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**THE ANTI-VACCINATION MOVEMENT: FRAMING ON LATVIAN LANGUAGE FACEBOOK**

MA Thesis

Supervisor: Katrin Uba, PhD

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I have written this Master's thesis independently. All viewpoints of other authors, literary sources and data from elsewhere used for writing this thesis have been referenced.

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**Abstract**

Anti-vaccination movements promote vaccine hesitancy, a significant global threat to public health. In Latvia vaccine hesitancy is of great concern with fears being raised on maintaining vaccination rates at the level needed for herd immunity. It is therefore crucial to understand the anti-vaccination movement, and the concerns of its members, in Latvia, to inform efforts to combat vaccine hesitancy. This thesis uses digital ethnography and frame analysis to study a Latvian anti-vaccination movement Facebook page. The aim was to understand how the arguments of the movement are framed, and compares these with framing identified in other studies, in order to identify if there are any local specificities to the Latvian case. It is found that though the framing is broadly similar there is a greater emphasis on the lack of trust the movement have in the medical system and state in Latvia. This framing also elicits a greater response from those who engage with the movement. This study can be used to inform public health campaigns in Latvia, especially in light of the Covid-19 pandemic. This study also shows the potential for frame analysis and social media studies as a means of researching the anti-vaccination movement.

**Contents**

## 1. Introduction

Vaccine hesitancy is the term used to refer to the act of refusing to be vaccinated or delaying vaccinations to dates later than those recommended on the vaccine calendar of the local medical authority (Lancet 2019). This is widely considered to be a serious threat to global health, so much so that the World Health Organisation included it in their list of the top ten threats to global health in 2019 (WHO 2019a). The threat is due to the fact that in order for vaccines to work in protecting a population as a whole, protecting those who are too young for vaccination or who cannot be vaccinated due to a compromised immune system, herd immunity must be achieved through the vaccination of approximately 95% of the population. However, on a global scale, vaccination rates for vaccines which protect against serious diseases such as diphtheria, tetanus, whooping cough and measles have stagnated at approximately 86% (WHO 2019b). The COVID-19 pandemic has increased the prominence of vaccines in the public discourse as potential vaccines are being researched as a tool to assist in ending the crisis. This has prompted a reaction from the anti-vaccination movement and has led to increased concerns about the detrimental effects of their campaigns of mis- and disinformation which have been connected to distrust in official information and advice (Bentzen 2020).

It is therefore necessary to understand why people oppose vaccines and participate in vaccine hesitancy. This includes understanding how the claims, thoughts and messages of the anti-vaccination movement are presented, and which of their arguments resonate and convince people to delay or stop vaccinating. The anti-vaccination movement is a global movement (RSPH 2019, 8), but there are many significant local or regional variations. Socioeconomic and cultural factors such as religion and education levels have been shown to correlate with vaccine confidence, as well as the anti-vaccination activists being emboldened or promoted by local media or politicians. Particular events can also play a role, for example, media attention to the anti-MMR film 'VAXXED' due to launch events and debates held in Belgium, has been associated with a decrease in vaccine confidence amongst Belgians (Larson et al. 2018).

The size of the anti-vaccination movement in Latvia is unknown as it does not have a defined membership. However, the page this study focuses on, Vaccine Reality in Latvia (Vakcinrealitāte Latvijā), as of 6 May 2020 has 2064 likes and 2427 followers making it

a relatively popular page considering the size of Latvia, and popular posts have reached several hundreds of shares, and one post-ethnography post, on the 6 March 2020, was shared 3800 times.

### 1.1 Research Question

The two research questions in this study are:

1. How are the arguments of the Latvian anti-vaccination movement presented?
2. Are these arguments different from the anti-vaccination movement outside Latvia?

This was done through the identification of the major frames used by the Latvian anti-vaccination movement on their Facebook page and to compare these with the frames used by the anti-vaccination movement elsewhere, as identified in existing literature on anti-vaccination movements which mainly focuses on Western Europe and North America. The frames were identified on the Latvian Facebook page through coding of fieldnotes collected during a digital ethnography conducted from 1 December 2018 until the 24 October 2019, when the page was temporarily removed by the page administration. Initially the study was to be conducted for a one year period, but the temporary page removal cut the period short. In total the observation included 35 posts, 1903 comments, 1559 shares, as well as 65 reviews with an additional 304 comments.

The results of the thesis could help to inform attempts in Latvia, or elsewhere, to combat vaccine hesitancy, or to counter the concerns of those in such groups in order to promote vaccinations. Furthermore, this thesis will contribute to the scholarship on anti-vaccination movements which generally focuses more on Western Europe and the USA, as well as on the specific medium of social media, especially Facebook, which has been highlighted as a significant but understudied site of anti-vaccination misinformation and anti-vaccination movement mobilisation (Smith and Graham 2019; Wong 2019).

The case study of Latvia was chosen as vaccine hesitancy is of growing concern in Latvia (Fridrihsone 2019; Pakalna 2015). According to the Centre for Disease Control and Prevention in Latvia, in 2018, 2.9% of parents refused all vaccines for their children and an additional 13% did not follow the vaccination calendar (Petrova 2018), and there have

been incidences of vaccine preventable diseases among children in Latvia (Klagiša and Meiere 2016), and even deaths (eng.lsm.lv 2018). Furthermore, Latvia stood out in a recent study into vaccine confidence in the EU for its low level of confidence. The report found that only 68.2% of people in Latvia agreed that vaccines were safe, the second lowest level in the EU, and 70.9% agreed that vaccines were effective, the lowest in the EU (Larson et al. 2018, 16). Additionally, Latvia's neighbouring EU states have much higher levels of belief that vaccines are safe, 81.1% and 81.0% in Estonia and Lithuania respectively, and that vaccines are effective, 86.9% and 81.4%, despite the states being similar in many other regards (Larson et al. 2018, 18). Therefore, it is important to consider what is particular to Latvia which has led to the negative public perception of vaccines.

Facebook was selected over other social media platforms as it is the most frequently visited social media site in Latvia (LA.lv 2018). Furthermore, it is a platform used by individuals from different demographic groups, unlike other platforms which are more popular with specific age groups or professions. Facebook has already been identified as a platform which offers significant opportunities for the anti-vaccination movement (Smith and Graham 2019; Wong 2019) and can therefore be considered an appropriate environment in which to observe the anti-vaccination movement.

The study found that though the framing was largely similar, with significance given to frames related to vaccine safety and effectiveness, trust in the medical system, state, and the pharmaceutical industry, there were also some differences. In particular, whereas in other studies the most significant frames, which also gained the largest response or resonance from the movement membership, were related to vaccine safety and effectiveness, in the Latvian case equal or greater significance was given to frames related to trust in the medical system and the state. The frame of trust in the media was also found to be significant despite being mentioned less in studies of other states.

## 2. The Anti-Vaccination Movement

The anti-vaccination movement is not a new social movement. Anti-vaccination activists arose as soon as vaccines were introduced, with opposition based on religious beliefs as exemplified by the 1772 sermon of Reverend Edmund Massey in England called "The Dangerous and Sinful Practice of Inoculation" in which he criticised vaccines as intervening with God's punishment on sinners. Political and legal objections also developed, an early example being the creation of the Anti-Vaccination League in the UK, after the vaccination of children became mandatory. The League protested this legislation, stating that it was against the liberties of the people, leading to a change in the law which ended the penalties for noncompliance with the vaccination laws. Such anti-vaccination groups have continued to appear in different parts of the world at different times, opposing vaccination due to religious, political and legal arguments, as well as scepticism about the benefits and reasons for vaccines (Hussain et al. 2018; Tafuri et al. 2014).

Research on the anti-vaccination movement has focused on North America and Western Europe which has experienced various waves of antivaccine sentiment, often linked to studies of adverse side effects of vaccines which have been taken out or context and exaggerated, or have not followed the correct scientific method and have since been debunked (Hussain et al. 2018). The most prominent example from recent years is the study conducted by Andrew Wakefield which has now been proven to have been severely flawed and unethical. The study was initially published in the Lancet, which has since retracted it, and Wakefield's medical licence has been revoked. However, despite the discrediting of Wakefield's work, the connection between the MMR vaccine and autism has become part of the anti-vaccination narrative across the world, especially in North America and Western Europe. This has led to significant drops in vaccination rates, in some cases well below the percentage needed for herd immunity, and various measles outbreaks (Tafuri et al. 2014).

### 2.1 The Anti-Vaccination Movement in the Post-Soviet Context

The situation is different for countries in the post socialist sphere where state suppression of civil society did not allow for the freedom needed to develop social movements, meaning anti-vaccination groups could not develop, although there is some anecdotal

evidence of individuals not vaccinating. However, after the collapse of the USSR, anti-vaccination movements moved into and developed in the region. In the Soviet Union vaccination rates were high due to the way in which vaccination campaigns were carried out. Vaccinations were carried out coercively with little to no possibility for exceptions, even when vaccination campaigns were voluntary there was a large amount of propaganda and pressure to comply, and it is debatable if they can truly be considered voluntary (Hoch 1997). Unlike other public health goods, it has been shown that non-democracies are more able to carry out mass vaccination campaigns and maintain herd immunity levels of vaccination rates, as they are less concerned about individual freedoms and obtaining the permission of citizens to be vaccinated (Ahlskog 2017). Soviet Latvia is likely to have been in the same position as the focus of the state was not on individual rights and freedoms.

Vaccination programs were carried out not only for public health purposes but also to demonstrate the ability and success of the state to provide and implement a campaign to provide a public good. This was especially important starting from the period after Stalin's death, as the provision of this public health good was used as a way to legitimise the state. This was an important part of Soviet propaganda at that time as the state was not successful in providing enough adequate housing or food but, through these campaigns which were made highly visible, was able to demonstrate its success in one area. This process was not one which required active participation of the population, their role was to passively accept this public good, and throughout it was the social and collective goal of preventing epidemics which was emphasised, as opposed to the individual protection offered by vaccines, which was often emphasised in the Western world (Hoch 1997). Although vaccines offer protection on an individual and population level, the emphasis of one goal builds an idea in society of the goals of vaccination, which can then be confused when the narrative and ideology around these public health campaign changes.

Furthermore, the medical system in the Soviet Union was highly centralised and labour intensive, and therefore implementing widespread vaccination campaigns was relatively easy. For example, generally doctors and nurses would make frequent home visits to new-born babies which meant vaccines could be easily administered as part of these visits.

However, after the collapse of the USSR many states struggled to coordinate and finance such large scale projects leading to outbreaks of vaccine preventable diseases across the former USSR. Furthermore, the programs had to change their structure from one in which the state comes to vaccinate individuals who are expected to behave passively, to one in which the state must incentivise people to be active and to go and receive vaccinations (Hoch 1997). However, even after the states developed systems and programs to try and address low vaccination rates, there continued to be challenges. The post socialist sphere is often characterised by suspicion of the state and of authority, on both the national and international level, as well as concerns about the geopolitical situation of these emerging states in the wider world, which can create difficulties when encouraging people to get vaccinated (Bazylevych 2011). These general features of the USSR are also applicable to Soviet and post-Soviet Latvia. This history means that it would not have been possible for an anti-vaccination movement to develop in Latvia during the Soviet period, and the Latvian medical system would have encountered the same problems on the regaining of independence. These effects of the former system and the transition period will also have had similar impacts on how individuals view the state and institutions including in relation to vaccines today.

## 2.2 Anti-vaccination movement in Latvia

There has been little study of the anti-vaccination movement in Latvia specifically. A search for materials found only a few students theses, Bachelors and Masters, relating to public perception of vaccines, and a few references in news articles and blog posts from members of the pro-science sceptics social movement which provided some brief observations on the development of the movement. However, further information can also be gathered from the activities of anti-vaccination activists themselves.

In an interview with key medicals professionals in the field of vaccines and paediatric medicine in 2010, the debate and public discussion on whether children should be vaccinated, and therefore the anti-vaccination movement, in Latvia was referred to as being relatively new (Maminuklubs.lv 2010). Dace Gardovska, a Professor at the Children's Clinical University Hospital in Riga, linked the development of the anti-vaccination debate in Latvia with the introduction of new vaccines without adequate explanation of what they are, leading to confusion and questions in the public as they do

not understand why they are needed, as well as the increased use of the internet and social media which has led to the spreading of misinformation about vaccines (Maminuklubs.lv 2010). This coincided with decreases in vaccination rates which were linked to the promotion of anti-vaccination opinions in society as well as socio-economic factors (Diena 2012).

Despite the Latvian anti-vaccination social movement being neither significant nor well developed enough for medical professionals to be concerned about until the late 2000s, there were still individual actors or small groups with anti-vaccination opinions, as well as the influence of the transnational movement. These individuals can be considered to be the start of the anti-vaccination movement in Latvia.

These individual actors can be seen at the early stages of the movement as their actions included promoting anti-vaccination sentiment and concerns in Latvia. One prominent individual, who is considered to be the founder of the anti-vaccine movement in Latvia is Aelita Folkmane, an alternative medicine practitioner (Andrijanova 2016). In 2005, Folkmane wrote several articles supposedly showing that vaccines are unsafe and ineffective (Folkmane 2005a; 2005b; 2005c). These articles contained links and references to anti-vaccination materials from English language websites, mainly from groups based in the USA, Canada and Australia, as well as Russian language materials.

Similarly, Folkmane, and other individuals, have also included anti-vaccination entries in their blogs related to alternative medicine and conspiracy theories, as well as starting discussions on vaccines in different online forums. A prominent example is a blog by Kristīne Liepiņa who also administers several Facebook pages related to alternative medicine and similar topics. As with the anti-vaccination articles, these blog posts depend on materials and studies from abroad, in particularly from the USA, and also contain many recommendations for further readings or videos to watch which are also mainly from the anti-vaccination movement in the USA (Liepiņa n.d.).

There are few or no links in these articles or blog posts to information which is specific to Latvia. The exception being information and advice on the process of refusing vaccinations in Latvia with examples of the refusal letters which must be written (Liepiņa n.d.; Folkmane n.d.). Furthermore, there is less available evidence on the offline activities

of the anti-vaccination movement in Latvia. There have been some seminars, talks and events held, but most date to the late 2010s (*Vakcinācijas Ēnas Puses 1.Daļa* n.d.; Memory water festival 2019), as well as a small number of media articles (Duņeca 2017; Jauns.lv 2017).

It can be concluded that the anti-vaccination movement in Latvia developed relatively recently compared to other European states, in the late 2000s. Also, in comparison to other European states, the movement is not well developed. Initially most of the activity centred around a few individuals and their activities online, although they were also able to publish articles in prominent magazines and newspapers. However, the movement appears to be developing and expanding its activities.

### 3. Theoretical Approaches for Studying Social Movements

From the social constructivist perspective, objects do not have intrinsic meaning, it is determined by how they are interacted with. Meaning is continuously constructed and maintained through human interactions, and therefore is engrained in all aspects of cultural and organisational structures and contexts (Benford and Snow 2000). However, this system of interpreting meaning is not simple or stable, many aspects of culture and organisations are points of contention with their meanings being debated. This debate leads to changes in meaning, or different meanings being constructed by different people or groups. Social movements can be seen as active agents of interpretation at the points where structured meanings which already exist in society are contested, weakened, and left open to be changed. In this way, social movements and the interpretative works of constructing meaning are inextricably connected (Snow, Vliegenthart, and Ketelaars 2018), as any social movement which wants to create change must also change what meaning is given to the separate elements of the issue which they campaign on. In order to mobilise people into supporting the movement and to take action, the people must be incorporated into the construction of meaning of that issue, to create a common understanding and perception which motivates them to act.

The actors who make up social movements work as signifying agents who, through their actions and words, actively create and maintain the meaning of the movement for other members, the movement's opposition, and bystanders. This meaning is constructed through the process of framing (Benford and Snow 2000) which occurs during communication between movement members, for example, in meetings, conversations or written exchanges or materials (Snow, Vliegenthart, and Ketelaars 2018). These frames offer a way to organise information within the perspective of the movement. These frames are part of a system which allows members, and others, to 'locate, perceive, identify and label' (Goffman 1974), their own experiences or events from the world within the perspective of the movement.

Frames have three functions. Firstly, to focus attention on what is relevant, 'in-frame', and what is not, 'out-of-frame'. Secondly, frames articulate, by making a coherent picture of the various aspects of an issue, so they are seen as connected to the shared constructed meaning. Finally, frames have a transformative function as they can change how events

and issues are understood or connected in relation to this constructed meaning (Snow, Vliegenthart, and Ketelaars 2018).

Within the social movement context, frames can be referred to as collective action frames, that layout the system of beliefs and meanings behind the movement, which then motivate and legitimise the actions of the social movement (Benford and Snow 2000). These frames are used to highlight perceived problems and issues which the movement aims to address. Therefore these frames are not the product of the straightforward or natural perception of the situation, but the result of a process of interpretative and signifying work leading to framing which has focused attention on specific meanings, and articulated and transformed them to create a coherent narrative of what the issue is, what it means and what should be done (Snow, Vliegenthart, and Ketelaars 2018).

