Rationale for evacuation in the tsunami-hit community of Cartagena, Chile

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Evacuation processes have a high level of variance with respect to community practice. The focus of this research is the praxis that informs evacuation decisions: what are the interactions that impact evacuation behavior, and via what mechanism? Cartagena in Chile is a coastal city which has faced two tsunami events over the last generation: 1985 Valparaiso and 2010 Maule. In-depth interviews were conducted with twelve subjects around their tsunami experience. Furthermore, a focus group with seven participants was carried, to explore their communal experience. Discourse analysis of their stories, with an emphasis on rationale identification, brings to light the elements that shape their disposition and prompt their evacuation decisions. This analytical process illuminates the relation between factors explicit in subjects' narratives and factors non-explicit in their narratives, which influence the sense-making of their rationales.

Key Words : *Tsunami evacuation, Chile earthquake, Discourse analysis, Community resilience*

1. INTRODUCTION

Tsunami evacuation is the process of temporarily migrating population living in coastal areas into higher territory, to protect them from the impact of an expected wave. It is one of the most common responses to tsunami threats around the world, being routinely carried in seaside communities[1].

Differences in socio-economical realities, infrastructure development and cultural nuances can have a high impact on the success of this life-saving procedure. It is generally understood that the lack of physical ellements like signaling, early alert systems and evacuation routes can directly jeopardize this process, but even when all these formal elements are present and supporting the process, guaranteeing successful evacuation is hard, as the process heavily relies on human disposition.

Understanding how and why subjects evacuate is, therefore, fundamental for improving this process.

The principle upon which evacuation rests is to preserve the safety of those who live in tsunami-prone areas. It is commonly assumed that this process is based on objective criteria. For this research, however, we assume that, from the point of view of the evacuees, the process may also depend on subjective factors related to each user's life experience, communal expectations, cultural context, etc.

In this sense we expect influential factors to be not individual elements, but collective elements such as *culture* of evacuation, since this element must be kept for long period of time. We assume culture to be close to the concept of *habitus*, which is a notion coined by French sociologist Pierre Bourdieu[2]. Habitus is a cultural element deposited in people; it dominates people's practice in society. It explains the mechanism used by individuals in the community to adopt some specific actions as routines.

Evacuation may not be explicitly controlled by society, but it is certainly affected by it. Developing a thorough understanding of this could aid us in educating and preparing our population to increase their evacuating expertise and improve their resilience as a community.

2. OBJECTIVES

The central objective of this research is to clarify the elements that did or did not trigger the evacuation of

the people in Cartagena, Chile, during a strong ground shake in this tsunami-prone area. For that purpose, we need to clarify the process of evacuation decision-making of the community.

In the research of habitus, Bourdieu analyzes the individual's actions and thoughts in detail. He extracts the influence of social structure, with an aim to clarify the mechanism via which the community affects the individual's activity. A similar approch is adopted for our analysis.

Directly studying the culture of a community can be a nearly impossible task, in as far as some of the most relevant aspects of its culture are implicit and , often, invisible elements. We can, however, study the implication of these elements in the actions and thoughts of the community members. Detailed analysis of the decision-making process of these members would allow us to understand the influence communal culture and custom have in evacuation , even if done through a small sample of subjects.

By studying interviewees' statemenst in detail, the deeper logic behind their explanation may be found. Furthermore, this analysis should not be limited to subjects' decision-making process, but should also address the way subjects regard the socio-cultural environment within their community.

3. LITERATURE REVIEW

Past research on evacuation is vast and varied. Common approaches for Tsunami evacuation, specifically, tend to be related to modeling and evacuation route planning, both areas that have been greatly explored by Charnkol & Tanaboriboon[3], which utilized binary logistic regression techniques to categorize evacuees in groups of fast, medium and slow response under various conditions (number of family members, household closeness to the shore, previous experience, etc). Mas et al.[4], provided a powerful observation tool for bottleneck identification, shelter demand, and casualty estimation.

