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Viral Stories in Spanish and English: A Qualitative Analysis of Narrative Perceptions Regarding Infant Immunizations Across Major Ethno-linguistic Communities

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VIRAL STORIES IN SPANISH AND ENGLISH: A QUALITATIVE ANALYSIS OF NARRATIVE PERCEPTIONS REGARDING INFANT IMMUNIZATIONS ACROSS MAJOR ETHNO-LINGUISTIC COMMUNITIES

by

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ABSTRACT

The intent of this thesis is to analyze the varying perceptions among Hispanic (Spanish-speaking) and Anglophone communities regarding vaccines and more specifically infant immunization practices, in order to identify common or diverging patterns of communication, information dissemination, and narrative discourse. Currently, medical messaging and health policy is largely formulated without thorough attention to the different ways diverse or minority ethno-linguistic communities may interpret the information, thereby leading to deficiencies in effective communication practices between individuals and healthcare providers or policymakers, and outright opposition between informal and formal public health messaging. This evaluation was conducted in order to broaden the current knowledge and information regarding the views of these groups, focusing on minority communities, in order to inform more thorough, inclusive, and research-supported medical messaging and outreach. During, the COVID-19 pandemic, the need for more thorough and comprehensible communication has become clear and, therefore, through the use of this study as a foundational element in drafting communication, one could improve the quality and reach of vaccine-related messaging. In effect, this stands to help educate the public and increase overall community safety. The data was retrieved via extrapolation of information regarding people's perceptions of vaccines and their usage in the community as cross-referenced from social media, blog sites, and other online sources of discourse or information distribution. The key motifs that most prevalently influenced the perceptions included persuasion by personal anecdotes, ethico-religious arguments, figurative analogies, scattergun argumentation, and perceptions of genocide.

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INTRODUCTION

The current ecology and climate of views on infant vaccination, and vaccinations in general, has largely been shifting to incorporate a large and widely influential anti-vaccination ("anti-vax") sentiment. This is not to imply that the anti-vax sentiment is accepted as a viable alternative viewpoint, but rather it has become relatively accepted that some individuals are just "unreachable" or "without reason" regarding this topic. Several issues on both a macroscopic and microscopic level of societal welfare are thus raised and require attention. As a human society it is important to recognize the dangers this raises regarding the continuity of our species. Based on recent research, it has been found that in order to combat such a large-scale issue, it is essential to focus on targeted messaging in specific communities in order to have the most meaningful impact on the population. Absence of timely vaccination needlessly puts children's lives at risk, a matter of grave magnitude, and it also threatens the "herd immunity" of a community. This means that a single unvaccinated child could put hundreds and thereafter thousands of lives, even of those who are properly vaccinated, at risk of disease.

During the course of this research study, our communities and by extension the social and medical discourse has become significantly impacted by the COVID-19 pandemic with regards to not only disease prevention but also education on the importance of proactive action against the spread of disease. In this context, it is essential to consider the effects of the pandemic, related messaging, and current conversations about vaccination, on individuals' and communities' perceptions. Ultimately, we have found that the COVID-19 pandemic served as an impetus to highlight and, perhaps, exaggerate existing patterns of anti-vaccination rhetoric within community discourse. Ensuring that the data set includes messages circulating within the past year is significant and appropriately representative of the issues at hand.

Furthermore, this research directly addresses the needs underscored by recent, relevant scholarship, which calls for a better understanding of particular communities' perceptions of childhood vaccines in order to inform more responsive, targeted public health messaging on the matter in the future (Smith et al. 2017, Rabinowitz et al. 2016). Neil F. Johnson's research group has made mathematical models to understand more clearly how pro- and anti-vaccination views compete online, especially in social media (2020). The present thesis delves more deeply into the content and discourse patterns in Johnson's "network cluster dynamics" across languages.

The "Positive Parenting Fables" project, an initiative founded by Dr. Tyler Fisher and funded by a Pabst Steinmetz Arts and Wellness Grant (2018-2019), created seven original, research-informed, multilingual, animated "fables" to communicate key tenets from the CDC's advice for new parents and caregivers of infants. These stories were disseminated to the public via the Orange County Children's Advocacy Center, Nemours Children's Health Alliance and Hospital, Nemours Children's Inpatient, and KidsHealth.org. Among these seven fables, in keeping with the CDC's guidelines for new parents, one concerns the importance of vaccination among Haitian, Hispanic, and Anglophone communities in Central Florida. Producing this animated fable in these three relevant languages raised additional research questions. The goal of my present research study, therefore, focuses on what existing perceptions, attitudes, and narratives characterize views on infant vaccinations within and among major ethno-linguistic communities in an effort to expand our understanding of the rationales these groups use in determining their vaccination practices.

BACKGROUND AND CONTEXTUAL CONSIDERATIONS: A LITERATURE REVIEW

Health Disparities

Social structure-based studies serve to draw connections between and highlight correlations between social realities, historical contexts, public policy and the manifestation of health practices, and overall health within a community or society. The legitimacy and recognition of such studies have increased exponentially within the past two decades with regard to their quality and thoroughness, and more so in their acceptance in the scientific community. Before the rise of this contemporary perspective most health behaviors and lifestyles, both positive and negative, were attributed to solely individual choice. Nevertheless, such topics are now more thoroughly dissected and understood at a societal level, in hopes of identifying real issues for which there are real, meaningful, and lasting solutions.

While this change in the understanding of public health and how public health policy should be formulated is groundbreaking, especially to minority communities that have so long been marginalized and indicted for their health struggles, if we continue to treat matters of public health as we do presently the unbreachable gap will persist in our society. Therefore, it is important to acknowledge all factors that contribute to overall health disparity, before being able to isolate changes important to vaccine messaging.

Access to Resources

In the piece *Neighborhoods and Health: What Do We Know? What Should We Do?*, Roux explains "It [The increase in social-structured based studies] has redefined the environment to encompass not only traditional environmental exposures (like air pollution) but also other elements of the physical environment (like walkability or access to green spaces) and the social

environment (like social connectedness or violence)" (p. 431, 2016). Now, more than ever before, holistic health approaches have become more practiced and respected. Doctors and patients are valuing overall health and synergy within the body, beyond the treatment of individual ailments on a case by case basis. This approach to medical care brings to light more general and widespread issues that affect every population and redefines the basis of health resources. It is essential to recognize how within different contexts, individuals may not have the liberties of making traditionally healthy or positive choices for themselves or their family. As aforementioned, this could be from tangible restrictions or, more universally, a lack of educational and informational resources. The majority of public health policy and societal structures in Central Florida are largely catered to the majority Anglophone population and as a result, the policies and practices enforced are not adequately informed of the needs of minority populations. Therefore, as a society Central Florida does not provide enough access to resources in Spanish and even less so in Haitian Creole. This reflects a cursory acknowledgment of the Hispanic community while an almost absolute lack of attention prevails with regards to any other racial minority group. Even though these languages represent the second two largest communities within Central Florida, there is almost no representation of this in public health policy nor in public health resources. This fact serves to further marginalize and disadvantage these ethno-linguistic groups within their own communities, as it serves as an additional barrier to understanding and seeking correct and adequate medical care.

The Interplay of Socioeconomic Status and Race

Moreover, it is important to recognize the imperfection of social structure-based research and policy, in that it is near impossible to isolate every determinant of health disparity. For

example, socioeconomic status is a key determinant of health and therefore health disparity. Additionally, race is illustrative of population health and a commonplace measure of health disparities within a community. Nonetheless, it would completely be inaccurate to isolate these factors when studying a community, as socioeconomic status is heavily influenced by race due to the racially charged policy, segregation, and restrictions that serve as the foundation of current American society and governance. To ignore such issues would discredit the existence of such variations in health and access to health resources in the first place. Overall, " racial disparities in health should be understood not only in terms of individual characteristics but also in light of patterned racial inequalities in exposure to societal risks and resources" (Williams & Jackson, p.325, 2005)Therefore, highlighting the importance of understanding and exploring the specific factors such as income, diversity, population, etcetera in our neighborhoods in order to identify patterns of health distributions. As described by Williams and Jackson, overall racial differences in health are often overshadowed by differences in socio-economic states within each race (pp.325-330, 2005). Further demonstrating the interplay of varying social structures on acceptance of and access to health resources. This can also contribute to the "[…] patterning of health practices [in which] Disadvantaged racial groups and those with low SES[Socio-Economic-Status] are less likely to reduce high-risk behavior or to initiate new health-enhancing practices " (p.327, 2005). This establishes a barrier to realizing the maximum health of a community and should encourage a focus on bridging this gap and funding projects to better society as an interconnected web of different races, cultures, and social classes. Nevertheless, the marginalization of these problems is continually made clear through examples such that between 1977 and 1996 the gap between White and Black Americans concerning health access and utilization did not narrow (p.329, 2005). This highlights that action being taken in regards to

health disparities are not put at the forefront of medical or policymaking discourse, an issue that has become more prevalent in recent conversation, that must continue to proliferate in order to gain the momentum needed to establish lasting change.

