the cutting of the knee, because the patient is different, we must consider the possibility that the person was going through a syncopal episode, or was feeling light-headed, which caused him/her to slip in the first place. But this underlying explanation is not immediately obvious, and therefore is unlikely to be considered by people following the same logical flow as McCarthy. The intention behind the new hypothetical situation is to show that a seemingly simple situation can be muddied when we (physicians and scientists) try to understand more underlying reasons behind certain medical happenings. Nevertheless, McCarthy shows how valuable and trusted our sense of sight is when gathering evidence to arrive at a conclusion. The difference between McCarthy's hypothetical scenario and cases involving vaccines is that in the latter case, if only the macroscopic is considered, far too much instrumental evidence/science/understanding is not accounted for. We must understand that with medicine, visibility cannot be the only means by which we authenticate a hypothesis. That is, we cannot say, with even reasonable certainty, that a vaccine caused a certain reaction by relying only on the visible aspects of the vaccine. Still, visible testimony appears to be the

primary way in which McCarthy collects evidence. Unlike the knee cutting example, the biochemical action of the vaccine inside the body cannot be seen by the naked eye. As well, in the stair example, the mode of injury was seen directly, whereas in the vaccine case, it is being merely extrapolated, based on what is visible.

In addition, this particular scenario is extremely relatable, it describes an archetypal experience with almost every parent. The relatability indirectly gives more credibility to McCarthy's line of reasoning, making parent very likely to subscribe to a similar use of visual evidence. Relatability is a theme throughout.

Another important theme shown in this example is the attitude that doctors are often shown to have; the doctor here seems to be in a sort of dismissive disbelief about what McCarthy is telling him/her. "The doctor just keeps shaking his head and denies that stairs could ever harm a child" (24). Not only is the doctor described here in disbelief, he seems very staunch in his idea that stairs could have caused the child's injury. He does not amend his words to better explain himself, nor does he seem prepared to accept the mother's story in the first place. As well, the doctor in this scenario does not provide any alternate explanations to the mother about how her child may have gotten injured. Although this is McCarthy's hypothetical situation, the frustration of not feeling heard suggests that too many healthcare providers, or even larger scale public health campaigns focus on offering counter arguments instead of listening and offering some sort of response that at least shows that the mother's voice is being heard and acknowledged, regardless of her message's truth value. In many ways, a doctor and an essayist have the same job: to put two (or more) narratives in conversation with each other, and through the connections they observe, to try and put forward some truth. While an essayist

may use poems, plays, or books as his narratives, a doctor must align his narrative and the patient's narrative, and draw out connections to arrive at the truth, which will then be communicated to the patient. A doctor's narrative comprises his background, training, medical knowledge and knowledge of people, and a sense of empathy. From McCarthy's message, it seems as though physicians are failing to appreciate the patient narrative and are instead pushing forward a truth that is based entirely on their own narratives. Throughout McCarthy's book, doctors are shown with this attitude.

In many ways, the foundation for McCarthy's (and the other mom's) presumptions of knowledge are established by their reliance on intuition, discussed in the prior section. The reliance on intuition, however, demonstrates a broader pattern of trust and reasoning that many human beings, especially people involved in the vaccine-hesitant community seem to have, which is a trust and belief in what can be seen, felt, heard, and touched. As well, they appear to trust familiar sources, or sources that they have been turning to for a long while.

I thought that I might be sensing an upcoming seizure, as I had in the past. As I lay glued to him with my eyes wide open, the feeling in my chest got worse. I started to sweat and then I began to panic that something was terribly wrong with me. I ran to my good ol' computer and went to my favorite university: the University of Google. I searched for heart palpitations and it brought up anxiety and panic attacks. I sat back in my chair and realized that Google was right (19).

Here, McCarthy demonstrates a heavy reliance on instinct right away. In the first sentence, she suspects that she is "sensing an upcoming seizure," which apparently, she has done before. Of course, it's important and useful to be able to process certain small environmental cues, that

can result in the “sensing” feeling that McCarthy is describing, but the degree to which McCarthy relies on her ability to sense medical conditions is surprising. It is also important to note that she validates her own ability by saying “as I had in the past.” She appears to be very confident in her ability to sense whenever something is amiss. The trust in the familiar and unchanging is really demonstrated when she runs to her computer and begins to search her signs and symptoms on Google, though. She says she ran to her “good ol’ computer” which may seem insignificant, but the descriptors “good” and “ol’” illustrate a very special type of familiarity, and therefore trust, she has in her computer. These words make it feel familiar, as though it has been a companion with her for a significant period of time, which is part of the reason she trusts it so much. There is an inherent trustworthiness attached to her computer, and this shows a tendency of vaccine-hesitant rhetors to trust the familiar. Immediately following that sentence, she showcases her trust in using an online search engine, Google. She even refers to it as her “favorite university.” The sentence immediately prior and this sentence show how McCarthy confers trust on certain things in perhaps different ways, but both show an immense trust in the familiar. By referring to Google as her favorite university, she essentially tells readers that this is one of her most trusted sources of information. The term university is typically associated with some educational establishment with the resources, means, and responsibility of creating new knowledge. Referring to Google as a university alludes not only to the preponderance of information online, but subtly hints at the purported reliability of this information.

An extension of McCarthy’s belief in what is macroscopically visible is her tendency to categorize “physical” illnesses as real illnesses. That is, when a condition manifests physically is

when it is legitimate and actionable. McCarthy discusses one of her appearances on Diane Sawyer's talk show, *Good Morning America*, and mentions what she thinks the medical community has not yet discovered. According to her, up until this point, doctors have been treating autism as a purely neurological condition, when they should have realized it is a physical illness. Because physicians and scientists have not yet recognized that children with autism are physically sick, they are precluded from treating them effectively.

As we talked about how the medical community doesn't understand that children with autism are actually physically sick and how pediatricians across the country have no idea how to fix them, I started to realize that this was something I needed to pursue a little bit harder in the press. Almost every mom I know with a kid on the autism spectrum has gone to a pediatrician who has NO IDEA that certain symptoms exist in these kids (28-29).

McCarthy's deliberate use of the words "actually" and "physically" before "sick" seem to be her attempt to attach legitimacy and actionability to the condition of autism. McCarthy demonstrates several recurring themes in this sentence. A false equivalency is created between *physical* illness and *actual* illness. This equivalency is showcased in the hypothetical example with McCarthy's child getting injured on the stairs; in that situation, McCarthy can implicate the actual, physical stair as the agent responsible for her child's injury, because she can *see* it happen. Similarly, the purported physical signs that she is seeing in children with autism tells her that they are *truly* ill, and for this reason, should be given more attention by doctors. This idea is supported because previously, she mentioned how doctors cite the inaccessibility of the brain as their reason for not being able to provide treatment for autism. Although this is not actually true, this is McCarthy's perception of doctors. There seems to be a strong relationship

between visibility and truth or reality for McCarthy. A byproduct of the contrived equivalence between visibility and legitimacy is the diminished value of microscopic, less readily visible phenomena and evidence. That is, McCarthy implies that a lack of physical signs indicates either a lack of illness or a lack of treatability, which is of course, not the case. Patients fighting mental health conditions, for instance, often only present with symptoms and do not show any physical signs. Despite this, their illness is no less legitimate than someone suffering from a condition that manifests with outwardly visible indications. McCarthy's language places emphasis on visibility, but more problematically, diminishes the microscopic scientific phenomena behind many neurological conditions. McCarthy's idea that visible = real persists as she recalls a phone conversation she had with a public relations representative at the American Academy of Pediatrics:

AAP Representative: "Well, she responded. "We are deeply involved with new treatment for autism. In fact in a couple of months we are coming out with a new protocol that requires pediatricians to screen for autism twice before the age of two."

McCarthy: "Listen, these kids are sick now, physically, do you hear me? That's great and all, but your doctors don't know how to treat these kids and they can learn if they just talk to the DAN! doctors, many of whom are pediatricians from the AAP" (32-33).

McCarthy repeats the word "physically" in conjunction with "sick," and in this case, does so to add urgency to autism, which is the sickness she refers to. McCarthy seems to be saying that the situation is urgent, and physicians need to act immediately, *because* children are now physically sick. The emergence of physical signs was the threshold for a certain level of importance for McCarthy, and she appears to think that it should work the same way for healthcare

providers—that is, they should be as alarmed as she, now that physical signs are appearing. McCarthy continues her assertive tone, and ultimately receives affirmation from the AAP representative she is speaking to—at the end of their conversation, she says, “Okay, I’m going to have someone call you” (33). When McCarthy receives this positive response from a high ranking member of an academic pediatric community, it signifies to readers the validity of her actions. Readers are then likely to associate visible symptoms with the seriousness of a condition. Additionally, this interaction illustrates an earlier topic: the villainization of doctors, and the “protagonization” of McCarthy and her cause. Physicians seem to only take McCarthy seriously once she asserts herself forcefully, but once she does, physicians who previously did not care seem to appreciate the urgency of autism, since it manifests physically now (according to McCarthy). Michelle Woods also appears to be a proponent of the idea that physical illness represents actionable illness. When she receives information about Kevin’s diagnosis with autism, physicians informed her about behavioral interventions she could begin. However, she observes that Kevin was *physically* ill at the time of diagnosis as well. To her, this indicates that his autism is “medically based” and can be treated.

The day we got the diagnosis, I had no idea that Kevin’s autism was medically based. Nobody mentioned anything to me about immune deficiency or immune reactions or environmental toxins or anything like that. That was a world opened up to me later. But when he got his diagnosis, the only thing they were telling us we could do was start teaching him how to behave, essentially rewiring his behavioral networks so that he understands how to cope with stressful or anxiety-provoking situations. Kevin was so

physically ill at this exact same time, I wish someone had told me that it was related!  
(54-55).

Woods' reasoning here implies that there is no "medical basis" for an illness unless it shows itself with some physical signs. That is, while she is being told about behavioral interventions to improve Kevin's quality of life, she seems to think that this means there is no medical basis for his condition—if the only possible intervention is behavioral, this means the condition is, in a way, not yet real. However, the inflection point occurs when Woods connects Kevin's autism with his physical signs. Because there are now physical manifestations, Woods concludes that Kevin's condition must be medically based—which legitimizes it—and it is now actionable. It is also noteworthy that Woods does not believe behavioral therapy to be a significant form of treatment or action. It seems that the belief that what is visible is real extends beyond evidence for causative agents, into legitimacy of treatments. In other words, much of the evidence thus far has shown that when it comes to evaluating the cause for their children's autism, mothers are drawn to implicating what they can see or feel as responsible. But here, Woods shows that this mindset transcends just assigning responsibility to what she believes to have caused Kevin's autism, and involves ascribing legitimacy to certain types of treatments, based on whether they are as tangible as others. As a result, behavioral therapies are treated as less impactful as some biochemical interventions. There exists an interesting irony here: behavioral interventions are considered less legitimate because they are less tangible as opposed to medicines, but the insight to appreciate the cellular mechanisms behind biochemical medicines is absent. This example reinforces that there is a strong belief in the visible and tangible that many of the mothers writing in *Mother Warriors* are exhibiting.

