

# Sentiment Analysis of Women's Relationships with Territory Through Body Mapping\*

[English Version]

Análisis de sentimientos de las mujeres frente al territorio aplicado al mapeo corporal

Análise de sentimentos das mulheres em relação ao território aplicada ao mapeamento corporal

Received on 09/12/2024. Accepted on 11/08/2025

› How to cite:

Echeverri, E., & Aguirre, A. M. (2026). Sentiment Analysis of Women's Relationships with Territory Through Body Mapping. *Ánfora*, 33(61), 146-184.  
<https://doi.org/10.30854/anf.1212>  
Universidad Autónoma de Manizales. L-ISSN 0121-6538.  
E-ISSN 2248-6941.  
CC BY-NC-SA 4.0

Erika Echeverri Londoño\*\*

<https://orcid.org/0000-0002-6495-2508>  
CvLAC [https://scienti.minciencias.gov.co/cvlac/visualizador/generarCurriculoCv.do?cod\\_rh=0001378277](https://scienti.minciencias.gov.co/cvlac/visualizador/generarCurriculoCv.do?cod_rh=0001378277)  
Colombia

Ana María Aguirre Henao\*\*\*

<https://orcid.org/0009-0003-0518-9420>  
CvLAC [https://scienti.minciencias.gov.co/cvlac/visualizador/generarCurriculoCv.do?cod\\_rh=0001632596](https://scienti.minciencias.gov.co/cvlac/visualizador/generarCurriculoCv.do?cod_rh=0001632596)  
Colombia

## Abstract

**Objective:** To study the perceptions and emotions regarding the territory of three groups of rural women of Bosque Modelo Risaralda. **Methodology:** The body-mapping technique was employed to collect qualitative data for a sentiment analysis carried

\* This paper results from the *Tangara Multicolor* female leadership program within the framework of the *RESTAURacción* project, code 7-22-3. Funding: Received from the government of Canada and executed by the Universidad Tecnológica de Pereira between November 2022 and March 2023. Conflict of Interest: The authors declare that there is no conflict of interest. Data Availability: All relevant data are found in the paper.

\*\* PhD in Environmental Sciences. Universidad Tecnológica de Pereira. Email: [emecheverri@utp.edu.co](mailto:emecheverri@utp.edu.co)

\*\*\* Master in Operations Research and Statistics. Universidad Tecnológica de Pereira. Email: [anamariaguirre@utp.edu.co](mailto:anamariaguirre@utp.edu.co)

out by R software with National Research Council of Canada (NRC) Emotion Lexicon

**Results:** Women associate their homes with feelings of well-being. They symbolically placed their homes in the heart. The emotions of sadness and fear are mainly placed in the head and feet. These body locations correspond metaphorically to spaces within the home. Environmental conflicts were represented in the hands and stomach. Those body parts generate negative emotions such as sadness and disgust, but, at the same time, awaken positive emotions of trust shown in desires for change and transformation. The women place struggles and strength in the mind and legs. They associated those body parts with confidence, but also with fear and anger. **Conclusions:** Women's vulnerability in intimate and public places is evident. Additionally, the socio-environmental conflicts of their territories becomes coded in their bodies.

**Keywords:** sentiment analysis; body mapping; body; territory; emotions (obtained from UNESCO and ERIC thesauri).

## Resumen

**Objetivo:** estudiar las percepciones y emociones frente al territorio de tres grupos de mujeres rurales del Bosque Modelo Risaralda. **Metodología:** se hizo uso de la técnica de mapeo corporal para la recopilación de información cualitativa a la cual se le realizó un análisis de sentimientos en el software R, con ayuda del lexicon del Instituto Nacional de Investigación Consejo de Canadá (NRC). **Resultados:** entre los principales hallazgos se identificó que las mujeres encuentran alegría en sus hogares, ubicándolos simbólicamente en el corazón. Las emociones de tristeza y miedo se ubican principalmente en la cabeza y pies, asociados a partes específicas de la casa. Los conflictos medioambientales los representan en diversas partes del cuerpo como manos y vientre, que generan emociones negativas como tristeza y disgusto, pero, a su vez, despiertan emociones positivas de confianza que se reflejan en deseos de cambio y transformación. Las luchas y la fuerza la ubican en la mente y en las piernas, asociadas a la confianza, pero también al miedo y enojo. **Conclusiones:** se evidencia la vulnerabilidad de las mujeres en espacios íntimos y públicos, así como la codificación de los conflictos socioambientales de sus territorios en sus cuerpos.

**Palabras clave:** análisis de sentimientos; mapeo corporal; cuerpo; territorio; emociones (obtenidos de los tesauros UNESCO y ERIC).

## Resumo

**Objetivo:** estudar as percepções e emoções em relação ao território de três grupos de mulheres rurais do Bosque Modelo Risaralda. **Metodologia:** utilizou-se a técnica de mapeamento corporal para a coleta de informação qualitativa, à qual se aplicou uma análise de sentimentos no software R, com o auxílio do léxico do National Research Council do Canadá (NRC). **Resultados:** entre os principais achados, identificou-se que as mulheres encontram alegria em seus lares, situando-os simbolicamente no coração. As emoções de tristeza e medo localizam-se principalmente na cabeça e nos pés, associadas a partes específicas da casa. Os conflitos socioambientais são representados em diferentes partes do corpo, como mãos e ventre, gerando emoções negativas como tristeza e desgosto, mas, ao mesmo tempo, despertam emoções positivas de confiança que se refletem em desejos de mudança e transformação. As lutas e a força são situadas na mente e nas pernas, associadas à confiança, mas também ao medo e à raiva. **Conclusões:** evidencia-se a vulnerabilidade das mulheres em espaços íntimos e públicos, assim como a codificação dos conflitos socioambientais de seus territórios em seus corpos.

**Palavras chaves:** análise de sentimentos; mapeamento corporal; corpo; território; emoções (obtidos dos tesouros UNESCO e ERIC).

## Introduction

This paper results from the “Tángara Multicolor” female leadership program within the framework of the “RESTAURacción” project, funded by the government of Canada and executed by the Universidad Tecnológica de Pereira, Colombia. The results of the analysis of sentiments and emotions of three groups of rural women from Bosque Modelo Risaralda regarding their territories are presented in a body mapping.

The research draws on feminist geography frameworks that explore the relationship between space and gender and reveal how spatial divisions are shaped by dominant power relations (Zubillaga & Lan, 2024).

Body mapping involves full-scale body maps using artistic media such as drawings or paintings to represent aspects of participants’ lived experience, bodies, and territory (Gastaldo *et al.*, 2012).

One of the first records of body mapping is found in research conducted in Jamaica to evaluate the perception of sexuality in women (MacCormack & Draper, 1987), and their knowledge of reproduction and non-indigenous contraceptive methods (Cornwall, 1992). Thus, the best-known research on the origin of body maps as a research tool applied to the sensitization of the Human Immunodeficiency Virus (HIV) in women, emerged in South Africa (MacGregor & Mills, 2011; Wienand, 2006).