Tendencies in Child Vaccine Uptake

Existing patterns

In society, one sees multi-level disparities in vaccination that surpasses just one demographic factor and instead could result from a mixture of social circumstances such as age, socio-economic class, race, etc. In general, despite vast vaccination availability and apparent promotion of vaccination, the level of vaccination in America is not as high as one would expect or hope. In a study focused on pneumococcal polysaccharide vaccinations, it was found that Whites, followed by Asians, African Americans, and Hispanics, respectively, had the highest vaccination rates. Of these groups, not only were Hispanics the least vaccinated, but they also had the lowest rate of vaccination uptake growth within the five-year period of the study, increasing only 3% (Austin, 2017, p.511).

Furthermore, the risk for disease is more extreme in certain age groups; primarily putting youth and the elderly populations at a greater risk of disease and mortality. This is a huge factor in the importance of promoting timely infant vaccinations, since this group, in comparison to adults, could suffer more detrimental consequences from a lack of vaccination. Nevertheless, in the aforementioned study, it was found that the older, less at-risk population, had a vaccination rate of 71%, while the youth vaccination rate fell at 24%. This rate may correlate to the growth of the “anti-vax” culture that is dangerously spreading within society. As this ideology gains traction, one sees fewer new parents vaccinating their children, resulting in such a shocking

disparity between the two age groups. While this in itself is extremely dangerous, something that may be even more alarming is that in the five-year span between 2011-2015 both age groups saw no significant increase in vaccination rates (Austin, 2017, p. 512-513). This lack of improvement could be attributed to various causes that will be explored later in this paper. However, stagnation in the levels of vaccination illustrates how our society is not improving in this regard and thereby is in effect moving backward. As previously mentioned, the lack of vaccination could lead to a disruption in herd immunity. This effectively accounts for the re-emergence of nearly eradicated diseases, such as measles or whooping cough, in recent years (Latella, 2016, p.1). Overall, it is a major indicator for the need to improve and expand on vaccination education and by effect use.

Why People Choose Not to Vaccinate and How to Combat This Resistance

Impact of social views and stigma

It is an intrinsic aspect of human nature to compare one's actions and beliefs to those of others. The desire to belong within a community can effectively alter one's own perceptions of certain actions and result in conformity to the social norm, whether it be a conscious decision or what one believes is genuinely their own ideology. Parenthood is not exempt from the tendency and may even be more vulnerable to aberrant beliefs and behaviors, as a result of the openness to advice that comes with the unique stress of being responsible for the wellbeing of a child.

According to the National Vaccine Advisory Committee (2015), "Parental attitudes about and confidence in vaccination are strongly influenced by perceived social norms… with respect to views and actions of others who are significant to their reference group or are their role models" (p. 580). This indicates that if a parent is surrounded by other parents who vaccinate

they will also likely vaccinate their child, but if they are surrounded by those who do not vaccinate, they are less likely to vaccinate or vaccinate in a timely manner. Therefore, we see the use of broad-scale education in the promotion of recommended vaccination practices as essential to reinforcing positive vaccination practices with long-lasting effects.

Fear: A double-edged sword

With regards to vaccination, fear could function to delay and decrease vaccination rates; However, a lack of fear could also provoke the same result. The defining agent with regard to this predicament is where the fear stems from. If the fear stems from the vaccination itself, there is a markedly decreased level of vaccination among children. The most common fears associated with the risk of vaccination are overstimulation of the immune system, generalized risks of vaccination, and even the fear of multiple injections in one appointment (Saitoh, 2017). Parents will not have high levels of trust in vaccines, and as a result, they will be averse to administering all needed vaccines to their children. On the one hand, it is essential to educate these people on how vaccines work and therefore their safety, however one can also, in conjunction with education, increase the fear of Vaccine-Preventable Diseases (VPD's).

It was found that parents who did not vaccinate their children associated many diseases with a much lower "threat agency" than parents who did vaccinate (Zhang, 2019, p.177). In that, they didn't fully appreciate the consequences a potential disease could have on their child if acquired and therefore did not view the topic of vaccination with much urgency. Furthermore, it was found that a high level of fear was essential for parents to accept health messages regarding vaccination (Zhang, 2019, p.177). Consequently, one's fear of VPD's had to be greater than one's fear of the vaccination itself. This could best be achieved by better education and

information on vaccination, as previously mentioned, not via enforcing fear without explanation. Rather healthy fear should stem from research-informed education on such a serious matter.

Ignorance vs Disinformation vs Misinformation

Concerning the dissemination of information and the education of other individuals, whether through formal settings or simply an everyday conversation, it is important to recognize the existence of and difference between three forms of information paucity or erroneous information dissemination. The first form is ignorance, which refers to a fundamental lack of information or knowledge on a subject.

Misinformation or rather being misinformed refers to a state in which one has acquired or been presented with incorrect information. This is incredibly damaging and can lead to a plethora of issues, especially in the context of the health and wellbeing of individuals. Nevertheless, it is distinct from disinformation as the invalid information is believed to be true by the speaker or provider of the information. Disinformation, on the other hand, is false information disseminated with the intention to mislead its audience. Prevalent examples of disinformation in the media are most commonly associated with propaganda and other politically motivated press, however, when it comes to medical dialogue it becomes more arduous to identify key elements of disinformation versus misinformation. Oftentimes, within the scope of anti-vaccination rhetoric, we see the prevalence of medical misinformation. These individuals often use personal experience and their own perceptions of the experiences of others to formulate opinions on the medical practice of infant immunization, among other mainstream medical conventions. Within this context, misinformation can almost pose a greater threat, as these individuals both establish an emotional tie to the dialogue and believe in its validity entirely. Thereby allowing them to

assume a proactive role in discourse as they tie the information to a moral obligation to help and guide others.

Impact of Medical Intervention

Another large contributor to decreased vaccination levels is poor physician communication and high levels of physician distrust. It is found that when parents do not fully understand the importance of vaccination or how it works, they are significantly less likely to administer the vaccination for their children, as they will rely less on scientific information (Latella, 2016, p.3). This communication barrier is often the result of physician over-presumption of patient knowledge regarding a topic and the exaggerated focus on the technical information (Latella, 2016, p.2). However, it is of equal importance to note that physician recommendation is one of the strongest factors in increasing parents' openness to vaccination. In a study regarding the HPV vaccine, it was found that "high esteem of provider recommendation provides an opportunity for education that will dispel [HPV] vaccine myths and help engender positive [HPV] vaccine perceptions" (Pierre-Victor 95). Therefore, it is incredibly important to identify and bridge any communication gaps between a provider and patients, whether it be in reference to language, culture, or simply previous knowledge level, as it could be the singular difference in vaccine administration. This also illustrates the importance of gaining the patients trust in their providers' knowledge and abilities as it will allow them to better follow their instructions in hand with better informing themselves through positive conversation with said provider.

Furthermore, with regards to medical accessibility, there exists a huge gap of access to medical facilities within more underprivileged communities. In a study of Hispanic farm-

working families in Florida, it was found that two of the most influential aspects in child vaccination were simply the availability of transportation to clinics and clinics with “favorable conditions” such as accepting Medicaid as insurance, appointments available in the afternoon and evenings, proximity, Spanish-speaking, etc. (Vamos, 2018, p.13). This highlights a societal problem that delves beyond simple hearsay or fear and brings forth an issue that must also be addressed in order to even begin to squander the more intricate issues of distrust and confusion.

Overall it becomes essential to identify and dissect any minute differences in information perception and narrative discourse between communities in order to Currently medical messaging and health policy is largely formulated without thorough attention to the different ways diverse or minority ethno-linguistic communities may interpret the information, thereby leading to a deficiency of effective communication practices between individuals and healthcare providers or policymakers, and outright opposition between informal and formal public health messaging. Through a more comprehensive understanding of the variations between the aforementioned ethno-linguistic communities, a foundation for shaping a more inclusive healthcare policy and medical messages can be achieved.

HYPOTHESIS

The present study began with a basic hypothesis, namely, that there are significant, relevant, and discernable differences in perceptions among Anglophone, Hispanic, and Haitian Creole communities regarding infant vaccination, as well as variation in the dissemination of these opinions both intra-culturally and interculturally.

More specific secondary hypotheses concerned the manifestations of presumed differences, especially as a result of historical, racial, and cultural factors regarding how each community responds to anti-vaccination rhetoric and prefers to communicate information to other members within their community. Among the Hispanic community, for example, we expected to find patterns of discourse that evince a measure of mistrust of medical or health care professionals — a mistrust that has historically been embodied in a fictional character (El Matasanos) prevalent within Hispanic contexts of cultural production. Likewise, in terms of broad patterns, we anticipated appreciable evidence of the influence of individualism (as opposed to collectivism or familism) among Anglophone communities, and a preponderance of religious-inflected discourse among Hispanic communities, due to the relatively greater influence of formal religion, in the form of Roman Catholicism, in Hispanic socio-cultural realities.

METHODOLOGY

The perceptions of individuals were gathered from a collection of online sources including online publications such as blog sites and social media through the use of Facebook pages, "clusters" of social media content, as Johnson et al. call them (234). These resources were cross- analyzed for specific and significant instances of anti-vaccination rhetoric within the Anglophone, Hispanic and Haitian Creole communities (notably, there was an absence of online discourse in Haitian Creole about this subject). An online repository and retrieval tool, the Wayback Machine, was used as a form of digital archive to access information that might have been deleted, hidden, or demoted due to social media platforms' policing policies.