McCarthy later talks about her appearance on Barbara Walters' show, *The Barbara Walters Special*. She discusses how nervous she felt before going live, similar to how she felt before speaking on Oprah's talk show. Here, however, her nervousness came from Walters' disagreement with McCarthy on the controversial link between vaccines and autism; Walters says to her: "I said MOST doctors do NOT agree with anything you're saying! Isn't that true?" (40). McCarthy responds by explaining how "it's a shame that most doctors don't know about these treatments," but repeatedly gets cut off by Walters shouting in a hostile tone. When McCarthy is challenged on her claims that children with autism can be "cured," she says that she does not believe children with autism can be cured, but they can recover: "A great example I use [from Stan Kurtz] is that autism is like getting hit by a bus. You cannot become cured from getting hit by a bus, but you can recover" (41-42). Although McCarthy's intention behind this example is to represent autism as an acute affliction, much like getting hit by some traumatic force, it showcases McCarthy's sustained focus on the visibility of scientific/medical phenomena. In the example, a bus is the causative agent of injury. This example aligns well with McCarthy's earlier example involving a child falling and hurting himself on a staircase, with the stairs themselves acting as the causative agent of injury. The common thread between the two examples (from different sources) is that the agent directly effecting injury is visible, and the mechanism of injury is clear. In the staircase example, the stairs themselves are visible, and the way that the forceful contact between the stair and the child's knee that resulted in a cut is clear; similarly, in the bus example, the bus itself is clearly visible, and the mechanism of injury, a traumatic force to the body, is clear. Unfortunately, this same logic fails when applied to vaccine science. Not only are the biological agents in a vaccine or medical treatment invisible, so

is the mechanism of action. But, McCarthy's fixation on what is visible averts her appreciation for these microscopic realities. To her, visibility is the main criterion for existence and potential for effecting a result. In other words, an object or agent's visibility to the naked eye represents its ability create change. Woods' confidence in treatments that she can see continues when she discusses the doctor's recommendation for Kevin. Apparently, Dr. Neubrander, the doctor responsible for Kevin, started a hyperbaric oxygen treatment for Kevin, which Woods seems to appreciate.

Then Dr. Neubrander moved me to hyperbaric oxygen (therapy that uses high-pressured oxygen, usually in a chamber). I didn't start it right away. Part of the reason it took me a little while to get into hyperbaric is because I wanted to see physically, medically, why it worked. There is a stigma of autism moms being willing to try anything and I will try something as long as there is a real basis to it (57-58).

Woods mentions that it took her time to warm up to the idea of hyperbaric therapy because she wanted to *see* why it worked; the word "see" is especially important—this emphasizes the utility of visibility to Woods (and others who share a similar mindset). She wanted to "see" why it worked, implying the ability of the eyes and the sense of sight to verify a truth, which in this case, is the efficacy of hyperbaric oxygen treatment. The issue, then, is that we know not all truths are falsifiable through sight; that is, some phenomena, especially medical or scientific, need to be verified through hypotheses, experimentation, and conclusion; this verification process takes advantage of more than just our eyes, appreciating the microscopic. Next, Woods reiterates the equivalency between physically and medically that she has established thus far, when she says that she wanted to see "physically, medically, why it worked." Again, the

juxtaposition of the words “physically” and “medically” is deliberate, showcasing that Woods, like McCarthy, believes that physically = medically. The “seeing is believing” pattern of logic dominates the entire narrative. Another mom who wrote to McCarthy, Karen, asks her questions about the validity of biomedical treatments. In response, McCarthy discusses how she acknowledges that the biomedical treatments for which she is advocating will not be useful for everyone. She does, however, make mention of the demographic for whom she thinks biomedical intervention is the best option, in a way that shows her method of characterization of persons with autism.

Some moms have even said that they are absolutely fine with the way their children are and that their children don’t need to be “fixed.” I agree that these kids are beautiful and perfect, but many of them are sick—physically sick—and these are the children that I hope to help (107).

Again, McCarthy makes clear that her focus is on the “physically sick;” whether this is because she feels the seriousness of physical symptoms to supersede non-physical symptoms, or because physical illness implies *true* illness is not clear; in either case, McCarthy’s priority is physical symptoms. She explains that she hopes to help the “physically sick” because the others are “beautiful and perfect” and do not need help. The divorcing between a need for help and invisibility of illness and the consequential union of physically ill and requiring help is potentially problematic. As shown by prior examples, this type of thinking tends to legitimize aspects of conditions or illness that manifest physically and diminish the aspects that may not show themselves as overtly. Worse, this thinking leads to an inability to appreciate the basic sciences

underlying medicine. The spotlight focus on visible issues penetrates the entirety of *Mother Warriors*, and is likely representative of much of the thinking of other vaccine-hesitant rhetors.

The emphasis on visibility and physicality also applies to McCarthy's and others' evaluations of severity of autism, further demonstrating their reliance on visible characteristics as a reliable metric/mode of evaluation. Becky Behnan, one of the mothers in *Mother Warriors*, writes about her son, Jack. McCarthy interviews Behnan and her son, and says:

While Jack talked, I of course observed his behavior to see how much autism I could see. I have to say, for a couple of minutes I had no idea. He seemed extremely polite, with a little bit of oddity in the tone of his voice. He was fully conversational and the only hiccup I might have seen was his not elaborating on or extending his thoughts. I was taken aback by how much light was coming out of this man. I truly couldn't get enough of his energy. He was like a lightbulb that went on when he walked into the room (92).

McCarthy here explicitly states the utility of her sight as a means for verifying the presence of autism. McCarthy is not alone here—Stan Kurtz, a father to Ethan, who is on the autism spectrum, follows certain alternative medicine procedures and apparently achieves great results; he says about his son: “The autism looked gone, as if he'd just finished pooping it out of him” (131). He also uses his sense of sight to verify the presence of autism, giving physical manifestations credence over internal effects. Unlike scientists, who rely on experimentation and measured extrapolation to determine what is occurring in a space where the eyes cannot see—that is, what is happening at the microscopic level, or even at the atomic level, is understood by scientific experimentation—not always simple observation, which is apparently

McCarthy's sole method of collecting information. A small, but important piece of her language is the use of the phrase "of course" before she talks about how she watches Jack's behavior. This indicates her confidence in the fidelity of the eyes to provide information. She conveys to her readers that she has trust in the visible, and so should they. Her quantification of autism, when she says, "how much autism" parallels her earlier display of thinking that autism is acute and almost "tangible," much like the effect of getting hit by a bus (taken from her previous example). Associations are being developed between concepts of acuteness, tangibility, and visibility. In response to Behnan's story, McCarthy recalls her own struggles with Evan:

It tore my inside up when I used to watch Evan injure himself. I had no idea why he was doing it until I researched the behavior and found it was because he was in physical pain. I focused on fixing that and did (107-108).

The focus remains on physical conditions, and they are then associated with actionability. This is problematic for doctors and scientists, who focus on underlying causes, as this makes them look like they are doing nothing. Samantha Gray's story aligns with this pattern of thinking perfectly. Her son Zach lives with autism, and she closes her letter to McCarthy with a tone of discontentment toward physicians: "These children are physically sick. It is not just in their minds" (117).

Perhaps the most revealing moment in which McCarthy evinced a myopia for only clearly visible evidence was during her final moments on Oprah's talk show. After asking McCarthy what she thinks caused Evan's autism, and having her explain that she believes vaccines can trigger autism, Oprah cites a piece of evidence from the Centers for Disease

Control (CDC), that refutes any link between vaccines and autism. This evidence is presented as an opportunity for rebuttal from McCarthy, which she takes:

Oprah finished with a statement from the CDC, which said there was no science to support the connection between vaccines and autism. I couldn't help but think, "Who needs science when I'm witnessing it every day in my own home? I watched it happen." I replied with all the love that I could muster in my heart. "At home, Evan is my science." (18-19).

McCarthy's love and focus on her son are unbridled. Interestingly, it seems as though McCarthy is conflating her love for her son, her desire and subsequent effort that she will put into ensuring her son's health with having the medical/scientific knowledge and expertise to diminish the ability of science to reveal the truth. In other words, she clearly loves her son very much. As well, she demonstrates her willingness to keep him healthy through hard work. Unfortunately, this love and effort supersedes the ability of science to determine the truth, in her mind. When she says, "Who needs science when I'm witnessing it every day in my own home? I watched it happen", she again shows her reliance on her sense of sight and ability to eyewitness to provide her with evidence or the truth.

The inability to appreciate scientific concepts that are less obvious to the naked eye precludes McCarthy and others from engaging in any productive discussion or understanding of biochemistry, physiology, or medicine in general.

The fixation on physical signs leads McCarthy and company to develop the perception that physicians and scientists are doing too little to change the status quo on autism. This discontentment of these mothers shown through their interactions with doctors and what they

say about doctors also reflects a misunderstanding of many of the basic principles governing science and medical practice. McCarthy et al. often employ a post hoc ergo propter hoc fallacy to establish what they believe to be the causative agents behind autism. Their primary evidence that vaccines “trigger” autism seems to be that their children began exhibiting behaviors characteristic of children with autism after they were vaccinated. Scientific experimentation, of course, does not rely on post hoc ergo propter hoc logic. Additionally, there is a misunderstanding on how clinical medicine is practiced; interactions with doctors demonstrate that these mothers do not understand how clinical diagnoses are made, nor do they understand how treatments or plans are developed and prescribed. Moreover, they do not seem to appreciate the knowledge of medical practitioners, relying instead on either their own instincts or the internet. Cognitive dissonance is a significant theme throughout the narrative, with McCarthy et al. demonstrating that they tend to search for evidence while motivated by some directional preference<sup>5</sup>; that is, they seek out evidence that validates their existing beliefs, instead of searching for the truth.

First, and perhaps most importantly, many of the parents in *Mother Warriors* demonstrate a post hoc ergo propter hoc logical fallacy in their evaluation of evidence. That children exhibit behaviors characteristic of autism after being vaccinated is frequently cited as evidence that vaccines can trigger autism. Additionally, mothers victim to this pattern of thinking are primed to search for a trigger to autism, having been informed (by various sources) that environmental triggers are responsible for autism manifesting in children. Indeed, in McCarthy’s appearance on Oprah’s show, she showcases this exact logical fallacy clearly:

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<sup>5</sup> (Nyhan, Brendan Nyhan Interview 2018)

“The statistics are one in one-fifty. I’d like to know what number it will take, what number does it have to be for everyone to start listening to what the mothers of children who have autism have been saying for years, which is ... We vaccinated our baby and SOMETHING happened. SOMETHING happened. Why won’t anyone believe us?” (16).

In a post hoc ergo propter hoc fallacy, a person is led to believe that because event *B* followed event *A* chronologically, event *A* must have *caused* event *B*. In this case, McCarthy believes that because her baby began to show signs of autism after being vaccinated, the vaccination must have somehow triggered autism. In medical contexts, this thinking is especially dangerous, and carefully safeguarded against in scientific experiments. Experiments involve specific positive and negative controls, sham groups, experimental groups, and take place in tightly regulated conditions, to ensure that some effect is being caused by a specific, known variable. Here, this is not happening—in fact, the only reason McCarthy has to believe that a vaccine can cause autism is that the autistic behaviors appeared following the administration of the vaccine. As discussed previously, McCarthy shows a tendency to give credence to *visible* phenomenon. This primes her for post-hoc fallacy, because the causative agent responsible for triggering autism (if there is one) is most likely microscopic. The principles of biochemistry, physiology, and other areas underlying medicine are able to provide information on neurological conditions, but these ideas are invisible. Differently, the physical administration of a vaccine is a visible event; even though the biochemical action of the contents of the vaccine are invisible to the naked eye, the administration of the vaccine is obvious, which makes it a prime candidate for the causative agent behind autism, in a post-hoc thinking model. McCarthy says, “We vaccinated our baby and SOMETHING happened,” showing that the chronology of events is what leads her to point

the finger at vaccination, and that she is unaware of what truly triggered his autism (indicated by her emphatic use of the word “something”)—in other words, the timeline of events is not her primary piece of evidence, rather, it is her only piece of evidence for the claim that vaccines can cause autism.