On a more comprehensive approach, Suppasri et al.[5] shed some light on the performance of a myriad of Tsunami countermeasures used simultaneously, including coastal buildings and evacuation during the Tohoku earthquake. The sturdy conclusion from this exhaustive research swiftly proposes: "The failures of structural defenses are a reminder that structural (hard) measures alone were not sufficient to protect people and buildings from a major disaster such as this. These defenses might be able to reduce the impact but should be designed so that they can survive even if the tsunami flows over them. Coastal residents should also understand the function and limit of the hard measures. For this purpose, non-structural (soft) measures, for example experience and awareness, are very important for promoting rapid evacuation in the event of a tsunami".

In publishing this conclusion, Suppasri et al. help position a well-rounded, interdisciplinary approach to tsunami preparation, one that must consider human behavior as a central, complimentary pilar to infrastructure improvement.

It is in this vain that research such as *a Case of "Kamaishi Miracle"*[6] emerges, with a focus in population preparation, this research proposes an "attitude-oriented disaster prevention education" with an emphasis on evacuee's independence.

On the other side of this research we have the application of discourse analysys as a methodology. It would be pertinent to highlight a couple of promising cases of studies which have similarly utilized discourse analysys to shed some light on subject´s personal view of the world, and its relation with their decision-making process. In areas as varied as nutrition[7] , discourse analysys can help uncover non-explicit yet fundamental forms of understanding the world, which shape decision making, in this case modifying people's disposition to healthy eating. Aritz and Walker [8] dives deep into the complex interaction of multi-cultural decision-making, by identifying the relationship between group's discourses and their impact in negotiations.

In this manner, discourse analysis extablishes itself as an inter-disciplinary methodology, defined by its central aim of clarifying complex human motivation and interaction expressed via language.

4. CARTAGENA, CHILE

Cartagena commune is a coastal subdivision of the Valparaiso Region of Chile, with approximately 17,000 inhabitants[9]. It is known within the country as a popular summer destination for tourist from the capital city, Santiago. This research takes Cartagena as a case study due to its prior experience with tsunami, as well as its many efforts in raising awareness and educating citizens on tsunami evacuation.

Cartagena stands out as a community of high-awareness, with successful experience in evacuation, most remarkably during 2010 27F earthquake and 1985 Valparaiso Earthquake. 1985 Valparaiso earthquake

was a 7.8 ms event, resulting in a tsunami. Its epicenter was 20 km into the ocean in front of the Valparaiso-algarrobo area. 979,792 people were directly affected by this earthquake, but only 2,575 were injured, with a total death toll of 177[10] .

2010 Chile earthquake, on the other hand, was an 8.8 ms event, resulting in a tsunami. Its epicenter was Cobquecura city, southern Chile. Two million people were affected, from Valparaiso Region to Araucania Region, with a death toll of 521[11] .
During the 2018-2019 period this municipality has been getting ready to become the first Tsunami Ready City in South America. Projects within this initiative include periodic seismic education for school-aged children, routine evacuation drills for its neighborhoods, and communal information sessions.

5. METHODOLOGIES

(1) Discourse Analysis

Decision-making is often impacted by subconscious factors which subjects are not explicitly aware of. Therefore, when directly asking subjects to explain their reasons for a certain behavior during evacuation, one might encounter superficial or incomplete answers. In order to explore the deeper layers of reasoning behind evacuation we must first uncover the process followed to decide in favor or against evacuating.

It is impossible to observe or investigate evacuation action on site in real time. Therefore, we ask interviewees to explain the reasons behind their decision to evacuate or not evacuate. We then analyze the way subjects explain these reasons from a variety of aspects, including the interviewees' attitude, selection of words, confidence, etc. In order to achieve this, discourse analysis is utilized to dissect subject's narratives.

Discourse analysis is sometimes defined as the analysis of language 'beyond the sentence'[12]. Contrary to much of traditional linguistics, discourse analysts not only study language use 'beyond the sentence boundary' but also prefer to analyze 'naturally occurring' language use, as opposed to theoretical examples. Discourse analysis aims at revealing socio-psychological characteristics of a person/persons rather than text structure. Through this methodology the context and surrounding culture of a community can be derived from a member's narrative, highlighting the connections between a subject's habitus and his/her actions.

Although Discourse Analysys and Narrative Analysis are not mutually exclusive and, in fact, overlap in several areas, Discourse Analysis was chosen as the main methodology for its focus on understanding collective discourses through the study of specific narratives.