Collective action frames can be grouped into three forms of framing: diagnostic, prognostic and motivational. Diagnostic framing refers to the identifying of who and what is to blame, and attributing this blame, for the perceived problem which the social movement aims to address. However, there is not necessarily a consensus on these diagnostic frames among actors in the social movement, even if there is a consensus on the overall problem. Prognostic framing expresses an alternative situation through, for example, proposing a solution or a plan of action, and creating strategies to carry out this plan of action. Generally, the prognostic framing will have to work within the diagnostic framing, as well as the framing of the movement's opposition which pushes the movement to develop and explain the prognostic framing. Motivational framing urges people to take action in some way by providing a rationale and motive (Benford and Snow 2000). Both diagnostic and prognostic framing aims to build a consensus among the movement, whereas motivational framing aims to mobilise members into action (Lasse Lindekilde 2014). Collective action frames can be broad, framing the action of several movements, as well as narrow and specific to certain social movements (Benford and Snow 2000).

However, as framing is a constructive process carried out by anyone who is participating in any actions or discussions which shape the meaning given to an issue or event, the framing process is not restricted to the members of a social movement. Opposition members and bystanders can also have an effect through their perception of the meanings

given, and how they share or converse about this information with others. This is particularly the case for media who present the movement to a wide audience. The success of a social movement is therefore connected with the strength of its framing. Clear, coherent and convincing framing increases the potential to recruit membership and to mobilise people into action.

Frames which are successful in eliciting responses from others in the movement are said to have resonated. The resonance of frames depends on their credibility and salience. The credibility of a frame depends on several factors. Firstly, the consistency of the frame, meaning that the framing does not lead to contradictions between the beliefs and points made, and the actions taken, by the movement. Secondly, empirical credibility, meaning does the framing fit within the context of the events in the world around the social movement. This fit does not need to be with true or real events but needs to only give the impression to the actors that the frames and events match. Lastly, the credibility of the frame articulators and those who make the claims, referring to their perceived expertise and status on the topic. The salience of the topic is dependent on how central the frames are to the lives of those who are being targeted by the frame for mobilisation, if the frames are congruent with the lives of those targeted, and on the narrative fidelity with the assumptions and ideology of these targets (Benford and Snow 2000).

Furthermore, frames can also align through frame bridging, amplification, extension or transformation. Frame bridging occurs when two or more frames which are ideologically coherent but structurally separate are linked, therefore potentially attracting new members through the shared interest, or strengthening the conviction of those who are interested in both frames. Frame extension also makes connections to other groups or new members, but instead making a connection to an issue which is already congruent but not structurally placed within the same group, it refers to a frame being extended to include an additional issue within its meaning, so the frame encompasses more concern groups. Frame amplification refers to when specific values or understandings are highlighted and promoted, assigning them more importance than others. This therefore increases the importance or urgency given to the movement's aims, as they are seen through this prioritised frame. Lastly, frame transformation is used to refer to when the individual's or group's understanding of the meaning of an issue or event is changed to the meaning

framed by the movement, therefore changing these individuals' framing of an issue to the framing of the movement (Snow, Vliegenthart, and Ketelaars 2018). All of these in some way link the frames of the movement to other aims and interests of those in the group to strengthen the framing as it fits into the movement's wider worldview and understanding of reality. These frames are therefore more likely to resonate.

However, as framing is a process which can be carried out by all members of the social movement, the framing cannot be planned out as strategically as a more structured and centralised organisation. This is particularly the case in social movements which are more horizontally organised, and when the framing of the social movement is carried out on social media, where the participation costs are low with no specific requirements from participants in terms of time or location, and participation is on a relatively level field, as individuals are viewed as equal members of a shared platform.

There are of course also factors which can lead to a frame being less successful and resonating less. These problems include when it is unclear which of more than one alternative frame to apply to an event, or a frame being inappropriately applied. Frame disputes can also occur where individuals apply contradictory frames to the same event or issue, leading to disputes within the group on how to perceive the situation, or the meaning to be derived from an issue. Additionally, frame shift can occur when the context of a social movement changes leading to the frame not being as applicable to the new situation (Snow, Vliegenthart, and Ketelaars 2018). These problems all relate to framing being applied inconsistently or being incoherent and contradictory to one another or the context of the social movement.

The different ways in which framing is approached can be seen in studies of lifestyle movements. Movements which aim to change people's way of living, for example to become more environmentally friendly or vegetarian, have found that movements and actors are different in their approaches to influencing others. Some are active and call on others to change their behaviour, whereas others are passive and do not directly call for people to change, but opt for hoping to influence people into change by setting an example. The first can be understood as transformative framing, in which the movement aims to change how people frame an issue in order to achieve the change in lifestyle the movement promotes. The second is a more cautious method of framing, which may be

used in order to make the change that the movement wants seem less confrontational and more achievable. For example, in a study of the framing used by social movements aiming to reduce carbon emission it was stated by group organisers that although the central aim of the project is to cut carbon this is not stated as a major aim (Büchs et al. 2015).

The anti-vaccination movement also aims to achieve a lifestyle change, although a more limited one, in that the movement hopes to stop people vaccinating. The movement could therefore also use either of these approaches, either actively calling on people to not vaccinate, which would be observed through prognostic framing in which the solution to the movement's perceived problem is stopping state vaccination programs, and through motivational framing directly calling on people to refuse vaccines. However, the framing may also be more cautious, without direct calls not to vaccinate. This could be used to try and reach a broader audience and grow the movement, therefore including many who do not already identify themselves with the movement (Büchs et al. 2015). To reach a wider audience, other framing techniques could be used, such as frame amplification, bridging and extension, to build on bystanders' existing framing of other issues, so they also perceive vaccines as a problem. This would therefore include less direct motivational framing telling people how to act, and also less prognostic framing suggesting what should be changed, as the emphasis would be on diagnostic framing to building a membership of people who frame vaccines in the same way as the movement and create a common understanding that vaccines are a problem.

In a study by Büchs et al. (2015) of the framing of low carbon lifestyle movement organisations, it was found that only four out of 42 organisations used any transformational framing while the others used only cautious framing. This was connected to the wish to appeal to a wider audience and to recruit new members. It is likely that the anti-vaccination movement would also choose this approach to build membership as they are working against the general perception of vaccines and the framing of vaccines by the state and most media. Therefore, a cautious approach would help to build the idea that vaccines are a problem and increase the prevalence of this type of framing in the population, building support before action could be taken.

### 3.1 Framing Transnational Social Movements

A significant factor to consider for transnational movements such as the anti-vaccination movement is the possible conflict between the transnational and national. The identity and framing of the local movement may be shaped by the transnational movement, however in order to effectively recruit and mobilise people locally this identity and framing must resonate with the specifics of the local context. Social movements require that the individual actors in the movement are connected by a common identity created by the merging of individual and cultural systems. However, geographic borders can pose an obstacle to this as there are fewer shared experiences and greater cultural diversity with higher transaction costs. A movement's identity must be strong enough to motivate individuals into taking collective action, and to make connections between the local issue being addressed and global processes that the movement has diagnosed as being responsible. The transnational movement needs to make it understood to the local activists how actions in separate regions are interdependent, developing the idea of shared consequences (Smith 2002). This will have an impact on the anti-vaccination movement in Latvia as, although the movement within Latvia is connected by many common features, there will still be the impact of the common identity that the transnational social movement organisation has developed. This could impact the resonance of different frames, with certain frames which have been shaped by the transnational identity not being as applicable or meaningful to the local context.

The transnational and local nature of the anti-vaccination movement must also be considered in what kind of framing is used. A study of the transnational age advocacy social movement found that the master frames in the diagnostic framing were the same for different places around the world. However, there were differences in the diagnostic framing overall due to the differences in local contexts leading to different problems for the elderly, and differences in where the blame was attributed. Furthermore, the prognostic framing changed, depending on the local context, as the proposed solutions had to take into account the local context in order to suggest practical solutions. This leads to a situation in which the movement cannot be said to have total coherence in framing, as different frames were used by different groups. However, this was not seen as problematic as the movement still had central master frames to connect the regional and

local groups, and the differences in framing beneath the master level allowed for local groups to focus on specific problems (Sciubba 2014).

This should also be considered in the case of the anti-vaccination movement in Latvia. The movement overall is transnational and therefore it can be expected that there will be coherence in framing with the wider movement in other states. However, in order for the movement to resonate with the local population it must also take into account the Latvian context. This should be considered in particular with frame alignment as the framing that the antivaccination movement must use or emphasise must therefore be compatible with the framing of other concerns which exist in the Latvian population.

### 3.2 Anti-Vaccination Framing

Anti-vaccination movements and how they act have been studied in the context of other states or regions than Latvia, as well as their use on other mediums than Facebook. These studies do not generally interpret the movement by using frame analysis or focus on social media, in particular Facebook. The existing literature which refers to framing generally focuses on the framing relating to the uptake of the HPV vaccine and therefore does not offer a detailed analysis of the anti-vaccination movement's framing in general, but the framing of a specific vaccination among the general population. Studies which do focus on the anti-vaccination movement online have generally analysed anti-vaccination websites, in particular using content analysis (Kata 2010; Bean 2011; Davies, Chapman, and Leask 2002; Wolfe, Sharp, and Lipsky 2002). There have also been studies on the anti-vaccination movement on some social media platforms such as Pinterest (Guidry et al. 2015) and there have been network analysis studies of the movement on English language Facebook which offer some limited insights into framing (Hoffman et al. 2019). Despite the lack of studies which use frames, the conclusions of other studies can be interpreted in the context of framing to understanding what frames can be applied to the movements they have studied. Furthermore, these frames can then be categorised into the diagnostic, prognostic and motivational framing categories which are used in this study.

The studies of anti-vaccination website content breaks this content down into claims made by the activists. These claims were categorised, by Bean and Kata, under the following headings: safety and effectiveness, civil liberties, alternative treatments, conspiracy theories/search for truth, and morality, religion and ideology (Bean 2011; Kata 2010).

Using these categories, the frames identified in other studies of website content were organised under these categories, with additional categories added when the frames identified in other studies did not fit well within the categories.

### 3.2.1 Diagnostic Framing – What the Problem Is

The first group, 'safety and effectiveness', includes several diagnostic frames, but no prognostic or motivational frames. A prominent frame which can be identified is 'vaccines are harmful'. Bean (2011), in a study of English language anti-vaccine websites, found that 76% contained content which was categorised under the theme safety and effectiveness which was used to code for content that claimed vaccines caused illness, damage or death. Another study of anti-vaccination website content (Kata 2010) found this type of content on all the websites studied, and one other similar study found that 99% of websites included the claim that vaccines are harmful (Robert M. Wolfe and Sharp 2002). The frame 'vaccines are harmful' has been identified in studies of anti-vaccine websites as the most commonly used frame. It can therefore be hypothesised that this will also be a prominent frame in this study as well.

This frame can also be identified under different terms in previous studies which can be placed under the category 'vaccines are harmful'. These terms often focus on specific types of harm or ways in which vaccines cause harm. For example, the studies of anti-vaccination website content often include categories claiming that vaccines cause specific illnesses or problems, the most common being brain damage, sudden infant death syndrome, cancer and autism. However, more common, in 93% of websites, was the claim that vaccines cause idiopathic illnesses (Robert M. Wolfe and Sharp 2002), that is illnesses which have an unknown cause or seem to appear spontaneously. Another common argument within what can be identified as the frame 'vaccines are harmful' is that vaccines are toxic and contain harmful additives and ingredients. Kata classified this as the trope 'vaccines are toxic!' which would be used by anti-vaccine activists to link various ingredients of vaccines with different illnesses or disorders (Kata 2012, 3783). A similar use of the frame can be identified in the studies of anti-vaccination website content as the category 'poisons, additives and ingredients' (Bean 2011, 1877). This category appeared in 80% of the website's studied by Bean, and in all of the sites in the Kata study (2010), but was not included in earlier studies (Wolfe, Sharp, and Lipsky 2002). It has

therefore been suggested that this may be a development in the anti-vaccine argument (Bean 2011). Particular ingredients, frequently mercury and aluminium, were often highlighted as being the connected to specific illnesses, and this frame therefore can lay within the frame 'vaccines are harmful', but gives a more specific alleged link between the vaccines and the harm caused.

The frame 'vaccines are harmful' has been shown to be significant through its central position in several examples of vaccination rates decreasing after a supposed link between a vaccine and an illness. For example, a study of the effects of having an active anti-vaccination movement on the rate of uptake of the whole-cell DTP vaccine showed that one of the central arguments of the anti-vaccination movements was that the vaccine caused harmful side effects, either through a connection to leukaemia or neurological events. Though the study was not of the anti-vaccination movement online, it still shows the potential this frame has to resonate. This study also noted that the anti-vaccination movements did not deny that reduced vaccination rate would lead to an increase in the incidence of pertussis, the disease the DTP vaccine protects against (Gangarosa et al. 1998). Therefore, this frame does not necessarily include denying that there is a risk from not vaccinating or that the vaccine does not protect against pertussis, rather it is the potential harm of vaccine side effects which is emphasised, and the dangers posed from the vaccine preventable diseases are downplayed in comparison.

This frame has also been shown to have regional or cultural specifics in how it is used. For example, in Western Europe and the USA, due to the Andrew Wakefield study, there has been a significant fear that the MMR vaccine causes autism, therefore the frame 'vaccines are harmful' is often focused on the MMR vaccine specifically or on the link to autism. However, in a study of vaccine hesitancy amongst immigrant communities in Washington State it was found that, in contrast to the non-immigrant community, the Russian speaking community feared that all vaccines were harmful and did not focus on MMR or autism (Wolf et al. 2016). As one of the aims of this study is to see if there are regional specificities in the framing used by the movement in Latvia this should also be considered, as well as if there are any particular forms that the frame takes.

It should be noted that vaccines do have side effects which, in very rare cases, can be severe. It is therefore not incorrect to state that vaccines can cause harm or to inform the

public about these side effects. However, what is problematic is when this is stated without the relevant context, for example, without the comparison of the risk from not being vaccinated, or by exaggerating the frequency and severity of these side effects, as well as claims of side effects which have been shown not to exist and downplaying the severity of the illnesses which vaccines protect against. The frame 'vaccines are harmful' can therefore be applied on a scale from vaccines are all harmful to some specific vaccines are harmful. This therefore allows for cautious to more transformative framing as it is possible to present this frame softly, connecting some potential harm to a specific vaccine, or more strongly, stating that all existing vaccines are harmful.

Therefore, a similar diagnostic frame which can be placed under the frame group 'safety and effectiveness' is that the 'safety of vaccines cannot or has not been proven'. This was described by Kata (2012, 3783) by the tropes 'you can't prove vaccines are safe' and 'vaccines should be 100% safe'. This frame refers to the idea that no risk is acceptable, and it is better not to vaccinate than to expose yourself or your child to this risk. This framing excludes the risk of not being vaccinated and exaggerates the risk of side effects, so they appear unacceptable although in reality they are rare and generally very minor.

In a review of the existing literature related to vaccine hesitancy, Poland and Jacobson (2001) highlighted several elements of the current social and cultural context which affects decision making related to vaccines. Though their focus was on the USA, their conclusions may be applicable to other states as they are based on features which are widespread in the globalised world. They argue that society has become intolerant of risk, and more specifically of risk by co-mission, actively participating in an action leading to risk as opposed to omission, not taking an action which then leads to risk (Poland and Jacobson 2001). The idea of omission bias, a bias in which if a person is unsure of a decision they are more likely to choose to do nothing rather than take action, and vaccination has also been made by others. In the case of vaccines, omission bias means that it is preferable for someone who believes that vaccinations may be harmful to not cause any potential harm by refusing to vaccinate, even though there is also a risk of illness if they do not vaccinate (Ritov and Baron 1990).

Poland and Jacobson also highlight how American society is not well educated on risk and probabilities, and therefore misunderstands that risk cannot be completely eliminated

and that some actions which include a small element of risk may still reduce the overall risk, as inaction is more likely to lead to negative outcomes than taking action. In the USA, this led to several lawsuits in the 1980s, where vaccine manufacturers were accused of causing alleged serious injury or fatalities as side effects of the whole cell pertussis vaccines they produced. This led to a significant increase in the cost of the pertussis vaccine, which manufacturers attributed to factoring in the cost of potential lawsuits into the price of vaccines. In order to prevent this price rise from continuing the federal government created the VAER system of compensating alleged vaccine injured people, to remove the cost of these lawsuits from producers (Poland and Jacobson 2001). Applications to VAERs are low, and successful ones even lower (Belluck and Abelson 2019). However, the existence of such a system is used as evidence of the potential harm of vaccines, as the probabilities and percentages are often not taken into consideration. Many in the anti-vaccination movement see this as a binary issue, with the existence of potential harm being seen as evidence that vaccines are a greater danger than benefit. Although the VAER scheme is only directly relevant in the USA context, it is mentioned, with other schemes which document supposed vaccine injury cases, by anti-vaccine movements in other countries as evidence of the harm from vaccines.