McCarthy returns to her theory that vaccines can cause autism in some children later with more specificity, but her argument still rests on post-hoc fallacy. She recalls her thoughts following a phone conversation with an American Academy of Pediatrics (AAP) representative:

Did this AAP guy just admit that he was involved in early research proving that the rubella virus can cause cases of autism? I couldn’t believe it came right out of his mouth that rubella is known to have caused cases of autism. If rubella can cause autism in some children, and moms claim that they lose their children after the MMR vaccine (measles, mumps, and rubella), which has three live viruses including rubella, is it such a huge leap to say that vaccines might trigger autism in some kids? (34-35).

Here, the post-hoc reasoning is bolstered by the tendency to create simple associations between visible, memorable events, and specific events that follow other events chronologically. That is, I hypothesize a greater susceptibility to post-hoc reasoning when the event that is charged with causing a succeeding event is visible, memorable, or somehow rousing. Although the truth is that vaccines contain a dead or weakened strain of a pathogen, McCarthy deliberately mentions that she believes the MMR vaccine to have “three live viruses”—the mention of multiple, *live* viruses facilitates and strengthens the connection between the vaccine and autism. It is entirely possible that McCarthy believes that the vaccines have pathogenic potential because the virus strains are living, to explain her use of the word

“live”; still, readers likely perceive a strong connection between the vaccination and the autism as a result of the rhetorical weight added to the MMR vaccine by the word “live.” This increased gravitas substantiates the post-hoc logic pattern employed by McCarthy and colleagues.

McCarthy follows by suggesting that because mothers claim that they see signs of autism in their children after the children were vaccinated with an MMR vaccine containing live pathogens, it is reasonable to say that vaccines may cause autism in children. Again, the defining characteristic of her “evidence” is that the qualities associated with autism began to show up *after* the vaccine was administered. It is also important to note that McCarthy frames her conclusion (vaccines can cause autism) as a rhetorical question, and that she says vaccines *might* trigger autism. Both the framing as a question and the epistemic modality of “might” serve to temper her conclusion, making it appear less aggressive and thus more agreeable.

Research done by Dr. Brendan Nyhan suggests that “[s]ubtle narratives have been found to be persuasive because individuals ‘may not marshal their cognitive resources to defend against a potentially counter-attitudinal message.’”<sup>6</sup> Essentially, Dr. Nyhan suggests that, when faced with a strongly counter-attitudinal perspective, people tend to marshal their cognitive resources to defend against that perspective. By using these two rhetorical devices—the question format and the word “might”—McCarthy creates a gentler, more subtle tone in her narrative, which, according to Dr. Nyhan’s research, enhances its persuasiveness. This increased persuasiveness is nested within the post-hoc reasoning.

Like Jenny McCarthy, Michelle Woods also shows a post hoc ergo propter hoc line of reasoning on the potential link between vaccines and autism. That is, the crux of her evidence

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<sup>6</sup> (Nyhan, Reifler, et al. 2014)

for the claim that her son's, Kevin's, autism was caused by a vaccination is merely that she began to notice changes in his behavior after he was vaccinated; the vaccination itself was easy to target as a cause for autism because of its visibility and memorability as an "event", and the seriousness of the conditions that she apparently began to see:

I started to notice changes when Kevin was about six months old and it was near Christmas

2002. That's when he got his DTaP vaccine (diphtheria, tetanus, pertussis) with the Hib vaccine (Hib disease), and right after that he started losing everything. He began getting really sick and lost all of his milestones (53-54).

The connection between the "changes" that Woods notices and the DTaP vaccine is the chronological proximity of events. Woods says that she started to notice changes when he got his DTaP vaccine, and that "right after that he started losing everything." The sole connection between Kevin "getting really sick" and the vaccine is that these events took place successively. Woods goes on to describe the severity of Kevin's ailments: "He had eczema all over his body, he started to bleed internally ... He was bleeding so much. He was losing iron" (54-55). Woods' weighted descriptions of Kevin's signs and symptoms adds a sense of urgency to discovering whatever it was that caused these conditions in Kevin. Because there is such a sense of urgency, that the cause needs to be discovered immediately, and the vaccination itself was administered prior to when Kevin started showing signs, and it is a seeable event (unlike genetics/physiology underlying causes of autism), in Woods' mind, the vaccine becomes a prime candidate for a cause for autism. At its core, the line of reasoning that Woods shows is an example of post hoc ergo propter hoc fallacy; still, it is nuanced, and certain embedded strategies make it seem less obviously a fallacy, and more compelling as a possibility to be considered. These strategies

include Woods not really discussing the evidence she has for her claim that the vaccine caused Kevin's conditions beyond the sequential occurrence of the vaccine and then his conditions, instead focusing on the severity and visibility of those conditions, adding weight to descriptions of his ailments through dramatic language, and discussing the steps she is taking to heal Kevin. All of these sub-strategies fit into her post-hoc reasoning to validate it, both to herself and the readers.

Following Woods' assessment of why she believes Kevin's autism to have been triggered by a vaccine, she discusses how Kevin's physician responded to his conditions. Apparently, the physician's diagnosis and prescription were not helpful, but Woods was able to provide a useful remedy for her son. Though not directly an example of post-hoc fallacy, it is an excellent example of how McCarthy's narrative frames physicians and scientists as uncaring and, evidently, incompetent. The reason I include this example of negative framing of healthcare providers in this section is because Woods' post-hoc fallacy laid the groundwork for the subsequent misrepresentation of physicians and their attitudes.

He was anemic and the pediatrician said maybe it's too much milk. And I said, "Well, I don't really give him that much milk, but I'll take your word for it and give him some iron supplements and cut down on the milk." As it turns out, it didn't have anything to do with the milk. He was bleeding so much. He was losing iron. (54-55)

In this case, it appears that Woods has insights that physicians fail to see. Of course, as demonstrated by the prior section, Woods is subject to a post-hoc fallacy, which is granting her these insights she believes doctors to lack. As a result, when this physician (offhandedly) suggests that Kevin reduce his milk intake, Woods already doubts that this treatment will work.

From Woods' account, the physician seems unconcerned, as demonstrated by the brevity and apparent lack of conviction in his response to a potentially serious issue—in that way, the dominant attitude (of mothers, and subsequently readers) towards healthcare providers and scientists remains negative—that, at their best, they are indifferent/unconcerned, and at their worst, they are incompetent. Woods delineates that she was unconvinced by the doctor's suggestion, but she accepts it nonetheless; Woods seems unsurprised when it does not work, as evidenced by her use of the phrase, "As it turns out." Woods is in a position where appears to have better utility for her son's health than the physician, which is enabled by the "knowledge" she gets through her post-hoc reasoning. Ultimately, Woods post-hoc reasoning allows her to presume knowledge over healthcare providers and scientists, and this pattern is representative of many of the parents in *Mother Warriors*.

Woods later suggests that Kevin's ailments were triggered by components of the vaccine.

The post hoc reasoning pattern leads to a presumption of knowledge over healthcare providers and scientists. Furthermore, it shows that McCarthy et al. do not yet understand how scientific knowledge is created and developed, and how this information is then incorporated into clinical practice. Additionally, McCarthy and the other mothers fail to understand how clinical medicine is practiced in the first place. As seen in previous sections, most of the parents writing in *Mother Warriors* do not appreciate the time-intensive, laborious process of conducting scientific research and obtaining valid results. Consequently, they are unable to appreciate that people are treated based on the best knowledge and research that exists at the

time of treatment. As well, they show a misunderstanding of many of the smaller intricacies that are involved in clinical practice, often times requesting treatments, tests, or other prescriptions from doctors that the doctors do not appear to recommend.

When McCarthy first appears on Oprah's talk show to discuss potential causes of her son's autism, one of her focuses is the failure of vaccines to consider the individual biologies of the children to whom they are administered. According to her, vaccines are created as though they are "one-size-fits-all," disregarding the "individual needs" of different children:

I continued to speak about how the Centers for Disease Control (CDC) acts as if vaccines are one-size-fits-all, as if they should be administered at the same rate for all children without regard to the individual child's needs and biological makeup, and I felt something even more profound. (16-17).

To an extent, it is true that different people have different needs and, to a smaller extent, different "biological makeups." As a result, people will sometimes respond differently to the same foods, treatments, or medicines. At the same time, the fundamental principles of biology and chemistry that modern medicine is based on govern all human beings—we are all made up of organs, which are made up of tissues, which are made up of cells, whose structure, function, and behavior we understand quite well. This understanding is what enables medicine to work at all. If every individual had completely different needs and biological makeups, individual treatments and medicines would have to be designed for each and every person, which is not the case. This is not the case because treatment plans rely on the fundamental principles of biology, which are common to all human beings. Still, the larger pattern of thinking demonstrated in this segment and related segments is characterized by all-or-nothing type of

thinking, in which anything but absolute certainty is considered complete uncertainty. McCarthy wants her readers to assume a connection between vaccines and autism based on the following reasoning:

It's INSANE that hospitals think that EVERY child is born perfect, that EVERY child has a perfect immune system, and that a history of autoimmune problems in families doesn't mean anything (47).

According to Dr. Shapiro, "Dichotomous thinking is not always or inevitably wrong, but it is a poor tool for understanding complicated realities because these usually involve spectrums of possibilities, not binaries."<sup>7</sup> In the case of vaccine hesitancy, vaccine/medical science itself represents these "complicated realities." Medical science itself is a complicated reality because science and medicine operate on compounding knowledge and generating evidence to support or refute a theory rather than prove or disprove it absolutely; vaccine-hesitant rhetors such as McCarthy see this inherent characteristic as a flaw in the science of vaccines. It cannot ever be *proven* that all vaccines are 100% effective for every single person to whom they are administered. At the same time, there is an abundance of evidence to demonstrate the ability of vaccines to prevent deadly diseases, and there is an abundance of evidence that breaks any link between vaccines and autism.<sup>8</sup> Despite this information, because McCarthy et al. are searching for definitive proof that vaccines are always effective in the same manner for every person, any insignificant piece of "evidence" is taken to mean that there is no reliable knowledge on vaccines and autism. Shapiro outlines the steps he believes "science deniers" to use:

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<sup>7</sup> (Shapiro 2018)

<sup>8</sup> (Jain, et al. 2015)

I have observed deniers use a three-step strategy to mislead the scientifically unsophisticated.

First, they cite areas of uncertainty or controversy, no matter how minor, within the body of research that invalidates their desired course of action. Second, they categorize the overall scientific status of that body of research as uncertain and controversial.

Finally, deniers advocate proceeding as if the research did not exist.