The use of body maps in research has moved to health for its potential to obtain in-depth information from people. It becomes a qualitative research tool for the lived experience of each participant.

Silva *et al.* (2013) used body maps as a biographical tool, while Rivas-Quarneti *et al.* (2020) used body maps for occupational and gender analysis. Chaves (2015) applied this technique to explore the relationships between the territory and students’ rights, and Gastaldo *et al.* (2012) used it as a methodology to tell stories of workers in an irregular situation. The roots of body maps lie in art, therapy and the recognition of the body as the first territory in which stories are told.

From this approach, Lan and Rocha (2020) and Zubillaga and Lan (2024) used body mapping to place the fear caused by violence in the female body and the oppressions that they go through, a result of adjustment policies in Argentina. The Critical Geography Collective of Ecuador (2018) states that this tool made it possible to observe how different expressions of violence functioned in an indigenous commune in Ecuador. Domestic violence to conflicts over land were reflected in the bodies of women. It impacted collective life and the shared territory.

Visual tools as body maps in this kind of research foster the co-construction of knowledge from the participants’ voices and experiences, evoking deep issues

of human consciousness (Harper, 2002) such as feelings and emotions that arise from the relationship of people with the territories they inhabit. Body maps can hardly be identified with traditional verbal or written approaches (Zaragocin & Caretta, 2021).

### **Body-territory-emotions**

The territory has multiple perspectives, one is the critical perspective of geography. It considers "territory" as a social representation from the exercise of power relations (Herner, 2009).

Nates (2011) states that:

There is no territory in itself, there is only a territory for someone who can be a social actor, both individual and collective that comes from planning and territorial planning to home or access to resources (pp. 211-212).

As a space, the territory has a physical dimension that allows human presence and can be endowed with cultural meanings and social, political and economic implications. Each culture builds and defines its own conception of "territory" as a polysemantic concept based on intentionalities of organizing the properties and spaces of human relationships (Bustos & Molina, 2012).

The territory should not be interpreted as an *outside* as versus an *inside*, but rather as a symbiosis in which all social systems and interactions take place, in individual subjectivity (Londoño & Herrera, 2018). Thus, the "territory" can be understood as a complex network of socially and culturally constructed, symbolic, and lived spaces in which corporeal subjectivity transforms into a constructed "we" that opens up to the "others" in the construction of a "between-us."

The symbiosis between these apparent internal and external worlds, is embodied, i.e., a territory in which all experience leaves its mark, and through them, experiences can also be accessed (Pedraza, 2011). The "body" can be seen as a social construct interpreted as a territory. A body located spatially and temporally as a field of expression of emotions, a result of perception of inhabited territories (Londoño & Herrera, 2018).

Silva (2010) approaches this concept from the notion of "body-space". The body becomes the first territory to be inhabited, connecting the body scale to other geographical scales (local, regional, national, global). Power relations —mainly for women, who can make these spaces of resistance and agency— take place in the body territory (Lan & Rocha, 2020).

The body-territory relationship is mediated by feelings and emotions that impact the relationships in places that are inhabited daily, and affect decisions such as permanence, absence, and mobility. Serrano (2024) shows this issue through a mapping with young women who deal with violence in their neighborhood. The researcher concludes that emotions rebuilt the cartography of space, as the emotions redefined it by printing senses and memories on it.

The concept of “emotion” can be complex to explain because of its wide variety of definitions. However, Kleinginna and Kleinginna (1981) inferred the following multidimensional definition:

A complex set of interactions between subjective and objective issues mediated by neural and hormonal systems that: (a) can generate effective experiences, feelings of activation, liking-disliking; (b) generate cognitive processes such as relevant perceptual effects, valuations, and labeling processes; (c) generate physiological adjustments [...]; and (d) generate behavior that is usually, but not always, expressive, goal-directed, and adaptive (p. 355).

According to Fernández-Abascal and Sánchez (2010), emotions can be classified into two types: dimensional and discrete. This paper addresses discrete or specific emotions. They are characterized by having unique and distinctive attributes that allow their classification according to the individual's level of development when they appear. Primary emotions make part of this category, they appear at the beginning of the subject's life and have an adaptive function in non-verbal communication and physiological activation. These emotions include surprise, disgust, fear, joy, sadness, and anger.

On another level are secondary emotions, the result of social interactions. They are based on primary emotions as the subject's experiential basis. The development of these emotions is mediated by culture and personal history. An example is the emotion of jealousy, a mixture of the primary emotions of anger, sadness, and fear.

Table 1 presents the classification of primary emotions according to their adaptive function.

**Table 1.** *Primary Emotions from an Adaptive Function.*

<b>Emotion</b>	<b>Adaptive Function</b>	<b>Purpose</b>
<b>Surprise</b>	Exploration	Facilitates emotional and behavioral reaction according to the situation, and the direction of attentional processes. Recruits and directs cognitive resources to the new situation.
<b>Disgust</b>	Rejection	Triggers or avoids unpleasant or dangerous stimuli. Enhances the development of adaptive habits.
<b>Joy</b>	Affiliation	Increases the ability to enjoy different aspects of life, generates positive attitudes towards oneself and others, favors interpersonal relationships, gives a sense of strength, competition, transcendence and freedom.
<b>Fear</b>	Protection	Favors escape/avoidance responses, focuses attention on the feared stimulus, mobilizes a large amount of energy to respond very intensely and quickly.
<b>Anger</b>	Self-defense	Moves needed energy for self-defense or attack behaviors, overcomes obstacles for obtaining goals, inhibits undesirable reactions from other people and avoids confrontation.
<b>Sadness</b>	Reintegration	Increases cohesion with other people, reduces the general activity of the body, enhances the possibility of appreciating other aspects of life. Claims for help from others, hedges aggressive reactions from others, and encourages empathy and other altruistic behaviors.

Source: Fernández-Abascal & Sánchez (2010).

Another highlighted concept is "perception" which is closed to emotion. Melgarejo (1994) states that perception involves the acquisition and processing of sensory information from the environment, and is an effective response to perceived stimuli.

The way a person perceives and processes stimuli can affect the way they experience emotions, since one of the basic characteristics of perception is the elaboration of judgments. Emotions can also influence perception, by affecting attention and the interpretation of sensory information. Therefore, perception

and emotion are interconnected and can affect each other in the processing of sensory information and emotional experience.

Perception has a conscious and unconscious level of existence. It is conscious when the individual realizes that he/she perceives certain events. At an unconscious level, the processes of selection (inclusion and exclusion) and organization of emotions are carried out.

Research that addresses the relationship between body-territory-emotions usually does so through manual analyses by researchers. The interrelationship makes identifying trends of meaning in large volumes of files difficult. To overcome this limitation, Silva and Silva (2016) highlight computer tools in qualitative research to increase productivity and flexibility.

This research uses a sentiment analysis to body mapping carried out with three groups of women from Bosque Modelo Risaralda.