The parameters of this search were linguistic, focusing on English and Spanish, so as to establish a verifiable relation between the subject data and a particular ethno-linguistic community. It is important to note that geographical parameters were beyond the framework of this study as they proved to be too difficult to apply and maintain in this case. The ecology of social media communication is too complex to tame with reference to geography as a firm parameter. A temporal parameter was also assigned, thereby delimiting the data gathering to retrieve messaging within the past two decades. This range of dates is strategic, in that it encompasses landmarks in immunological developments from recent years; it allows the inclusion of anti-vaccination messaging from before the availability of the HPV vaccine and after the initial impact of COVID-19 entered the public conversation.

Once the initial data collection was concluded, given a significant number of varying instances of vaccination rhetoric and perspectives are isolated, the information gathered was

organized, compiled, and analyzed. The first step was the close reading of each source, followed by the discourse analysis in which the discursive narratives were evaluated for significant motifs or continuity between each of the ethno-linguistic backgrounds as well as cross-culturally within all communities. These examples and motifs were then itemized and discussed to identify divergences in the patterning of anti-vaccination rhetoric in terms of perceptions and dissemination.

DATA ANALYSIS

The data used for this analysis and evaluation of varying perceptions between the Hispanic and Anglophone communities were primarily sourced from the social media platform Facebook and personal or group blog platforms. This study focuses primarily on anti-vaccination, or more the more commonly coined anti-vax, rhetoric in order to more specifically isolate negative matters of contention. The ecology of on-line communication on social media platforms is complex, but discernible patterns and tendencies emerge within temporal parameters. By cross-referencing the information and discourse being shared on these platforms we have been able to identify five major inter-cultural differences in the perceptions regarding infant immunizations: personal anecdotes, ethico-religious arguments, figurative analogies, shotgun argumentation, and perceptions of genocide.

It is important to note that these platforms were also used to find motifs common to the Haitian Creole community, however, there was not substantial narrative discourse or information dissemination from that community on a social media platform or other public Internet resources. This could be due to a plethora of factors, however, it is also reflective of the issue, most specifically in Central Florida, where the Haitian Creole community acts as an almost invisible majority. As mentioned earlier in this paper, the Haitian Creole population, which represents the third largest ethno-linguistic community in Central Florida, is often not recognized as such a significant portion of the population. Therefore, while this limits the ability for the study to evaluate the needs of this major ethno-linguistic community, it also highlights a need for more active intervention in understanding the perception of this community so that their medical needs can be adequately represented within the sphere of public health policymaking and public medical education. In the following sections, we will explore and analyze the significance and

implications of the varying socio-cultural motifs on the context within which individuals make assumptions and decisions regarding vaccination.

Persuasion by Personal Anecdotes

The first and often most recognizable form of anti-vax rhetoric stems from the use of personal anecdotes as a medium of persuasion. Through the use of personal anecdotes, one is able to accomplish a variety of things, including, creating an emotional response from the audience of their anecdote, humanizing themselves and thereby making themselves more relatable, and oftentimes introducing a conversion narrative. This form of persuasion is also notably devoid of direct disinformation and misinformation; it allows the speaker to tell a story and the reader to form an opinion based on how they interpret the experience. Nonetheless, it is equally as persuasive and damaging when this type of information is propagated as it establishes the negative connotation surrounding the side effects of immunization.

Many of the blogs and sources use trigger words to highlight strong and relatable emotions. The infants and children are described as “terrified”, “non-responsive”, “distressed” after receiving the enforced vaccines. Using quotes that were largely homogenous, they described the rapid alienation of their children, the declination in any display of happiness, irrevocable changes in character, etc.(Jones, n.d.) Their diction is often desultory yet intimate, similar to diary entries, they are sharing a frankness that implies they are expressing themselves more for their own therapy rather than as a propagandist action. This motivates the speaker to trust and connect with them, creating a stronger foundation to publicize their own beliefs.

Moreover, the conversion narrative highlights the shift from one position to the other. It is a strong component of the personal anecdote motif for two main reasons: firstly, it increases

the credibility of the speaker exponentially by depicting them as the more knowledgeable counterpart and, secondly, it creates a sentiment of lacking judgment. The foundational elements of which function to allow the speaker to feel comfortable "switching sides". It is common human nature to seek out validation from a group, whether one we are currently a part of or one we wish to join. By sharing their own story, or other stories, of conversion the anti-vax agitator's highlight that the anti-vax position must be correct as after experiencing being on both sides of the argument it is probable they would be able to pick the correct perspective. Furthermore, they serve as an example of a person who was initially "wrong" and how they received no judgment for their late "Awakening to the truth" (Jones, n.d.).

While the use of persuasive narrative is prevalent in both Hispanic and Anglophone domains, there is a clear lack of personal anecdotes provided from Hispanic individuals by Hispanic individuals. Instead, we identify a trend of such personal anecdotes filtering from Anglophone discourse and being disseminated by Hispanic individuals on platforms that target other Hispanic individuals. This highlights an interesting interrelationship that brings to question the paradigm for what material gets shared interculturally, as well as the rationale for why Hispanic individuals are less likely to share such personal and detailed stories.

Figurative Analogies

Figurative analogies, a basic tool of conceptual reasoning, constitute a comparison of two entities that are linked due to a perceived shared likeness of at least one attribute, even though the two entities in the analogy may, in fact, be incompatible or the inferences implied in the comparison may not be valid. Figurative analogies can serve as a means to evade explicit, reasoned argumentation, because they function based on inferences and perceptions that are not

always articulated. Within rhetorical strategies regarding vaccination there is a vast array of figurative analogies that stem from various sources. One prevalent analogy involves additives, a motif that reflects the current "War on GMOs," which has increased in public awareness concomitantly with the prevalence and valuation of organic foods. Within anti-vaccination rhetoric, as a result, we see significant parallels in the terms and imagery used to denounce genetically modified or inorganic foods and the ingredients in vaccines. Imagery and text that refer to foods are often incorporated into anti-vaccination sites with little context, such as the image from the Facebook page *Ciencia y Salud Natural* (2019; see Appendix C, Figure 1).

When one clicks on this image it leads to a narrative about genetically modified foods, yet this image and narrative are integrated into a page that focuses most heavily on anti-vaccination arguments. This in itself serves to suggest a link between the genetic modifications and additives found in foods and additives in vaccines as the reader scrolls through this Facebook page. An anonymous blog post on *EcoPortal.net*, "10 Razones por la[s] que no debes vacunar a tu hijo," further explicates the reasoning that underlies this analogy, noting, as one of the ten "reasons," that vaccines contain "aditivos químicos mortales," adducing "antibióticos e incluso organismos modificados genéticamente" among these allegedly deadly chemical additives (2015). Both antibiotics and GMOs are very common additives to foods, such as poultry, and therefore this furthers the establishment of an analogy between foods and vaccines. "10 Razones" claims that these additives and the others listed are deadly, without substantial evidence to support such claims and, significantly, without recognizing that there is a vast difference between injection and ingestion. More widely, the impact of this analogy between food additives and the additives in vaccines can be seen in the recurring use of key buzzwords,

often associated with artificial food contents, in both English and Spanish. Some of the most common examples include adjuvant, toxin, aggregates, and heavy metals, etc. (2001) These pages try to equate the negative effects and health detriments of different substances in food to that of vaccines through implication, without identifying the purpose of each substance in the vaccine. This is further reflective of health advice that urges people not to eat anything if there are more than five ingredients on the label. For example the Facebook page *Los peligros de las vacunas* provides lists of ingredients in vaccines that use very elevated terminology in rhetorical *enumeratio* or in blocks of text without any context or explanation. This tactic accentuates a sense of the unknown or the arcane for a general readership and can convey an overall negative association and even fear of vaccines as inscrutable compounds in which danger must lurk. It is a means of asserting without explicit argumentation that, among the myriad ingredients, some must be adverse for a patient or, at the least, unnecessary as an additive. The lists conclude with vague etceteras and ellipses: "[...] formaldehido, neomicina y más ..." (2020). Again, the impression is one of ineffable foreboding in the face of the unknown. The ingredients of the vaccines are too numerous or too complex to enumerate fully, the presentation implies. Ultimately, these sites tend to omit the fact that there is a key difference between ingested and injected material in the body, instead using these analogies to support a false equation between how the body processes food and intravenous medication.

Moreover, the anti-vaccination discourse employs further rhetorical shortcuts through arguing by means of analogy about proportions rather than providing research-informed data about the contents of vaccines, which they have preemptively marked as toxic to the human body. This argument compares the amount of vaccine given to infants relative to adults,

assuming a direct correlation between body mass and dosage. Through the use of hyperbolic comparisons and imagery, they ensure the message is vivid and memorable, but does not take into account differences in metabolism and physiology, nor the particular contents of the vaccines.