In McCarthy's *Mother Warriors*, the vaccine hesitant mothers are considered the "deniers," and they seem to follow Shapiro's outline closely. Shapiro states that first, they cite areas of uncertainty within a counter attitudinal body of research. McCarthy et al. do this repeatedly when they discuss autism spectrum disorders. Because scientists are not yet certain about all potential causes behind autism spectrum disorders, this area of uncertainty is exploited by McCarthy et al., in that they suggest (insist) that vaccines can be responsible for triggering autism. Next, Shapiro says, the deniers "categorize the overall scientific status of that body of research as uncertain," which McCarthy et al. do—as a result of the uncertainty they observe in the medical community on the causes of autism, they seem unprepared to accept that vaccines *cannot* cause autism. That is, they invalidate the science that has been done in this area, despite other uncertainties, that shows no link between vaccines and autism. Finally, vaccine-hesitant rhetors will suggest "proceeding as if the research did not exist." Though less obviously so, McCarthy et al. also implement this aspect of Shapiro's outline to mislead the layperson; they suggest that other parents proceed in a way that shows they are aware that vaccines have the potential to cause autism, thus inspiring a vaccine-hesitant behavior in readers. McCarthy et al. showcase dichotomous thinking in their vaccine-hesitant rhetoric, which ultimately represents a

misunderstanding of how evidence is evaluated and incorporated in the scientific/medical community.

The word “science” comes from the Latin *scientia*, meaning *knowledge*. The Oxford English Dictionary then defines “science”:

A branch of study that deals with a connected body of demonstrated truths or with observed facts systematically classified and more or less comprehended by general laws, and incorporating trustworthy methods (now esp. those involving the scientific method and which incorporate falsifiable hypotheses) for the discovery of new truth in its own domain.

Given the etymology of the term “science” and its definition’s focus on demonstratable truths, observed facts, and falsifiable hypotheses, it is tempting to believe that medical science, then, should provide us with definitive truths, rooted in indisputable facts, and that subsequently, medical treatments, based on these facts, should be universally applicable. In reality, medical science is complex and in a unique position. It is more accurately characterized as a system of hypotheses and theories that have been refined through scientific experimentation (trustworthy methods). Indeed, scientific experimentation relies on empirical evidence, but the conventional definition of science leads us to think about medical science as a set of universal truths instead of appreciating it as a body of knowledge that is constantly being incremented through experimentation and evidence collection. The former definition is what pushes McCarthy et al. toward binary thinking, resulting in a vaccine-hesitant perspective.

In other situations, McCarthy and company show that they do not truly understand how medicine is practiced in a clinical setting, but, this leads them to presume knowledge over

healthcare providers. Samantha Gray is one of the vaccine hesitant rhetors who shares her experiences with her son, Zach, in *Mother Warriors*. She discusses how Zach's pediatrician was not helpful to her or to Zach, since he provided information that Gray seemed to already have, and was reluctant to accept that Gray knew more than he regarding Zach's health and wellbeing. Gray's interactions with the pediatrician showcase Gray having more knowledge and the pediatrician appearing unconcerned and passive. Gray brings Zach to the physician for the first time:

We got to the neurologist and Zach just sat and rolled his toy car back and forth, basically doing nothing. The doctor talked to Zach for a little bit. Then he told me that Zach has autism spectrum disorder.

“Yes, I know.” I'd already been crying my eyes out. I knew what it was, so the diagnosis didn't surprise me. (111).

The gravity of the situation appears to stand in contrast to the neurologist's attitude. His entire interaction and assessment with Zach is encapsulated in the brief sentence, “The doctor talked to Zach for a little bit.” The details of the neurologist's conversation are omitted, with the result being that he appears almost disaffected by the situation. When he reveals (emotionless) that he believes Zach has an autism spectrum disorder, Gray responds, telling him she already knew. It is possible that she suspected it already, explaining why she responds this way, but it seems more likely that she believes that she truly did already know Zach had autism spectrum disorder. She reiterates this point when she says, “I knew what it was, so the diagnosis didn't surprise me.” Whether Gray really believes she knows better than the neurologist or she needs the neurologist to confirm, both points support the idea that she is presuming knowledge.

Moreover, this description of events misrepresents physicians—the neurologist here is curt, and the lack of dialogue on his part makes him seem even more uncaring. Following his discussion with Gray, he appears completely unconcerned about the impact of this episode on Gray's life, which is dubious and atypical for a physician. After seeing Zach, he discourteously says, "By the way, insurance doesn't cover any of this" (111). In the prior section, he seemed not to care about the seriousness of his diagnosis, and how it would affect Zach's life, or the lives of his parents; next, by simply informing Samantha Gray that she might have to pay out of pocket and that her son's visit is uninsured, he does not seem concerned about the seriousness of financial matters either. Regardless of whether this account of the physician's interaction with Zach and mother Samantha is completely accurate, it reflects very poorly on healthcare providers entirely. This poor image of healthcare providers that *Mother Warriors* establishes is sustained throughout the entire narrative it seems. At the same time, this negative image of doctors and scientists rests within the larger theme, which is that many of these mothers presume knowledge over the doctors. In this interaction, Gray appeared to already be aware of supposedly novel information that the doctor was providing, which means she either believes she knows more than the doctor entirely, or just needed the doctor's confirmation—either way, she presumes to know more than she actually does.

Gray later does research that tells her about the potentially detrimental effects of dairy. Gray believes that Zach's autism can be treated through a casein-free and gluten-free diet, which she suggests to her husband. Her husband then announces that he will ask Zach's physician to perform this test.

And he said, “Well first of all, I think it’s crazy, but there’s a test we can do I’ll just tell his doctor to run it.” The test was to see if Zach is allergic to casein and gluten. I found out later that it doesn’t matter if the child is actually allergic; it has to do with these kids not being able to break down the proteins in dairy and wheat.

But Gary called the doctor and said, “Just humor me and my wife, and please run this gluten casein test, because she’s thinking of a gluten- and casein-free diet”

Of course, my pediatrician said, “Oh, that doesn’t work. I wouldn’t even mess with it.”

Gary responded, “Just humor us and run the test.” (113-114).

Despite the offhanded tone that seems to align with many of the other physicians in the book, in this instance, the doctor seems quite certain that the gluten- and casein-free diet will not be of any utility to Zach. Nevertheless, Gray and her husband are intent on having the test run. Regardless of the results of the test, or the research that led Gray to believe the diet might have worked in the first place, the important element to recognize is that after the physician gave his thoughts on the allergy test, Gray and her husband decided to disregard his advice, and requested the test anyway. The pattern of requesting tests and treatments against or without the advice of a physician is demonstrative of a misunderstanding of how medicine is practiced in a clinical setting; tests are given after a presumed diagnosis has been made by a physician, and the tests then will confirm or refute this hypothesis. Tests are hardly given randomly in a “see-what-sticks” type of fashion. Unfortunately, this seems to be the very testing fashion that Gray (and other moms) advocate for. Indeed, Gray ends her section in *Mother Warriors* with the following sentiment:

Why are people so reluctant to get all of these tests done and see for themselves? What if your child is too low in something or too high? You won't know unless you test him. It's time to do something, Mom or Dad. (116-117).

Again, there seems to be an impression that *more* testing translates to better, more comprehensive care. In reality, this type of approach to clinical medical practice would be wasteful. Not only do unnecessary tests waste and divert valuable time and resources, but they sometimes give false positives, which lead to further unnecessary testing, or, reveal areas of potential worry, that (counterintuitively), had the person not known about, they would have lived a normal, healthy life. Esserman et al. discuss overdiagnosis and overtreatment in cancer-related cases, finding that “cancers are heterogeneous and can follow multiple paths, not all of which progress to metastases and death, and include indolent disease that causes no harm during the patient’s lifetime. Although this complexity complicates the goal of early diagnosis, its recognition provides an opportunity to adapt cancer screening with a focus on identifying and treating those conditions most likely associated with morbidity and mortality” (797).<sup>9</sup> These findings can be generalized to other clinical situations—that is, overdiagnosis and overtreatment applies to more than just cancer situations, and is relevant for any area that requires testing, diagnosis, and treatment. Thus, overtesting, overdiagnosis, and overtreatment are issues in many, if not all, areas of medicine. Esserman et al. suggest mitigating overdiagnosis in the following manner:

Strategies to reduce detection of indolent disease include reducing low-yield diagnostic evaluations appropriately, reducing frequency of screening examinations, focusing

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<sup>9</sup> (Esserman, Thompson Jr. and Reid 2013)

screening on high-risk populations, raising thresholds for recall and biopsy, and testing the safety and efficacy of risk-based screening approaches to improve selection of patients for cancer screening. The ultimate goal is to preferentially detect consequential cancer while avoiding detection of inconsequential disease (798).

Although Gray's physician seems to have a unconcerned tone when he advises against the gluten and casein allergy test, his advice aligns with the first part of the strategies to mitigate overdiagnosis: Gray's physician sees the allergy test as a low-yield diagnostic evaluation, meaning it is unlikely to reveal the presence of more than benign disease, which is why he states that it is not necessary. His intention in this advisement aligns with the goal stated above, which is to avoid detecting inconsequential disease. Gray wonders "why people [are] so reluctant to get all of these tests done," showing that she is either unfamiliar with overdiagnosis and overtreatment, unlike the physician, or wants to have the tests performed in the hopes that they will reveal something useful (which the physician advises against); worse, she insists on having the allergy tests done, showing her supposition of knowledge over the physician.

In addition to the misconception that more testing results in better care, Gray and her husband appear to be telling the physician what to do, failing to appreciate the knowledge and expertise of a doctor on medical matters. Gray is not the only one to do this, however; Michelle Woods, in her search for a treatment for her son, shows a very similar pattern of action. She is convinced that methyl B12 is an appropriate treatment for her son, based on her intuition.

When I saw Dr. James Neubrandner speak at the DAN! conference, I ran home and called him.

The man wasn't even back from the conference yet and I called his office and said, "I need an appointment with Dr. Neubrandner because I want methyl B12 for my son."

At that point I didn't know. It was more an intuition because in my family, there is a history of pernicious anemia, which is an inability to process B12 from food. I have first cousins who get injections of B12 regularly. And that's why, when I went to the conference about methyl B12, I said, "Aha, maybe there's a connection."

I called the office and I got the methyl B12 shots. I gave Kevin the first methyl B12 shot... (57-58).

Woods' justification for treating her son with methyl B12 is "more an intuition," and the hunch of a potential "connection" between methyl B12 and her son's autism spectrum disorder.

Despite her shaky reasoning, she seems to be prescribing a course of treatment for her son, with the doctor acting merely as a proxy. She says she needed an appointment with the doctor "because [she] want[ed] methyl B12 for her son." The physician here is not actually suggesting the treatment, the methyl B12, but for Woods, simply providing a means through which she can obtain the methyl B12. She even goes on to administer the methyl B12 injection by herself. Her entire experience here aligns with the experiences of many of the other mothers, in which she believes her knowledge and insight to be superior to that of a physician, despite the fact that her suggestions are based on hunches and intuition, like many of the other parents.

More problematic than simply the failure to understand that *more* care is not always *better* care, in many situations, the mothers appear to be telling physicians what they think is the best course of medical treatment, which shows a presumption of knowledge—knowledge

on a complicated subject matter, that, as discussed previously, requires rigorous scientific experimentation and trustworthy methods to increment the body of knowledge on medicine and the human body—not random testing.