Another frame which can be identified in the group 'safety and effectiveness' is that 'vaccines are ineffective or temporary'. This includes arguments that vaccines do not work or are not an effective way to prevent diseases, or that the immunity they create does not last. This claim was identified on 83% websites in one study (Davies, Chapman, and Leask 2002), 81% on another (Wolfe, Sharp, and Lipsky 2002) but only 32% on the more recent study by Bean (2011) and was also not mentioned in the review of anti-vaccine tactics and tropes (Kata 2012). This frame has therefore been found to be a relatively significant frame but there may be a decrease in its use in more recent times.

The frame 'civil liberties' can be identified in the anti-vaccination website studies, but also several studies on the perception of vaccines in different communities can add to this. 'Civil liberties' includes the argument that individual and parent's rights are being violated by removing the choice whether to vaccinate their children or not, and that governments mandating vaccines was an excessive use of their power and is equated to totalitarianism (Kata 2010, 1712). Content which can be connected to this frame was on

44% of the anti-vaccine websites in the study by Bean (2011), 6 of the 8 website in the Kata study (2010), and on 79% and 77 % of the websites respectively in the studies by (Davies, Chapman, and Leask 2002; R.M. Wolfe, Sharp, and Lipsky 2002). This frame can therefore be seen as moderately significant; however, it can also be expanded to a more general frame of 'lack of trust in medical authorities' as this can be observed in studies on how vaccines are perceived. This idea may not have been specifically highlighted by the studies of website content as they identify explicit claims rather than the framing the activists use. Therefore, frames which reveal the underlying thought process and shaping of the movement are not necessarily highlighted. In the network analysis study of English language Facebook, which focussed more on how the arguments were connected several categories where collected under the label of trust, including trust in medical authorities, the state, and also the media which is not mentioned in the website content studies (Hoffman et al. 2019). This supports the idea that frames related to trust are connected when viewed in a way which reveals how the arguments are formed or structured.

The frame 'lack of trust in medical authorities' is different for different states or communities. In the USA the distrust is thought to stem from a failure of public health officials to explain the need for vaccines and to address concerns of the public. This particularly arises during the introduction of new vaccines where the particular decisions behind how a new vaccine program is implemented is often not well explained. Additionally there are many medical professionals who are not well informed on vaccine safety and efficacy, and are therefore not good advocates for the use of vaccines when talking to patients (Poland and Jacobson 2001). This is further exacerbated due to the increase in information related to vaccines available online, accurate or not, which can lead to situations where individuals approach doctors and nurses with questions and complaints based on this online information (Tafuri et al. 2014). The medical professionals may be ill prepared to answer these questions or react badly to information they recognise from the anti-vaccine movement. This negative interaction with a medical professional is then connected to the institution as a whole.

Furthermore, the rise of an information society has increased anti-authority trends in general, as well as the spread of accurate and inaccurate information which damages trust

in the state. This applies to many aspects of life and government, and mistrust due to one issue can often lead to general mistrust. In the case of vaccines, anti-authority sentiment can lead to mistrust in governmental recommendations on vaccine use and safety (Poland and Jacobson 2001), which then leads to vaccine hesitancy as people opt for alternative schedules which delay vaccination or do not vaccinate at all.

There has been little study of the anti-vaccination movement online in post-socialist states despite vaccine hesitancy being a concern in many. However, there have been studies of anti-vaccine sentiment more generally which highlight the importance of framing related to distrust in medical authorities. For example, Bazylevych (2011) conducted an ethnography observing how medical professionals conduct vaccination programs in Ukraine. Vaccine hesitancy is a concern in Ukraine, as it has experienced several failures in vaccination campaigns, such as the 2008 measles and rubella campaign, and outbreaks of vaccine preventable diseases. Though the study observed medical professionals, and not the anti-vaccine movement specifically, these medical professionals expressed opposition to the vaccine program as promoted by the government, as well as programs promoted by the WHO, and medical professionals were observed assisting individuals to participate in vaccine hesitancy.

The cause of distrust in the medical authorities was different in Ukraine. Many of those in the study viewed the Soviet period as a time when vaccines were safe and predictable, and current vaccine campaigns as the result of corrupt deals between pharmaceutical companies and state institutions. The respondents often made a division between themselves as doctors and nurses, and the state medical administration who are viewed as uncaring and corrupt bureaucrats. This was explained by anxieties in the population on the subject of vaccines. These anxieties were viewed as relating to a lack of trust, local understandings of risk and health which diverge from the biomedical perspective, and ideas of resistance to the dominant discourse. This manifests in several ways including as distrust of pharmaceutical companies, of the state and questions about vaccine safety. Further anxieties were linked to a feeling of exclusion from the international order and to whether recommendations from international organisations could be applicable in Ukraine. There were fears that internationally recommended vaccination programs were not aimed at health but were part of political power struggles (Bazylevych 2011).

Furthermore, a study on vaccine hesitancy and anti-vaccination ideas among immigrant communities in Washington, found that amongst the Russian speaking community, composed of primarily immigrants from different states in the former USSR there was mistrust of the medical authorities, both in the country of origin and in the USA, due to fears of corruption and dissatisfaction with the relationships between patients and doctors (Wolf et al. 2016). Again, indicating that mistrust in medical institutions is a significant frame in the post-socialist context.

Therefore, the lack of trust among Ukrainian and Russian speaking immigrants in Washington state is linked more to recent history, as well as systemic problems in the former Soviet Union such as corruption, as well as a feeling of difference or not fitting in with the international norm. As distrust in medical authorities is a dominant frame in previous studies, framing connected with trust in medical authorities can also be expected in the Latvian case and it should also be considered what this distrust can be connected to. It seems probable that a lack of trust may also exist in Latvia due to some of the same problems as other former Soviet states.

The category 'alternative treatments' includes both diagnostic frames, which will be discussed here, and prognostic framing, which will be reviewed below. The main diagnostic frame within this group is related to criticising biomedicine by, for example, claiming established medical knowledge is wrong. This was a significant frame in some of the website content studies with 75% of websites including such claims (Kata 2010, 1710) but insignificant in others, with only 4% making these claims (Bean 2011, 1876), and was not included as a category by others (Davies, Chapman, and Leask 2002; R.M. Wolfe, Sharp, and Lipsky 2002). Another related frame was 'implied debate' which relates to content on the websites which implied that there is no consensus about whether vaccines are effective or necessary and so that it is debateable if this is the correct treatment. This content diminished in frequency from 38% (Kata 2010, 1710) to 16% (Bean 2011, 1876), and was not included in the study by Wolfe, Sharp, and Lipsky. Another frame which can be identified is 'natural lifestyle' which diagnoses the cause of disease as an unnatural lifestyle. Vaccines are therefore seen as unnecessary as they do not protect against disease as it is argued that only a natural lifestyle can create so-called 'natural immunity' which is then said to be the only immunity which protects against

disease. This was identified on 39% of the websites in the study by Davies, Chapman, and Leask (2002, 23–24). This often works under the presumption that natural is always better, and therefore vaccines are bad as they are unnatural (Kata 2012, 3783). The diagnostic frames connected to alternative treatments therefore appear to be generally less significant than those connected to vaccines being harmful and civil liberties. However, there is some variation in how significant they are and how the arguments are made.

The category 'conspiracy theories/search for truth' includes a range of diagnostic frames which diagnosed the issue as the motivations behind why vaccines are promoted, and also prognostic frames related to finding the truth which will be discussed later. Studies of anti-vaccination website content which identified content categorised as 'conspiracy theory' ranged from it being present in 75% (Kata 2010) to 98% (Davies, Chapman, and Leask 2002) of the websites observed, making it one of the most significant frames. However, this may be in part due to what is considered or categorised as a conspiracy theory, as it is not always clear or can cross over with other frames considerably. For example, in a study of vaccine related posts on Pinterest the content variable 'conspiracy theory' included theories that doctors benefit financially from vaccines, that the dangers of the diseases are exaggerated to frighten parents, and that vaccine information is withheld from the public (Guidry et al. 2015), which can overlap with frames related to safety and effectiveness and civil liberties. These are all conspiracy theories, but the broad category of conspiracy theory does not allow for a more detailed understanding of which issues are of particular concern to the public and what framing within the category of conspiracy theory is more successful and resonates.

The studies of website content do breakdown the ideas under the 'conspiracy theory/search for truth' into more specific claims and this shows that the claims which are most used are those that are connected to the pharmaceutical industry, which can be identified through content which includes allegations that vaccines are only promoted for financial motivations and that there is a conflict of interest between profits and medical necessity (Kata 2012, 3784). The idea behind such accusations is that vaccines lead to large profits for pharmaceutical companies and therefore they economically incentivise or pressurise medical professionals and politicians to promote and mandate vaccines. In studies of anti-vaccination websites, the percentage of websites which included this claim

ranged from 52% (Bean 2011) to 91% (R.M. Wolfe, Sharp, and Lipsky 2002). Furthermore, the studies of website content also highlighted other connected claims which would include irregular practices from the pharmaceutical industry but could also include involvement from medical authorities and other governmental institutions. For example, 'collusion', 'manufactured threat', and 'governmental secrecy or cover-ups' (Bean 2011, 1876). Conspiracy theories related to financial motivations for vaccine promotion and the pharmaceutical industry can therefore be considered a relatively significant frame.

Another aspect of this category is the idea that those who promote vaccines are fear-mongering to frighten parents into vaccinating. This was not a particularly prominent frame ranging from being present on 8% (Bean 2011) to 50% (Kata 2010) of websites in the website content studies. It can therefore be expected not to be significant in the Latvian case.

Another less significant frame which was identified in the Kata 2010 study was morality, religion and ideology. This included claims that vaccination involved immoral acts, such as experimenting on children or using the cells from aborted foetuses to make vaccines, found in 38% of the websites, claims that vaccines were against the will of God found in 25% of the websites Kata studies, and the claim that 'universal vaccination sacrifices a few to benefit many' on 13%. Together this totalled to claims in this category on 50% of the websites (Kata 2010). Therefore, some similar framing can be expected but it is likely to be less frequently used.

### 3.2.2   Prognostic Framing – What Should be Done

One of the prognostic frames which can be identified in Kata's review of the tactics and troupes of the anti-vaccination movement is 'censorship' (Kata 2012, 3782). The frame 'censorship' includes censoring pro-vaccine opinions by removing their comments in online discussions or harassing them until they stop their pro-vaccine activities. For example, there are cases in which anti-vaccine activists have filed lawsuits against their critics to intimidate their opposition and place financial restraints on their activities, or where critics of the anti-vaccine movement have been harassed through threats to their safety or through making images and names to defame them which are then easily spread

online. However, this cannot be identified in the studies of website content as websites do not have any visible interaction with pro-vaccine individuals. It is therefore difficult to say how significant this frame is.

A frame can also be identified around the idea of weakening or discrediting the opposition which includes the tactic Kata identified as 'skewing the science'. This refers to discrediting and degenerating science which promotes vaccines, as well as troupes identified by Kata of accusing any opposition of being 'in the pocket of Big Pharma' or assigning false motives to them which are then used to attack the opposition (Kata 2012, 3781–82). This frame aims to criticise the opposition, discrediting their expertise, and weaken their position to make their arguments against the movement appear less credible. This frame overlaps with the diagnostic frames identified, in particular conspiracy theories related to the pharmaceutical industries. As the web content studies do not look at framing specifically it is difficult to determine how much of this framing is used diagnostically to determine what the issue is or prognostically by proposing that individuals are unreliable and should not be listened to.

A prognostic frame which can be identified from studies in anti-vaccination website content is the promotion of 'alternative treatments'. This includes promoting alternative medical practices, such as homeopathy and naturopathy, instead of vaccines (Davies, Chapman, and Leask 2002). Different studies have shown variation in how prominent this frame is. For example, the 2011 Bean study found this alternative treatment content on only 20% of the websites viewed, whereas Kata (2010) found this in 88% of websites, Wolfe, Sharp, and Lipsky (2002) and Davies, Chapman, and Leask (2002) in 45%. It can therefore be assumed that this will be a significant prognostic frame but not as significant as the dominant diagnostic frames.

A further prognostic frame can be identified related to the diagnostic frames related to conspiracy theories and finding the truth, as this diagnostic framing leads to the prognostic framing that the truth should be found and revealed. This was seen in 98% of the websites analysed by Davies, Chapman, and Leask (2002, 23-24) but is not mentioned specifically by the other studies. However, as the category of content in the other studies generally includes the idea of searching for the truth it is likely not mentioned specifically

because these content studies do not make the division of diagnostic and prognostic and this therefore seems to be a significant prognostic frame.

The final prognostic frame can be identified through the website content studies focused on design attributes of the websites. Here there are several ways in which the websites include content related to informing people or seeking advice from one another. For example, on how to legally avoid vaccination ranged from being present on 32% of the websites (Bean 2011) to 64% (Wolfe, Sharp, and Lipsky 2002), and information on how to report vaccine side effects was on 20% of the websites in the study by Bean (2011) and 25% in the study by Kata (2010). This is therefore a relatively lesser used frame.

### 3.2.3 Motivational framing - Mobilising for Action

The previous studies do not suggest that motivational framing is frequent. Only one motivational frame can be identified which is encouraging others to make a decision for themselves through their own research rather than following the doctor's instructions, therefore potentially leading to vaccine hesitancy. This frame comes under the idea of telling people to 'do your own research' (Kata 2012, 3784). This can be related to the shift in power in the doctor patient relationship which allowed for patients to seek information independently from medical authorities. This frame can be identified in the website content studies under the category 'informed choices' which related to encouraging people 'to make educated decisions for oneself/one's children' which was present on between 24% (Bean 2011) and 86% of the websites. This is therefore a likely frame to observe but generally motivational framing can be said to be rare.

### 3.3 The Anti-Vaccination Movement's Framing on Facebook

The framing described above has mainly been identified from literature relating to the anti-vaccination movement online on the Web 2.0. This is the term used to refer to the generation of the internet which is heavily reliant on user-generated content and the interaction between users. On the Web 2.0 users can generate content on any subject and freely disseminate it online, this of course also includes information related to health and vaccines (Tafuri et al. 2014). This has created a situation in which the gatekeepers to media have been removed as individuals no longer have to work within the system of traditional journalism and publishing; any individual with an interest can create a website,

blog or social media account to spread their opinion or view (Bean 2011). As the internet is increasingly becoming many people's favoured method for seeking out advice on medical issues it is important to consider the anti-vaccination movement's online activities and how they frame their arguments in this context in which they can freely upload their own materials and share to a large audience.

Despite the anti-vaccination movement's online messaging being widespread and easily accessible online, and the increased chance of people interacting with their activities when seeking information online, this topic is not particularly well researched, in particular there is little related to the movement's framing of the vaccine debate. This study aims to improve this situation. Though this study looks specifically at the medium of Facebook the conclusions can be more widely applied to other forms of social media and online activity as crucial elements of these media function in very similar ways (Tafuri et al. 2014). The key features of Facebook which may impact the framing used by antivaccine activists are the same for other social media sites on the web 2.0. This includes that anyone can make a page or account related to vaccines, that individuals can upload their own materials and can write whatever they wish without requiring any evidence, that anyone can comment on any materials which are uploaded by others or texts written by others, and that the page or account administration can monitor the site as they wish, for example, blocking individuals or deleting comments. Therefore, though sites such as Twitter, YouTube and Facebook are different, the way in which they function is similar and they generally create the same opportunities for activists as well as the same limitations. Therefore, the framing found on Facebook will be very similar or the same as framing used by the same movement on other sites online.

This study compares this existing framing, as identified in these studies, with the framing identified on the Latvian example Facebook page. The expectation was that framing in Latvia was similar to the ones used elsewhere, as the anti-vaccination movement can be considered to be part of global civil society in which aims and information are shared transnationally (Marchetti 2007, 30-31). This has been highlighted by other studies which describe how anti-vaccination information can spread globally, as it is an issue of international concern (Holton et al. 2012).

Therefore, the 1st hypothesis to be tested is:

*H1: The anti-vaccination arguments on Latvian Facebook are framed in the same way as identified in studies of other states. The framing will be mainly diagnostic, with fewer prognostic and motivational frames. The main frames expected relate to safety and effectiveness, civil liberties, alternative treatments, and conspiracy theories/search for truth.*

These other studies show that most frames could be expected to be diagnostic, with the most common frames relating to safety and effectiveness, civil liberties, alternative treatments, and conspiracy theories/search for truth. The prognostic frames were expected to be less frequent but would include framing related to alternative treatments, discrediting the opposition, informing others of the dangers of vaccines, finding the truth, and censorship. Motivational framing was expected to be the least common with only one frame expected, related to motivating individuals to do their own research and make their own informed choice.