On the blogsite *Tracking Vaccinations*, they claim that vaccines are formulated as "One-size-fits-all" concoctions that inject infants with as much "toxic substances" as used on adults (Jones, n.d.). To give an infant that much vaccine seems absurd and dangerous which then serves as a platform to exaggerate and highlight how dangerous vaccines are. This argument therefore moves beyond just the contents of the vaccine and into the volume given of these "toxic substances' '. They use overblown imagery to highlight the difference in body weight between different individuals as an argument for why children should not get vaccines at all (See Appendix C, Figure 2). Further, they offer advice, ostensibly facetious or sarcastic yet very dangerous if taken literally, such as the following: "Parents should test their kids[’] shots on themselves first, adjusted to 3x their weight, to get the full impact" (Jones, n.d.). On its face, the argument seems compelling, but fallacious as it continues to ignore metabolic and physiological differences between infants and adults. Overall, establishing a dangerous precedent regarding perceptions of medical advice and the simplifying the complex internal function of vaccines to an elemental analogy without needing to support their claim with concrete evidence.

Similarly, Hispanic rhetoric employs the use of figurative analogies focused on contrasting proportions, however the argument is more subtly suggested in text and imagery. The analogy is made in reference to the increase in additive overtime, rather than through the physical comparison of size between individuals. On the Facebook page, *Ciencia y Salud*

Natural they shared an image in which a needle is portrayed with a small droplet of aluminum in the 1980's, then directly below it a significantly larger puddle of aluminum is portrayed for 2020. (See Appendix C, Figure 3) This augments the reality of how vaccines have evolved over time, using exaggerated imagery in conjunction with messages such as " exceso alumnio nuereotoxico" (2020) to foster a direct fear, not only of quantity of vaccines, but a singular vaccine with excess contents that are potentially toxic to ones body. The Hispanic discourse, therefore, has the same final objective, and similar reliance on striking visual rhetoric, but different terms of the argument

Similar to the additive motif, this argument almost never contains any relevant explanations or relevant research data that confirms the dosage of vaccines given to infants and how they work in the body. Therefore, again leaving no room for adequate, sustained, informed consideration of the validity of the analogy and its implied applicability. Overall, this form of argumentation using figurative analogies is found almost/roughly equally in both Anglophone and Hispanic discourse, with a lack of integration or translations that implies that both communities are actively creating and spreading these messages without necessarily being unilaterally influenced by the other community during the process of information production nor dissemination. This form of argumentation is notable in that both communities make recourse to it and express it generally the same manner without significant differences in execution. The similarities perhaps point to the efficacy of this persuasive strategy because the visual elements transcend particulars of language.

Scattergun Argumentation

Scattergun argumentation, also called shotgun argumentation or argument by verbosity, refers to a rhetorical technique of persuasion by obfuscation. This technique operates by overwhelming or dazzling an audience by dint of the sheer volume of information; it sidesteps refutation by deploying (often) disorganized and/or jargon-laden information. While this approach can be achieved with words, with regard to anti-vaccination, it is also commonly used via imagery. The *Tracking Vaccinations* blog site employs an image that is crowded with pictures of mothballs, spilled tar, and labels to affront the readership with information (Jones, n.d.; See Appendix C, Figure 4)

In Figure 4, one can identify an instance in which misinformation and disinformation are hard to isolate. The definitions provided by the image are largely correct in their own sense, for example, the Germanic root word for vitamin K is koagulation [English translation: Coagulation] as that is the primary function of that class of molecules within the body. Nevertheless, it is misleading to draw connections between coal tar and mothballs, which contain molecular compounds that come from the same structural family, in order to imply that these similarities indicate that the contents of a vitamin K shot are equivalent to injecting tar or mothballs into one's body. The validity of these claims is not what we are trying to deduce in this study, nonetheless, it is important to highlight that the claim in this example specifically is not scientifically supported. However, the image is flooded with advanced scientific and medical terminology, distracting images, and a guided flow of information that renders the validity of the speakers' claim irrelevant. All that becomes relevant is what the speaker wants to argue as they

have accomplished either establishing the superiority of their knowledge or overwhelming the audience to the point of just accepting their argument.

These techniques are all the more effective, as instead of having to convey meaningful scientific data and conclusions, credibility is established through the use of diction and terminology that is beyond the average population's biological, if not medical, understanding. This is then paired with the sheer amount of information being provided; as can be seen in the blog site *Vaccination Liberation*, a group which focuses not only on educating their adherents but also arming them to defend their beliefs, for example the audience is provided with a "KeyWord Index" table needed to support anti-vaccination arguments (See Appendix C, Figure 5). This table is organized in alphabetical order, with each element in the list being a hyperlink, and comprises over three hundred words. It urges readers actively to "use their control F function" or "quick google searches"' to find the other specific information they need (2001). It is a specious invitation to active engagement. After overwhelming a reader with information and ostensible sources, *Vaccination Liberation* encourages readers to gather only information needed to defend or prove their point. Devaluing the importance of researched-sourced information and r comprehensive knowledge on the subject.

This onslaught of information and imagery functions to dissuade a readership from genuinely fact-checking these sources of information. Moreover, if readers do try to educate themselves, the definitions provided are often correct at a rudimentary level. It is when these basic principles are connected or organized in an incorrect manner as seen in Figure 4, that the harm and inaccuracies arise. Acting as a secondary barrier to vaccine acceptance, the validity of these basic definitions then supports the credibility/plausibility of the overall argument, thereby

creating a loop in which the readers are repeatedly encouraged not to think on their own accord. This method is most obviously highlighted in the blogsite *Little Ben Trust*, which is a blog inspired and focused on the story of the eponymous infant's post-vaccine deterioration and his father's subsequent fight against vaccination practices. The blog exhibits a more discrete form of shotgun argumentation, in which the audience was provided with an extensive list of rhetorical questions such as "Is there a difference between Sudden Infant Death (Crib Death) and anaphylactic shock from vaccine reaction" proposed after concurring statements such as "Leading cause of death to healthy baby in USA is Crib Death" (Breen, 2010) While this does not catch the eye as quickly as images with bright colors and buzzwords, it accomplishes the same general feat of suggestion. The use of numerous rhetorical questions alongside an array of data is part of amplification (rhetorical *amplificatio*) as a strategy of persuasion. It creates a connection between two topics without significant evidence of causation nor correlation, but due to sheer amount of information provided and a structure that answers one's questions before they can even ask them the speaker's argument is strengthened and supported. In this instance, the strategy takes a particularly compelling form by asking the reader to supply premises that have not been critically examined, connect the dots, and thereby involving the reader in creating the argument. As a result the reader becomes a co-creator or participant in the construction of the argument- solidifying the argument without providing any further credibility beyond that of the reader themself.

Similar to the use of personal anecdotes, this component of anti-vaccination rhetoric is often found in Anglophone discourse. However, interestingly, it is a pillar of argumentation that is filtered out of Hispanic discourse, in that we do not see the same diffusion of Anglophone

scattergun argumentation being circulated in the Hispanic context of the anti-vaccination movement. This relative absence could quite plainly result from the fact that this style of argumentation at its core is meant to confuse and bombard readers with information. The more laborious efforts needed to translate the immense volume and intricacy of these texts and images would naturally dissuade their dissemination in Spanish, especially in social media contexts. Nevertheless, it still brings into question why scattergun argumentation is largely absent from the Hispanic discourse in the form of Spanish-produced texts in their own right. Or rather if the translation of such extensive material is not deemed worth it, in comparison to other forms of argumentation, why is this form of argumentation devalued within the Hispanic community?

Ethico-Religious Arguments

Moving beyond the ideologies that focus on establishing information credibility and speaker authority as fundamental means of persuasion, we come to a form of argumentation that is substantially more focused on the readers' character and role, individually and collectively, in proactively combating vaccination. While both ethno-linguistic groups frequently use tactics based on moral considerations to persuade their audience, there is a notable shift in the center of moral agency when comparing the two groups.

In the Hispanic community's on-line discourse regarding vaccines, the abstract moral argument calls on proactive engagement of the reader. It foregrounds the ethical disposition of the readership and promotes not censoring oneself in spite of perceived opposition. For example, the Facebook page *Los Efectos Devastadores de las Vacunas*, shares an image of a person pushing a boulder up a steep hill, with a caption that states: "EL LIMITE DE SUS ACCIONES ES NUESTRA CONCIENCIA"(2019)--a concise, aphoristic statement that the actions of those

in power ("their," expressed in the third person) are only curtailed by the conscience of individuals ("our," expressed in the first person plural). Visually and verbally, the implication here is that each person has the duty and ability to resist unethical practices within his or her community; otherwise, the weight of the powerful boulder will overrun the conscience of the individual and the collective. The responsibility of resisting and ending morally dubious vaccination practices rests on the individual. The image and the caption do not explicitly mention vaccination, yet they serve to allegorize and abstract the titular "efectos devastadores de las vacunas" against which the page inveighs (See Appendix C, Figure 6).