One of the pillars supporting the supposition of knowledge demonstrated by McCarthy et al. is the reliance on instinct. The theme of motherly instinct, and the inherent connection between mother and child are often used as the primary diagnostic tool for the children with autism spectrum disorders. Even further, they replace the advice of physicians, transcending their utility as a diagnostic tool, acting as a treatment prescription. Though an important tool, motherly instinct appears to encroach on the body of knowledge established by scientists and doctors. *Mother Warriors* contains constant reference to motherly instinct. McCarthy and the other mothers rely on motherly instinct to provide them with information that lacks any other empirical support. The discussion on the presence of motherly instinct is not intended to falsify its usefulness—after all, we have scientific evidence that it exists and is necessary for proper development of offspring—rather, it is to suggest that McCarthy et al. depend on motherly instinct to an extended degree. Motherly instinct is conflated with knowing what is medically wrong with the child, apparently replacing the need for physicians and scientists at all. However, because the effectiveness of instinct is established so well early on, it is shown to be so crucial to the wellbeing of so many of the children whose stories are shared, that it seems to make tremendous sense for the mothers to depend on their instincts as much as they do. By discussing situations in which motherly instinct was instrumental (like the one above), and by

simultaneously showcasing physicians as useless, McCarthy et al. convince readers of the necessity and soundness of motherly instinct.

When McCarthy begins sharing Evan's story, she discusses how she first detected that Evan was unwell, her experience learning that he is diagnosed with autism spectrum disorder, and how she can improve his quality of life, which, from the moment of his diagnosis, McCarthy understands is doomed. Throughout her experience taking care of Evan, her motherly instinct remains her main tool for understanding Evan's diagnosis and ensuring a high quality of life. Indeed, her instinct suggests that Evan's autism was caused by vaccination. Additionally, McCarthy's instinct is constantly validated; in several instances, she talks about how she knew a situation would turn out badly, and later explains that the situation had gone wrong in exactly the way her instinct had told her it would, establishing the reliability of her instinct as a tool, and in a way, her clairvoyance. It is almost as though her supposition of knowledge above doctors and scientists is justified.

I had awakened with an uncomfortable feeling, like something was wrong. I noticed the clock showed 7:45. I thought it was unusual because Evan always got up at 7:00 A.M. on the dot every morning. My motherly instinct started screaming at me to run to his nursery. I opened the door and ran to his crib and found him convulsing and struggling to breathe. His eyes were rolled back in his head. I picked him up and started screaming at the top of my lungs. The paramedics finally arrived and it took about twenty minutes to get Evan's body to stop convulsing (13-14).

Before McCarthy has any real proof that anything is going wrong with Evan, her instinct—the “uncomfortable feeling”—tells her that something is wrong with Evan. In this situation, her instinct literally saved Evan’s life, since he was struggling to breathe, and would not have been found unless it was for McCarthy’s instinct. In this way, the utility, necessity, and reliability of McCarthy’s motherly instinct is established. Parental instinct certainly has incredible utility, but this opening sets up just how significant a role her instinct will play throughout the novel. Here, the usefulness and necessity of her motherly instinct is irrefutable—as mentioned earlier, Evan would literally have died without McCarthy’s motherly instinct.

In the following chapters, as McCarthy’s intuitions are used to make diagnoses and begin treatments for Evan, however, they begin to encroach on the irreplaceable roles of scientists and doctors. But, because the utility of her instinct has been set up in the way shown above, it is not seen as an encroachment, and rather as an appropriate use of her instinct. In other words, because her gut feelings have been used to save Evan’s life once before, they are validated as a tool to make appropriate medical decisions for Evan, on the behalf of doctors. The interrelatedness of themes of different chapters is also apparent in this segment—the language used to tell the story is dramatic: the words “screaming” and some form of “run” appears twice, accompanied by “convulsing,” “struggling,” in a vivid description of what is a near-death experience for Evan. Without this language, the criticalness of the situation is likely to come across more modestly; that is, the language is instrumental in conveying the urgency of the situation. This urgency serves an auxiliary purpose: to reaffirm the validity of McCarthy’s use of her instinct. The purpose here is not to debate the truth value of the implications of the language—after all, it is very likely that she was screaming, and that she ran to Evan’s crib; it is

important, however, to recognize that these words play a nontrivial role in developing a dramatic narrative, which leads to an apparent increase in the validity of her motherly instinct. The sense of urgency is sustained, as McCarthy uses the word “finally” twice in describing how long it took to treat Evan: “The paramedics finally arrived...”<sup>2</sup> and “When we finally arrived at the hospital”<sup>2</sup> both substantiate the urgency of the situation, and how close McCarthy’s son was to a potentially fatal outcome. Her “uncomfortable feeling” saved him from that potentially fatal outcome.

McCarthy depends heavily on her gut feelings, and these feelings are given a lot of importance, since the doctors do not seem to understand the gravity of the situation, nor do they seem to care. McCarthy describes her interaction with the doctor:

When we finally arrived at the hospital, the doctors told me that he had a febrile seizure, caused by a fever. I told the doctor, “You know, he doesn’t really have a fever, so how does that play in the scenario?”

The doctor responded by saying, “Well, he could have been getting one.”

That didn’t make sense to me at all. I went home with my baby, thinking something was very wrong. I didn’t know what it was, but everything inside of me was screaming that there had to be something more” (14-15).

McCarthy asks a reasonable question; she does not quite understand how Evan could have been having a febrile seizure since he did not have a fever, and so she defers to the knowledge of the physician. However, the physician responds in a kind of apathetic manner, suggesting merely that a fever could have been imminent. In this way, the doctor is made to look disinterested in a serious situation, which mandates McCarthy’s use of instinct; that is, if the doctor will not solve

her problems, she will do so herself. Given the doctor's indifference, McCarthy's reliance on instinct is made to seem reasonable. The interrelatedness of chapters is clear: the use of dramatic, hyperbolized language depicts a nearly fatal episode for Evan, during which McCarthy's actions are lifesaving. Since her actions were based on her instincts, her instinct is given a high level of validity and reliability. As well, the doctor is unconcerned, and more dangerously, perhaps even uninformed. As a result, McCarthy's instinct *must* take over the role of scientists and physicians. In this way, McCarthy and others show a reliance on instincts and gut feelings that leads them to presuppose knowledge in areas that should be left to healthcare providers.

Not only is McCarthy's innate ability valid and reliable, it seems to be incredibly powerful, almost clairvoyant. The varying nature of situations in which McCarthy's instincts come in use speak to its versatility and power. For example, McCarthy has an interview with Barbara Walters, during which Walters challenges her on the validity of her claims—the interview is mostly hostile, with Walters questioning McCarthy aggressively instead of having a discussion. McCarthy describes her morning before the interview:

I woke up the next morning with an upset stomach. I couldn't quite tell if it was from exhaustion, from the phone calls last night, or foreshadowing some trouble in my upcoming press (38).

It is important to keep in mind that McCarthy is recounting all her own experiences that she details in *Mother Warriors*, telling the story retrospectively. So, it is imperative to keep her statements in perspective—that is, it is reasonable for McCarthy, telling her stories retrospectively, to say that her stomachache the morning before an unpleasant interview was a

portent of the interview as a literary/figurative device. It is unlikely she truly believes herself to have soothsayer powers. While her statement may not reflect what she really believes, it certainly speaks to the personal importance of her instinct, especially given how much she relies on it throughout her experiences.

Michelle Woods, mother of Kevin, relies on her instinct in a similar fashion. Indeed, her instinct also appears to have lifechanging consequences for her son. Woods, like McCarthy, does an excellent job of conveying her son's situation as urgent, and also finds that physicians fail to be of any use, forcing her to turn to her instincts to help her son. Woods details her dialogue with a gastroenterologist, who seems to make no concrete suggestions to treat Kevin. This leaves Woods feeling alone, and she responds by taking Kevin's health matters into her own hands.

I talked to my local gastroenterologist about Kevin's lymphoid nodular hyperplasia and he said I could go the route of steroids, but in a child this young it's really not typical. I left there looking at my boy and knowing it was up to me to help him. I had to figure it out on my own. So I went home, got on the Internet, and Googled "lymphoid nodular hyperplasia and autism."

My life would have been totally different if I had typed it in a different way. But something inside me, my instinct, made me type in "lymphoid nodular hyperplasia AND autism." I had no idea there was a connection" (54-56).

The physician appears to simply *state* a possible treatment option, and does not even seem to suggest it, given that apparently, "in a child this young it's really not typical." For Woods, this

doctor is essentially useless, and Woods even says, "it was up to me to help him." In the following paragraph, readers learn that her tools for helping Kevin are her instinct and Google. And, like McCarthy's situation with her own son, the outcome may have been completely lifechanging if it were not for the motherly instinct. She even says, "My life would have been totally different if I had typed it in a different way." Although she does not discuss exactly how, readers can infer that she likely means her son would not have received the treatment she believes to be appropriate, since she wouldn't have found it on Google. And, it is her instinct that brings her this lifechanging, crucial result: "... my instinct, made me..."

In almost an exact parallel to McCarthy's experience with Evan, Woods shares a time in which her instinct led her to an ultimately lifechanging and critical result for her son. She was made to rely on her instinct because the physician she consults prior to relying on her instinct is shown to be of no use. The reliance on instinct is necessary, and her results with Kevin would have been drastically different without it.

Many of the parents seem to be experiencing a form of cognitive dissonance, and in several situations, instinct appears to act as a force that can alleviate this state of dissonance for parents. However, since the escape from cognitive dissonance can often involve reshaping attitudes rather than adjusting behaviors/considering that other viewpoints may be more valid than ours, instinct represents a change in attitude, not a change in behavior. That is, instinct acts to mitigate cognitive dissonance. Essentially, cognitive dissonance is defined as a state experienced when there is discrepancy between attitudes and behaviors. Confirmation bias is a tendency to look for information that supports a preexisting belief, instead of seeking out and

evaluating information holistically, to really determine the truth irrespective of whether it aligns with the existing belief. Instinct becomes a vector for confirmation bias, to ease the state of cognitive dissonance that the parents are likely experiencing as they wonder whether to follow the advice of physicians who suggest behavioral interventions, or those who suggest diet changes based on the idea that autism can be triggered by vaccines.

McCarthy includes the story of Lisa Ackerman, mother to Jeff, in *Mother Warriors*. Lisa discusses how she believes her son's autism spectrum disorder to be caused by vaccines:

The setback and changes began on June 1, 1999. That's the day Jeff received the varicella (chicken pox) and MMR (measles, mumps, rubella) vaccines in the same day. It was as if someone had wiped out his brain (70-71).

She then discusses her unsatisfactory experiences with physicians, during which she thinks that Jeff is being tortured (72-73). The physician performing the evaluation curtly and unconcernedly suggests that Jeff may have an autism spectrum disorder, and that there is "nothing [she] can do except maybe get Jeff some behavioral support so [she] and [her] husband can get on with [their] lives" (72-73). Unprepared to accept behavioral therapy as the only possible treatment for her son, she becomes convinced that removing gluten and casein from his diet will yield results. When she attends an autism conference, she listens to physician Jerry Kartzinell, who apparently supports her ideas that changes in diet can be effective treatments for autism spectrum disorders.

He came down from the stage and I walked right up to him and said, "Dr. Jerry Kartzinell, I'm Lisa Ackerman. I am so excited about you! My son is going to be your patient. Isn't that great?" He looked at me oddly for a moment, like I was a stalker. I really liked this doctor

and my mommy instinct said he's the one! Dr. Jerry Kartzinel gave us more things to do I was eager to put my energy into this because dealing with any type of emotions just sucked (73-74).