Additionally, it was assumed that the frames which would resonate the most would be the same as in studies conducted in other regions, as summarised in my second hypothesis:

*H2: The frames with the greatest resonance, measured by the amount of interaction with posts in terms of comments, shares and reactions, are the same as those found in other studies. The greatest resonance will be for frames related to vaccine safety and effectiveness, then civil liberties and conspiracy theories.*

The resonance of framing in existing studies is difficult to determine as the studies mainly focus on what content or arguments are used, but they do not assess if they then resonate with their audience, either as this is not the aim of the studies or they are studies of platforms which do not have the possibility for audience interaction. This is significant as this framing may therefore also be constructed by the core group within the anti-vaccination movement if the framing does not resonate with a wider audience meaning the group has limited ability to expand. However, through the observation of the wider frame construction, through the interaction with those who interact with the movement,

it is possible to see what frames resonate and therefore which are of greater concern to those aiming to combat vaccine hesitancy. That is why this study aims to not only analyse the framing of the messages from those who created the Facebook page but also the comments and shares of those who interact with the page, and the resonance of the frames which can be observed in the form of reactions to posts, and the amount of interaction with different frames.

What has been identified in the current literature are studies of vaccine related social media platforms which in their methodology restrict their analysis to the most popular comment threads or videos. The popularity of these threads can be used as an indicator that the frames within the thread have resonated with the audience leading to greater interaction. Two such studies have been identified, one looks at popular, as determined by number of views, vaccine related videos on YouTube (Basch et al. 2017) and the other analysed the most popular common threads, as determined by the number of comments, on an online discussion about vaccines on the website of the Australian Broadcasting Commission (Nicholson and Leask 2012). Both studies highlighted that issues relating to vaccine safety were spoken of most commonly on the popular posts or videos. The study on YouTube videos also identified the attitude of medical professionals when not vaccinating as another issue, though not as significant as vaccine safety, which can be connected to the idea of civil liberties. Whereas, the study on the online discussion also highlighted conspiracy and policy related to vaccines, which can also be considered to be within the category of civil liberties, as issues included in these popular videos, though less frequently than vaccine safety. It was therefore expected that framing on vaccine safety would resonate the most, followed by civil liberties, then conspiracy. Other frames can be expected to resonate less as they were not mentioned in these studies.

## 4. Methodology and Data

The thesis focuses on the anti-vaccination movement on Latvian language Facebook. This context affects the methods which will be used including the limitations and ethical considerations. This section will review the field of observation and context of this study, the specifics of social movements on social media, as well as the methods which were used to conduct a study in this context.

### 4.1 Site of Observation and Context

The specific page which was observed was selected through a process which aimed to replicate how an individual using Facebook to find information about vaccines would search. This included simply searching for the term 'Vakcīnacija' (vaccination in Latvian) in the search bar on Facebook. The first page which this search brought up was 'Vakcīnrealitāte Latvijā' (Vaccine Reality in Latvia) which was selected to be the field of observation for this thesis. The page was chosen for several reasons. Firstly, because frequently people looking for information online only look at the top result from a search and therefore this process imitates the way in which someone would interact with the results, secondly because for the search algorithm to suggest this page first it must be relatively popular, and thirdly because the other pages and groups suggested by the search were not in Latvian, as the word 'vakcinacija' is used in several other languages, or were not public.

The page is relatively popular considering the size of the Latvian speaking population. On the 2 January 2020, when fieldnotes were taken for the general appearance of the page, the page had 1058 likes and 1211 followers. However, this number increased rapidly later during the Covid-19 pandemic, with the page reaching 2064 likes and 2427 followers by 6 May 2020. The difference in the number of likes and followers may indicate that there are people who wish to follow the page as they are interested in what the page is posting but do not support the page or want to be seen as 'liking' it.

After the period of study, the group's activities have expanded. The group has begun to copy its posts on to a website ('Vakcīnrealitāte.Lv' 2020), and the page author, Kristīna Duņeca, was scheduled to participate in the "Memory Water" festival, where many

different speakers were planned to give talks about alternatives to conventional medicine and on pseudoscientific themes (Memory water festival 2019).

The "Vakcīnrealitāte Latvijā" page quickly gained some level of media attention and the page creator acted as a spokesperson for the anti-vaccination movement in Latvia in an interview with Latvian Radio which was then reported on elsewhere, and her opinions and Facebook posts used to report on the debates around vaccines and 5G (Fridrihsone 2019; Jauns.lv 2019; Mammām un tētiem 2020). However, the page and page creator were later widely criticised in the Latvian media after the investigative journalism platform "RE: Baltica" and Latvian Television program "De Facto" reported on how the page and its author were spreading misinformation and conspiracy theories during the Covid-19 pandemic (Leitāns 2020; Bērziņa 2020; Apollo.lv 2020). Although even the initial reporting was not positive, as the importance of vaccines was stressed and the page and author was only used to illustrate the opposition, it shows that the page achieved recognition as representative of this social movement in Latvia. Furthermore, the reporting on the page during the Covid-19 pandemic shows that the media, and other governmental institutions which shared the articles on social media, recognised the potential for harm that the page is capable of through its influence.

### 4.2 Social Movements on Social Media

The online environment has become embedded in our lives and has a significant effect on how we think and live, changing where people turn to for information and news. The internet has also shaped the boundaries of social movements. Divisions such as geography or nationality no longer function in the same way as information and communication can be more freely exchanged online (Markham 2018). It is therefore important to consider the online environment when studying social movements. For example, the anti-vaccination movement in Latvia is not restricted in membership to those who can attend meetings in Latvia or have some other in person interaction with other members of the group. This opens the discussion up to a wider audience of people who have limited time for activism or to Latvians living abroad. Furthermore, the movement has many online resources freely available to them from other groups and activists around the world.

It has been questioned if online social movements have the potential to inspire "real" action or the ability to recruit members. It has been argued that the bonds built online are too weak to for this to occur. However, there are examples which show that strong bonds can be built online, for example, there are an increasing number of marriages which started as online relationships. There are also examples of strong enough bonds being created to recruit large followings, such as the memberships of the online social movement anonymous, a hacktivist group which has carried out cyber-attacks against governments and other powerful organisations, showing the possibility for strong bonds of trust to develop between individuals online and the possibility to take actions with significant consequences. It is also not made clear why it is assumed that the bonds that are made online are not strong enough to create and maintain the relationships needed in a social movement, while the bonds which are created through traditional media are considered to be, and there are examples of whole social movements and protests being organized online and being successful (Earl 2016).

Also, the anti-vaccination movement does not need to have a large impact on public policy or to convince the majority of the population into collective actions to cause harm. As vaccines work on the concept of herd immunity only a relatively small percentage of the population need to make the personal decision not to vaccinate, or to delay vaccination, for the percentage of the population who is vaccinated to drop below the herd immunity level, creating the potential for outbreaks of vaccine-preventable diseases and endangering those in the population who cannot be vaccinated. Furthermore, due to the connection between vaccine hesitancy  and omission bias (Ritov and Baron 1990), anti-vaccination information does not need to make an individual become a member of their movement to cause them to be vaccine hesitant, all that is required is to create doubt and indecision which causes inaction or delayed action when faced with the decision to vaccinate or not. Therefore, the movement only needs to achieve a relatively low level of trust or relatively weak bonds to have a negative impact on public health, as they do not need to change their minds, only create doubt.

The internet is also often used now as a primary resource when people seek information, including when making major life decisions (Boase et al. 2006). Furthermore, the internet can be described as 'leaky' in that, through the participation of other individuals on social

media, in comment sections, and through other means, when searching for information you can be exposed to other opinions than those you were primarily looking for or would otherwise encounter. This can also occur when not looking for information, as individuals encounter various conversations and debates online without seeking them out. This means that there is the potential to be exposed to a wide variety of social movements which an individual would not encounter in their offline lives (Earl 2016). In the case of the anti-vaccination movement on Facebook this may mean that those who have not thought about vaccines or have previously just followed the state's guidelines may encounter the anti-vaccination comments, posts or pages through them being shared or commented on by other Facebook users. This can expand the range and number of people who can or do become involved in the anti-vaccination social movement.

### 4.3 Digital Ethnography and Data

The data was collected in the form of fieldnotes of observations made of the page. My intention was initially to observe the page for a 1-year period, from when the it was created on the 1 December 2018. However, this period had to be reduced as the page was removed by the page administrators on 24 October 2019. This occurred after, on the 23 October 2019, a post was made in which the page administrator commented that she would be removing the page due to pressure from individuals opposed to the page. I do not know if there were any other reasons for the page removal, for example, warnings from the moderators of Facebook. However, it seems likely that the removal of the page was connected to a post made on 22 October 2019 which was removed the next day, followed by the removal of the page the day after that. This post was a series of screenshots taken of a story on the Instagram account of Lelde Ceriņa, a Latvian radio and television host, promoting the flu vaccine for pregnant women and chronicling her and her husband receiving the flu vaccine. At the time she was pregnant herself. The post also criticised social media influencers for promoting the flu vaccine.

This led to the observation period being reduced to the 11-month period from December 2018 to October 2019. However, the page was back online by the 20 December 2019 (the last search for the page without results was made on 17 December 2019). Therefore, though the ethnography was partly done with the copies of the text made before the page was removed, these sections were reviewed on the page when it was back online, and

most of the ethnography was done once the page was back online by looking at the old posts.

The data was gathered by conducting a digital ethnography in which I took the position of a total observer. This was possible as with my personal Facebook account I can view this public page anonymously. The position of total observer has some limitations as there is no way to observe private interactions on the page or the way in which the page is moderated. I aimed to observe the posts being made by and to the page, comments and shares, interactions on the page (e.g. likes), as well as the general presentation of the page. The notes were gathered into documents with one document representing a post or a part of the page. In total there were 37 documents representing the 35 posts, 1 document representing the reviews section of the page, and 1 document for my general impression of the page and an overview of content such as the profile picture and page description. This therefore covered 35 posts, with a total of 1,903 comments and 1,559 shares of these posts. There were also 65 reviews of the page with a total of 304 comments. There were no posts to the page, in the community section. There had been previously, but they were all removed when the 22 October 2019 post was deleted.

The documents together represent the whole content of the page and can also be divided into groups such as posts and reviews in order to compare the difference in framing in these sections. This is important as the sections of the page are used differently by the page administration and other actors on the page. For example, posts are made by the page administration who therefore set the agenda for the discussion in the comments as commenters will be led by the post contents, whereas reviews can be written by anyone and therefore are more representative of the framing chosen by individuals unprompted. Furthermore, it is more difficult for the page administrators to remove reviews and comments on reviews than comments on the posts. Any comment on a post can be deleted by the page administration or hidden, meaning that the comment becomes only visible to the Facebook friends of the individual who wrote the comment, on a post on the page they administer, and they can also ban whoever they wish from the page. However, the page administration cannot remove reviews or block people from writing reviews on their page, they can only report reviews to Facebook who will remove the review if it breaks Facebook's rules as outlined in their community standards or remove the entire review

section meaning no one can write reviews of the page. These two factors shape what framing is used on the page as they affect which individuals can participate in the discussions and therefore who is taking part in the construction of the frames, and who is initiating and leading the conversation and constructive process.

Ethnography takes place in social worlds which do not always have clearly defined limits as there is a movement of people in and out of these worlds, and, unless they have a clearly defined membership structure, who is considered to be in or out of a social world or group can be debated. The same can be said for an online social world being observed through digital ethnography. For example, with a public Facebook page, there is no clear membership. The only members who can clearly be identified are the page administrators, either anonymously acting under the page's name, or through their personal profiles if they choose to identify themselves. Others can also indicate their membership through "liking" the page, however it is not possible to see if an individual has liked the page unless you are a Facebook friend with that individual. Therefore, the other actors who interact with the page cannot immediately be classified as members of the social world of the group, or it cannot be said how closely they identify with this social world without observing how they interact with the page, others on the page, and how frequently.

On the "Vakcīnrealitāte Latvijā" page there are no "team members" listed as some other pages choose to do. However, there is one page administrator, Kristīna Duņeca, who identifies herself on the page and publicly in the media. The posts indicate that there is a team of people who have created the page, but no other member is identified. Occasionally someone is named as having provided evidence or information to the page, but they are not mentioned as page administrators directly.

This study was conducted from a relativist constructivist perspective as it is not possible to observe an objective reality whilst engaging in an ethnography of an environment where there is no divide between myself and the individuals who interact in this environment. Although I took the position of a total observer and did not take any action on the page, I consider myself to be part of the society which is being studied as I am an individual who interacts with Latvian language Facebook on an everyday basis. I therefore have encountered this page in my everyday life, as well as part of this ethnography, through the activities of my Facebook friends and pages that I follow in the

same way as other individuals encounter the page. We are all involved in the construction of the group through our perception of the actions taken on the page (Guba and Lincoln 2004). This is also why the ethnographic method was the appropriate method for this study. Using this ethnographic method meant I became personally engaged and immersed into the group and used this perspective to understand the constructed realities of the group and how the arguments are being framed.

Digital ethnography is a relatively new research method and therefore is not as well developed as other techniques. However, there are benefits to this method. For example, generally ethnographers must be aware of how their presence affects the actions of those they are observing. In a standard ethnography, where an ethnographer is physically present, those being observed are conscious that they are being watched and may not act as they would usually but constrain their behaviour to what they wish an outsider to see. This should also be considered when using interviews, focus groups and other qualitative methods. With online ethnography it is possible to observe whilst being unobserved yourself, as, if the platform is public, it is an open forum for anyone to view without your presence being noted. Furthermore, if the platform is public, anyone else can also view the original source of the fieldnotes, making the process very transparent and credible, although if changes are made to the page these cannot always be observed by others.

However, there are also limitations depending on the type of observation chosen as part of the digital ethnography. The position of total observer has been chosen in this thesis, in which no contact will be made with the individuals who participate in the group, limiting the possibility to gather information for the reasoning or motivations behind people's actions, but as the focus of this study is on framing this is less of a concern. The question being answered is what framing is used by the movement rather than why.

There are other limitations on what can be viewed from the position of total observer in digital ethnography which will impact this study. In particular it is not possible to observe or to ask about actions which affect the framing visible on the page, in particular if and what comments are being deleted, and if and which people are being blocked from the page.

### 4.4 Ethics and Limitations

In order to increase transparency, my field notes and coding are available to those who wish to view them, and furthermore the 'Vakcīnrealitāte Latvijā' Facebook page is public and therefore anyone can view the source material and make comparisons. However, it must be noted that the page may have changed some elements as some more recent posts, from after the study period, have been removed and this may also occur for other posts, as well as the deleting or removing of comments by the page or individuals who wrote them. However, copies of the page were created at several points on the internet archive and also copies of the post and comments were made which can also be viewed by those who are interested. Approximately 10% of the coding was conducted by a second person once the coding framework was developed in order to ensure that the coding system was consistent and applicable.

The page which was observed is a public page and therefore any activity an individual does on the page can be viewed by anyone. However, despite this, when the individuals posted to the page, they did not do so with the intention or knowledge that it would be used in a study such as this (Stewart 2017). Therefore, the identities of the individual actors were anonymised in the fieldnotes by recording only their initials, and personal details such as profile photos and names were redacted from any screenshots taken. Well known individuals, such as politicians or journalists, were not anonymised as it can be assumed that they do not expect the same level of anonymity due to their public position.

One limitation of my study is that occasionally comments or shares were written in Russian, or materials were shared which were in Russian. However, this is not a significant limitation as this occurred infrequently. There were no comments on posts in Russian, only 1 share with a Russian comment, and 15 comments on shares in Russian. There were 25 links, which were shared in comments on posts or shares, which led to articles or websites in Russian, but this did not have a significant effect as links were not observed in detail, just briefly described, and the majority of links were to websites in English. Furthermore, when it seemed likely the comment could be significant, for example if it had several reactions or lead to further comments, summary translations were made.

Another limitation is that not all shares are visible as posts can be shared privately so they are only visible to friends. Therefore, conclusions based on how people are sharing posts and how people react to shares will be based on a limited sample of these shares.

### 4.5 Coding

The fieldwork notes were coded to identify the frames used by the actors on the page to shape the anti-vaccination arguments. This coding was semi-structured as the codes were developed during the coding process, but within the structure of diagnostic, prognostic and motivational framing (Lindekilde 2008). The focus was on the anti-vaccination perspective, however there were a large number of comments and reviews on the page which were from pro-vaccine actors. These arguments were included in the notes in order to record the full context of the discussions but were generally not coded unless they gave information related to the anti-vaccination framing, for example, they related to comments being deleted or people being blocked from the page.

In addition to the texts and images posted on and to the page, I focused on how individuals interacted with posts and comments in other ways, such as through likes, in order to determine which frames resonated with others in the group, and which can therefore be considered more successful or significant. Similarly, comparisons were made between the posts to see what type of post, or what kind of framing it used, had the largest resonance overall in terms of reactions, comments and shares. Furthermore, although there were limitations to observing how the page is being moderated due to my position as a total observer, I was able to gather some information on comments being hidden or deleted through comparison to the 'live' page and copies of texts I had made previously, as well as by comparing the number of comments I could see beneath a post and the number of comments shown as being on a post in the section below each post on Facebook.