(2) Data Collection

Data was collected during March 2018 in the cities of Cartagena, San Sebastian and Costa Azul, all subdivisions of Cartagena Municipality, Chile.

Two main methodologies for data collection were utilized: semi structured interviews and focus group.

Semi structured interviews were used to collect information from single individuals or couples belonging to a single family group. The aim of this approach was to gather in-depth recolections of their evacuation experiences, with an emphasis on the sense-making behind their decisions, and its relation with the family culture.

Subjects were asked why they did or did not evacuate, which implicitly requires interviewees to justify what they have or have not done . In their process of decision-making, they construct several narratives. Analysis of the contents of interviewees' statements allows us to identify various aspects of their reasonings; what issues have been prioritized; what references they use for comparison, etc.

Thirteen subjects participated in a total of nine interviews. Subjects were chosen for their previous experience evacuating (or choosing not to evacuate), at least one of these being within the Cartagena community.

The focus group discussion was carried within a group of neighbours from the Costa Azul subdivision. The subjects had a familiar relationship with each other, having lived in the area for many years. The purpose of this activity was to explore the collective experience of evacuation, bringing to light the points where each subject's individual story meets another neighbor´s experience and becomes a common narrative. Simmilarly, communal views on criteria for decision-making was gathered.

Both activities were conducted in Chilean Spanish, by a native'speaker interviewer, allowing for full display of the local lexicon.

Subjects for both activities were limmited in number, but varied in experience and family composition, making this a rich sample for the study at hand.

6. DISCOURSE ANALYSIS RESULTS

(1) Mr. Stein, Non evacuator.

Mr.Carlos Stein has been a resident of his neighbourhood for the last forty years of his life. He used to live with his family while his kids were growing up, but, now in his seventies, his children have grown up and moved out of home. He has always had several dogs as pets, and he currently owns seven dogs and two cats. Mr.Stein declares himself a non-evacuator and provides one main explicit reason for his decision to not evacuate; saving the life of his dogs:

Mr.Stein:

Really, I have never evacuated/

I have always stayed here at home/

Since, if an invasive wave was to truly come//

I would have to get all the dogs up to the second floor//

so I prefer to stay here/

to save the little bugs//

Mr.Stein explicitly describes his decision as a preference, implicitly acknowledging this is a decision he makes, and not a response to unavoidable circumstances. He refers to his dogs in terms of endearment, when calling them "little bugs", Chilean expression utilized to name small animals and pets. He goes on to explain his own son had a close relationship with his dogs, one of which used to guard him during his childhood, by making sure he was safe and would come back home on time. Furthermore, Mr.Stein explains his cats are proficient hunters who deal with the mice that show up in the neighbourhood due to a local school that remains vacant during summer.
Mr.Stein, finally, explains his dogs behavior before an earthquake comes:

Mr.Stein:

They even let me know before an earthquake comes/

they start howling//

And well/

there they are, the bugs/

they let me know before (an earthquake strikes)//

These sections of the interviewee´s narrative describe a relationship with his pets where the pets loyaly provide a service he values: childcare, early emergency alert, pest control. There are no narrative or verbal indicators in place to sustain that Mr. Stein does not consider these to be perfectly valid ways of procuring a form of childcare, early emergency alert or pest control. It becomes clear Mr.Stein has constructed a relationship of reciprocity with his pets, where at the core of his refusal to evacuate, he is trying to hold his end of this symbiotic relationship, by returning his pets loyalty and protecting them from danger.

Mr.Stein is also an active communal representative, participating in the local Neighbourhood association consistently since his youth. When prompted to describe what usually happens in his neighborhood during a tsunami alert, he narrates how elderly neighbours attempt evacuation, but become quite exhausted in the middle of the process. Therefore, he opens up his house as a "middle-point evacuation shelter" to those neighbors who feel to tired to keep climbing up.

Mr.Stein:
They release a Tsunami Alert/
but they (neighbors) can not reach/
so they reach here//
we drink a cup of tea, a refreshment/
to the old guys we give a beer/
and we talk/
and in the end they stay here and they leave afterwards for their houses/
calmly.