Similar emphasis on moral responsibility that simultaneously encompasses the individual and the collective as an agent of resistance to vaccinations is apparent in imagery like that of the Facebook page *Ciencia y Salud Natural*, in which the page introduces an interview-based article with a striking image: dense rows of people all face downward, ignoring, avoiding, or otherwise failing to perceive information about vaccines. The one exception among these almost undifferentiated rows of people is a woman in the center of the image, who gazes directly at the viewer. "Doctora Roxana Bruno explica cómo se oculta información sobre potenciales riesgos de la vacuna contra el Coronavirus" (Bruno explains how information about potential risks of the vaccine against Coronavirus are being hidden), announces the caption-heading, which clarifies that the woman gazing out from the center of the downward-facing crowd is the non-conformist doctor herself, a self-declared independent researcher who is capable of gazing unflinching at the truth (2020; See Appendix C, Figure 7). The image and the article it illustrates claim that information about vaccines is being hidden (here a Spanish passive construction, ironically, allows the hiding of an active subject), and underscore that it is the individual's responsibility to

perceive, speak out, and enact change, even in the midst of conformity, just as the exemplary Doctora Roxana Bruno is doing. This visual-verbal argument conveys power and responsibility to the readership, which may be a significant factor in the strength of this moral argument, because, beyond invoking a feeling of guilt or obligation, it shifts the center of agency to the readers themselves and establishes their role as active participants in the discourse.

With regard to the Anglophone community, by contrast, the center of moral agency is shifted away from the readership and focused on the practice of vaccination itself. There is also a corresponding shift to a negative connotation within the discourse which, rather than focusing on the ethical contributions one could be making to their community, highlights points of association between vaccines and ideologies, events, and historical figures that betoken evil in society. In the figure from the blog *Tracking Vaccination*, the author's T-chart table of definitions outlines a moral correspondence when offering vernacular definitions of the ingredients of various vaccines, noting that additives such as phenol were favored by Hitler, urea is used for abortions, and potassium chloride is used in penal executions (Jones, n.d. ; See Appendix C, Figure 8). By linking the ingredients in the vaccines to highly controversial practices and to evil historical figures, the author of *Tracking Vaccinations* is able to directly, suggestively connect the unethicality and immorality of those subjects to vaccines by way of their ingredients. The foregoing figure also provides a clear example of the use of buzzwords such as "lethal," that augment the negativity and fear associated with vaccination. In the blog *Vaccine Machine*, key descriptors of vaccine legislation are characterized as "Anti-Choice, Anti-Parent, Pro-Discrimination, Totalitarian, Extreme, or out of touch with American Values"

(Schecter, 2015),further demonstrating how the use of such rhetoric can consolidate an association between unethical positions and vaccines.

In Spanish literature and culture, El Matasanos (literally, “the one who kills the healthy”) is a stock satirical character that dates back to the Middle Ages. This character represents a quack doctor and was an especially popular, recurring motif in colonial Spanish contexts (Liu, 2004, p.116; Hart, 1999, pp. 37-38).Curiously, in spite of this cultural precedent, the “bad doctor” figure looms larger in Anglophone anti-vaccination messaging. (See Appendix C, Figure 13)The treatment of an individual’s personal, moral agency is inverted to depict a sinister, malevolent medical practitioner. The patient becomes a prospective victim for a predatory individual. This furthers the rhetorical context in Anglophone messaging of the evil practice of vaccination being imposed rather than the proactive position championed in most Hispanic contexts. In terms of proactive possibilities, the Anglophone examples do include the possibility of individuals taking action to report bad doctors and malpractice, as seen in imagery used by *Vaccination Liberation*, which urges individuals “To report injuries. IT’S THE LAW”(2001; See Appendix C, Figure 9). This representation of one’s capacity to seek redress, although depicted in terms of a legal mandate, retains the moral agency of the patient as a victim reporting misconduct as it is related to themselves rather than truly emphasizing their moral obligation to others more broadly.

On a broad scale, a very interesting distinction between the two ethno-linguistic communities emerges in the patterns I have just discussed. Social scientists have long posited that there are discernible racial and ethnic differences in “Cultural Value Orientations,” drawing a contrast “between the familistic and collectivistic tendencies of African Americans, Hispanics,

and Asian Americans, on the one hand, and the individualistic tendencies of Anglos in the United States, on the other. People of color are thought to be higher on collectivism and familism and Anglos higher on individualism" (Fern, 2001, p. 33). The implications of collectivism versus individualism on individuals' understanding of medical messaging, call into question if Hispanic individuals feel a stronger sense of commitment to their community and therefore shift the center of moral agency to themselves as a group and, for their part, if Anglophone communities tend to be more individualistic and therefore respond more to shifting the center of moral agency to others rather than making ethical choices with regard to collective repercussions. Ultimately, this is necessarily speculative, but the ways in which this pattern challenges prevailing stereotypes about individualist and collectivist cultures, vis-à-vis Anglophone and Hispanic differences, warrant further study.

Naturally, questions of morals are intertwined with religious beliefs. With regard to arguments that are more directly rooted in religious ideologies as a foundation for evaluating the contested morality of vaccines, another rift in relevant motifs becomes strikingly apparent. Religious belief can color perceptions of vaccines in ways that encompass the origins and ends of human life on the broadest scale. In this vein, while Anglophone communities tend to be future-oriented with a concentration on vaccination as an eschatological issue (the apocalyptic "Mark of the Beast"), Hispanic communities' religious concerns are more heavily focused on the pre-birth state of being and conception (abortion of human fetuses).

When explicitly invoking religious considerations, the Anglophone community maintains the negative connotations we previously encountered in the ethical argumentation. That is, the negative connotations are presented in sweeping, historical frames of reference, as in

the case of Hitler's use of phenol. With reference to religion, that panorama of human history takes a notably eschatological turn. The *Vaccine Information Coalition* (another instance of a website name that masks its thoroughly anti-vaccination posture), for one, renders this apocalyptic possibility explicit: "Everyone's Life is at Stake Now: […] Mark of the Beast???" (n.d.; See Appendix C, Figure 10). The Mark of the Beast is a direct reference to the last book of the canonical Bible, Revelation 13:16-18: "And he [i.e. the Antichrist] causeth all, both small and great, rich and poor, free and bond, to receive a mark in their right hand, or in their foreheads: And that no man might buy or sell, save he that had the mark, or the name of the beast, or the number of his name. Here is wisdom. Let him that hath understanding count the number of the beast: for it is the number of a man; and his number is Six hundred threescore and six." Although the *Vaccine Information Coalition* presents this possibility with a string of question marks, their suggestion of moral and spiritual danger could hardly be stronger. Indeed, their rhetoric invokes a threat beyond physical illness and mortality and introduces a new factor of intimidation that extends to conceptions of the world's end and human afterlife. The association between vaccination and the Mark of the Beast is constructed on several points of correspondence: the perception that a central authority in both cases is imposing a corporeal intervention that becomes part of one's body or otherwise transgresses one's bodily integrity. In the biblical eschatology, those who accept the Mark are ultimately damned (Revelation 14:9-11), while those who refuse it reign with Christ in a millenial kingdom (Revelation 20:4). By relating vaccines to apocalyptic prophecy, the *Vaccine Information Coalition* places the medicine they oppose squarely within a broad, complex narrative by which their readers can envision the End Times. Fear of being among the population that accepts a damnable sign of their capitulation to the Antichrist is the basis of persuasion, while the anti-vaccination position is aligned with the

martyrs who resist on the side of Christ. Creed and credulity make a powerful feedback loop. The *Coalition* bolsters its authority by appealing to Scripture and enhances perceptions of vaccines as morally, spiritually evil -- a categorical assertion heightened by the possibility that vaccines may be a token of history's end, a line of religious delineation in a final struggle between good and evil.

On the other hand, religious-oriented Hispanic discourse trains its attention on opposition to abortion, the sanctity of human life, and avoiding committing an affront against the image of God which humans bear (Genesis 1:27 and Genesis 9:6). Rather than eschatology, the concern is with spiritual ramifications surrounding the beginnings of human life. Opposition to vaccines on these grounds generally centers on the use of aborted fetuses in vaccines, as illustrated in various personal Facebook posts such as the following: "El uso de tejido fetal abortado en vacunas e investigación médica oscurece el valor de toda la vida humana" (Amoriza, 2020). The development of vaccines using or containing material from aborted fetuses, this user claims, imperils the very value of human life. Such claims are not limited to minor players on social media but extend to high-ranking clergy. In his Corpus Christi sermon of 2020, Archbishop Antonio Cañizares expressed this religious opposition to "diabolical research" in colorful terms: "El demonio existe en plena pandemia, intentando llevar a cabo investigaciones para vacunas y para curaciones. Nos encontramos con la dolorosísima noticia de que una de las vacunas se fabrica a base de células de fetos abortados" (Cañizares, 2020). The condemnation, which relies on and heavily promotes the Roman Catholic Church's values of human sanctity, has provoked the proliferation of anti-vaccination rhetoric throughout Hispanic discourse on social media platforms. Speakers draw upon Cañizares' religious authority to augment the

reputability of their declarations and enhance the claims of vaccines as spiritually, morally evil. The transmission of authority from Scripture to clergy and, ultimately, to the public accentuates the manner in which religious arguments draw upon pre-established authority and influence in order to bolster the anti-vaccination platform without substantiating their claims nor evidence.