## Methodology

The methodology had the following steps:

**Step 1** Participants created body maps as a means to express their perceptions and emotions, and made scale drawings of their own bodies. The "Methodological Guide for Women Who Defend Their Territories: Mapping the Body-territory" of the Collective Critical Views of the Territory from Feminism was taken as a foundation. The aggressions by the territories and how they are experienced from the bodies can be identified. It makes one aware of why defending the place in which one lives is important (Cruz *et al.*, 2017).

**Step 2.** The maps were enriched through the following questions:

Question 1: "Think about the spaces you inhabit in everyday life. It could be the house, the community, the work. Think about each one. Which places can be identified? Which of those places do we like? Now, place them in your body using materials, for example, if you imagine the roads that they usually travel, where are those roads in the body? If you think of a park, a crop, a river, a mountain, a forest, a street, a water source – where are they in that body?"

Question 2: "We propose that the participants point out those places they like the least, where they feel unsafe, where they have felt violence, pain, anger, and that have already healed on the body-territory maps. Where are they? And

how are these visually represented? Is it a street, a part of their house, a place far from their house, or is it close?"

Question 3: "Think about whether or not there are conflicts in the territory that affect you in your daily life: mining, oil extraction, agro-industrial conflicts, etc. How do they affect your bodies? Where would they be placed in the body territory?"

Question 4: "Recognize the places where you find struggle, rebellion, triumphs on your map. Where are they in your body? Where is that rebellion born, that word, that shout? In what part of that body or that territory? How is that triumph expressed? Is it a shout, a word, a song? Is it in the head, in the heart, the feet, the stomach, the legs...? Where is it? Where in the territory do you feel you can be strong? Where do you fight?"

Question 5: "Your body as a territory must be focused on mobilization, on socialization. Does the mobilization arise with others? Does it arrive alone? Where does that meeting with others take place to organize yourselves?"

These questions prompted participants to reflect on and deepen the perceptions and emotions represented in their bodies. They also made connecting the personal dimension (body) with the collective dimension (territory) that generated inputs for the analysis possible.

**Step 3:** Socialization of the maps. The women shared everything placed on their body maps with the group. During this process, the shared information was audio recorded.

**Step 4.** The information was transcribed and oral narratives turned into text.

**Step 5.** A textual analysis was carried out to differentiate the narrative from the body maps, emotions and perceptions in the body-territory relationship built by the participants. A sentiment analysis was conducted with R software using the lexicon of the National Research Institute Council of Canada (NRC).

## Data Gathering Instruments

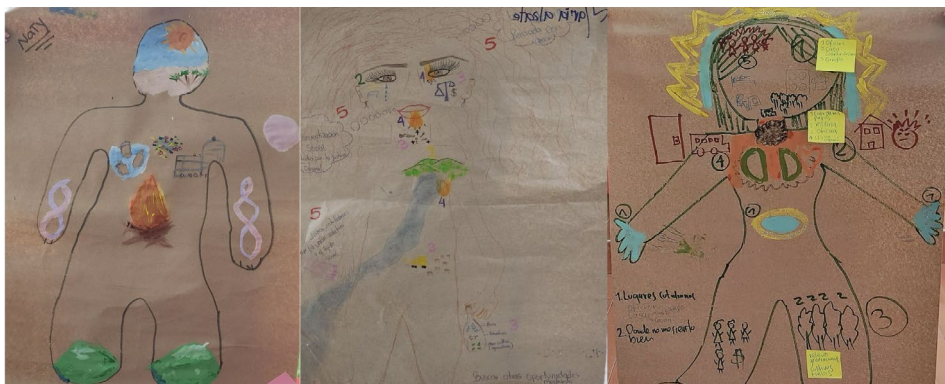
The main instrument for gathering data was body maps. For its construction, different steps were taken:

Each participant was first given a paper big enough on which to draw an outline of their body. They had a wide variety of materials available to avoid limiting their expression: markers, colors, crayons, paint, scissors, magazines and sticky notes. Participants were asked individually to draw the outlines of their body from head to toe, as shown in Figure 1.



**Figure 1.** Body Outline Examples.

Then, guiding questions prompted participants to identify places in their territories to different parts of their body maps (Figure 2).



**Figure 2.** Body-Territory Examples.

Once the body maps were prepared, each participant had time to share it with the group (Figure 3).



**Figure 3.** *Sharing of Body Maps.*

## Participants

The task was carried out with three groups of rural women from Bosque Modelo Risaralda during the “Tángara Multicolor” female leadership program (Table 2).

**Table 2.** *Groups of Women Who Participated in the Activity.*

Location	Average Age	Level of Schooling	Task Date
<b>Corregimiento La Florida, Pereira, Risaralda</b>	29 years	33% Undergraduate 67% Technical/ Technological	December, 2022
<b>Mistrató, Risaralda</b>	47 years	11% Technical/ Technological 22% Secondary school 67% Primary school	February, 2023
<b>Peralonso, Risaralda</b>	45 years	22% Graduate 11% University student 11% Technical/ Technological 22% Secondary school 33% Primary school	March, 2023

## Data Analysis

To understand the perceptions and emotions that women associate with their body-territory, a sentiment analysis was carried out. This content analysis technique allows for extracting the polarity, valence, or opinion of a text to determine if its trend is positive, negative, or neutral (Pérez, 2018). The approach used in this research is based on the use of lexicons, with dictionaries of terms or lists of words previously labeled with a sentiment polarity (positive or negative) and linked to basic emotions.

The “National Research Council of Canada (NRC) Lexicon of Emotions,” developed by Saif M. Mohammad and Peter Turney (2010) was used. This resource associates words with a polarity, as well as relates them to eight basic emotions: anger, fear, anticipation, confidence, surprise, sadness, joy, and disgust. The NRC differs from other lexicons in its ability to offer a broader and more diverse classification of these emotions, which makes it an extremely useful tool in sentiment analysis.

The NRC has been applied in multiple studies that cover different levels of analysis, from individual words to more complex texts, sentences, social media posts, and academic papers. It has been widely used to the analysis of abusive language, the identification of personality traits and the exploration of discursive

positions as one the most complete resource of its kind (Mohammad & Turney, 2010). This adaptability supports its relevance as a methodological tool.

The characteristics of this dictionary are described in Table 3.

**Table 3.** *NRC Lexicon.*

Lexical Association	No. of Terms	Categories	Association Scores	Creation Method
NRC Word-Emotion Association Lexicon (also called EmoLex)	14,182 unigrams (words)	Feelings: negative, positive. Emotions: anger, anticipation, disgust, fear, joy, sadness, surprise, confidence.	0 (not associated) or 1 (associated)	Manual: by crowdsourcing in <i>Mechanical Turk</i> . Overall Proficiency
	~25,000 senses		not associated, weak, moderately or strongly associated	

Source: Mohammad & Turney (2010). Translated version of *NRC Word-Emotion Association Lexicon* (aka EmoLex).