He refers to his elderly neighbours in affectionate terms, utilizing the vernacular language of the area ("The old guys", for example). Mr.Stein's house, however, is below the established safety limits for tsunami safety. His narration is filled with numerous signs of empathy, and its main point is his own aim to aid these partial evacuators. He offers to change the reality of these people from one of struggle and exhaustion, to one where they have certain basic needs satisfied: to have something to drink, shelter, a place to use a toilet, someone to talk to. The presence of these elements in his discourse describe an underlying desire to provide a dignified process to these elderly neighbors.

Mr.Stein feels a strong sense of reciprocity not only to his dogs, which are emotionally related to his family and have loyally provided numerous services through the years, but also to the elderly residents of his neighborhood, who he represents. He feels the need to protect them and procure comfort and dignity within their limitations, in his own house, which is

why he opens up his home as a midpoint evacuation center for them.

Through this process, he seems to lack a sense of urgency. This could possibly be related to his interpretation of a scientific research conducted in the area a few years ago.

Mr.Stein:
What happens is there is/
according to some studies they made/
that we are in a zone/
between La Punta de la Yegua/
and La Punta del Lacho/
which is in Las cruces/
in both Puntas they converge/
what do they call it?/
Like an abyss//
NO//
and SUPPOSEDLY the wave would fall over there//
It is like an abyss/
like a precipice between the two tips…//

…The wave falls there, so it would not be such a giant wave, so destructive, but a rather invasive wave//
Of course it would still get in the houses anyway/
but it would not fall on top of things//

During the first section of his Narrative, Mr.Stein attempts to reproduce the scientific insight he witnessed. He attempts to utilize scientific terminology, his clauses (sentences) are short, and hesitation and emphasis markers are numerous (the use of emphatic stress, the use of "like", etc). This part of his narrative constitutes the exposure of his knowledge. When we turn our attention to the second part, however, we go into the conclusion of the narrative. During this part Mr.Stein returns to his Vernacular speech, he approaches the issue much more confidently, utilizing longer clauses and eliminating hesitation markers. This is sujestive of a process in which the explanation of scientific information adheres to the scientific source , but the conclusion stems from an individual reasoning conducted by the speaker. It is entirely possible that Mr.Stein subconsciously has accommodated the implications of this scientific research to support his non-evacuating decision.

(2) Ms. Isabel and Mr. Sergio, Evacuators:

Isabel and Sergio are part of an extended family which includes grandparents from two families, grown up children who are either brothers or cousins to each other, and some young children.

Family, in this case, is an evacuating unit. Isabel recalls automatically checking on his father, as soon as the earthquake was over, because he is her immediate responsibility within their bigger family, a role which seems to have been organically decided within the family. The decision to evacuate was not, by her account, discussed within the family group. Instead, the family group started automatically getting ready for evacuating those of its members who might have been at risk, as determined by the location of these relatives in relation to municipal safety lines.

Isabel:
And we came to my father/
who lived here/
and we took him to where we currently live/
which is right where the safety zone begins//
so why would we go any further/
we went all together to sleep over there/
we just brought mattresses//
My uneasiness when this just happened was that my father was here alone/
On top of that the store needed to be opened/
so he could go out//

There is a predominant "no man left behind" philosophy within the family. We can see in Isabel's and Sergio's narratives that family functions as an organically coordinated unit of evacuation, which trains and prepares for these events, but it also acts as a satisfier of the immediate need of comfort subjects might experience after a strong earthquake.

Sergio:
In the end experiences get passed on/
where to stand/
they would say/
" No/
you must stand over there under the door/
you cannot move"//
but yes//
when these earthquake happen and people had to evacuate/
and we, as a family, had to be living a few days up there/
lighting a fire/
then you forget the fear a little bit//
The ground sounded all the time/
It produced a sound more than movement/
there was a noise underground/
I remember for 85' a lot//.

In this way, the concept of family unity and responsibility plays an important role and constitute the main pro-evacuation motifs of this case.