The coding was conducted using the MAXQDA program which produces comparisons based on the frequency of the codes used and the percentage of the documents which have been highlighted as a certain code. However, these cannot be directly compared in this case as the codes cannot be weighted in a particularly meaningful way. The number of codes, and especially the percentage of the text covered by a code may just reflect that

different actors in the movement have different writing styles, with some being more repetitive or writing longer comments, or when the fieldnotes were being made sometimes much longer conversations or comments were summarised briefly if they were repetitive or offered no extra value if noted in detail. Therefore, the frequency of codes can only be used as an approximate measure, able to show which codes are used frequently, but small differences in frequencies are not meaningful. Additionally, there are certain codes which are significant but are not frequently visible in the text. In particular, this applies to the code censorship, which refers to comments being deleted and accounts being blocked. This cannot be identified like other codes as it is shown by the absence of a comment which is referred to by another, or by the difference in the number of visible comments and the number of comments which are displayed under each post with the post statistics.

In addition to diagnostic, prognostic and motivational, the frames were divided into the categories of major and minor. This division was made after the coding had been completed based on how prominent they appeared to be in the coding process, including approximations on the frequency of their use, the number of documents they were used in, and the significance this places on these frames judged by how they are used by the individuals on the page.

In total this included ten major frames and six frames in the minor category as summarised below in table 4.1. The most significant frames identified, as can be seen in table 4.1, were diagnostic, totalling seven of the ten major frames identified, and a further four sub-codes. The other three major frames were prognostic, with an additional sub code, but none of the major frames were motivational. Three motivational frames were identified but were categorised as minor, as well as two diagnostic and one prognostic frame in the minor category.

*Table 4.1: Summary of identified frames, their frequency in the fieldnotes and the number of documents they were identified in.*

| | | **Frame** | **Freq.** | **No of Doc.** |
|---|---|---|---|---|
| Diagnostic | Major | Trust - Medical institutions and the state | 354 | 34 |
| | | ➤ *All responsibility is on parents* | *17* | *10* |
| | | Vaccines are harmful | 378 | 32 |
| | | ➤ *The consequences of vaccines are unknown* | *40* | *17* |
| | | ➤ *Vaccines don't work* | *51* | *15* |
| | | Trust – Pharmaceutical industry | 178 | 31 |
| | | Science V Nature | 203 | 27 |
| | | ➤ *Herd Immunity* | *31* | *10* |
| | | Pro-vaccine side are bullies | 104 | 24 |
| | | The science is contradictory | 86 | 24 |
| | | Trust – Media | 90 | 15 |
| | Minor | Conspiracy | 46 | 11 |
| | | Morality | 17 | 5 |
| Prognostic | Major | Discredit opposition | 308 | 26 |
| | | ➤ *Censorship* | *53* | *14* |
| | | Inform others | 202 | 24 |
| | | Change – Media | 32 | 17 |
| | Min. | Change - Medical system | 26 | 11 |
| Motivational | Minor | Decide for yourself | 41 | 13 |
| | | Raising awareness | 23 | 10 |
| | | Do not vaccinate | 12 | 7 |

### 5. Frames Identified in the Latvian Anti-Vaccination Movement

The significance of frames was assessed primarily on how many documents they appeared in with consideration for how frequently they occurred as well. However, some frames were considered to be more significant than these counts imply as they were also displayed through behaviour which cannot be counted so clearly through coding.

### 5.1 Diagnostic Frames – What the Problem Is

There were three frames related to trust: 'trust - medical institutions and the state', 'trust – pharmaceutical companies', and 'trust – media'. These would be directed at the institutions or organisations as a whole, or to specific individuals within these organisations. However, when it was directed at individuals this would generally lead to conclusions being made about the institutions as a whole, with the individual being seen as a representative who exemplifies wider institutional problems, or the presence of the individual means the institution cannot be trusted as you do not know if you will encounter one of these problematic individuals or another competent representative.

The frames were also often used together, connecting the different groups into a larger system which cannot be trusted as exemplified in the quote below.

> *'Medicine in all sectors, especially pharmaceuticals - A HUGE business feeds everyone - manufacturers, distributors, medical professionals and even journalists .... so, don't expect objectivity in medicines, supplements and vaccines!* 🙁*'*

(3/12/2018a, Share 4, Comment 1)

### 5.1.1 Trust - Medical Institutions and the State

The most significant frame, in terms of the number of documents it occurred in, was 'trust - medical institutions and the state' which relates to several ideas which were combined into this broader category due to the amount of overlap in how and when they were used. This trust applied to different levels of authority, from individual doctors and nurses, to higher medical authorities, to the state in general. This also overlapped with distrust in medical research due to a belief that people are being deliberately misled by the studies produced and information shared, as well as the supposed hiding of negative information

about vaccines. Distrust in different levels of medical institutions and the state were combined into one frame as often they were spoken of as one or merged together in discussions. Furthermore, as requirements for vaccines and changes to this system are dictated in Latvian law the medical authorities and other state institutions and politicians were generally seen as working together as one entity.

This frame diagnosed the state and medics as not trustworthy due to factors such as the belief they work unethically, that the state puts money before safety, that medical institutions and workers are not competent, and that they are deliberately misinforming patients about vaccines and that they are not recording vaccine side effects properly. Frequently after a personal account of an apparent adverse reaction to a vaccine it would also be mentioned that the incident was not recorded or a connection was made to information being hidden, for example:

> *'My personal experience with my child proves that the true data is hidden and misrepresented'*
>
> (Review 40)

Another common connection made was an unethical alliance between doctors, nurses and others who work in the medical system and the pharmaceutical industry. This would include that doctors were corrupt and prioritised the pharmaceutical industries wishes over their duties to patients, but also that they had been tricked or 'brainwashed' through an education system which was said to be bought by the pharmaceutical industry, so were not competent to make decisions related to vaccines:

> *'I feel sorry for doctors as they are the pharmaceutical industry's zombies!'*
>
> (9/1/2019b, Comment 8)

These accusations within this frame can generally be considered to be false or misleading, however, real examples of the medical systems failing were also used to frame the issue of vaccines. In particular the 5/12/2018a post drew attention to a particular vaccine which was being used in Latvia despite not being registered in the Latvian drug register and not having a vaccine insert in Latvian as legally required:

'✘ *This vaccine is NOT registered on the LV drug register.*

✘ *this vaccine does NOT have an insert in Latvian language - either on the state drug agency website or at the vaccine office.*

*[...]*

❓*Is the use of the BCG vaccine illegal in Latvia right now?'*

<div align="right">(5/12/2018a, Post)</div>

This example of a system failure was then capitalised on and used to frame the whole system as incompetent and untrustworthy. This was also one of the ways in which this frame could be transformed into a bridge to other groups. For example, the quote below shows this frame resonating with a vaccine supporter. This could lead to some element of transformation in that the individual changes their way of thinking about the vaccines used in Latvia due to distrust in the system, or it can create a bridge to other groups who are not specifically anti-vaccine but are distrustful of the state and different state institutions in Latvia.

*'I support vaccines but what I am reading here is crazy'*

<div align="right">(5/12/2018a, Comment 2)</div>

The frame 'all the responsibility is on the parents' framed the problem as being that all responsibility and negative consequences are put on parents. Negative consequences are not of concern to doctors as it is the parents who will have to manage them, and at the same time, the parents have the responsibility as mandated by the state to ensure that their children are vaccinated. This is therefore seen as the state not caring about possible negative side effects of vaccines so it can therefore not be trusted on the issue. This frame was often used in the context of proposed plans to implement restrictions or punishments for those who do not vaccinate their children, for example:

*'[...] it's better to go deeper and be sure about your decision about our children's health than to leave it to doctors who don't have to deal with the pharmaceutical consequences. Unfortunately, it is only us who have the responsibility - the parents 😉'*

<div align="right">(23/3/2019a, Comment 6, Reply 1)</div>

### 5.1.2 Trust – Pharma

The frame 'trust – pharmaceutical companies' diagnoses the problem as pharmaceutical companies only producing vaccines for financial gain and therefore cannot be trusted to make a product which is beneficial to health. This frame can range from more cautious framing that some vaccines were beneficial, particularly older ones, but more recently vaccines are only produced to increase profits and are unnecessary, to more extreme ideas such as that vaccines produce illnesses and disorders in people who then have to buy medicines to treat themselves from the pharmaceutical companies, the idea being that vaccines create returning customers for the pharmaceutical industry. The central point of this framing is that poor health is more profitable for the pharmaceutical industry:

> '[…] globally the interests of the health and pharmaceutical industry are
> not human health, but unhealth'

(Fieldnotes 1e Dec posts, Pos. 2)

*Image 4.1: Meme used in post 21/01/2019a.*



SHOULD MEDICAL DOCTORS WEAR UNIFORMS THAT IDENTIFY THEIR SPONSORS AND WHO THEY RECEIVE KICKBACKS FROM?

An important aspect of this frame is that vaccines are only promoted by the medical authorities or added to the vaccination calendar due to lobbying from the pharmaceutical industry (image 4.1). Other variations include that vaccine research cannot be trusted as it is financed by the pharmaceutical industry and therefore biased:

> *'Big Pharma is rich, they can buy research, falsify any data'*
>
> (9/12/2018a, Comment 23, Reply 2)

### 5.1.3   Trust – Media

The frame 'trust – media' included the idea that the media is not reporting on vaccines correctly and promotes bias and misleading information. This includes criticisms that anti-vaccine opinions are not included in reports, that pro-vaccine opinions are not critically analysed and that the media simply repeats what is called 'propaganda' from the medical authorities. For example, the post 3/12/2018a was described as a media analysis of a particular new report and included the statement:

> *'My conclusion is a superficial, categorical, based on one-sided information story that deceives the public and includes possibly manipulative information'*
>
> (3/12/2018a, Post)

'Trust- media' is the major frame used in the fewest number of posts, in only 15 of the 35. However, it was still included in the major frame category because in some of the posts in which it was used it was dominant and mentioned very frequently. This is in part due to the personal interests of the page administrator who claims to be a journalist. Several of the posts are specifically aimed at analysing the media's approach to reporting on vaccinations which also prompted this frame to be used frequently in the comments. This partly means that it may not be representative but has been provoked by one member of the movement for whom this is a subject of particular interest. However, in the ethnography, the issue of trust in the media seemed to elicit strong responses from many other commenters on the page indicating that it was a significant part of the movement's framing.

### 5.1.4 Vaccines are Harmful

The frame 'vaccines are harmful' covered different levels of harm. This is by document number the second most significant frame and within this frame there are also the sub frames 'the consequences of vaccines are unknown' and 'vaccines don't work'. It diagnosed the problem with vaccines as they cause harm to individuals or to the population as a whole. At an individual level, the frame includes claims that vaccines have dangerous side effects leading to various illnesses or even death. At the population level, there are claims that vaccines spread diseases in the population due to the use of live viruses. This framing also varied from cautious to transformative framing as some claims of harm used the actual potential side effects which vaccines can cause but would exaggerate how frequently they occurred or their severity, while others were more extreme, claiming that vaccines were responsible for a huge number of illnesses and disorders for which there is no evidence, or this frame would overlap with the frame 'conspiracy' as it was claimed vaccines were deadly and used as population control.

This frame also was used in the context of specific events which added strength to the anti-vaccination movements claim. For example, the existence of a compensation program for those who have experienced side effects from vaccines (the VAERs program in the USA) was used to support the idea that vaccines are harmful, with the claim often being made that these are the examples which authorities and vaccine producers have admitted to but there are many more cases which they will not admit to or avoid linking to vaccines.

> *'So, the many parents who have stories about serious side effects of vaccines are worth nothing? The $4 trillion paid by the US Vaccine Court (VAERS) to the families of mutilated or killed children is not proof???'*

> (Review 28)

The frame 'vaccines are harmful' was often used with great effect. This would in particular include extreme metaphors, such as comparisons to murder or gambling with lives, or the use of emojis indicating something should be seen as frightening, as can be seen in the examples below. This frame would often also be used with great anger towards pro-vaccine commenters.

51

'🙍 *Gamble?*

💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉
💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉
💉💉💉 *maybe inject all that are possible?'*
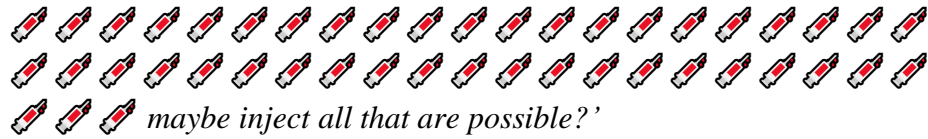
<div align="right">(23/1/2019a, Post)</div>

*'But I do not participate in planned mass murder... That is too much'*
<div align="right">(9/12/2018a, Share 20, Comment 4)</div>

The frame 'the consequences of vaccines are unknown' was included as a subcategory of 'vaccines are harmful' as this argument was used to imply that vaccines are dangerous and therefore was identified as falling within the 'vaccines are harmful' frame but with a specific nuance. This framing built on misunderstandings of how scientific research was conducted, or claims that research was not being done, to build fears. This would be particularly used in the case of the flu vaccine and pregnant women:

*'In my opinion, vaccinating pregnant women is an unethical experiment'*
<div align="right">(9/10/2019a, Comment 14)</div>

A further subcategory is the frame 'vaccines don't work'. This would frame vaccines as an unnecessary risk as, if they do not work, they offer no benefit only potential harm. It would not usually be stated that vaccines do not work at all, although it was occasionally, but would generally be related to the effectiveness of vaccines being so low that they are seen as not worth the potential side effects or risk, as exemplified by the quote:

*'Let us protect our children from vaccines, because it is absolutely certain that vaccines do not protect them from disease, but make them much more ill'*
<div align="right">(23/3/2019a, Share 4, Comment 1)</div>

### 5.1.5  Pro-Vaccine Side are Bullies

The frame 'pro-vaccine side are bullies' includes different references to pro-vaccine people bullying or intimidating anti-vaccine individuals or the movement as a whole; or pressurising or forcing people to get vaccinated. Frequently, it was framed as individuals, especially parents, having their rights suppressed by being forced to vaccinate, and not

being given a voice to defend or explain their position which is also then linked with ideas on freedom of speech.

*'I AM A LEGAL CITIZEN. WHY ARE DOCTORS PRESSURING ME THROUGH MASS MEDIA AND CALLING ME AN IRRESPONSIBLE AND INADEQUATE PARENT?'*

(3/12/2018a, share 25)

*'Her intention is to discredit the well-intended public campaign which aims to educate parents about that which medics and journalists unfortunately won't'*

(3/12/2018b, post)

This frame also includes the idea that medical professionals are being intimidated by higher medical authorities or the pharmaceutical industry into supporting vaccines, and therefore do not report the truth about vaccine side-effects.

*'[…] doctors are very afraid to start such a process and avoid detecting side effects'*

(1/12/2018f, comment 5)

### 5.1.6   The Science is Contradictory

The frame 'the science is contradictory' was used to code for various arguments which said explicitly or implied that there is no scientific consensus that vaccines should be used. This included references to studies or sources of information which supported this idea, or were falsely stated as supporting this idea, but more frequently would take the form of stories about medical professionals who supported anti-vaccination ideas. This was categorised as the science is contradictory as these stories would often not emphasis that vaccines are dangerous or in effective, the emphasis was on the idea that if these doctors oppose vaccines or does not vaccinate then this contradicts other medical authorities, as can be seen in the quote below. This is then framed in a way to suggest that there is no consensus in the medical community that vaccines are beneficial or safe.

> *'[...] famous medical staff have said, for example, the fact many doctors don't vaccinate their children against flu while patients are encouraged to do it'*

<div align="right">

(3/12/2018b, Comment 8, Reply 1)

</div>

This category also includes points which frame some vaccines as being safe or necessary, and others as not. Different framing was used by some on the page for specific vaccines, usually vaccines against the flu, HPV or rotavirus, or combined vaccines, as can be seen in the quote below. This would include an individual rejecting the anti-vaccine framing until a specific vaccine is mentioned, when they would switch to framing the specific vaccine negatively. Therefore, the contradiction was within the individual's perception of science with elements being accepted and elements rejected.

> *'Many refuse, not vaccines against diphtheria, TB, polio or whooping cough, but from the ineffective flu vaccine, which is 2% effective, from measles, chicken pox etc and similar nonsense, where you can get immunity naturally!'*

<div align="right">

*(9/12/2018, Comment 2)*

</div>

### 5.1.7 Science Vs Nature

The frame 'science vs nature' also includes the sub code 'herd immunity'. The frame relates to the difference members of the movement make between standard medical practice and what they consider to be 'natural' health. The two are framed as opposites and mutually exclusive as can be seen in this quote used to describe the work of doctors:

> *'🙌 For MEDICINE not HEALTH 🙂'*

<div align="right">

(6/10/2019a, Post)

</div>

This framing therefore leads to the conclusion that medicine is not the route to good health. Medicine is framed as artificial interventions which maintain a condition of poor health, only treating the symptoms not the true reasons why someone is not healthy. As vaccines are part of medicine they are also placed within this negative framing. This framing generally took two forms. Firstly, that medical professionals did not really understand health and were being misled by science. Secondly, that this method was promoted by medical professionals in order to maintain the medical industry with medicine being used to keep people in poor health, so they were reliant on medicine,

increasing profits. This therefore also overlaps with frames related to trust in medical institutions and the pharmaceutical industry.