## Data Processing

R Statistical software was used in its visual environment *RStudio* (version 2022.12.0+353). Data processing was carried out in several steps:

**Step 1. Cleaning and data preparation.** A cleanup of the text by *tm\_map* function was executed to standardize data. This process included converting the entire text to small letters to avoid inconsistencies in the analysis, the removal of numbers and punctuation marks that did not add value to the semantic content, and the removal of generic words that could distract attention from key emotions. This standardization was important to ensure that subsequent analysis was consistent and free of unnecessary noise.

**Step 2. Tokenization.** The processed text was *tokenized* using the *get\_tokens()* function, splitting the character string into a list of individual words.

This enabled the identification of each term and its corresponding analysis. *Tokenization* allowed each word to be evaluated independently keeping its contextual meaning and ensuring that the associated emotions were correctly identified.

**Step 3. Sentiment and Emotion Analysis.** The technique of sentiment and emotion analysis was applied. In this stage, the NRC lexicon was used to identify and classify the emotions within the transcribed texts. This analysis determined the polarity of each word (positive, negative, or neutral), and also revealed more complex emotions, such as anger, fear, anticipation, confidence, surprise, sadness, joy, and disgust. The integration of these emotions into the analysis allow for obtaining a deeper and more detailed view of how rural women perceive and feel their relationship with the territory.

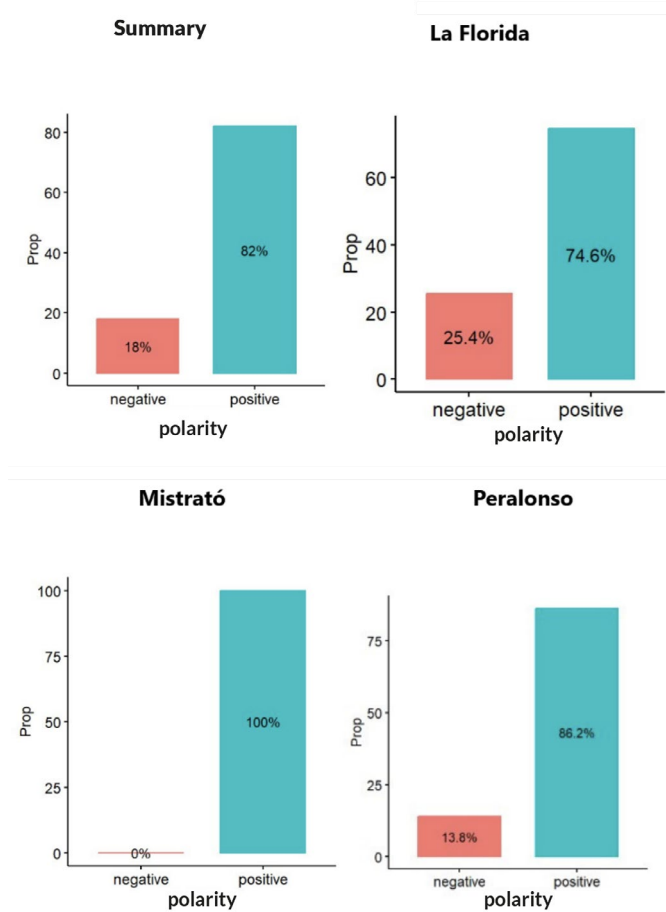
## Results

According to Gastaldo *et al.* (2012) "the purpose of the analysis is not to psychologically evaluate the participants through their art, but to understand aspects of their logic, hopes, and desires" (p. 18). This research aims to explore the emotions and perceptions of the participants by relating their bodies to the territories they inhabit.

The results of the sentiment analysis are exposed by each of the guiding questions.

Question 1: "Think about the spaces we inhabit on a daily life. It could be the house, the community, the work. Let's think about each one. What places do we identify? Which of those places do we like? Now, we are going to place them in our body using materials, for example, if you imagine the roads that they usually travel, where are those roads in the body? If we think of a park, a crop, a river, a mountain, a forest, a street, a living source- Where are they in that body?"

Figure 4 shows that most of the feelings generated in women by representing in their bodies the places they inhabit on daily life are positive, mainly for the group of women of Mistrató, Risaralda, with 100% positive.



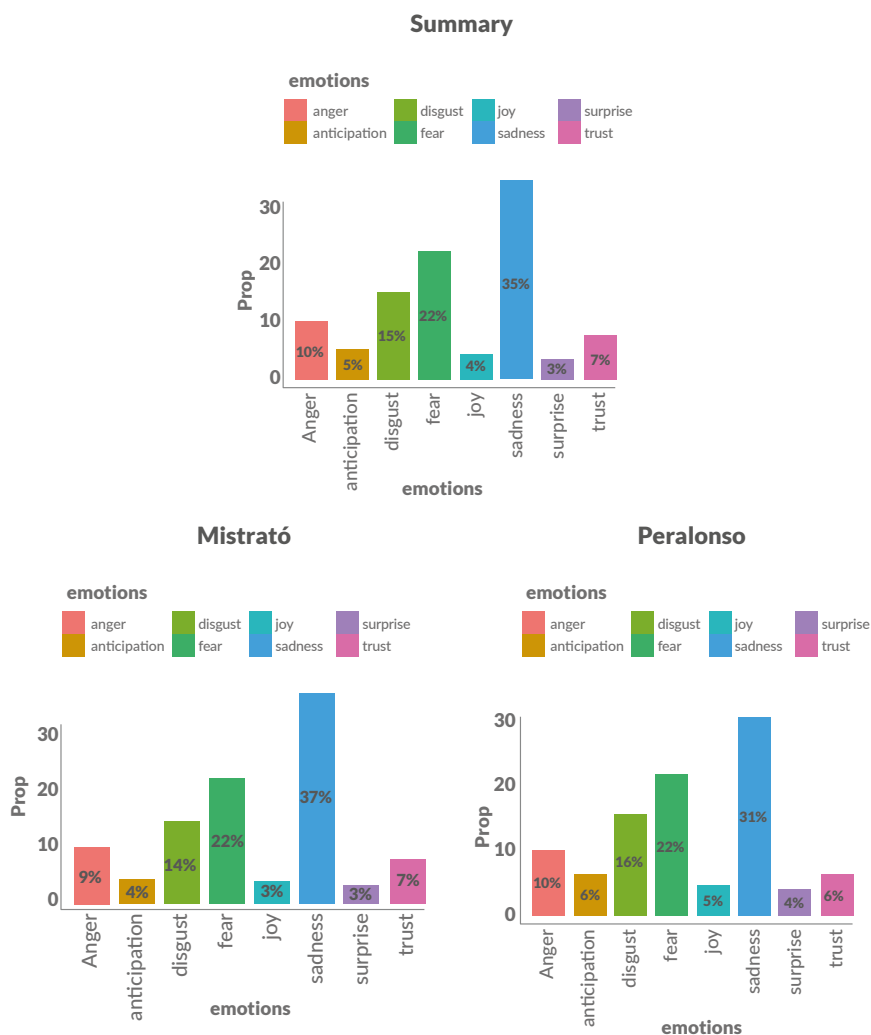
**Figure 4.** *Places Inhabited Daily - Polarity.*

Figure 5 shows that emotions like joy, confidence, and anticipation are highlighted. In Figure 6, all participants agree that "the house" is the place they inhabit on a daily basis and makes them happy. It is the place where they currently live, as well as their parents' house. It is marked by memories. This place is mainly located in the heart, they state that they place it there because it is their "safe place," "the place that gives them peace," "where they feel safe."