The relationship between religious authority and anti-vaccination rhetoric also extends to coloring a broader, complex conversation about the potential for genetic modification to commit an affront against the *imago Dei*, the image of God borne by humanity. The foregoing association between religious narrative and anti-vaccination ideology is constituted on the theological opposition to committing an affront against the image of God through the the genetic alteration of human DNA. Discourse sourced from Facebook pages such as *Ciencia y Salud Natural*, asserts that "Vacunas con nanoteconología nos pueden mutar geneticamente, 'Humanos 2.0'" (2020). The claim that nanotechnology embedded within vaccines can genetically modify humans conjures up notions about the creation of a new form of human existence. The connotative implications of the creation of an altered form of human life contrast directly with the creation of man in the image of God. The precedent established, therefore, asserts that those who accept vaccination are participating in a degenerative assault on the image of God and countering God's will for the existence of man. Ultimately, using fear of God within the readership as a mechanism of persuasive argumentation for anti-vaccination principles.

Perceptions of Genocide

Finally, the most marked divergence between the Anglophone and Hispanic anti-vaccination discourse is a branch of argumentation that centralizes on the perception of a threat of genocide. Genocide engenders a climate of tension and fear that encompasses perceptions of

ethnic targeting, oppression, and urgency within the milieu of the Hispanic ethno-linguistic community. A prevalent component of much Hispanic socio-cultural history, genocide, and the perception of future genocide becomes an interesting niche to highlight within the anti-vaccination discourse.

The ideologies of genocide present in Hispanic anti-vaccination rhetoric are implemented as a conspiratorial rationale for avoiding vaccination as a last line of defense within ones' community. Reference to this ideology is seen through dialogue between individual members of the community, most commonly in Facebook comments, regarding the employment of vaccines on the public. The keywords used repetitively include: "genocide" as well as "obligatory" or "implementation" (Patagon, 2020). The implications of strong, active diction foreground foundational ideologies of oppression and subjugation to a greater power as vaccines will, hypothetically, be forcefully administered to the public. Ethnic targeting is associated with genocide on the grounds of historical concomitance which is used to establish the correspondence between vaccination acceptance and ethnically motivated genocide. Anti-vaccination imagery often used on online platforms depict colorful, bright, eye-catching signs that parallel traffic signs. The bold, black text on a backdrop of bright yellow or orange calls the attention of the readership and instills a sense of importance linked to the message shared. On the Facebook page, *Peligros de Las Vacunas,* this imagery urges the audience to "Compartir toda la información que tengan en contra de las vacunas AHORA. No queda mucho tiempo, pues están implementando una censura en contra de toda información que sea contraria a la oficial" (2020; See Appendix C, Figure 11). The quote establishes a sense of urgency by encouraging individuals to share their vaccine-relevant information *now* in order to protect the community

against a perceived official or governing threat that is going to censor all conflicting information dissemination. The mention of censorship and authoritative government control reflect practices that were prevalent in the context of Hispanic socio-politics and may draw upon familiar sentiments of past subjugation and silencing of a community's discourse. By enforcing an implied temporal restriction with repercussive outcomes, the speakers from *Peligros de Las Vacunas,* invoke a sense of urgency as a mode of persuading the readership without having to explicitly expand upon nor explain their claims of vaccines as the mechanism for oppression. Essentially the fear of being too late, or even of being left behind by their community, dissuades the readership from pursuing thorough research on the topic, implores them to trust in the self-instilled authority of the speaker, and most notably directly encourages information dissemination throughout the community. On the blog site *La Hojarasca* the warning is articulated with similar motifs of force and urgency as illustrated in the following quote "reclutamiento global vacunaciones forzadas prisiones para opositores control de la población dictadura total" (Jimenez, n.d.; See Appendix C, Figure 12). The use of distinctive terminology that warns the readership of forced vaccination by their implied opposition in order to gain control of the population strengthens the fear of a possible reality in which they will be subjugated to an enforced, totalitarian power. The cautionary structure of these narratives and imagery, despite their relative ambiguity, reinforce the sentiment that the speaker knows a truth that the readership is blind to. Assumption of greater knowledge allows the speaker to once again assume authority over the argument and establish themselves as the source of information to which the readership should reference in order to protect themselves and their community from the substantiated out-group threat that looms in the near future. By presumptively assuming

this authoritative role in the discourse the speaker leaves little room for the readership to counter their arguments or establish an opposing claim.

Overall, Hispanic rhetoric focuses on ingroup- outgroup motives, in which speakers urge their audience to identify outgroup agitators that are trying to target them as a population. This motif may reflect a perceived (regardless of the actual existence as is not the focus of this study), lasting sentiment of oppression and rejection from the majority community in society. This nuance motif, recognized within the anti-vaccination movement, is anomalous as it is generally only relevant to minority communities and how they perceive their position within society. Thereby it serves as a direct illustration of how racial and social disparities within society are reflected and ingrained within all contexts of medical care and health behaviors. It further debases the ideologies that racism and social injustices were constructs of the past that no longer influence present-day communities and extends beyond even the implications that they were constructs of the past that have had a lasting impact through their influence in the foundation of social infrastructure. The discourse observed highlights the existent effects of racism that individuals within minority communities experience and how it engenders a novel pillar of anti-vaccination rhetoric that is dependent on not only on historical foundations, but more importantly the current experiences of these individuals. Therefore, this brings to light the significant subject area of Hispanic perception of racism both in the context of medical care as well as in an everyday, social capacity. Through thorough further study of the foundation of this ideology, we can begin to shape a more meaningful foundation for medical messaging that is more inclusive and sensitive to racial disparity.

CONCLUSION

The data and its analysis support the basic initial hypothesis that there is an appreciable, discernible difference in the ways that different ethno-linguistic communities communicate about infant vaccines. In terms of the specific differences, however, there were surprising patterns of divergence. Perhaps more than we had anticipated, there was much direct communication of information from English to Spanish: some messages were repeated verbatim without translation, some were selectively translated or glossed, and others were fully translated. There was also a significant, if not complete, absence of Haitian Creole discourse on not only social media platforms such as Facebook, but also blog sites, news outlets, and other online resources. This underscores a significant need for more research and open discourse regarding the perceptions of the Haitian Creole community and how to incorporate this significant population in the Central Florida community more thoroughly on a rudimentary level, in order to support more thorough, effectual, and targeted messaging/ policy regarding health behaviors and resources.

With regard to the key motifs identified, the use of personal anecdotes, highlighted direct transmission of English dialogue into Spanish discourse, as a means of establishing emotional connection and speaker credibility that can stand alone, or be used in conjunction with other motifs as a foundation. Figurative analogies most notably employed rhetorical shortcuts to fortify their argument without providing essential data to the readership, by asserting fallacious analogies and comparisons. Interestingly this form of argumentation was the one that was most independently prevalent and fully translated between the languages, highlighting it as a strong form of messaging that appeals to both communities. Contrastingly, there is substantial use of the scattergun argumentation in Anglophone discourse, but it is omitted completely from the Hispanic discourse. This brings to light a need for further study to understand the extent of this

omission in Spanish-sourced texts as well as the reasons that this form of argumentation was so thoroughly filtered from dissemination between English to Spanish. Furthermore, we explored the ethico-religous arguments, which illustrated key divergences in the Hispanic and Anglophone rhetoric with regard to a moral narrative. Hispanic communities tended to assume the center of moral agency and commitment to their community health, while Anglophone dialogue focused on the individual breaking away from the evils of vaccines and the society that promotes their use. Effectively shifting the center of agency from the patient/reader to the imposer or even the vaccine itself. This divergence is also reflected in the last motif- perceptions of genocide- in which the Hispanic discourse revealed perceptions of targeting and ostracization on the basis of race while spotlighting vaccines as a mechanism of oppression or subjugation to those in power. Through establishing an out-group, the Hispanic community again establishes the importance of community [working together] to combat the pro-vaccination agenda.

These differences underscore the need for public health messaging that is tailored, in particular ways, to respond to ethno-linguistic patterns. In light of these findings, creative, responsive, inclusive, nuanced messaging can address fears, expectations, and perceptions that prevail in a particular ethno-linguistic community where vaccine hesitancy or vaccine refusal manifests.

RECOMMENDATIONS

The existence of such distinct and relevant divergence between the discourse regarding vaccination within the Anglophone and Hispanic communities highlights the importance of culturally- aware, research-informed, thorough foundations for future medical messaging and policymaking.

It has been made abundantly clear that these ethno-linguistic communities, while they share certain narratives and patterns of motifs, have varying perceptions regarding vaccination and significantly different ways of disseminating this discourse. Therefore, it is logical to propose that, just as they understand anti-vaccination rhetoric differently through social media and other online platforms, these ethno-linguistic communities will also differ in their understanding of medical messages and policy. As a result, we believe the best course of future study is to gather and analyze significant data relevant to the perceptions of vaccines via survey in order to get more detailed information and a thorough understanding of individuals' ideologies and opinions. Using background research as well as the aforementioned patterns and underlying motifs identified within the anti-vaccination resources studied, we have formulated a survey in both English and Spanish, as introductory languages, that can be offered to individuals in order to solicit discursive answers and information regarding their perceptions of vaccines and their usage in the community (See Appendix A & Appendix B). The discursive questions could be analyzed for significant motifs or continuity between the participants of each cultural background as well as cross-culturally within all communities. The survey also gathered demographic data that could be quantified and evaluated for statistically significant factors. Furthermore, the survey will also enable researchers to apply a regional parameter more

effectively to their study, and thereby strengthen the applications of their findings in a real-world context.