The dissonance that Ackerman is experiencing is a result of most physicians, especially the ones who were first responsible for Jeff's primary care, informing her that the best (and perhaps only) treatment option for Jeff is behavioral therapy, and her unwillingness to accept this. The resultant dissonance is alleviated through her search of evidence that fits her belief that there must be additional treatment options; this search for evidence is fulfilled when she meets Dr. Kartzinel, and her "mommy instinct said he's the one!" which shows that her instinct is being used to confirm the truth value of the confirmation bias itself. Again, the interrelatedness of chapters is clear—because Ackerman (like others), is not prepared to accept the value of behavioral intervention, most likely because it is not as "tangible" or visible as diet changes and other biochemical interventions, seeks out evidence that fits her idea that diet changes are a more legitimate course of action than behavioral therapy. Dr. Kartzinel, whose ideas seem to align with Ackerman's, serves as this evidence. Her instinct tells her that he is right, which is confirmation bias alleviating her cognitive dissonance. This example testifies to the many micro-level functions that motherly instinct serves, for the different moms in *Mother Warriors*, but also to the fact that ultimately, it always acts as a tool for mothers to presuppose medical/scientific knowledge over physicians and scientists, using a non-medical/non-scientific methodology to obtain evidence for their ideas.

Another aspect of motherly instinct is its agency. For some mothers, instinct does not act as merely a supplemental tool, but a principal decision-making force with a lot of agency. As seen in previous examples, many of the actions or behaviors taken by mothers that was encouraged by motherly instinct proved to have lifechanging consequences. In this way, instinct is already established as a chief force in the decision-making and evidence-evaluating process for mothers, and not a mere supplement to evidence-based action. Becky Behnan, mother of Jack Behnan, discusses her experiences from the moment Jack's physicians diagnosed his autism spectrum disorder to how she and her husband dealt with it, and the treatment plan they came up with for Jack. Interestingly, Behnan also demonstrates a level of confirmation bias as she shows how much agency her motherly instinct has in the decision-making process:

We decided to fight this label they gave Jack and went from doctor to doctor hoping to find one doctor who would say, "They were wrong, this isn't autism, everything's going to be fine." Needless to say, we couldn't find a doctor who disagreed with the original diagnosis.

It is certainly possible that when Behnan talks about how she searches for a doctor that will counter the diagnosis of autism spectrum disorder, she is simply vocalizing how she feels on the inside—after all, denial is a normal and natural phase that people go through when they receive difficult news. In this way, readers want to give Behnan the benefit of the doubt. But in the second sentence, Behnan says that she actually went about searching for doctors who might disagree, which shows a more serious commitment towards confirmation bias, not just an internal feeling—she is actually exhibiting belief perseverance, not wanting to change her existing beliefs despite the presentation of contradictory evidence, and confirmation bias,

actively searching for evidence that supports her existing ideas. In addition to her showing confirmation bias, in her story, she shows how much agency her motherly instinct really has. Behan talks about how after unsuccessfully searching for a doctor who would refute the autism diagnosis, she was not sure how to proceed:

I didn't know what to do next, so I listened to my motherly instinct and it told me to keep Jack around typical children as much as possible. Every doctor at this point kept saying to me, "no known cause, no known cure" (86-87).

When she says that *she* did not know what to do, so she turned to her motherly instinct, Behnan almost divorces herself from her motherly instinct, characterizing it as a separate, autonomous force. Then, she mentions that her instinct *tells* her a specific action to do, further demonstrating its agency and control. Furthermore, she says that doctors kept telling her that there was nothing she could do. Differently, her motherly instinct tells her exactly what to do. In this way, her instinct is shown to have agency and power, and is apparently more given to action than physicians. Behnan's words and actions illustrate that instinct is relied upon, but it is far more significant than just a supplemental tool, it is an essential, central means to knowledge and action.

Readers have seen that motherly instinct is a means by which many of the parents are able to make lifechanging decisions for their children, by which they can evaluate the validity of evidence, and how it is an all-important, autonomous decision-making tool. Additionally, motherly instinct appears to take over the role of physicians further, as it decides the best course of treatment for children. After Becky Behnan states that she believes her son's autism

to be triggered by vaccination, she describes her experiences the day of his vaccination, and how her motherly instinct was urging her to avoid vaccination.

The doctor previously told me that Jack's immune system was going to be down because he had to have two blood transfers after he was born. My motherly instinct at the doctor's office told me that maybe he shouldn't be vaccinated because his immune system was weak. And then they said, 'Oh, no, you don't want him to catch these diseases that the vaccinations could protect him from. You really need to have these.' But my alarm was going off, saying this doesn't make sense. I didn't want them to do it and they did it anyway (93-94).

Vaccine science and vaccine administration is a purely scientific/medical matter. Only medical and scientific principles and knowledge can determine whether a child is healthy enough for a vaccine. Still, Behnan's motherly instinct advises her on whether Jack should receive a vaccine—a question that can only be answered justifiably by medical science. Behnan's parental instincts become misapplied, with Behnan believing that they can inform her about medical matters. Behnan is not the only mother that relies on instinct for medical treatment advice: Christian's mother, Katie Wright, also turns to her instinct to determine the best medical course of action for her son. Her Internet research tells her about the "Specific Carbohydrate Diet," which is apparently giving parents "amazing results" (99-100). Her pediatrician advises against it, but she decides to try it nevertheless:

Then my rescue angel said, "You should try the Specific Carbohydrate Diet. Parents are seeing amazing results." So I read the book *Breaking the Vicious Cycle* and learned about the Specific Carbohydrate Diet. When I asked our pediatrician about it, he said the same

thing as before: “That’s nuts, that’s dangerous.” So I decided to ignore him again and follow my hunch (99-100).

This example is important because along with the reliance on hunches and gut feelings, it evinces the poor quality of the patient-physician dialogue that appears to be a theme throughout *Mother Warriors*. When Wright inquires about the usefulness of the Specific Carbohydrate Diet, the pediatrician responds in a snippy, almost rude manner, claiming that this idea is “nuts.” Regardless of the credibility and truth value of the principles behind the diet, the physician’s approach and aggressive response is unlikely to be received well by Wright. The showcasing of the physician’s lack of proper rapport serves to validate Wright’s subsequent use of instinct. Wright proceeds to state explicitly that she is disregarding the physician’s advice, directly, proceeding to do the opposite of his suggestion. In ignoring the physician, she says, she is following her hunch. This is another example of the role of instinct and how mothers use it to make their own treatment decisions, often not in accord with the advice of physicians. Despite the varying mechanisms of use for instinct, ultimately, all uses represent a presupposition of knowledge over healthcare providers. While most examples in *Mother Warriors* involve motherly instinct, there are instances in which fathers make use of their instincts in similar ways, using them as mechanisms of information/evidence evaluation. For example, Stan Kurtz, one of the contributing writers, shares his experiences and use of instinct, with his son, Ethan. Like many of the other parents, he discusses how he attended autism conferences, which convinced him that there were well-understood, biological reasons for his son’s autism spectrum disorder. And, like other parents, his instinct helped him evaluate the evidence that

was presented at these conferences, and ultimately convinced him of the legitimacy of certain disproven biochemical interventions.

I wasn't one of those people who said, "Oh, this has got to be bullshit." My instincts were screaming that this was right. I was looking at it like the science that it so obviously was. I was starting to learn about certain toxins and what harm they can do, such as the ones in vaccines (123-124).

Again, the main takeaway is that instinct is being used to evaluate evidence and information in a place where normally, scientific thought/experimentation would be used. At the same time, this example reveals yet more insight into tendencies regarding use of instinct; in previous examples, we saw that sometimes, mothers will ignore science in the form of a pediatrician's recommendation, but here, Kurtz uses his instinct to convince himself that what he is seeing *is* science—that it is legitimate. Interestingly, instinct is being used as a tool like science, not to replace science. That is, his instinct allows him to frame the information that he is receiving "like the science it so obviously was." Kurtz appears to understand that science is the only system of laws that can properly evaluate the validity of medical claims but uses his instinct to verify whether information is scientific or not. So, though there is an extra layer to his interpretation of information, ultimately, the result is the same as other parents, who ignore science entirely and turn to their instincts. Previously, we examined language that demonstrated that the validity of instinct is shown to readers, given that it apparently saves the lives of many people throughout the narrative. In addition to this way in which the utility of instinct is validated, it is also validated for the parents themselves. When Kurtz discusses the outcomes he was seeing after changing his son's diet, he says, "I was building my confidence in what I could see and in

trusting my instincts..." (126-127). Here, we see that the power of his instinct is validated to himself, and not just to readers, which results in his growing confidence in the soundness of gut feelings.

First reactions, instincts, and gut feelings are essential decision-making tools that all human beings possess and use. Oftentimes, the rationales behind these feelings cannot be articulated clearly, but this does not make them any less legitimate than other reasonings. Instincts are crucial guides, and as the experiences of several writers in *Mother Warriors* demonstrates, they can often have lifechanging consequences. At the same time, in several scenarios throughout stories in *Mother Warriors*, gut feelings are misapplied, replacing other more suitable knowledge and logic systems. Decisions with significant health consequences, such as the decision to vaccinate or not, both for an individual and for the public, should be governed by the most justifiable available knowledge. As the language patterns of McCarthy et al. have shown, however, instincts are often used in place of scientific and medical knowledge, and their use is justified by the presence of shortcomings that result from poor healthcare provider attitude, low-quality patient-physician interaction, and the apparently great reliability and power of instinct. The rhetoric surrounding physicians and other healthcare providers in *Mother Warriors* frames them as uncaring, curt, and unknowledgeable, justifying the heavy use of instinct seen by McCarthy et al. Furthermore, actions based on instinct are shown to have positive, lifechanging health outcomes, justifying their use even further. McCarthy et al. show a presupposition of knowledge over doctors and scientists through several avenues, including a disproportional trust in what is visible and tangible, and an overreliance on instinct.

Not only does she depend heavily on the accuracy of her gut feelings, but their value and importance is established by subtle clues throughout the narrative; the physicians involved in her son's case come across as either dismissive, neglectful, ignorant, curt, uncaring, or dramatic, almost movie character types. When McCarthy learns that Evan had a febrile seizure, which can be caused by a fever, she mentions to the doctor that Evan "doesn't really have a fever."<sup>2</sup> She is met by a somewhat unconcerned-seeming response from the doctor: "Well, he could have been getting one."<sup>2</sup> This lack of concern from the physician's end showcased in a one sentence response to an important question from McCarthy shows how necessary McCarthy's instinct is—that is to say, McCarthy's instinct fills the gap that the neglectful healthcare providers create. The dismissive attitude of the physician, with the subsequent takeover by McCarthy's motherly instinct serves more than just McCarthy herself—it indicates importance, validity, and necessity of this instinct. Next, her instinct truly begins to materialize, and move her into action: "That didn't make sense to me at all. I went home with my baby, thinking something was very wrong. I didn't know what it was, but everything inside of me was screaming that there had to be something more." Here, McCarthy's instinct stands in contention with the medical advice she is receiving (i.e. "That didn't make sense to me at all"); immediately prior, it had prompted her to ask the doctor a question, which is an excellent example of motherly instinct being used positively. When she uses it to refute the doctor's advice, however, it marks the beginning of how it eventually develops into making ill-advised medical decisions, with negative clinical outcomes.