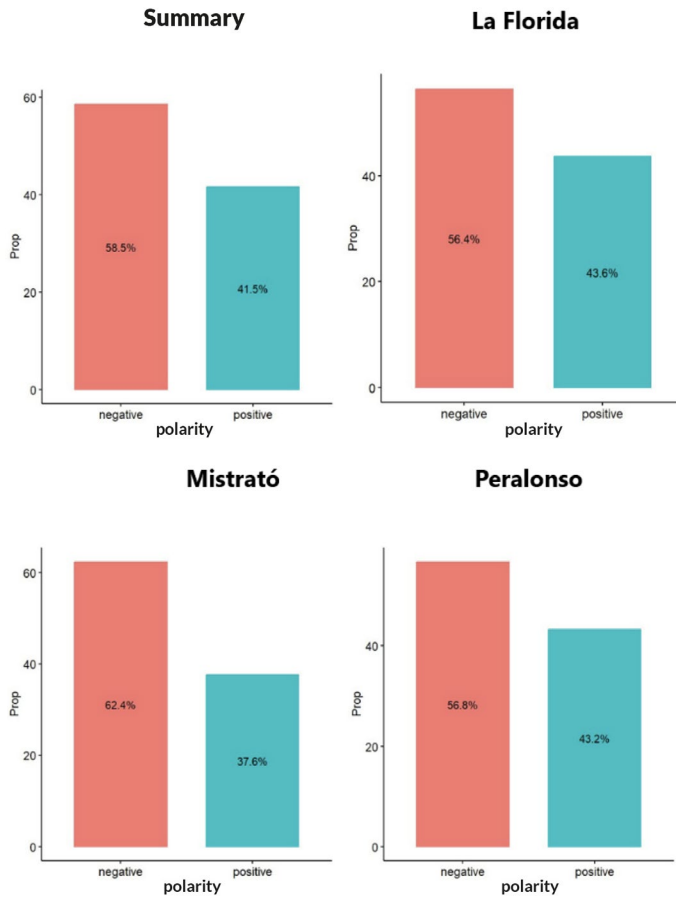


In Figure 8, the participants expressed joy in realizing that they were not alone contributing to their territory, feeling part of it, or appreciating it. They placed these emotions in the heart and chest, also in the eyes, since through them, they could visualize what other women expressed during the activities; and in the mind, since they experienced a lot of thoughts when knowing the members of the group very well (Figure 9).



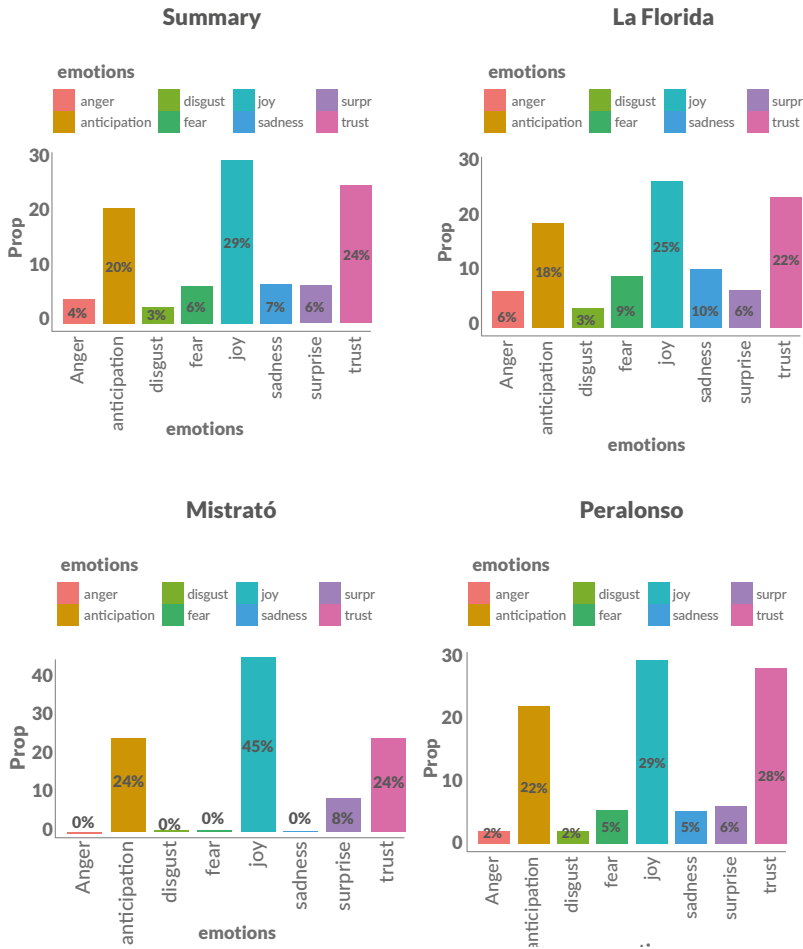
**Figure 8.** *Fears and Insecurities – Emotions.*





**Figure 10.** Territorial Conflicts - Polarity.

Positive feelings were mainly generated by emotions such as: confidence, anticipation and surprise (Figure 11). Most women associated the identification of these conflicts with the desire for change and transformation.



**Figure 11.** Territorial Conflict – Emotions.

Figure 12 shows that the conflicts identified by women in their territories are: deforestation, solid waste, monocrops, use of agrochemicals in crops, contamination of water sources, excessive tourism, lack of recycling, waste accumulation, abandonment of dogs, water shortage, drug addiction, and social and institutional disruption.

## Summary

## La Florida



## Mistrató

## Peralonso



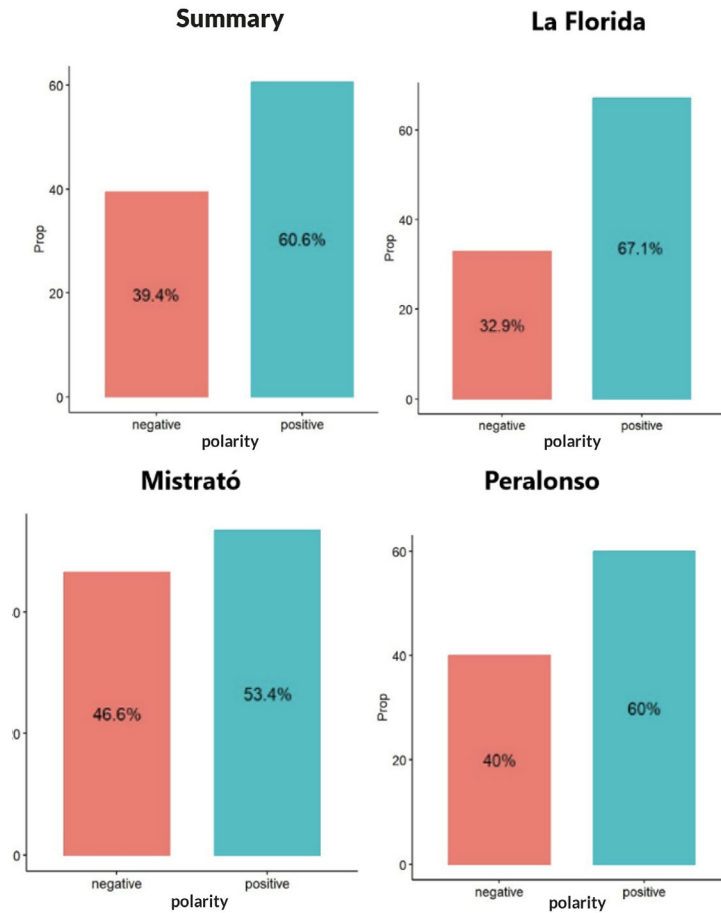
Figure 12. Territorial Conflicts – Word Clouds.