This dichotomy between artificial and natural was also used to frame illnesses. Diseases are framed as natural and therefore not a serious risk and something that should be dealt with using natural methods. These would, for example, include misleading stories in which people say that when they were children everyone caught diseases such as measles and that no one was harmed, as they were not treated 'artificially' or lead healthy and natural lifestyles. This can be summarised by the quote:

> *'I believe that the human body is perfect and can deal with most problems itself [...] The only thing a person can do is not interfere and weaken [their body] with unhealthy food, a sedentary lifestyle, medicines and vaccines. [...] It's better not to experiment but to live healthily'*
>
> (Review 5, Comment 1, Reply 1)

The artificial and natural dichotomy was also used to frame immunity, with a distinction being made between immunity which is said to have been obtained naturally, by catching the illness, or artificially, through vaccination. The natural immunity is stated to be better and longer lasting, whereas artificial immunity is said to be only for childhood leaving adults exposed, as most adults do not receive booster vaccinations, as can be seen in the quote below. This argument was often very strongly and emotionally stated and used as a point to ridicule the opposition who would use the idea of herd immunity as a reason to vaccinate.

> *'Your decision will in no way influence other children's lives and health. Your decision will in no way influence an outbreak of a so called vaccine regulatable illness.*
> *Herd immunity unfortunately is a myth, and even if we vaccinated every infant this noble idea would not work because antibodies do not remain for life. Grownups are not revaccinated (besides diphtheria) and as there is freedom of movement people from abroad can bring these illnesses here, like tourists'*
>
> (Fieldnotes 15 Dec posts, Pos. 2)

### 5.1.8 Minor Diagnostic Frames

There were also two less significant frames: 'conspiracy' and 'morality'. The first, 'conspiracy', was used to summarise various conspiracy theories but this category was used much more specifically than in other studies. Much of what has been coded as 'trust - medical system and state', 'trust - pharmaceutical industry', 'trust – media', and 'vaccines are harmful' could also be classified as conspiracy theory, as they have been in some other studies, because they are false statements based on mis and disinformation related to theories of vaccines being promoted illegitimately by different large organisations. This is inevitable by the very nature of a movement which acts against scientific consensus. Therefore, to include all these statements under the frame conspiracy theory reduces the frame's meaningfulness as it does not identify a specific way of framing vaccines but identifies an inherent characteristic of the movement. In this study 'conspiracy theory' has been used to code for when an argument used has framed the issue of vaccines in the context of another conspiracy theory that exists outside of the topic of medicine, therefore using frame bridging or extension to connect the anti-vaccination movement to other conspiracy theories.

These connected conspiracy theories often used antisemitic tropes, including conspiracies related to George Soros, or that vaccines contain microchips or toxins which lead to brain damage in order to control the population. These conspiracy theories therefore related to ideas of population control for economic or political reasons. Another conspiracy theory mentioned was that vaccines would be made mandatory in order to give the state a reason to remove children from their parents so they could be sold to families abroad or homosexuals.

> *'A possible punishment - give the children to an orphanage and take parental rights from the "irresponsible" parents. Afterwards these children can easily be sold to families abroad or homosexual relationship supporters, at the national level "taking care" of the well-being and safety of children* ☺ *'*

> (9/12/2018a, Comment 7)

> *'The film tells us that vaccines have had nanochips in them since the 90s, poisons that cause of cancer and, most of all, it is the taxpayer who pays for it all'*
>
> <div align="right">(6/4/2019a, Share 5, Comment 1, Reply 1)</div>

This is only considered a minor frame as it was not used often and usually only by the same few individuals. However, several of those who did use the conspiracy theory framing were the most active participants on the page. However, this frame seemed to be used reluctantly by some of other active participants, in that they would not generally use these ideas unless first someone else mentioned them or they did not refer to conspiracy theories themselves but showed support for them by liking the comments which expressed conspiracy theory ideas. Other times they would only use the frame after a longer conversation in which they could not explain their point in another way.

The other minor frame related to 'morality'. This was focussed heavily in a few conversations about the HPV vaccine. As this vaccine is used to combat HPV which can be sexually transmitted it was linked to enabling so called promiscuous behaviour, as can be seen in the quote below. Further connections were made linking the promotion of the vaccine to males and females to promoting liberal or 'politically correct' values.

> *'Given the risk factors for cervical cancer, then the HPV vaccine is the "ticket" to a promiscuous lifestyle. But talking about prevention, given these risk factors, is not popular'*
>
> <div align="right">(23/1/2019a, Comment 8, Reply 3)</div>

The frame 'morality' also included different arguments related to abortion, including the accusation that vaccines contain aborted foetal cells (vaccines which use foetal-derived cell lines used viruses which were grown within foetal cells originally, approximately 50 years ago, but since then the viruses have been grown without human cells (Rinkunas 2019)). This would frame the vaccine promoters, the state and others as immoral actors who do not care about the lives of children meaning that their suggestions that vaccines protect children are being made from a position of dishonesty.

> *'A nation that kills hundreds of children through abortions in a year is suddenly worried about the death of two children ...'*
>
> (3/12/18a, Share 15, Comment 2)

### 5.2 Prognostic Frames – What Should be Done

#### 5.2.1   Discredit Opposition

The most significant prognostic frame was the 'discredit opposition' frame, which also has the subcategory 'censorship'. Discrediting opposition was done by being rude and patronising to the opposition or dismissing pro-vaccine experiences and stories. This acts as a prognostic frame as it identifies individuals and information and indicates that they should be ignored or pushed out of the discussion. This frame is then used to dismiss any argument without the need for any real evidence or reasoning, and without having to deal with the substance of what is being said. This includes dismissing individuals and specific studies, but also all doctors, the scientific community or media. It frames what can be considered reliable or not signalling to the membership what information is valid.

It also includes discrediting the position of those who are pro-vaccine to speak on the subject, for example by accusing them of not understanding, being a troll or paid supporter of the vaccine industry as can be seen in the following examples

> *'It should be noted that many libtard trolls get paid for this "work"'*
>
> (8/2/2019a, Comment 13)

> *'Someone who has not experienced this will never understand'*
>
> (Review 6)

The subcategory of this frame, 'censorship', is the continuation of this tactic as it does not just suggest what should be ignored but removes this information or individual from the discussion so that it cannot be read or interacted with. This includes the hiding or deleting of comments, blocking people, and harassing the opposition so that they no longer want to participate in conversations or interact with the page. As discussed previously, it is hard to observe censorship, however, it can be concluded that the frame is significant from estimates of percentage of removed comments. Overall, it can be estimated that 26% of the 1903 comments were hidden or deleted. However, for some

posts the percentage was much higher, for example, 34 of the 44 (77%) comments on post 9/1/2019a were removed, and 90 out of the 120 (75%) comments on the post 2/12/2018a.

Another important factor to consider is the reasoning given for deleting comments and blocking people, and the behaviour left visible on the page. The following conversation shows the page administration (KD) said it was deleting comments which were aggressive, however many comments which were aggressive towards the page's opposition were not removed, so this cannot be considered the normal censoring of offensive comments that many pages carry out.

> 'KN - are you deleting uncomfortable comments?
>
> KD - No. Only aggressive and aggression causing ones
>
> KN - I did not find that comment aggressive
>
> KD - empty shouting. No arguments. All comments by JP will be deleted'
>
> (3/12/2018a, Comment 25 and Reply 1)

There were other cases when angry and rude comments or language were used to make a conversation unpleasant in order to discourage pro-vaccine actors from participating in discussions. There are several examples where a pro-vaccine commenter made it clear they wanted the conversation to end after these kinds of comments. Additionally, pressure is applied to the pro-vaccine commenter as the negative comments made towards them receive many likes or love reactions, whereas their comments receive no or very few positive responses. This was considered to be 'censorship' as it is a method used to prevent certain types of comments or opinions being made on the page, maintaining the page as an area with only anti-vaccine information. One review also revealed another method of censorship, targeting individual pro-vaccine commenters through commenting or other actions mocking the individual directly on their personal Facebook profile:

> 'I accidentally got to this page, liked a couple of comments and ... The next day, this sectarian page fan, [DJ], thoroughly dug into my profile, researching every post, sometimes contaminated it with her pearls of wisdom. Woman please: Get off my profile! [...] Get a job, family, friends or a hobby'
>
> (Review 49)

### 5.2.2 Inform others

The frame 'inform others' includes the times when it was either said or implied that the solution to the issue of vaccines from the anti-vaccine perspective would be to inform others of the dangers and risks of vaccines so pro-vaccine individuals, or people who vaccinate without any particular opinion on the debate, would reconsider vaccination or promoting vaccines. This includes praise for the page stating that it is helping people to find information, For example:

> *'A needed platform to ask questions and find answers, where there is no single opinion'*

> (Review 43)

This frame also included exchanging information. This includes specific times in which people asked for or offer advice on vaccines, on alternative treatments, methods of prevention of illnesses and ways to improve an individual's immune system, as well as suggestions to collaborate with likeminded groups who promoted alternative medicines. There were also cases in which individuals exchanged advice on how to argue with doctors or avoid getting vaccinated. However, mostly this frame included the sharing of materials with the aim to inform people of the dangers of vaccines. This included the 28/12/2018a post which called for sources to be shared with the suggestion that this could help to educate others:

> *'ANSWERS FOR THE FULL PICTURE*
>
> ❓ *"What sources can you suggest to me to understand that there are no positive vaccination experiences?"*
>
> ❓ *"I would love to hear your experience and see the evidence you have in your possession"*
>
> ❓ *"Do you have any source where it argues that there is no herd immunity?"*
>
> *[...]*
>
> 🤓 *Read? Explore? Educate? - Where to start when there is a lot of information and it is contradictory?* 🤓'

> (28/12/2018a, Post)

However, generally advice was offered without being asked for, and asking for advice was infrequent. The example below shows one of the infrequent questions which relates more directly to vaccination, but even in this case it was not asked in a way which indicates the individual is thinking of vaccinating.

> *'ИН to DJ - tell me what to do? My baby is 2 years old. Not vaccinated. Already had whooping cough.*
>
> *DJ to ИН - Live healthily. You became ill with childhood diseases naturally. You gained natural immunity'*
>
> <div align="right">(6/4/2019a, Comment 2, Reply 1)</div>

### 5.2.3 Change - Media

'Change – media' offered the prognosis that the media system or how individuals interacted with the media should be changed in order to counteract the perceived problems as identified by the diagnostic frame 'trust - media'. This included more general comments that things should change, or we can do better, as well as more specific claims such as suggesting to ignore all Latvian and mainstream news or giving suggestions of alternatives media sources. This included calls from the page author, as well as other commenters, directly to the media to change the way they operate. This frame was also stated as one of the aims of the page, to overcome the deficits the movement accused the media of through the actions of the page, as stated in the quote below.

> *'"Vakcīnrealitāte Latvijā" is a public campaign which will not only publish experiences, but also interviews and original research about vaccination which are not in the news. 🙊 🙈 🙉'*
>
> <div align="right">(Fieldnotes 2b Dec posts, Pos. 2)</div>

### 5.2.4 Minor Prognostic Frames

There was also one minor prognostic frame: 'change – medical system'. This frame offered prognoses for how to combat the perceived problems identified under the frame 'trust – medical institutions and state'. This included general calls for change or reform to the healthcare system, as well as specific actions being suggested of what needs to change and how. For example, it was suggested that instead of using vaccines as

preventative medicine for all, those who are in the risk groups for complications should be monitored, or that the government must fund the isolation of those who have contagious diseases from the rest of society. This was often called for by the page author, for example in the text below, but was not used frequently by others, indicating it did not resonate, except to some extent in calls for a greater separation between medical professionals and the pharmaceutical industry.

> *'I call on national health management workers, decision makers and doctors to launch health care reform to effectively monitor risk groups identified by SPKC, members of the public affected by diphtheria (an average of 10 people a year) and TB. And devoting a fund to isolate these people from society for full care rather than risking thousands of children's health annually for preventative purposes. [...]*
>
> *I call on officials to divest from the benefits offered by lobbyists [...] and instead set up a register where doctors can in good faith record and compile true statistics about the number of children who get significant health and development problems or became ill immediately after vaccination.*
>
> *It's time to stop manipulating information*
>
> *It's time to end the "witch hunt" and training medics in the practice of mobbing informed, thinking parents who care about the health and life of their children'*
>
> (1/12/2018b, Post)

### 5.3 Motivational Frames – Mobilising for Action

Three motivational frames were identified: 'decide for yourself', 'raising awareness', and 'do not vaccinate'. All three were considered minor as they did not appear in a significant number of documents: 13, 10 and 7 documents respectively. The most prominent motivational frame was 'decide for yourself'. This includes motivating others to make their own decision related to vaccines, to take responsibility for the decision to vaccinate as opposed to delegating the decision to medical staff or authorities, as well as calling on individuals to do their own research.

> *'Take responsibility for your own children and boost their immunity:*
> *study, read, analyse, collect data, really go into the child's needs, think*
> *about quality nutrition, sleep, exercise'*
>
> (3/12/2018a., Comment 31)

Another motivational frame was 'raising awareness'. This included motivating people to share the page, for example by sharing posts with messages encouraging people to read the post, comment or to share the posts further. However, the shares generally did not lead to much interaction in terms of reactions or comments, and in some cases the only response was negative with the individual being criticised for sharing the post, or the post content being mocked.

'Raising awareness' as a motivational frame interacted with the prognostic frame 'inform others', as where 'inform others' suggested this as a solution to what the movement sees as a lack of awareness, 'raising awareness' is a direct call to combat this. This included calls for people to share their experiences or to share information as can be seen below, as well as one conversation about creating plans to translate articles into Latvian so they are available to a Latvian audience.

> *'I invite more parents to post their vaccination experiences here!'*
>
> (Review 14)

> *'Please share links to trusted sources right here in the comments*
>
> ↓ ↓ ↓
>
> *It will be a useful collection for us all* ✅ 🙏*'*
>
> (28/12/2018a, Post)

The frame 'do not vaccinate' did not occur frequently, and when used it usually was not explicitly saying do not vaccinate. For example, the conversation in which this frame appeared the most related to the idea of moving abroad to avoid compulsory vaccination. In this discussion a few individuals expressed their opinion that it would be better to move abroad than to stay in Latvia if it meant they had to be vaccinated. They then motivated one another to agree to do the same if the same situation occurred in Latvia:

*'IP - As soon as there is mandatory vaccination, I will leave this country forever. [...]*

*BE - Totally agree! I thought I was alone, the only crazy one, but it turns out there are quite a few silent thinkers!*

*IP - Now you know we are at least 2 👍 AB is more or less on our side 😉*

*AB - I am also in your team! ;)*

*BE - Yes, if something, let's leave together! ;)*

*IrP - 😱😱😱 then I will also leave!!!'*

(9/12/2018a, Share 20, Comment 4)

## 6. Comparison of the Framing Identified in Latvia and in the Prior Literature

### 6.1 Hypothesis 1: Framing

The most commonly used category of framing was diagnostic, making up 70% of coding segments and present in 34 of the documents. 27% of the framing was prognostic and was present in 26 of the documents meaning it was the second most used type of framing. There was significantly less motivational framing, with only 3% of the frames identified as motivational, and it was only present in 13 documents. This supports the first hypothesis:

> *H1: The anti-vaccination arguments on Latvian Facebook are framed in the same way as identified in studies of other states. The framing will be mainly diagnostic, with fewer prognostic and motivational frames. The main frames expected relate to safety and effectiveness, civil liberties, alternative treatments, and conspiracy theories/search for truth.*

The most significant diagnostic frames were 'trust – medical institutions and the state', 'vaccines are harmful', 'trust – pharmaceutical industry' and 'science vs nature' which were in 34, 32, 31 and 27 documents respectively. However, the first two frames were mentioned much more frequently, especially considering their subcategories, than 'trust – pharmaceutical industry', and 'science vs nature' was mentioned more frequently though in fewer documents than 'trust – pharmaceutical industry'. These four frames, with their subcategories can be approximately equated to the four most significant diagnostic frames identified in the existing literature, 'safety and effectiveness', civil liberties, alternative treatments, conspiracy theories/search for truth, further supporting hypothesis one.

'Vaccines are harmful' and its subcategories are equivalent to the category 'safety and effectiveness' which is the most prominent frame in the existing literature. It was also a very significant frame in this study and contained many of the same ideas such as vaccines causing illnesses, vaccines being ineffective, or it not being known if they work. This study also suggests this is a dominant frame. The frame 'science vs nature' also can be equated to the frame identified in the previous literature as 'alternative treatments' as both

largely relate to opposing modern medicine for alternative ideas. This therefore also supports the hypothesis as 'science v nature' is a significant frame, but not the most significant, as expected.