On the other hand, this family does display another motif which is rather ambivalent; an Inaccurate scientific knowledge regarding the geomorphology of the area:

Sergio:
Tsunami/
according to some studies they conducted a few years back/
the ocean is too deep over here//
And the movement of the earth is not capable of moving the water outwards//
Because it is too Deep/
We are near a port/
we see there are lots of ships/
it is of high depth this zone//
And the difference between the ocean//
it is very//
it rises right away/
then according to some people/
some geologists that were conducting some studies/
it is unlikely that there will be a tsunami//

Mr.Sergio explains the findings of some studies done in the are a few years back. He relates the fact that the ocean is quite deep with the presence of a port and a big number of boats, in an unclear link. He states that something rises right away (presumably the land right next to the ocean), and states that, therefore, a Tsunami in the area is unlikely. There are certain hesitation indicators in his narrative, in terms of rhythm and phrase interruptions ("the ocean…it is very…..it rises"), as well as rephrasing of certain sections of his speech ("some people, some geologists").
Isabel backs up his statements in the following manner:

Isabel:
Those studies were conducted by The Army/
In my position as a leader/
that you are always being invited to do these talks/
especially after 2010/
when I participated more//
Those talks you always do/
and I heard always the same/
that over here there are a lot of gorges/
That beaches are super dangerous to swim in/
there are a lot of whirlpools//

When Isabel says "do these talks" she does not mean as a presenter, but rather as an attendee. She suggests as a communal leader she gets often invited, and points out that after 2010 earthquake this kind of event happened more often. Unlike her cousin ,she is very straight forward in her recollection, and does not hesitate much, preferring to use her own vernacular

speech and summarize the researchers findings in a single phrase. The presence of a gorge also sheds light on his cousin's remark about some unknown element "rising up", probably referring to the steep contrast of a gorge. Isabel establishes herself as a friendly ,approachable leader by utilizing clear, simple words and subtly nudging at the interviewer with "in my position as a leader", perhaps establishing a certain degree of awareness expected of her as a communal leader.

Even under a generous contextual analysis, however, Isabel and her cousin's explanation of these scientific discoveries remain obscured by a certain degree of inaccuracy and disconnection.

This might help partly explain the highlighted sensation of calmness and time availability experienced by its members, as there is an underlaying belief that the risk is somehow minor because of this. As we have seen in the case of Mr. Arenas, this can easily be construed into an anti-evacuation motif, but in the case of Isabel's family they utilize it as a reason to aid all family members in their evacuation process.

To summarize, this family takes action not because of safety concerns, but because of their responsibility to each other as a family, under the umbrella of local lore regarding their ocean's geomorphology, which allows for a calm, inclusive process.

(3) Focus Group: Damare, Isabel, Rosa, Susana, Jenny, Nancy, Edvina.

A focus group was conducted with the participation of seven neighbors from the Costa Azul area of Cartagena, in this opportunity all of them are women: Damare, Isabel, Rosa, Susana, Jenny, Nancy and Edvina. They know each other from living in the area and participating in various community activities together. The focus group aims at establishing the common areas of their evacuation experience, as well as their communal view on the variety of dispositions towards evacuation present in the neighborhood. It starts with a brief introduction of each of the participant's living situation. In this context Rosa explains:

Rosa:
I'm alone/
And now there's my son but only for a while/
He is not always with me/
I'm alone alone/
I have faced all the earthquakes on my own//

Isabel:
And who did you run away with?//

Rosa:
With you of course! // (laughs)
She takes me/
She has taken me in her truck, I don't even know where to//
She will take me to Valparaiso sometimes I say to her!// (laughs)

The most commonly used way of saying "I'm alone" in Spanish is "Estoy sola", which implies this is a temporary situation, since it is assumed that loneliness is a temporary state of the subject, however, Rosa utilizes the permanent "estar" to define her status, making this a strong sentence that suggests her most common living situation is by herself. She mentions her son is around for a while, but clarifies that this is not always the case, and she emphasizes she has been alone for all of the earthquakes she has gone through.

Isabel calmly asks the question "who did you run away with?", to which Rosa promptly acknowledges she has had the support of Isabel in the past, for evacuating. Isabel's interjection comes in a quiet, paused tone, anticipating the answer Rosa will give, since they have a shared experience of evacuation. This is where Rosa mentions that she does not know exactly where Isabel is taking her. Her way of expressing what Isabel has done for her is quite telling, as she uses the expression "Ella me lleva", "She takes me". This phrase is lacking in a verb and a destination, and the only sensible assumption around it is that Rosa means Isabel takes her through evacuation in her truck. There is a sense that Rosa is partly unaware of what this evacuation entails, but she goes along in any case.