McCarthy's heavy reliance on her instinct in situations with Evan is a specific aspect of a larger concept within motherhood: the complicated, implied, and often misunderstood idea of an inherent connection between mother and child. Although this connection certainly exists, and there are legitimate ways in which a mother-child "connection" can be useful to the child and his/her health, McCarthy enacts a certain version of motherhood. That is, her actions and behaviors do not suggest that instinct-based motherhood/parenting is unintelligent; rather, they suggest that special care must be taken to ensure that a strong motherly instinct is not conflated with being tuned into knowing what is medically wrong with the child. McCarthy's situation represents a specific aspect of the implied, but not necessarily well-understood mother-child connection. Although there certainly exists a legitimate connection between mother and child that is useful and necessary in many ways, and can even inform mothers *when* something is wrong with the child (but not *what*), this connection has made it so that mothers are always blamed if anything is "wrong" with the child—in general, they are always responsible for the child to a large extent because of this mother-child connection. The emphasis on mother-child connection is huge, and because mothers are so often held responsible for every outcome of their children, they must also feel a responsibility to explain what is happening. In this way, being able to generate some answer, instead of having to stomach the uncertainty behind why Evan "got" autism, fulfills that responsibility. The concept of motherly responsibility is further demonstrated through the victimization language used by McCarthy once she learns her son has autism: "I died in that moment, but my instincts told me that this man was right."<sup>2</sup> Immediately prior, she explained how her "instinct was screaming,"<sup>2</sup> at her to let her know that there was more than a simple seizure, and so, she had decided to enlist the help of "one of the

best neurologists in the world.” The role of her instinct is interesting here: it both instructed her to seek out the help of a neurologist, and after she did so, it was her instinct that confirmed what the neurologist had to say. This alludes to the power McCarthy entrusts to her own instinct, since the opinion of a world-renowned brain expert apparently required confirmation from McCarthy’s instinct.

#### Chapter IV: "Autism is a Bad Situation" --- The Dehumanization of Autism Spectrum Disorders

*Mother Warriors* negatively frames and stigmatizes autism spectrum disorders, obfuscating understanding of these conditions and likely fuels existing fears about discredited links between vaccines and autism, further lowering the rate of vaccination.

Underlying the entire narrative and the stories of almost every parent who writes in *Mother Warriors* is a dehumanizing and ableist perspective on individuals believed to have autism spectrum disorders. These individuals, usually the children of the parent writers, are reduced entirely to their conditions. In most instances, they are shown to have lesser cognitive processing abilities and deliberative potentials when compared with other individuals. In the language surrounding these children, a thick line is established between them and "normal" or "typical" children, divorcing them from others. In one instance, a parent implies that her love for her child is contingent upon her not having ASD. The otherization of persons affected by ASD is rampant through the entire book, and this only compounds the fear from the lack of information on ASD that scientists and doctors have. In this way, the dehumanization of children with ASD only fuels the discredited claim that vaccines can cause autism.

Jenny McCarthy herself is the first to detail her experiences learning that her son, Evan had been diagnosed with an autism spectrum disorder. She describes how the physician responsible for the diagnosis delivered the news with a dramatic, melancholy tone, which added to the negativity surrounding ASD. After her instincts verify that the physician's diagnosis

was accurate, McCarthy is distraught, as she now believes her son's behaviors to be manifestations of a disorder, not his true personality. The physician's following statement, that Evan is not any different as a result of the diagnosis does little to reassure McCarthy, who now views her son differently.

I decided to get a second opinion and met with one of the best neurologists in the world. He

politely put his hand on me and said, "I'm sorry, your son has autism."

I died in that moment but my instincts told me that this man was right. All those beautiful characteristics that I thought were Evan—the hand flapping, the toe walking, the playing with door hinges and lining up toys—weren't Evan characteristics at all. Who was my son if he wasn't all these things? The neurologist saw the look on my face and said to me, "Hey, this is the same little boy you came in this room with. He's not any different. He's the same boy." I looked at the doctor and replied, "No, he's not. My son is trapped inside this label called autism and I'm gonna get him out" (15-16).

McCarthy's description of how the neurologist "politely" approaches her and begins his statement with "I'm sorry" goes beyond good bedside manner—it is as though the neurologist is attempting to mitigate the effect of delivering news of a terminal illness. This interaction on its own does not encapsulate the ableist language on ASD throughout the book; however, when examined in conjunction with other interactions that reveal attitudes on autism, it is clear that even this seemingly innocuous interaction between McCarthy and the neurologist has a nontrivial degree of dehumanization of autism. In one of the very few displays of compassion from a doctor in *Mother Warriors*, the neurologist tries to explain that Evan's ASD does not define him—that he is the same kid he has been. McCarthy refuses to accept this, instead

believing Evan to be “trapped” by his condition, as though it is not a part of him. McCarthy’s intentional use of the word “trapped,” and reference to autism as a “label” divorces Evan from what would be fundamentally a part of his character, showing that she thinks people with ASD are consumed and suppressed by ASD, and that their “true” character is hidden. As such, ASD is defined as an acute, debilitating force that obfuscates a person’s real characteristics; McCarthy shows this when she asks herself about Evan’s behaviors: “Who was my son if he wasn’t all these things?” Here, she believes that these behaviors are not representative of her son, but of autism, as a separate entity. Additionally, she categorizes autism as a “label,” which at first, is encouraging because it could be foreshadowing her desire to dissolve the stigma associated with the label, but then she says that she is going to “get him out,” which means she still sees ASD as an acute affliction trapping her son, from which she can remove him. The main takeaway is the loss of autonomy that McCarthy perceives autism to induce—that is, autism causes certain behaviors that are uncharacteristic of the children it affects.

Norms and stereotypes appear to be a theme throughout *Mother Warriors*, revealing that they are more deeply engrained into the mindset of McCarthy et al. than just in the context of ASD. McCarthy uses gender-norm-filled language when she tries to arrange a meeting with the American Academy of Pediatrics (AAP), speaking in sexist terms against women.

Silence again, then the reply, “Um... I’m not the person who would be able to organize that. I

can put you in touch with the person who does that.”

“Great,” I said. Give me his number.” ...

A woman answered the phone and I asked for her boss.

“Hold on a second,” she said and placed me on hold. All I could do was picture this little assistant running into her boss’s office freaking out about what to say to me. I was hoping he would immediately pick up the phone and talk to me like a man, but no such luck (31-32).

When McCarthy learns that the man she is speaking to is going to connect her to someone else, presumably higher up (since he/she is apparently capable of organizing the meeting), she assumes it to be a man. If she did not follow up by speaking in more blatantly sexist terms, it would have been possible that she had arbitrarily chosen a pronoun. But, once she is connected with a woman, she immediately assumes that she has a boss, on only the grounds that the person with whom she is speaking is a woman. Additionally, she goes on to refer to this woman belittlingly, referring to her as a “little assistant.” Finally, she reiterates her belief that this woman’s boss is a man when she hopes that *he* would pick up the phone, and speak to her “like a man.” The focus of this chapter is on the stigmatization of autism, but seeing as how one of the primary vehicles for the stigmatization is the use of stereotypes, this example showed that McCarthy uses stereotypes more widely than just in the case of ASD. This is important because it supports the hypothesis that her language on autism is truly based in stereotypes, and not arbitrary.

The language used by McCarthy and other parents stigmatizes autism, as it is frequently associated with low expectations and hopelessness. The parents are often capricious in their moods, seeming at times to be distraught by the disability they perceive their children to have, and at other times elated when their children fulfill some artificially set, low expectations. On

one occasion, when McCarthy returns home after a long period of absence, Evan is distraught about how long his mother was gone, but McCarthy's only thoughts are about how impressive Evan's ability to speak coherently is:

He said, "I hate you and I want a new mommy that will stay with me and not go away!" All I could do in that second was think, "What a great sentence!" ...

I laughed and hugged him harder. He's so freaking cute. I can't even stand it sometimes!

People always ask me if Evan understand what happened to him or if he knows what autism is. He doesn't quite get the full concept, but I think most five-year-olds wouldn't (43).

Previously, McCarthy seemed to be speaking about autism as though it were a death sentence, and was extremely distraught that Evan was affected by it. Her mood seems to have shifted significantly, and responds to Evan, a five-year-old, by being impressed by his ability to form a simple sentence. This overt lowering of expectations for children with ASD by McCarthy demonstrates how people affected by ASD are stigmatized into having lower capabilities. This example begins to illustrate the fixation of McCarthy et al. on the perceived deficiencies or shortcomings of individuals with ASD. Subtextually, these artificially adjusted expectations only serve to further marginalize a community that other media and culture has also represented poorly. Given that McCarthy has established herself to have a stigmatizing tone toward ASD thus far, when she says, "He's so freaking cute. I can't even stand it sometimes!" it comes across as

artificial and forced rather than truly affectionate. McCarthy continues to fuel the artificial comparisons she is making between “typical” children and her son, when she says: “It was at that moment I realized that even though our children look completely zoned out, there is actually a spirit inside them that is full of life and love and that needs the same talking to as that of a typical, healthy child” (43-44). The language she uses to describe her epiphany shows that it is not truly a change of mindset; first, she broadly describes children with ASD as appearing “completely zoned out,” which only otherizes (and negatively/offensively characterizes) them; she follows this up by referring to a manufactured “spirit inside them that is full of life and love and that needs the same talking to as that of a typical, healthy child.” In addition to viewing autism as entrapping childrens’ lives, she repeatedly divorces “typical” children and children with ASD through artificial comparisons. Lisa Ackerman, mother of Jeff, does this as well—she constructs extremely low expectations for her son, acting surprised when he is able to meet them, which only serves to show how children affected by ASD are only perceived as lacking ability. Discourse surrounding children with ASD is pigeonholed into negatives—shortcomings and inabilities, rather than developing a clearer understanding. Ackerman describes how she felt when she observed Jeff reading a book:

Now he was actually looking at the book. He was looking at it so intently that I leaned down and pointed to the picture of the dog and said, “woof woof,” and then I chewed on him and he giggled. He giggled! (74-76).

Ackerman, like McCarthy, has a reaction of contrived excitement when her son is able to meet arbitrarily low set expectations. First, Ackerman shows surprise that Jeff is reading a book—she says, “he was actually looking at the book,” highlighting her surprise at his appropriate use of a

book. Then, she shows her surprise at his giggling reaction, as though he is incapable of natural, normal behaviors like simply giggling. This surprise at basic behaviors for children widens the artificial gap between children with ASD and children without ASD, exacerbating existing stigmas.

In Holton et al.'s study of how the framing of autism in the news affects the stigmatization of autism, a finding of one of the referenced studies was that "scholars have noted a rise in news coverage and mass media discourse surrounding autism and related mental health issues but have argued that the current portrayals might be doing more harm than good by presenting autism as a shameful, isolating, and burdensome impairment that disrupts the lives of those diagnosed with it, their friends and families, and the communities they live in" (Broderick, 2010; Waltz, 2012). Unfortunately, the language used by McCarthy et al., does precisely that—it presents autism as a burdensome impairment that disrupts the lives of friends and family of those diagnosed with autism. Victimization language that highlights the difficulties of parents shifts the focus away from children affected by ASD and muddies an understanding of autism, while also surrounding individuals with autism with fear. Lisa Ackerman shares that one of the challenges she faced was giving adequate attention to her daughter, while also taking care of her son who had autism. McCarthy responds by focusing on the difficulties for siblings created by children with autism:

What are siblings left to do? They become embarrassed to have their friends over because their brother is stimming or acting weird. Some siblings are forced to eat their favorite foods in the garage because its not gluten- or casein-free. I know some families that purposely

had another child so he or she could take care of the one with autism long after the parents are dead. This is a huge problem. ...