The parts of the body where these conflicts are placed are very varied. Women from Florida place them on the chest and heart, since they associate these parts of the body with this feeling. In the womb (“from the bowels”), these problems could affect the health of the people in their community over the long term. In the hands for the desire to act, do, and solve.

Question 4: Recognize on your map the places where you find your struggle, your rebellion, your triumphs. Where are they in your body? Where is that rebellion born, that word, that shout? In what part of that body or that territory? How is that triumph expressed? Is it a shout, a word, a song? Is it in the head, in the heart, the feet, the stomach, the legs...? Where is it? Where in the territory do you feel you can be strong? Where do you fight?"

Figures 13 and 14 show that most of the feelings were classified as positive, mainly the emotion of trust. However, for the women of Peralonso and Mistrató negative emotions such as fear and anger arose. This is because they supported their affirmations of strength and struggle with difficult stories they lived and

cited as examples situations where they put strength and struggle into practice. For many of them, those feelings come from the mind. They state that "there is strength in their ideas" and " they are motivated in their minds."



**Figure 13.** *Our Struggle – Polarity.*

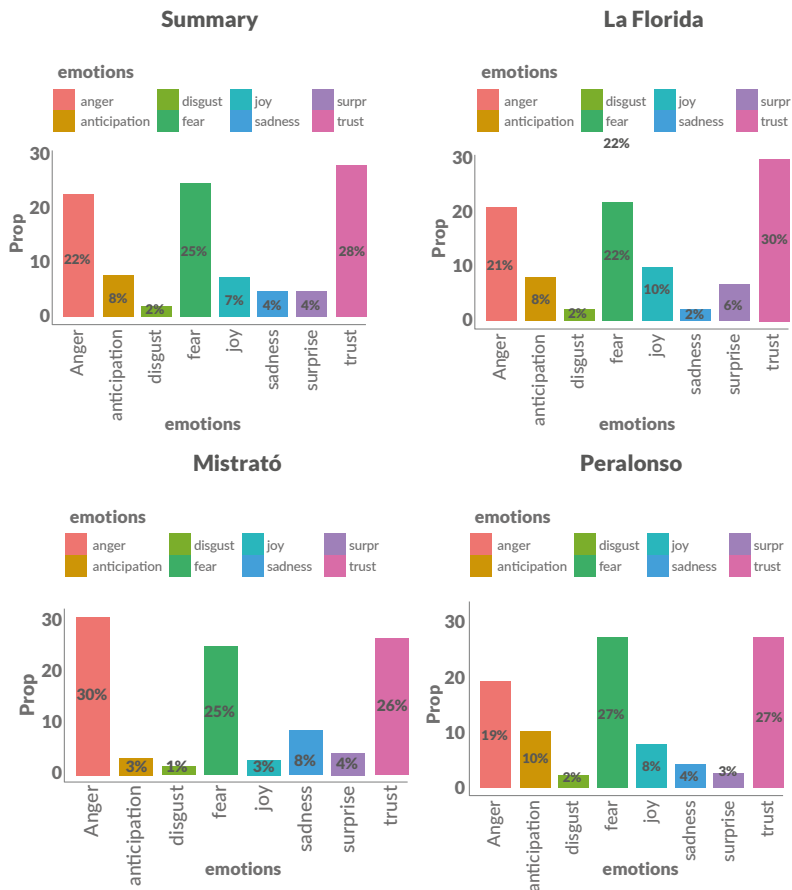


Figure 14. *Our Struggle – Emotions.*

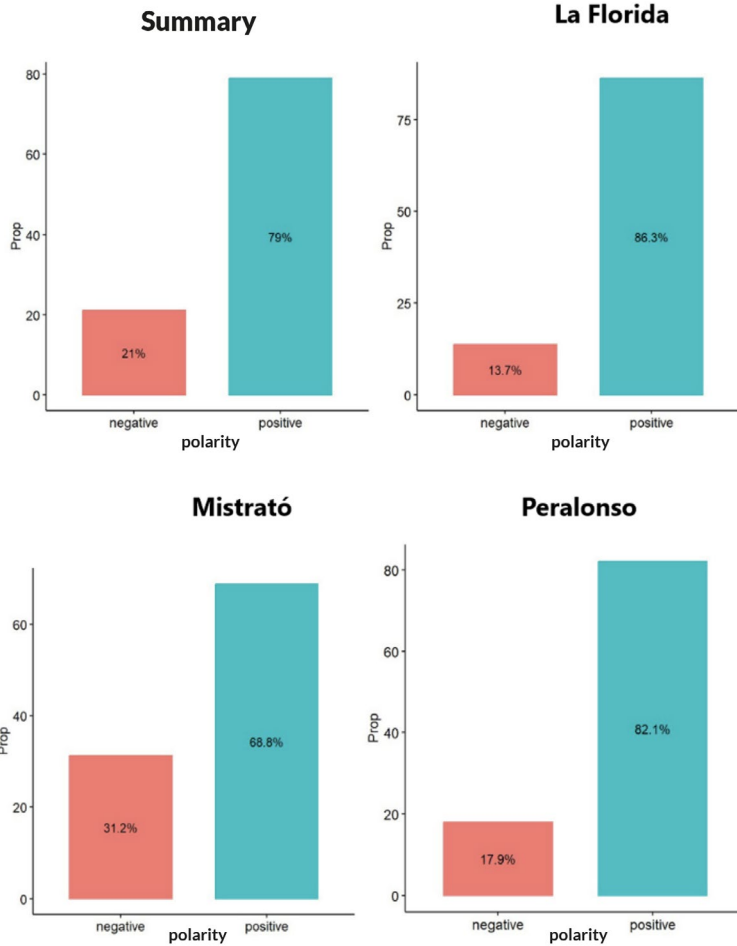
Figure 15 shows that the strength is symbolically located in the legs, legs to escape from the places where women claim to feel that they no longer belong or do not want to stay; in the belly, where they place the female force; and in the hands, with which they do and initiate actions. They express it as follows: "clenching the hand and saying I am going to do such a thing, clenching the hand to use a machete, clenching the hand to sweep" (personal communication, March 4, 2023).