DESIRED IMPACT

Given the augmentative nature of this research project, its primary desired impact is to increase the efficacy and influence of the "Positive Parenting Fables" project. While the initial project already serves to bridge gaps and overcome language barriers that confront a large portion of the Central Florida community with regards to health care messaging, this off-shoot could serve to highlight aspects of the project that could use further improvement to better reach our audience. With such a diverse ethno-linguistic makeup in Central Florida, health care providers, and other sources of medical information, cannot afford to create a one-size-fits-all approach to the education of the community. Through the research study, we have gathered information on the deep-engrained intricacies of the Hispanic culture that shape how this community views vaccination in comparison to Anglophone populations. This ethnographic and epidemiological information could be pivotal in creating more targeted stories that the population could more easily understand and relate to beyond simple translation. It is through this more personalized connection that we hope to foster a deeper and more nuanced view on the value of infant vaccination. In that, when the story surpasses the sentiment of rules or regulations and becomes a part of the communities' cultural makeup, it gains longevity and power within that community. Thereby, this project aims to improve overall infant wellbeing as well as the awareness and wellness of the community by combating vaccine resistance and medical misinformation.

APPENDIX A: SURVEY INSTRUMENT: ENGLISH

VIRAL STORIES SAMPLE SURVEY
Gender:

- Female
- Male
- Other: _____
- Prefer not to answer

Age:

- Under 18 years old
- 18-24 years old
- 25-34 years old
- 35-44 years old
- 45-54 years old
- 55-64 years old
- 65-74 years old
- 75 years or older

Ethnicity:

- White
- Hispanic or Latino
- Black or African American
- Native American or American Indian
- Asian / Pacific Islander
- Haitian Creole
- Other:_____

What is your religious affiliation, if any?

Christianity
Judaism
Islam
Hinduism
Buddhism
Unaffiliated
If you would like to specify: _____
Other: _____

Place of birth:

What is your hometown? _____
Where do you currently reside?
_____
How long have you lived in your current town?

- Less than a year
- 1-5

- 5-15
- 15+

Education level:

- No schooling
- K-8th grade
- Some high school, no diploma
- High school diploma or equivalent (GED)
- Some college
- Vocational training
- Associate degree
- Bachelor's degree
- Master's degree
- Professional degree
- Doctorate degree
- Other: _____

Employment status:

- Employed, full time for wages
- Employed, part-time for wage
- Self-employed
- Unemployed, actively looking for work
- Unemployed, not looking for work
- Unable to work
- Student
- Military
- Retired
- Homemaker
- Other: _____

Income:

- $0- $24,999
- $25,000-$49,999
- $50,000-$74,999
- $75,000-$99,999
- $100,000-$149,000
- $150,000-$199,999
- $200,000 or more

How are your medical services covered:

- Private Insurance
- Self-pay
- Uninsured, no payment
- Prefer not to answer
- Government services

Marital status:

- Single, never married
- Married or domestic partnership
- Widowed
- Divorced
- Separated
- Other relationship: _____

Children

Number of children you currently have:

- 0
- 1
- 2
- 3
- If more please specify: _____

If you plan to have any or more children, how many do you plan to have?

- 0
- 1
- 2
- 3
- If more, please specify: _____

How many hours do you use the internet per day? (Not including for work or school)

- 0-2
- 2-5
- 5+

In reference to the previous question, on what devices?

- mobile device
- desktop computer
- laptop or tablet
- Other:_____

Interview

1. What do vaccines do?
2. How do vaccines work?
3. What stories do you know about babies getting vaccines?
4. What percentage of parents do you think vaccinate their children thoroughly and consistently?
5. My children have received some/all/none the recommend vaccinations including those not associated with school admission requirements.
6. I, myself, have received some/all/none the recommend vaccinations
7. Give a rough estimate of how many vaccines you believe infants and children from birth to age 18 should have?

APPENDIX B: INSTRUMENTO DE LA ENCUESTA: ESPAÑOL

CUENTOS VIRALES ENCUESTA DE MUESTRA

Sexo:

- Mujer
- Hombre
- Otro: _____
- Prefiere no contestar

Edad:

- Menores de 18 años
- 18-24 años
- 25-34 años
- 35-44 años
- 45-54 años
- 55-64 años
- 65-74 años
- 75 años o mayor

Etnia:

- Blanco
- Hispano o latino
- Negro o afroamericano
- El nativo americano o amerindio
- Asiático / isleño del Pacífico
- Haitiano
- Otro:_____

¿Qué es su afiliación religiosa, si alguna?

- Cristianismo
- Judaísmo
- Islam
- Hinduismo
- Budismo
- No afiliado
  Si quiere especificar: _____
- Otro: _____

Lugar de nacimiento:

¿Cuál es su ciudad natal? _____

¿Dónde residir actualmente? _____

¿Cuánto tiempo has vivido en su ciudad actual?

- Menos de un año
- 1-5 años

- 5-15 años
- 15+ años

Nivel educativo:

- Sin escolarización
- K-8 grado
- Una escuela secundaria, sin diploma
- Diploma de bachillerato o equivalente (GED)
- Algunas universidades
- Formación profesional
- Grado asociado
- Licenciatura
- grado de maestría
- Título profesional
- Doctorado
- Otro:

Situación laboral:

- Empleado, tiempo completo para el salario
- Empleado, a tiempo parcial para el salario
- Autónomos
- Desempleado, buscando activamente trabajo
- Desempleado, sin buscar trabajo
- Incapaz de trabajar
- Estudiante
- Militar
- Retirado
- Casero
- Otro: _____

Ingresos:

- $0- $24,999
- $25,000-$49,999
- $50,000-$74,999
- $75,000-$99,999
- $100,000-$149,000
- $150,000-$199,999
- $200,000 o más

Cómo están asegurados sus servicios médicos:

- Seguro Privado
- Auto pago
- No asegurado, sin pagar
- Servicios del gobierno
- Prefiere no contestar

Estatus marital:

- Soltero, nunca casado
- Casado o asociación doméstica
- Viudo
- Divorciado
- Separado
- Otra relación: _____

Niños:

Número de niños que tiene actualmente:

- 0
- 1
- 2
- 3
- Si más, por favor especificar: _____

¿Si tienes planes tener hijos o más hijos, cuantos planea tener?

- 0
- 1
- 2
- 3
- Si más, por favor especificar: _____

¿Cuántas horas utiliza el Internet por día? (Sin incluir para el trabajo o la escuela)

- 0-2
- 2-5
- 5+

En referencia a la pregunta anterior, ¿En qué dispositivos?

- dispositivo móvil
- computadora de escritorio
- portátil o tableta

- Otro: _____

Entrevista:

1. ¿Qué hacen las vacunas?
2. ¿Cómo funcionan las vacunas?
3. ¿Qué relatos sabe sobre la vacunación de bebés?
4. ¿Qué cree es el porcentaje de padres que vacunan a sus hijos de manera consistente?
5. Mis hijos han recibido algunas/todas/ninguna de las vacunas recomendadas, incluyendo aquellos que no están asociados con los requisitos de admisión a la escuela secundaria.
6. Yo he recibido algunas/todas/ninguna de las vacunas recomendadas.
7. Dar una estimación aproximada de cuántas vacunas cree que deben tener los bebés y los niños desde el nacimiento hasta los 18 años.

APPENDIX C: FIGURES

Figure 1 Advertisement for genetically modified organism health risks.

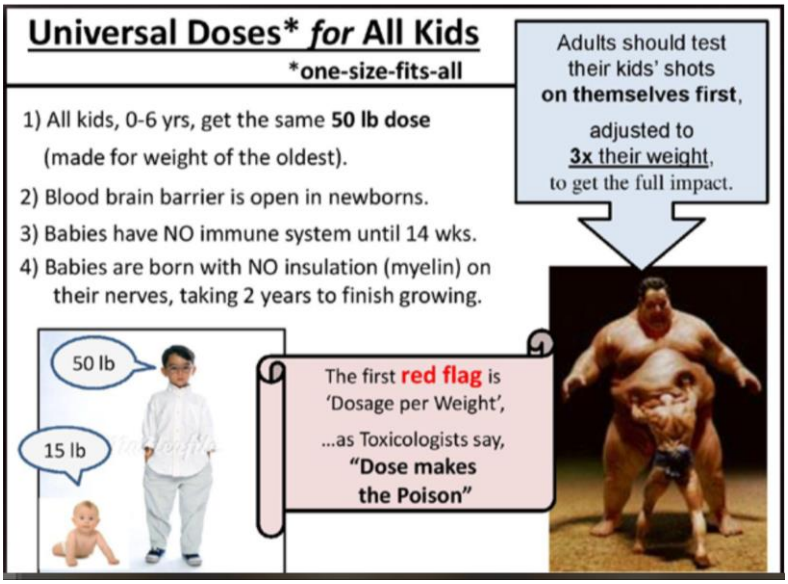

Figure 2 Image comparing the size of infants to adults using dramatized photos.