Isabel goes on to explain why she picks up people for evacuation, clarifying she has a property in the Quillaisillo area (which is higher up the mountains), where there is no danger of tsunami. There is a casual manner to her words, simply stating "everyone jumps on the truck", without much detail given about who is "everyone". She mentions having seen another person in her community, a girl, doing a similar thing, Driving a truck full of people during evacuation. She finalizes by clarifying that she hosts people up in her house in Quillaisillo. This recount is consistent with some of the experiences of other neighbors in the community, who have previously shared their experiences of opening their doors as evacuation centers for those who need it, and/or evacuating in a collective manner, with the assistance of their neighbors and families.

One of the participants, Jenny, recalls her own experience trying to encourage a family member to evacuate in 2010 earthquake, in the following manner:

Jenny:
So what I did was telling my mother/
let's go, we lock the house and we go//
But she did not want to go/
So I went with my daughter/

Jenny proposed to her mother they should lock their house door and evacuate, but her mother simply did not want to leave. Not much attention is paid to this point by Jenny, and no further explanation is given on her end. The rest of the focus group participants just nod slightly, but don't ask any questions or make any comments. The notion of a person not wanting to evacuate does not seem to raise any eyebrows, for the time being.

A further two participants share their take on evacuation, following Jenny's comment:

Edvina:
I was home/
I did not hear sirens/
I did not hear anything/
no one came to see me and I stayed in bed/
and I went through the earthquake on my own//

Susana:
Same for us/
we did not run away to the hills either/

Edvina:
Me neither/
I do not run away/
If I shall die I shall die here calmly//

When Edvina explains she did not evacuate for 2010 earthquake, no comments are made by the rest of the participants, except for Susana, who adds she does not tend to evacuate either. It is important to clarify this kind of statement is made with a natural demeanor, to no surprise or judgement from the rest of the participants. Edvina, who is the oldest participant around the table (in her 70's or 80's approx.), closes her statement with the following phrase: "If I shall die, I shall die here, calmly". What she means exactly requires some contextual understanding of her socio-cultural reality, in which the prevalent cosmovision is closely associated to Roman-Catholicism. This branch of Christianity carries a strong religious determinism with it. Although the catholic church believes in free will, historically it has taught believers that their circumstances are part of a bigger plan created

by god. Often it is stated by the church's leaders that God's plans can be hard to comprehend, encouraging believers to turn to acceptance, prayer and sacrifice to face their hardships. In this context, Edvina's statement is reflective of a religious tradition where the acceptance of hardships, even if that hardship is death, is perceived as the acceptable, honorable thing to do. This statement, therefore, is hard to counter or argue over, since it stems from a personal, yet commonly accepted world-view within the community.

The final part of this statement, however, contains an interesting choice of word. Edvina states her option is to die "here, calmly", suggesting that the option of non-evacuation entails a sensation of calm for her, and the possibility of evacuation would lack this quality. The impression that a tsunami evacuation process is strenuous or, at the very least, uncomfortable, seems to be shared by the oldest members of this community, as well as by those ill, or performing a caretaking role. The sensation that non-evacuation is safer, more comfortable or dignifying has also been voiced by other members of this study.

On the topic of the elderly, Damare adds:

Damare:
I used to have a neighbor across the street/
and she was all alone/
she used a cane/
she had only one eye//
For me the drama was her/
because she was quite childish/
and she would say "Im not going to evacuate anymore, Damare"/
so for 2010 I took her up to the hill//

There seems to be a commonly understood, unspoken rule within the community: non-evacuating decisions can be simply accepted without further comment if they appear to stem from the will of a subject, and not from the impossibility of this subject to evacuate. In other words, a subject who has difficulty evacuating and, therefore, decides to give up evacuation, will generally have their decision challenged by the community. Neighbors will commonly offer help or company through the evacuation process, like in the case of Rosa and Isabel, who evacuated together in Isabel's truck, or in the Case of Damare and her elderly neighbor.

If, however, a neighbor refuses to evacuate despite having no major difficulties for evacuation, their decision will generate no opposition or further comments, and will be considered as a personal decision which does not merit criticism or debate.