These children are the ones who will be changing the world to help children with autism. they are the ones who will be left with the responsibility long after we're gone. They are the hand that will be holding our kids' hands and leading them into a bright future (81-82).

While it may be important—in order to develop a complete understanding of ASD—to discuss autism holistically, the language of this segment is centered entirely around the burden on siblings of children with ASD, and does little to improve understanding, mostly associating autism with shame. The language used to describe behaviors of autistic children is surface-level and derogatory, as McCarthy says these children are “acting weird.” Additionally, the focus on disruptions created by autistic children is substantiated when she talks about how they are constantly in need of help, and are completely useless on their own: she discusses how parents are having children to take care of their autistic siblings, and then portrays children with autism as desperately needing help, needing their hands held, showing that they are doomed without others to help them. McCarthy's message is ostensibly well-intentioned, but seriously problematizes an already negative portrayal of individuals with ASD by constantly focusing on how useless they are if they are not helped, and all the problems that autistic children create for their siblings and parents. Becky Behnan, Jack's mother, speaks about Jack's ASD in a similar fashion, putting a great deal of attention on the difficulties that autistic children create for their family, which adds to the existing shortcomings of current discourse.

Many years later, when we received the same diagnosis for our son, Jack, my husband and I were completely devastated, to say the least. Then, soon after my son's diagnosis, my sister shot herself in the face. She was attempting suicide and did not succeed—until a few years later. My journey has been a difficult one, but I have surprised many people with how I carried on.

...

But we knew one thing for sure: Autism was a bad situation (85).

Receiving news about a fundamental part of a child's personality that was previously unknown is surely significant. But the degree of distress that Jack seems to have caused his family is unique—indeed, the presentation of autism here is not just as a burden to family members, but an incredibly destructive, even-death inducing force. When Behnan says that she and her husband were “devasted” by Jack's diagnosis with ASD, she intensifies it by saying “to say the least”—there is a ceaseless emphasis on the destructiveness of an ASD diagnosis. It is unclear whether her sister taking her own life was a result of Jack's diagnosis, but her death is certainly *associated* with the diagnosis. She then discusses how her sister resorted to taking her own life upon hearing about her nephew's diagnosis. The aim of this thesis is not to trivialize lifechanging experiences and moments in the lives of parents—irrefutably, Behnan is brave for sharing the difficulties that she and her family went through; at the same time, her language in describing these difficulties and the nature of the difficulties shows a very problematic view of autism. also, she is not unique in having this ableist view of autism—the other parents share it, and it is this view that caused their behavior following their childrens' diagnoses. The intensely negative portrayal of autism harms how it is understood by readers, but also likely explains the

desperate desire of the parents of *Mother Warriors* to "cure" autism immediately. The first step is always going to be interpretation and framing of autism for the parents themselves. Since they are framing it so negatively for themselves, like a terminal illness or some deadly illness with their ableist mindset that children with ASD are useless, they are more likely to exhibit the desperate searching for a cure behavior that they show throughout the book. So, they are not framing autism negatively just for their readers—which is dangerous—but they are also framing it negatively for themselves, which sets up their misled behavior later on. She ends her introduction by concluding that "Autism was a bad situation," and is completely sure of it.

Norms and the stigmatization of autism seem to go together in *Mother Warriors*. The book is full of norms, mostly gender norms, in the form of sexism; norms are also based in some preconceived, unchanging notion of the capabilities, roles, and social identity of a person based entirely on their sex. As a result, each sex has some traits and tendencies associated with it, negative and positive. Similarly, for children with autism, there is a preconceived notion of their capabilities and social identity based solely on the fact that they have autism, even though autism is incredibly complex and understood as a spectrum. Samantha Gray's experience illustrates the presence of these potentially harmful preconceived notions of autism (and an ignorance for the fact that it is a spectrum, and extremely complex and unique for every child).

A website that Gray (mother to Zach) visits apparently says the following about children with

ASD:

Children with autism are not going to live on their own. They're not going to have kids. They're not going to get married (109-110).

To which Gray responds:

And I was thinking my son was supposed to be the football star, all these sports, he's our boy.

The boy everyone waited for (109-110).

In addition to speaking only about the imperfections and apparent shortcomings of children with autism, it completely neglects the differences between children and between childrens' unique experiences and lives with ASD, lumping them all into one group, and then framing this group as completely helpless and burdensome to others. This arbitrary, erroneous grouping of all children with ASD is characteristic of norms in general, which are also a theme throughout *Mother Warriors*. When McCarthy describes what she believes to be a lack of social skills in children with ASD, she connects it to her sexist gender norms of men:

I was grateful Becky was being so open about this real issue of sex that the new generation of autism hasn't had to deal with yet. These men will have sexual needs someday, and the fact that they won't be socially sophisticated enough to know how to manipulate woman [sic] like typical guys do for sex makes me wonder what the hell it's gonna be like (92-93).

Again, through the neglect of the reality that autism disorders are placed on a spectrum, because each child affected has a unique experience and life with autism, autism is framed negatively, which only fosters a misunderstanding and paves the way for further misunderstanding. In this segment, all men with ASD are characterized as not being "socially sophisticated," and are tied to their sexist, preconceived behaviors that apparently come with their role/social identity as men. That is, preconceptions about autism are connected to sexist, unfortunate preconceptions about the behaviors of men in society.

Michelle Woods' language is consistent with the ableist language showcased by McCarthy, in reference to her own son, Kevin. After Kevin is diagnosed with autism, Woods begins administering him methyl B12 shots (without the advisement of a physician). She apparently sees improvement in his social skills, but his shot would wear off, and others seemed to know when it did:

At that point, I was giving it to him once every three days. And the teachers could tell the day after he had his shot because it would wear off gradually. By the second or third day, he was back to his old self, back to his sick, bad-behavior self (57-58).

Woods emphatically equates Kevin's self to sickness and bad behavior. By mentioning "self" twice, and using the descriptors "sick" and "bad-behavior," Woods illustrates that, at least to some degree, she believes Kevin to be fundamentally sick and characterized by his bad behavior. As a consequence of her language, readers are also likely to associate sickness and inappropriate behavior with ASD on a more fundamental, basic level—that is, the *nature* of individuals with ASD is defined by illness and bad behavior.

Another important aspect of vaccine-hesitant narratives seems to be the dehumanization of autism that comes with an ableist sort of mindset. The way McCarthy portrays the physician's communication that Evan has autism first sets up the ableist mindset that follows. When he tells McCarthy that Evan has autism, he "politely put his hand on [McCarthy] and said, 'I'm sorry, your son has autism.'"<sup>2</sup> The brevity of the statement coupled with the magnitude of its content gives a sense of drama or gravitas in the delivery of the

message. Not only does this type of delivery add weight to the message (and drama to the narrative), it sets up the negativity with which McCarthy sees this disorder. She dies in the moment she learns Evan has autism<sup>2</sup>, and begins characterizing his prior behaviors as effects of autism, not truly characteristic of her son. “All those beautiful characteristics that I thought were Evan—the hand flapping, the toe walking, the playing with door hinges and lining up toys—weren’t Evan characteristics at all. Who was my son if he wasn’t all these things?”<sup>2</sup> Here, McCarthy seems to divorce Evan’s behaviors from the behaviors induced by his purported autism. That is, she believes the autism is not really a part of Evan, but some distinct force inside him that makes him behave in a way that is not truly him. This denial/inability to acknowledge that Evan’s (supposed) autism is a part of him represents a sort of dehumanization of autism as a personality characteristic. Understandably, McCarthy as a mother is perturbed by discovering a major personality trait of her son that she had previously not known about—at the same time, autism is a behavioral condition that is a part of someone, and to attribute their behaviors in a way where autism, distinctly, is responsible for their behavior and therefore does not reflect them in any way seems to diminish and antagonize this mental/behavioral condition. Not only does autism coexist with a person’s personality, [[[it is a harmonious part of their personality.]]] Later, McCarthy shows explicitly how she believes autism is almost like a virus, infecting her son, and that it needs to be excised. The neurologist tells her that Evan’s being diagnosed with autism does not make him a different person: ““Hey, this is the same little boy you came in this room with. He’s not any different. He’s the same boy’.”<sup>2</sup> Interestingly, McCarthy’s description of the physician’s previous dialogue made it seem somewhat dramatic, but this dialogue feels very genuine and, perhaps more importantly, accurate. McCarthy’s

response to this is the most demonstrative thus far of her perception of the nature of autism: “No, he’s not. My son is trapped inside this label called autism and I’m gonna get him out.”<sup>2</sup> It is certainly possible that McCarthy is expressing her intent to dissolve the social stigma associated with the label of autism, especially given that she does refer to it as a “label,” but given her attitude from previous statements, it seems much more likely that this is a continuation/development of that attitude, throughout which she shows an ableist perspective on autism. McCarthy’s aim here does not appear to be to dissolve the stigma associated with autism, but rather to “cure” her son of the terrible affliction she has just learned about.

The ableist thinking from McCarthy develops as she continues to discuss how she plans to “cure” Evan’s autism.<sup>10</sup>

Altogether, McCarthy’s *Mother Warriors* exacerbates an existing stigma surrounding children with ASD through several mechanisms, and with several results. Gender norms and preconceived ideas about autism dominate the text and problematize an already unclear understanding of autism. Oftentimes, traditional gender roles are connected to stereotypes on autism, which further deindividualizes the condition likely creates additional fear/tension. There is a narrow-minded focus on the false “deficiencies” of children with ASD, and on how much of a burden they seem to create on people close to them. I hypothesize that this negativity is what sets up the unending desire to “cure” autism through discredited treatments, preventing an appreciation for how children can live their lives with ASD.

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## Chapter V: Closing Remarks

Although the nature of my analysis integrated concepts and theories of medicine, communication, and psychology, I have tried to make the text in *Mother Warriors* the “data” driving my investigation. Given the broad potential for impact of the topic of vaccine-hesitancy, and the apparently limited understanding of the community of those reluctant to vaccinate, my goal, in the broadest sense, was to use a language analysis to elucidate some of the characteristics, rationales, and tendencies of parents who are skeptical about vaccination. Prior to beginning the study, I believed that parsing through the rhetoric of one of the most vocal advocates for the (disproven) link between vaccines and autism would offer a novel perspective on the rationales behind this link. As well, I was hoping to verify some of the existing claims on this community. Finally, I hope that my study contains some useful remarks with potential clinical impact, or, at least, that it presents some opportunities for future, perhaps deeper investigations to explore.

As with any project, I felt the nature of my investigation to have some potential limitations. Mostly, I issued a high level of deliberativeness to the text in *Mother Warriors*. That is, I presumed the words of the text to be carefully chosen, presenting me with the chance for legitimate analysis; if the text does not accurately or fully portray the thoughts and feelings of the writers, my examination would be less applicable.

Still, by shedding light on a complex, multifaceted issue, the use of my findings in a clinical setting—for instance, the adjustment of physicians’ and public health clinicians’ efforts in a way that is more cognizant of the mindset of anti-vaccine rhetors—would be the ultimate

achievement. The lens of rhetoric has, I believe, shown more than survey responses have thus far. It may be that giving a new, higher level of credence to a population whose beliefs lack credence will be the key to combating those beliefs.

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