Figure 3 Visual representation of the aluminum content in vaccines.

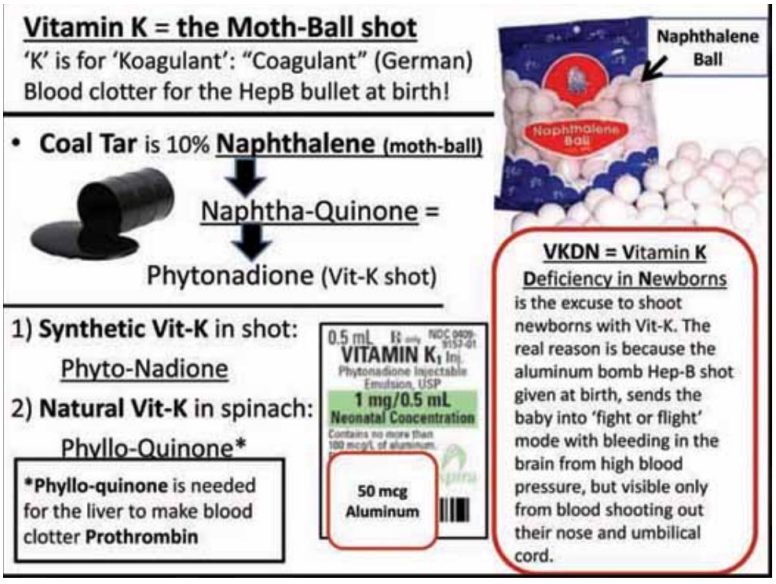

Figure 4 Shotgun representation of the contents of a vaccine, including images and false connections.

KeyWord Index to Table Of Contents: Click on Subject link.
Dont forget your "Browser: *'Find in page - function'*"

If you need more information on any subject: Google SEARCH

A - E	F - M	N - Z
1200 Studies	FactsAgainstCompVax	Natural_Health
Abbreviations	Fever	News(regular and legal)
Aborted_fetal_tissue	FindingAttorneys	NurembergCode
About_Us	FindingPhysicians	NVICA
AcceptResponsibilityLTR	FLU-Index	NVICP-Statistics
Acidosis/Alkaline/Cancer	FLU-AvianBird	Nutrition
Activism_Issues	FluVax_Fooled?	Oath-Physicians
ADHD	FLU-Swine	OldBooks(to-read)
Adjuvants	FLU_HowTo_Protect	Opinions-Authoritative
Acetaminophen	FLU_News	Otitis_Media
Adverse_reactions	Flyers	Package_Inserts
AID/Health*Assurance*	FocusOnTheFamily	PandemicFlu
AIDS_HIV	Formaldehyde/Formalin	Paracetamol
Allergy Relief	Forms/Flyers	Parental_Rights
Allergy-Vaccines	Fraud	Béchamp-Versus-Pasteur
Alternative_Health	Gardasil®-HPVvax	Patents_(CDC)
Aluminum phosphate	Gardasil®-News	Pathways_article_pdf
Animal	Genetic	PCR tests
Anthrax	Germs	Peebles-Liberty
Antibody/Titer	Glossary-ProTerms	Pentacel/Pediacel®
Antidotes	Government	Pertussis
Antifreeze?	Graphs	PH/Acidosis/Alkaline
Anti-VaccinationByTaylor	GreatSites_(VaxResearch)	Pharmaceutical
100+ Anti-Vax links	GuestBook	Plotkin-Matheson
AprilAutismAwareness	Hadwen-Absurdities	Pneumococcal
ArtificiallySweetenedTimes	Harpub/Polio	Poetry
Aspartame-MSG-Etc.	Health*Assurance*-AID	Poison
Aspirin	HealthBackToBasics	Polio_Index
Asthma	Health_freedom	Polio/Harpub
Attorneys-find	Health_Hazards(PDF)	Politics
Autism	Health_UnVaccinated	PrecautionaryPrinciple
Autoimmune_disorders	HealthyPeople2020	Pregnant and Flu
AutopathyByERMoras	Hepatitis_A_B_C	Pregnant Index

Figure 5 Amended table of resources for anti-vaccination information.

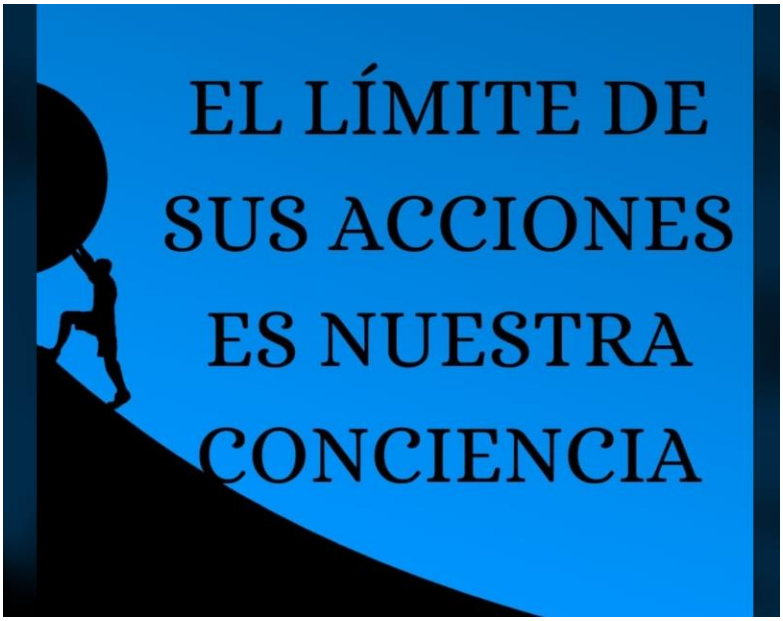

Figure 6 Image of man pushing a bolder up a hill with a "motivational" quote that reads: "The limit of their[his,her] actions is our conscious"

Figure 7 Image of Dr. amongst rows of downward facing, passive individuals.

Only the MOST LETHAL ingredients

Aluminum: leaves Blood Brain Barrier open.
Mercury: destroys budding Brain Neurons.
Formaldehyde: cross-links proteins, kills cells.
Phenol: explodes cells, a tiny injection kills instantly, favored by Hitler.
Potassium Chloride: used for executions.
UREA: kills fetuses, used for abortions.

Lf Tetanus Toxin: 2nd deadly bacteria toxin, 'Lf' toxins need Anti-toxin, its antibodies.
Lf Diphtheria Toxin: 3rd deadly bacteria toxin.
Mutant Tetanus Toxin & Mutant Diphtheria Toxin: piggy-back on the lethal toxins, given simultaneously as the 'Lf' toxins.
Salmonella Toxin: famous for its lethality.

	Dead Bacteria Vaccines	Dead Virus Vaccines	Live Virus Vaccines
METAL	Aluminum	Aluminum Mercury	
TOXIN	'Lf' Tetanus Toxin, lethal Mutant Tetanus 'Lf' Diphtheria Toxin, lethal Mutant Diphtheria	Mutant Tetanus Mutant Diphtheria Salmonella	
CHEMICAL	Phenol Formaldehyde	Phenol Formaldehyde	Potassium Chloride UREA

Figure 8 Table of ingredients in vaccines.

Figure 9 Image highlighting the dangers associated with vaccines and promoting legal responsibility.

Figure 10 Image denoting mention of the Mark of the Beast

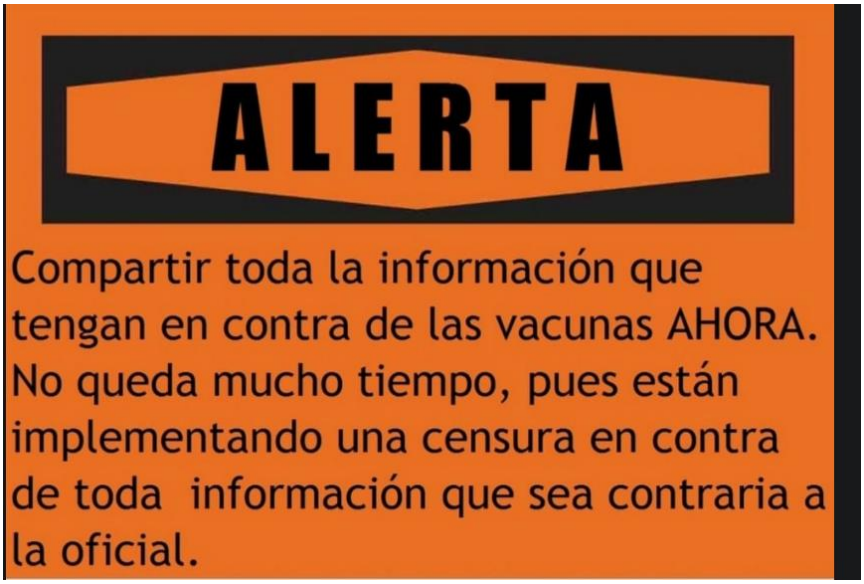

Figure 11 Warning sign of the dangers of vaccine acceptance.

Figure 12 Warning sign of the new world order via vaccination.

Figure 13 Imagery of the representation of "bad doctors" in Anglophone discourse.

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