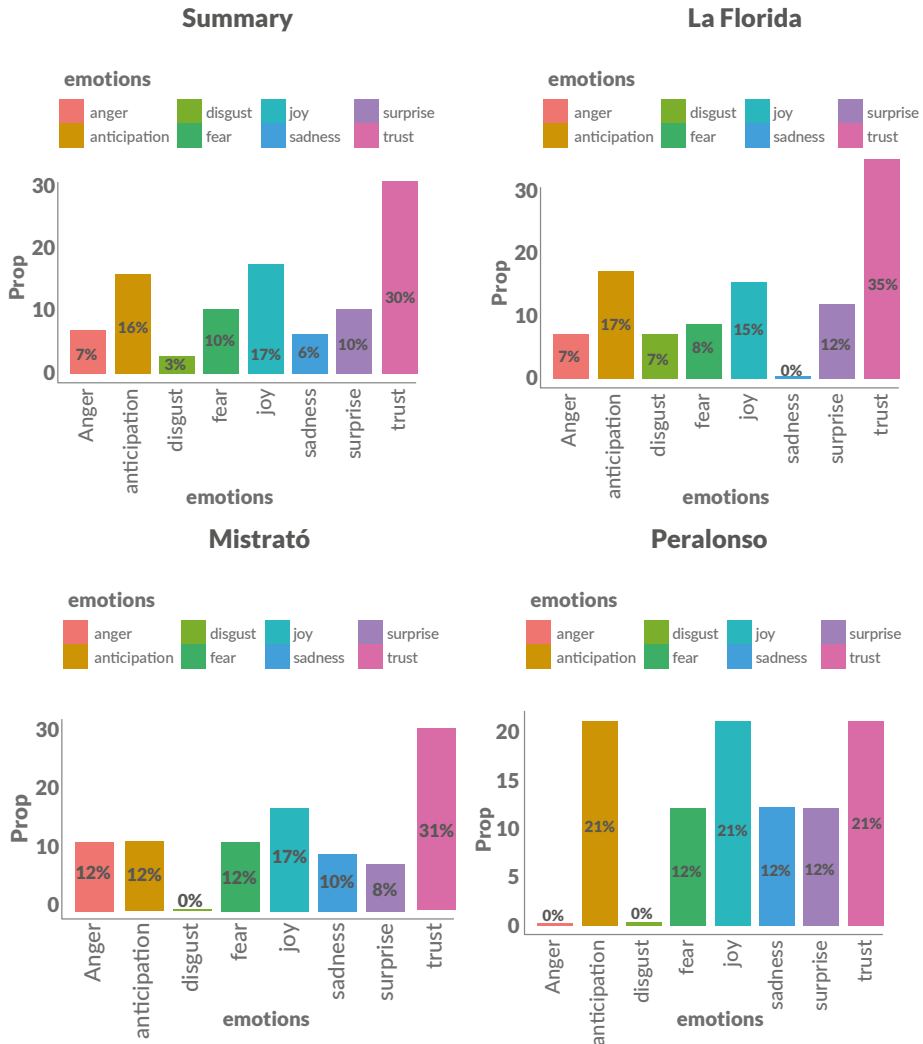
Figure 15. *Our Struggle - Word Clouds.*

Question 5: "Your body as a territory must be focused on mobilization and on socialization. Does the mobilization arise with others? Does it arrive alone? Where does that meeting with others take place in organizing yourselves?"

Evidently that mobilization and union generated positive feelings in the participants, mainly trust (Figures 16 and 17). Women from La Florida placed their desire for union and mobilization in the hands, since they perceive those desires as a symbol of their desire to build and work, and to help others. Women from Mistrató placed it in their minds. There the actions are planned and a favorable attitude is adopted for collective work.



**Figure 16.** *Mobilization, Union - Emotions.*



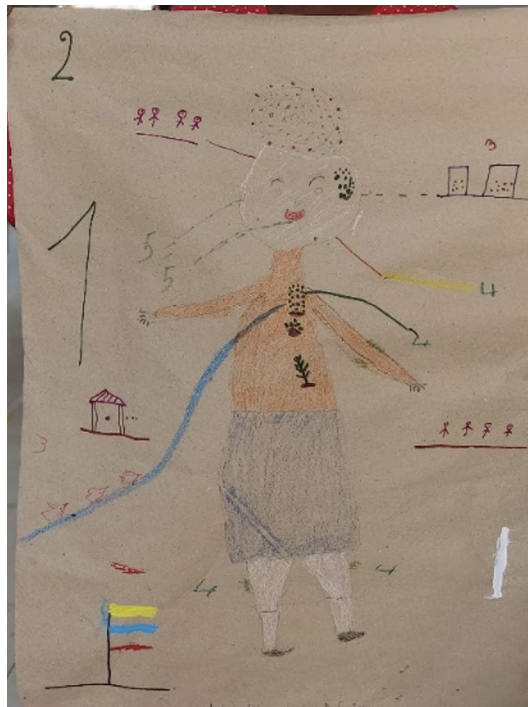
**Figure 17.** Mobilization, Union - Emotions.

Finally, women from Peralonso associated their desire for union and mobilization in the heart, since it represents the love they give to others and the intuition, called "sixth sense," in understanding the needs of other people (Figure 18).



This conclusion is supported by the Volynets *et al.* (2020) global research of participants from 101 countries where sadness is also associated with the head.

El presente estudio reveló que las participantes ubican en la cabeza los lugares donde se sentían inseguras y que despertaban en ellas sentimientos de miedo y tristeza, como, por ejemplo, el caso del mapa de Alicia, quien ubicó en esta parte del cuerpo los recuerdos de la pérdida de su esposo a causa del conflicto armado en el país (figura 19). También se identificó en el mapa de Juliana, al ubicar el estrés que le genera salir a la ciudad, por el bullicio, el aire pesado y la cantidad de personas (figura 20).



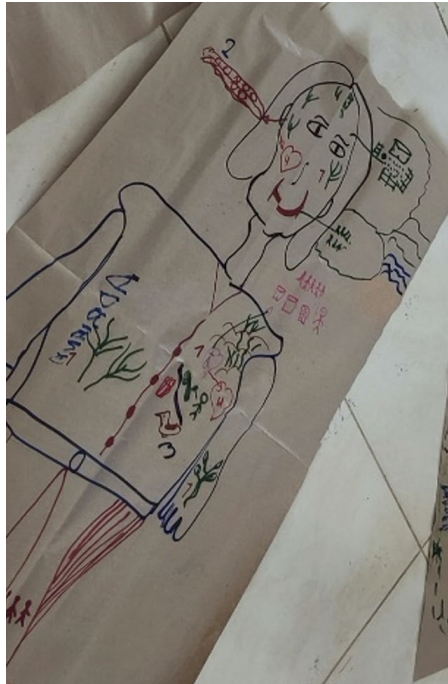
**Figure 19.** Alicia's Body Map.