Neighborhood relationships, in that sense, seems to differ from familiar relationships in as much as we have encountered occasion in which family members have tried to convince non-evacuators to evacuate. The social expectation seems to be that a higher degree of closeness is required to engage in that kind of interaction.

7. DISCUSSION

When discussing about tsunami evacuation we encounter a number of assumptions regarding the way subjects evacuate. One of these assumptions is that subjects make their decisions based on risk evaluation. This evaluation process would involve subjects using some degree of prior scientific knowledge to quickly compare the possible consequences of evacuating vs. not evacuating. A closer look into the experience of Cartagena neighbours, however, reveals a lack of such an approach in their narratives.

Discourse analysys of Cartagena neighbors' experiences exposes that, on one hand, subjects who consistently evacuate, do so without giving much thought to justifying their evacuation decision. There is an underlying, naturalized assumption that evacuating is simply the thing to do. They are also aware that other people in their community will evacuate under the same assumption. The decision of evacuating is automatically validated in the community, in as far as each neighbor knows that other neighbors have the same disposition. No mention of life-preservation, natural disaster threats or related consequences are found in the subjects discourses.

On the other hand, subjects who have made the decision of not evacuating at some point, did so because of an inconsistency between the alternative of evacuation and their vision of their own role within the community: as parents, caretakers, community leaders, etc. These subjects are under the impression that evacuating would be fundamentally against the duties of their position. Their role in the community becomes such a fundamental part of their identities, that not performing as expected is not acceptable to them, even if it means not evacuating. This can be most evidently seen in the ubiquotos presence of concepts such as honor, responsibility and representation in these subject's narratives.

The rest of the community helps shape the sense of duty each subject has in their own life, by positioning communal expectations on different roles in the community: neighbours would have a collective idea of what each person needs to do according to their role.

In this manner parents are most commonly expected to evacuate, as their primary duty is to protect the physical integrity of their kids.

Expectations on communal leaders depend on who these leaders are most commonly representing: if they represent able-bodied subjects who are generally capable of evacuating then they will be expected to evacuate to set an adequate example to the community. If, on the other hand, they are representing elderly or disabled sectors of the community, then they are expected to aid these neighbours even if it means they can not evacuate themselves.

Finally, caretakers are usually implicitly expected to stay with their care-receipients even when they are not able to evacuate.

An interesting interaction occurs with the later two groups: caretakers' group and disabled and elderly neighbours' group, as well as their representatives. Community has non-explicit rules for approving of or rejecting a non-evacuation decision: if a neighbor willingly decide not to evacuate, in spite of being able to do it, then neighbours quietly accept the decision. On the contrary, if a neighbor decides not to evacuate because they are physicaly weak or have someone with physical limitation on their watch, then the decision not to evacuate is not-accepted and further help must be offered by other neighbours. In this manner communities take responsibility for its most vulnerable members through collective evacuation processes, in which one or more capable members of the community aid those who struggle with evacuating on their own.

considerations, appear in subjects narratives as an "after-the-fact" explanation. These elemments are regarded as reputable or commonly acceptable reasons for evacuating or not evacuating, and in this way subjects will often bring up these elements when they want to justify their decisions in a social setting. However, these are not elements they use for making their evacuating decisions, but rather socially acceptable aditions to their discourse.

In other words, evacuators do not evacuate because of accurate risk estimation or compelling scientific understanding, but because of a sense of identity in regards to their position in the community in the context of daily life.

Understanding and considering these unspoken communal expectations when educating Cartagena communities could help us educate its members more effectively, by addressing the issues that are in fact relevant to their evacuation decisions.

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8. CONCLUSION

When evaluating subjects' narratives it was found that adequate evacuation behavior is defined by unspoken, but commonly understood community expectations. The community implicitly positions their expectation of different roles within their boundaries: parents, caretakers, community leaders all have well-defined responsabilities the community expects to see upheld. Each individual understands what these duties are and, consistently, assess whether they can continue to fulfill these duties while evacuating. If at any point evacuation is not compatible with these duties, then the decision to not evacuate is made.

Elements that are commonly regarded as highly influential for evacuation decision, like scientific understanding, technical training or religious

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