However, in this Latvian example the frame 'trust – medical institutions and state', which can be equated to the category 'civil liberties' in other studies, is equally as significant as the frame 'vaccines are harmful' whereas the anti-vaccination website content studies discussed in this thesis indicated that this should be less significant. This suggests that in the Latvian case framing which relates perceived problems with vaccines to the state and medical authorities is as important as framing the problem as vaccines being harmful. This could also be observed in the ethnography as many participants in the discussion were not categorically against vaccines. Instead many questioned the specific vaccines which were being used indicating that they did believe some vaccines were necessary or beneficial but that they did not trust the state or individual doctors to provide them with the safe or beneficial vaccines. There were indications also that this was a result of frame bridging with those who think of other issues through the frame of not trusting the state connecting to the issue of vaccines through this way of framing it. Though this conclusion in some way contradicts the website content studies, it supports the framing identified in the studies relating to the post-Soviet context. For example, the ethnography conducted in Ukraine emphasised the lack of trust in the medical authorities and how they are viewed as uncaring (Bazylevych 2011). This therefore supports the idea of regional differences within the global anti-vaccination movement, where certain frames are more appealing in states such as Latvia and Ukraine than the English speaking countries which are the focus of the web content analysis studies. This also supports the need for more studies of regional specificities in studies of the anti-vaccination movement, which often focuses on Western Europe and North America.

The previous studies identified the category 'conspiracy theories/search for truth' however this was used very broadly in some studies to include many issues which made it difficult to compare with framing. Furthermore, the studies found a significant range in its use from very significant to infrequently used. To compare it to the framing system used in this study it would include the major frame 'trust – pharmaceutical industry', which was in 31 documents, and the minor frame 'conspiracy', which was in 11

documents. It therefore can be considered to be similar to the previous studies as, if a narrower definition is used equivalent to the frame 'conspiracy' in this study it is a minor frame, but if a more broad definition is used which includes conspiracy theories about how the pharmaceutical industry functions then it is a more significant frame although not the most.

A more significant difference from the expected framing were the frames 'pro-vaccine side are bullies' and 'trust - media'. A frame related to fearmongering and frightening parents was identified in the studies of website content however it seemed it would be a minor frame and was not expected to be significant. However, on the Facebook page observed in this study this was found to be a major frame, present in 24 documents, categorised under 'pro-vaccine side are bullies'. This is in part due to the nature of the platform. The website content analyses observe platforms which do not have interaction with pro-vaccine individuals, whereas on Facebook, and other social media platforms, individuals who oppose the movement can interact on the platform. This therefore creates an environment in which there is more conflict and more interactions which individuals may perceive as bullying or attacking. This highlights the need to study different mediums as there are specificities need to be considered.

The frame 'trust - media' was only found in one of the existing studies, where it was one part of a wider category related to trust in various institutions in the study of English language Facebook (Hoffman et al. 2019), it was therefore not expected to be significant frame in this study. It has been categorised as a major frame as it was central to some of the post on the page but was not very significant and was present in only 15 documents. The presence of this frame may be the result of several factors. Firstly, that this was not mentioned specifically as it was not seen as so significant in other studies indicating that this is significant in the particular case of Latvia. However, it may also be a general increase in significance due to a global increase in mistrust in the media in recent years. This may also be way the only study in which it was mentioned in the existing literature is the most recent of the studies, published in 2019. It may also just be prompted by the particular interests of the page author who claims to be a former journalist. If the framing used in the reviews is compared, where there is no prompting from texts from the initial

post, then this frame is only used three times and so appears to be less significant (table 6.1).

*Table 6.1: Summary of the frequency of frames identified in the anti-vaccine reviews.*

| | | Frame | Freq. |
|---|---|---|---|
| Diagnostic | Major | Trust - Medical institutions and the state | 17 |
| | | ➢ *All responsibility is on parents* | *1* |
| | | Vaccines are harmful | 34 |
| | | ➢ *The consequences of vaccines are unknown* | *2* |
| | | ➢ *Vaccines don't work* | *5* |
| | | Trust – Pharmaceutical industry | 14 |
| | | Science V Nature | 9 |
| | | ➢ *Herd Immunity* | *4* |
| | | Pro-vaccine side are bullies | 9 |
| | | The science is contradictory | 1 |
| | | Trust – Media | 3 |
| | Minor | Conspiracy | 4 |
| | | Morality | 0 |
| Prognostic | Major | Discredit opposition | 33 |
| | | ➢ *Censorship* | *12* |
| | | Inform others | 14 |
| | | Change – Media | 1 |
| | Min. | Change - Medical system | 0 |
| Motivational | Minor | Decide for yourself | 4 |
| | | Raising awareness | 5 |
| | | Do not vaccinate | 0 |

The most significant prognostic frames were expected to be related to 'alternative treatments', 'informing others of the dangers of vaccines', 'discrediting the opposition', 'finding the truth' and 'censorship'. The first two can approximately be equated to the frame 'inform others' which includes the idea of informing others of the dangers of

vaccines and alternatives to vaccines as a way to convince people move away from vaccination. This was a significant frame, present in 24 documents, supporting the first hypothesis. The dominant prognostic frame however was 'discredit opposition', which was present in 26 documents, and its subcategory 'censorship' which was used in at least 14 documents but may have been more as it is more difficult to observe. This also lays within what was expected in hypothesis one as both frames were expected. However, the 'discredit opposition' frame was more prominent than expected especially if the framing in the reviews is considered. As can be seen in table 6.1, by this measure it is the second most dominant frame with a count of 33 after 'vaccines are harmful' which had a frequency of 34. This is more than expected as diagnostic frames are expected to dominate, however it may be due to the medium being studied. Generally anti-vaccination studies are of the group in an environment where they are alone, such as their own website, but on a social media platform such as Facebook where anyone can interact there is more chance of conflict or someone arguing against the anti-vaccine position, leading to framing which discredits this opposition.

This can be contrasted with other studies which have found that there is little interaction between the pro and anti-vaccine communities. A study of polarisation of the English language vaccine debate on Facebook found that the two side of the debate were highly polarised and there was little interaction between the groups (Schmidt et al. 2018). However, on the Latvian Facebook page there was a large amount of debate between pro and anti-vaccine individuals, with many of the pro-vaccine activists observed to be from specific pro-science Facebook groups and pages such as 'Skeptiķi' and 'SkeptiCafe'. Therefore, though there also seems to be two polarised groups in the Latvian case, these groups have a large amount of interaction leading to the heavy use of the frames 'censorship' and 'discredit opposition'. This regional specificity may be due to the small number of Latvian speakers and the smaller population. In the English language example, the number of possible pages makes it easier to isolate into groups with the same opinion, whereas fewer pages in Latvian, and a smaller overall community, means a higher probability of coming into contact with pages with an opposing view.

However, the frame 'finding the truth' from the existing studies is not so clearly comparable to the framing found in this study. There is overlap with the frame 'change -

media', as this included framing which implied or stated that the Facebook page was combatting the lack of information or studies they perceived related to the problems with vaccines through its post, and would conduct research and aim to find the 'vaccine reality'. This is a major frame, but the least significant of the group, present in only 17 documents. Therefore, this idea is present within this frame, but may have been shaped more into a criticism of the media due to the page author's specific interests. Therefore, generally the prognostic framing is as expected according to hypothesis one. However, it is difficult to say if the comparisons of significance are the same as in the existing studies, as the ranges in their use in the website content studies was large.

There were no major motivational frames, therefore no motivational frame can be considered significant. The one motivational frame identified in the existing studies is related to the ideas of 'do your research' and 'informed consent'. This can be equated to the frame identified in this study as 'decide for yourself' as it also called for people to do their research in order to make an informed decision. However, this was not a significant frame, as it was in only 13 documents, but this was also the case in some of the existing literature as this category varied in significance.

Therefore, overall hypothesis one is supported as the framing in the Latvian example was similar to that found in other studies. However, there was also some support for the idea of the importance of regionally specific variations as the significance of the frame 'trust – medical institutions and state' was greater than expected by the studies based on English language data and fell more in line with the studies related to people from the former USSR. Furthermore, the study showed the importance of considering framing, rather than just content, as the significance of this frame was not just the presence of ideas that the state was infringing on people's rights but that this was framed within the light that the state and medical authorities cannot be trusted generally and therefore cannot be trusted on the issue of vaccines. This is a significant difference as it allows for frame bridging and transformation connecting the anti-vaccination movement to other groups or issues as can be seen in the examples of individuals who are seemingly pro-vaccine supporting elements of the antivaccination movement's arguments when they are framed in terms of trusting the state. This is important when it comes to combatting the movement as the existing studies emphasise that the anti-vaccination movement focuses on vaccines being

harmful, but if this then leads to the method of combatting them being the state producing assurances that vaccines are safe, this does not combat the framing that the state is not a trustworthy commentator on vaccines, which makes these education campaigns also untrustworthy. The framing used by the anti-vaccination movement in Latvia seems to be more cautious using various diagnostic frames to connect vaccines with perceived problems with various institutions. Therefore, campaigns against the anti-vaccination movement which focus on the more transformational frames which the movement could use, such as directly telling people vaccines are bad or not to use them, do not address the wider context or framing which persuades people into vaccine hesitancy.

## 6.2 Hypothesis 2: Resonance

The second hypothesis related to resonance and stated:

> *H2: The frames with the greatest resonance, measured by the amount of interaction with posts in terms of comments, shares and reactions, are the same as those found in other studies. The greatest resonance will be for frames related to vaccine safety and effectiveness, then civil liberties and conspiracy theories.*

The previous studies were limited but it was expected that framing on vaccine safety would resonate the most, followed by civil liberties, then conspiracy. However, this does not seem to be the case on this Latvian Facebook page. If the reactions to posts are used as an indicator of resonance the posts which are most shared and commented on are ones in which the main framing theme is related to trust in the state, media or pharmaceutical industry. For example, the most shared post was 3/12/2018a which was shared 300 times, and the second most shared was 9/12/2018a, which was shared 279 times. Post 9/12/2018a was also the most commented on post with 350 comments, and 3/12/2018a was the third most commented on (138 comments). Though these posts also included framing about vaccine harm the main frames were 'trust – medical system and state', 'trust - media' and 'trust – pharmaceutical industry'. This therefore includes what were expected to be the second and third frames to resonate the most. This can be related to several factors. Firstly, that framing which relates to trust in institutions can resonate more as it bridges across to other movements and issues. Posts which mainly use this type of

framing can resonate with individuals who do not have a strong opinion about vaccines, but this resonates with how they perceive the state, media, or large industries such as the pharmaceutical industry. The second hypothesis is therefore not supported as the posts which resonate in this study are different to the existing literature.

Secondly, it can also be related to the specific Latvian audience, where trust in the state is particularly low (Mieriņa 2014, 617). As well as the post-Soviet context, as exemplified in the existing literature, where a change in the medical system and how it operates has resulted in suspicion about motivations. This could also be seen in the ethnography occasionally as people would contrast the good or trusted Soviet medical system with today.

A further factor is that this is something missed in previous studies, as there was not a focus on how the arguments were being framed but rather the content of the argument. For example, these posts which resonate the most also include content which argues that vaccines are harmful, but the dominant way in which this is framed is that you cannot trust the state to provide safe vaccines, or for the media to provide honest information on safety. This highlights the need for a focus on framing. How to counteract an argument is dependent on how it is framed, as the framing relates more to the root cause of why vaccines are perceived in a negative light rather than just that they are viewed negatively. Similarly, this highlights the need to study social media platforms, as well as the opportunities this offers. Studying social media platforms offers a measure, in real-time, of how framing resonates, as the different frames used in different posts or comments can be compared, to assess what creates a response and the type of response. This is also an unprompted response as an individual's behaviour can be presumed to be an honest response because they do not know they are being observed in comparison to an interview, focus group, or normal ethnography, where participants may consciously or unknowingly change their behaviour due to the presence of a researcher. Furthermore, as a social media platform is an unrestricted field of observation, with participants moving in and out, it is possible to observe the reaction of the general population who interact with the movement, rather than those who specifically seek out information for example on a website or forum dedicated to the issue.

## 7. Conclusion

The aim of this thesis was to identify and analyse the frames of the Latvian anti-vaccination movement on Facebook as part of the transnational movement. Therefore, the main research questions of this study were:

1. How are the arguments of the Latvian anti-vaccination movement presented?
2. Are these arguments different from the anti-vaccination movement outside Latvia?

The theoretical approaches to studying social movements show that the arguments used by a social movement to identify what the problem is, what should be done about the problem, and how to motivate people into action against this problem are constructed through the process of framing leading to diagnostic, prognostic and motivational framing. The constructive process creates meaning and an identity which the movement can build on. The success of this framing can be assessed through the resonance of this framing, that is the ability of the frame to create a response. As framing is a constructive process between individuals in the movement, as well as others who are in contact with the movement such as potential members, there may be some framing which is constructed by certain individuals which does not resonate with others. In particular for a transnational movement there may be framing led by the wider movement which does not resonate in a specific local setting.

The existing studies on the anti-vaccination movement do not use frame analysis but the framing in existing studies can be identified in studies which have used other techniques, in particular website content analysis. This showed that diagnostic framing was more commonly used than prognostic and motivational, and the most common frames related to the safety and effectiveness of vaccines, civil liberties and issues related to the state's involvement, alternative treatments, and conspiracy theories frequently related to the pharmaceutical industry, medical system and state. The first hypothesis predicted that the arguments of the anti-vaccination movement on Latvia Facebook would be the same as what was identified in these existing studies.

The resonance of these frames was harder to identify in existing studies. Studies which only focussed on content with high user interaction was used to identify content which

had the greatest resonance. This identified frames related to vaccine safety and effectiveness, then civil liberties and conspiracy theories as those with the greatest resonance, and the same was expected in the Latvian case, which led to the second hypothesis.

In order to test this hypothesises a digital ethnography was conducted of the Latvian anti-vaccination movement's Facebook page 'Vaccine Reality in Latvia' (Vakcinrealitāte Latvijā), covering the period from December 2018 to October 2019. Frame analysis was then conducted on the fieldnotes from this ethnography to identify the frames used and how well they resonated. The major frames identified overlapped with the frames which were identified in the previous literature, as the most significant diagnostic frames were 'trust - medical institutions and the state', 'vaccines are harmful', 'trust – pharmaceutical industry', and 'science v nature' which are comparable to the frames expected. However, the frame 'trust – medical institutions and the state' was more prominent and also resonated more than the previous studies would suggest, indicating that trust in the state is a more significant frame in Latvia than in the other countries studied, highlighting the importance of the local or regional context. Furthermore, there were other frames such as 'discredit opposition' which highlighted how framing can be different on social media, a medium in which the anti-vaccination movement can come into direct conflict with its opponents, but that this may be regionally specific as the pro and antivaccine communities had high levels of interaction in this Latvian case whereas studies of English language Facebook suggest little interaction between groups (Schmidt et al. 2018). However, more study would be needed to understand these differences further. Therefore, hypothesis one was mainly confirmed but partially shown to be false, and hypothesis two was proven false.

This thesis highlights the potential of frame analysis as a method of gaining a better understanding of the anti-vaccination movement in Latvia and more generally because by considering framing, as opposed to content, it can be observed how the arguments fit within the wider societal context and how they can mobilise others when the framing overlaps with other local issues. In addition, this thesis also shows the importance of considering the local context despite the anti-vaccination movement being transnational.

Therefore, there is potential for further study of the anti-vaccination movement using frame analysis and on social media. The methods offer an opportunity to view how arguments are used in discussions, and how well these arguments resonate. This, along with information on local specificities of the movement's framing, can help inform public health on how best to counter anti-vaccination arguments and which areas should be targeted to help build trust in the use of vaccines. This is of particular importance currently due to the Covid-19 pandemic and the possibility that soon a large-scale vaccination program will need to be implemented if a vaccine against Covid-19 is found.

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**Appendix A: Original Latvian Language Quotes**

1/12/2018b, post:

Quote 1: "Ir laiks izbeigt "raganu medības" un medicīnas darbinieku īstenoto mobingu pret apzinātajiem, domājošajiem vecākiem, kuriem rūp savu bērnu veselība un dzīvība"

Quote 2: Aicinu valsts veselības nozares pārvaldes darbiniekus, lēmumu pieņēmējus un ārstus sākt veselības aprūpes reformu, kuras rezultātā būtu iespējams efektīvi monitorēt SPKC nosauktajā riska grupā esošus sabiedrības locekļus, kuri slimo ar difteriju (vidēji 10 personas gadā) un tuberkulozi, radot slimības perēkļus. Kā arī atvēlēt finansējumu šo cilvēku izolēšanai no sabiedrības līdz viņu pilnīgai izārstēšanai, tā vietā, lai profilakses nolūkos riskētu ar tūkstošiem bērnu veselību ik gadu.
[...]
Aicinu ierēdņus atbrīvoties no farmācijas uzņēmumu lobistu piedāvātajiem labumiem [...] tā vietā izveidot reģistru, kur ārsti godprātīgi iekļautu un apkopotu patieso statistiku par bērnu skaitu, kam vakcīnas izraisījušas būtiskus veselības un attīstības traucējumus, vai kuri saslimuši uzreiz pēc vakcinēšanās.
Ir laiks izbeigt manipulēt ar informāciju.
Ir laiks izbeigt "raganu medības" un medicīnas darbinieku īstenoto mobingu pret apzinātajiem, domājošajiem vecākiem, kuriem rūp savu bērnu veselība un dzīvība.

1/12/2018e, Comment 1, Reply1:

Globāli veselības un farmācijas nozares intereses ir nevis cilvēku veselība, bet neveselība.

1/12/2018f, Comment 5:

[..] ārsti ļoti baidās, ja jāuzsāk šāds process un parasti cenšas izvairīties fiksēt blaknes

2/12/2018b, Post:

Vakcīnrealitāte Latvijā" ir publiska kampaņa, kuras ietvaros tiks publicēti ne vien pieredzes stāsti, bet arī intervijas un pētnieciski oriģinālraksti par to, ko saistībā ar vakcināciju nestāsta preses relīžu ziņās. 🙊🙈🙉

3/12/2018a, Post:

Mans secinājums - virspusējs, kategorisks, uz vienpusēju informāciju balstīts sižets, kurš maldina sabiedrību un iekļauj, iespējams, manipulatīvu informāciju.

3/12/2018a, Comment 25 and Reply 1:

KN - Jūs dzēšat neērtus komentārus?

KD to KN - Nē. Tikai agresīvus un uz agresiju mudinošus.

KN - Man tas komentārs nelikās agresīvs

KD to KN - Tukša bļaušana. Nav argumentu. Visi Janas Priednieces komentāri tiks dzēsti

3/12/2018a, Comment 31:

uzņemties atbildību pašiem par saviem bērniem un viņu imunitātes spēcināšanu:pētīt, lasīt, analizēt, vākt datus, tiešām iedziļināties bērna vajadzībās, domāt par kvalitatīvu uzturu, miegu, fiziskām aktivitātēm

3/12/2018a, Share 4, Comment 1:

Medicīna visās tās nozarēs, it sevišķi farmācijas - MILZĪGS bizness, kurā var baroties visi - ražotāji, izplatītāji, mediķi un pat žurnālisti.... tā ka neceriet uz objektivitāti zāļu, uztura bagātinātāju un vakcīnu jomā! ☹

3/12/2018a, Share 15, Comment 2:

Tauta, kas gada laikā abortos nogalina simtiem bērnu, pēkšņi satraucās par divu bērniņu nāvi...

3/12/2018a, Share 25:

ESMU LIKUMPAKLAUSĪGS PILSONIS. KĀPĒC ĀRSTI IZDARA UZ MANI SPIEDIENU AR MASU MEDIJU STARPNIECĪBU UN SAUC PAR BEZATBILDĪGU UN NEADEKVĀTU VECĀKU?

3/12/2018b, post:

Viņas nodoms ir diskreditēt šo labi iecerēto publisko kampaņu, kuras mērķis ir izglītot vecākus par to, ko mediķi un žurnālisti diemžēl noklusē

3/12/2018b, Comment 8, Reply 1:

Comment in a thread which was later deleted

5/12/2018a, Post:

✗ Šī vakcīna NAV reģistrēta LR Zāļu reģistrā.

✗ Šīs vakcīnas instrukcija NAV pieejama latviešu valodā - nedz Zāļu Valsts aģentūras mājaslapā, nedz vakcinācijas kabinetos.

[...]

❓Vai BCG vakcīnas pielietošana Latvijā šobrīd ir pretlikumīga?

5/12/2018a, Comment 2:

Esmu vakcinācijas atbalstītāja, bet šis ir traki, ko lasu.

9/12/2018a, Comment 2:

Daudzi atsakās, nevis no vakcinācijas pret difteriju, tbc, poliomelītu, vai farā klepus, bet no neefektīvām gripas potēm, kuru efektivitāte ir 2%, no masalām, vējbakām, utml bezjēdzīgām muļķībām, no kurām imunizāciju mēs varam gūt dabiskā veidā!

9/12/2018a Comment 7:

Iespējamais soda veids - bērnus nodot uz bērnunamu audzināšanai atņemot "bezatbildīgajiem" vecākiem vecāku tiesības. Pēctam šos bērnus varēs ērti pārdot audžu ģimenēm uz ārzemēm, vai homoseksuālo attiecību piekritējiem, valsts līmenī "rūpējoties" par bērnu labklājību un drošību ☺

9/12/2018a, Comment 23, Reply 2:

Lielfarma ir bagāti, viņi var nopirkt jebkurus pētījumus, falsificēt jebkurus datus.

9/12/2018a, Share 20, Comment 4:

Quote 1: Bet plānotās masveida slepkavībās es nepiedalos…

Tas ir par daudz.


Quote 2: IP - Līdzko śai valstī tiks pieņemts likums par obligātu vakcinēśanos, es šo valsti pametīśu un uz visiem laikiem.

BE - Pilnīgi piekrītu! Līdz šim domāju, ka esmu gandrīz viena gaisā pasistā, bet izrādās, ka tādu kluso domātāju ir diezgan daudz!

IP - nu Tu zini, ka mēs esam vismaz divas 👍 Agita ar tākā vairak uz mūsu pusi velk 😉

AB to BE - es arī jūsu komandā! 😉

BE - Ja, kas, brauksim prom kopā! 😉

IrP - 🙀 🙀 🙀 Tad jau es ar prom!!!

15/12/2018a, Post:

Jūsu lēmums nekādā veidā neietekmēs citu bērnu veselību un dzīvību.

Jūsu lēmums nekādā veidā neietekmēs tā dēvēto vakcīnregulējamo slimību iespējamos uzliesmojumus.

Kolektīvā imunitāte diemžēl ir mīts, un, pat, savakcinējot visus zīdaiņus, šo cēlo ideju nav iespējams sasniegt, jo antivielas nesaglabājas uz mūžu. Pieaugušie atkārtoti netiek vakcinēti (izņemot pret difteriju), turklāt pastāv brīva pārvietošanās, un attiecīgās infekcijas valstī var ievest, piemēram, tūristi.

28/12/2018a, Post:

Quote 1: ATBILDES PILNAI BILDEI

❓"Kādus avotus jūs man piedāvājat izvērtēt, lai saprastu, ka pozitīvu vakcinēšanās pieredžu nemēdz būt?"
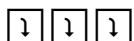
❓"Es labprāt uzklausītu jūsu pieredzi un iepazītos ar tiem materiāliem, kas ir jūsu pārziņā, kas ir balstīti uz pierādījumiem."

❓"Jums ir kāds avots, kur argumentēti pierādīts, ka kolektīvās imunitātes nav?"

[...]

😊Lasīt? Pētīt? Izglītoties? - Ar ko lai sāk, ja informācijas ir daudz un tā ir pretrunīga?😊

Quote 2: Lūdzu, padalieties ar saitēm uz uzticamiem avotiem tepat komentāros ⬇⬇⬇

Tas būs noderīgs apkopojums mums visiem ☑🙏

9/1/2019b, Comment 8:

Man žēl ārstus, jo viņi ir farmācju kompāniju nozombēti cilvēki!

23/1/2019a, Post:

🧑‍⚕️Lozētu?

💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉
💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉💉

Varbūt durtu visas iespējamās?

23/1/2019a, Comment 8, Reply 3:

Ņemot vērā dzemdes kakla vēža riska faktorus, tad vakcinācija pret dzemdes kakla vēzi (HPV) ir "biļete" izlaidīgam dzīves veidam. Bet runāt par profilaksi, ņemot vērā šos riska faktorus, nav populāri.

8/2/2019a, Comment 13:

Lieki piebilst, ka daudzi librāliņu troļļotāji, saņem atlīdzības par šo "darbu".

23/3/2019a, Comment 6, Reply 1:

[...] labāk iedziļināties un justies droši par savu lēmumu attiecībā uz mūsu bērnu veselību nekā atdot ārstiem savu iespēju izvēlēties mūsu vietā. Ne jau viņiem pēc tam ir jācīnās ar farmācijas sekām. Diemžēl atbildību par savu bērnu veselību nesam tikai mēs - vecāki. 😔

23/3/2019a, Share 4, Comment 1:

Sargāsim savus bērnus no vakcīnām,jo pilnigi droši ir tas,ka vakcīnas viņus nepasargā no slimībām,bet padara vēl daudz slimākus.

6/4/2019a, Share 5, Comment 1, Reply 1:

ИН to DJ - sakiet bet ko lai dara? Man bērnam ir 2 gadi.nav vakcinēts.garo klepu jau izslimoja..

DJ to ИН - Dzīvojiet veseli. Pārslimojāt bērnības slimības dabīgā veidā. Ieguvāt dabīgu imunitāti.

6/4/2019a, Share 5, Comment 1, Reply 1:

Trāpijās filma stāstīja ka vakcīnās jau no deviņdesmitajiem gadiem ir nanočipi nerunājot par pārējām indēm tas jau ir tas vēža izraisītājs un galvenais ka to visu liek apmaksāt nodokļu maksātājiem

6/10/2019a, Post:

⚕️Par MEDICĪNU nevis VESELĪBU ☺

9/10/2019a, Comment 14:

Manuprāt, grūtnieču vakcinācija ir tomēr neētisks eksperiments.

Review 5, Comment 1, Reply 1:

Uzskatu, ka cilvēka organisms ir perfekts un pats tiek ar lielāko daļu problēmu galā [...]. Vienīgais, ko cilvēks var darīt ir nejaukties iekšā un nevājināt to ar neveselīgu pārtiku, mazkustīgu dzīvesveidu, zālēm un vakcīnām. [...] Labāk neeksperimentēt, bet dzīvot veselīgi.

Review 6:

Tas, kurš nav piedzīvojis, nekad nesapratīs.

Review 14:

Aicinu vel vairak vecakus seit publicet savu pieredzi pec vakcinacijam!

Review 28:

Tātad daudzu vecāku stāsti par vakcīnu izraisītām smagām blaknēm nav nekā vērti? ASV vakcīnu tiesas (VAERS) izmaksātie 4 biljoni dolāru vakcīnu sakropļoto vai nogalināto bērnu ģimenēm nav nekādi pierādījumi???

Review 40:

Personiska pieredze ar manu bērnu pierāda, ka patiesie dati tiek slēpti un sagrozīti

Review 43:

Ir nepieciešama platforma kur uzdot jautājumus un meklēt atbildes, kur nav viens vienīgs viedoklis

Review 49:

Netīšām nokļuvu šajā lapā, ielaikoju pāris komentārus rakstiem, kas man patika/kurus atbalstu un... Nākamajā dienā šis sektantu lapas fanātiķe [DJ] kārtīgi parakņājās manā profilā, izpētīja katru ierakstu, dažviet piesārņojot ar savām gudrības pērlēm. Sieviete, liels lūgums: Сдрысни с моего профиля! […] Найти работу, семью, друзей, хобби в конце концов :*

**Appendix B: Numbers of Comments, Shares and Reactions Per Post**

| Post | Comments | Shares | Reactions | Likes | Love | Sad | Haha | Angry | Wow |
|---|---|---|---|---|---|---|---|---|---|
| 1/12/2018a | 52 | 5 | 15 | 14 | 0 | 0 | 1 | 0 | 0 |
| 1/12/2018b | 19 | 9 | 31 | 26 | 1 | 0 | 3 | 0 | 1 |
| 1/12/2018c | 8 | 3 | 25 | 10 | 0 | 7 | 1 | 2 | 5 |
| 1/12/2018d | 3 | 1 | 14 | 3 | 0 | 8 | 1 | 0 | 2 |
| 1/12/2018e | 20 | 2 | 25 | 2 | 0 | 12 | 1 | 6 | 4 |
| 1/12/2018f | 15 | 0 | 10 | 1 | 0 | 4 | 1 | 1 | 3 |
| 2/12/2018a | 120 | 1 | 40 | 31 | 0 | 6 | 2 | 1 | 0 |
| 2/12/2018b | 0 | 17 | 101 | 85 | 16 | 0 | 0 | 0 | 0 |
| 3/12/2018a | 138 | 300 | 262 | 235 | 12 | 1 | 1 | 2 | 11 |
| 3/12/2018b | 115 | 49 | 97 | 39 | 1 | 4 | 6 | 20 | 27 |
| 5/12/2018a | 31 | 37 | 57 | 28 | 0 | 12 | 1 | 12 | 4 |
| 9/12/2018a | 350 | 279 | 180 | 136 | 2 | 16 | 1 | 10 | 15 |
| 15/12/2018a | 13 | 47 | 95 | 82 | 7 | 2 | 1 | 2 | 1 |
| 26/12/2018a | 27 | 16 | 69 | 59 | 7 | 0 | 1 | 1 | 1 |
| 28/12/2018a | 107 | 7 | 35 | 34 | 0 | 0 | 1 | 0 | 0 |
| 2/1/2019a | 1 | 5 | 39 | 36 | 3 | 0 | 0 | 0 | 0 |
| 6/1/2019a | 12 | 5 | 45 | 29 | 0 | 10 | 0 | 4 | 2 |
| 9/1/2019a | 44 | 44 | 87 | 84 | 3 | 0 | 0 | 0 | 0 |
| 9/1/2019b | 78 | 19 | 44 | 37 | 1 | 2 | 3 | 1 | 0 |
| 11/1/2019a | 28 | 37 | 38 | 11 | 1 | 23 | 3 | 0 | 0 |
| 21/1/2019a | 1 | 5 | 60 | 48 | 3 | 1 | 7 | 1 | 0 |
| 23/1/2019a | 110 | 40 | 57 | 51 | 2 | 1 | 1 | 2 | 0 |
| 08/02/2019a | 185 | 30 | 73 | 42 | 1 | 11 | 6 | 10 | 3 |
| 23/02/2019a | 5 | 23 | 29 | 23 | 0 | 0 | 3 | 2 | 1 |
| 23/02/2019b | 18 | 3 | 37 | 37 | 0 | 0 | 0 | 0 | 0 |
| 23/03/2019a | 43 | 67 | 85 | 75 | 6 | 0 | 3 | 0 | 1 |
| 04/04/2019a | 74 | 11 | 46 | 42 | 0 | 0 | 2 | 0 | 2 |
| 06/04/2019a | 120 | 106 | 98 | 83 | 11 | 2 | 2 | 0 | 0 |
| 16/06/2019a | 34 | 160 | 115 | 89 | 0 | 22 | 4 | 0 | 0 |
| 25/07/2019a | 49 | 46 | 114 | 84 | 11 | 10 | 8 | 0 | 1 |
| 6/10/2019a | 9 | 18 | 79 | 73 | 6 | 0 | 0 | 0 | 0 |
| 9/10/2019a | 52 | 119 | 71 | 58 | 2 | 1 | 0 | 7 | 3 |
| 10/10/2019a | 0 | 4 | 19 | 16 | 1 | 0 | 2 | 0 | 0 |
| 16/10/2019a | 17 | 40 | 76 | 65 | 6 | 0 | 0 | 5 | 0 |
| 20/10/2019a | 5 | 4 | 28 | 18 | 0 | 10 | 0 | 0 | 0 |
| **Total** | **1903** | **1559** | **2296** | **1786** | **103** | **165** | **66** | **89** | **87** |

**Appendix C: Fieldwork guide Observation Template**

*Research questions for ethnography:*

How are the arguments of the Latvian anti-vaccination movement presented?

*Research site:*

The focal point is the Facebook page 'Vaccine Reality in Latvia' and some other connected Facebook pages, profiles and linked websites (limits of which are set out below).

*Methods of data collection:*

Observations and fieldnotes.

*Period:*

01.12.2018 – 23.10.2019

*Anonymity:*

Facebook accounts mentioned will be anonymised by only recording the initials, except names which are of well know individuals.

*Parameters and observation targets:*

- Posts on page
- Posts to page
- Comments
- Replies
- Reviews
- General overview of the page
- Post share
- Reactions
- Linked websites or pages – brief overview

| Type | Description and what to record |
|---|---|
| Posts | Posts which are made on the page's own feed, or shared to the page<br><br>● Topic of the post.<br><br>● Number and type of reactions, comments and shares.<br><br>● Summary of the text in the post and comments on how the language is used. Quotes of significant comments<br><br>● Description of any images used and comments on the impressions the images give.<br><br>● People mentioned, or Facebook profiles linked to.<br>    ○ Who they are (occupation, position in debate)<br>    ○ Why they are mentioned.<br><br>● Websites or Facebook pages linked to.<br>    ○ Number of followers/ members.<br>    ○ Overview if related to anti-vaccination movement.<br>    ○ Language.<br><br>● Any other notes and a general impression of the post. |
| Comments and shares | Comments made on posts which are made on the page feed, or shared to the page<br><br>● Number and type of reaction and replies.<br><br>● Summary of the text and how the language is used.<br><br>● Description of images used and comments on the impressions the images give.<br><br>● People mentioned, or Facebook profiles linked to.<br><br>● Websites or Facebook pages linked to.<br>    ○ Number of followers/ members.<br>    ○ Overview if related to anti-vaccination movement.<br>    ○ Language.<br><br>● Any other notes and a general impression of the post. |
| Other | Any other observation which does not fit into the types mentioned above. Observation will include relevant points similar to other observations. |