**Figure 20.** *Juliana's Body Map.*

Despite geographical and cultural differences, all three studies agree that emotions such as sadness, insecurity and nervousness tend to be both experienced and placed at the mental level. This coincidence suggests that the association of certain emotions with the head may be a universal pattern in people's emotional experience.

Volynets *et al.* (2020) offer a perspective on the relationship between emotions and body perception. They identify specific places on the body related to different emotional states. According to the authors, there are emotions that are associated with parts of the body because of physiological changes that are generated against stimuli related to that emotion, such as sweating, changes in heart rate, breathing and facial expressions. In their results, disgust is presented as an emotion strongly linked to the belly, an aspect similar to this paper. An example is Lucero who relates the stress generated by the drug addiction problem in her community with pain in the belly (Figure 21).

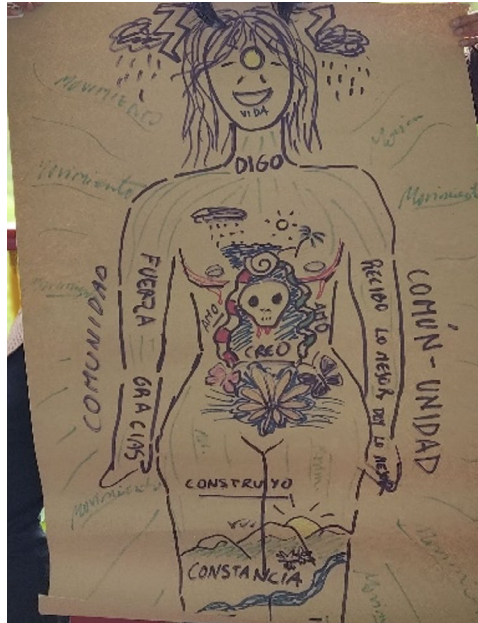


**Figure 21.** *Lucero's Body Map.*

However, differences are also observed. While in other studies joy is distributed across the body, in this one, it is specifically related to the heart and chest.

The results of this research show that the participants place their family and home in the chest, and the conflicts in the territory in the womb.

Gabriela placed a skull in her belly expressing: "I think that today [...] we are poisoning everything we eat; we eat garbage when we pollute the rivers, we pollute the water we drink, I feel that there are so many essential things that we are damaging and everything will remain inside us" (Figure 22).



**Figure 22.** Gabriela's Body Map.

These findings are similar to Lockett and Bagelman (2023) who used the body mapping technique with a group of women to analyze gender impacts in coal mining.

These similar results, despite different contexts, allow inferring shared patterns in the way women encode their experiences in the body. The connection of the chest to home and family ties could reflect a shared perception of these areas as emotional and care centers. While the connection between the womb and territorial conflicts is possibly related to the physical and emotional discomfort that these situations generate.

This coincidence between research shows the value of the body mapping technique in revealing patterns in how people embody their experiences.

Associations between positive sensations and the chest/heart is also observed in the Chaves (2015) and Turmo *et al.* (2023). In the first, participants chose the heart and hands as the parts of the body related to happy times; in the second, participants place feelings of satisfaction in the chest and hands. These findings are consistent with this paper in which women placed joy and trust in the heart and chest.

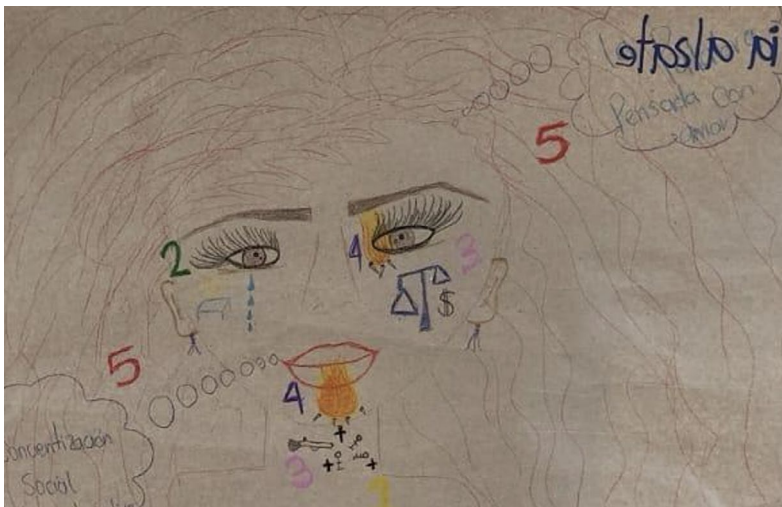
There is a coincidence despite the contextual differences in the patterns associated with positive sensations in the chest, heart and hands. This could reflect a widespread perception of these areas as emotional wellness centers.

Some participants referred to their homes as an unsafe place, where they have felt anger, sadness, and fear. In this regard Campos *et al.* (2021) in their research of women victims of sexual violence identify the aggressors as people close to the family. Sexual violence turns the home into a place where the body of women can be physically and morally subjugated.

Women also expressed feeling unsafe, violated, and vulnerable in public places. Some placed these emotions in the feet, representing moving away and leaving that place. Lan and Rocha (2020) show similar results in their research where women placed the stress they feel when they go to those spaces where intimidating situations can occur in the legs.

Other women placed these emotions in their eyes. Amparo, who expressed (Figure 23):

The place that generates the most insecurity, where I have felt violated in a certain way was in a chair in the park, at a table in the park, there was an uncomfortable and very violent conversation, I would not want it to happen again. (Personal communication, February 4, 2023).



**Figure 23.** Amparo's Body Map Fragment.

The use of body mapping in this experience generated a holistic, co-created, and empathetic vision of the relationship that women weave with their territories,

thanks to the collective exchange of sensations, conflicts, struggles, triumphs and joint mobilization. This aspect is consistent with the conclusion obtained by Cornwall (1992) of body mapping in health, where the contributions of this technique to facilitate the identification of topics of discussion that allow examining social issues and more complex connections, an aspect also highlighted by Silva *et al.* (2013).

In the experience shared in this paper, the body mapping technique was used as a way of expression. It explores creativity, strengthens personal narratives, and contributes to female empowerment. This approach is consistent with the analysis of Parra (2018). The author identifies that the mapping process contributes to the construction of women as social subjects, it values their experiences to recognize and organize themselves, and aligns with the principles of empowerment and social transformation.

Afro-descendant and indigenous women of Bosque Modelo Risaralda participated, however, no intersectional analyses were carried out that deepened possible differences or relationships between these sociodemographic variables and the results.

Rodó-Zárate (2023) uses intersectionality as a theoretical framework of the so-called: "Maps of reliefs of experience," which relates three dimensions: social (gender identities, social class, ethnicity, age, etc.), geographical (places of daily life) and psychological (effects on emotions). This framework invites reflecting on how these dimensions relate, and understanding that it is their intersection that conditions experiences.

Body mapping represents an opportunity for future research. Incorporating intersectional theoretical and methodological frameworks is recommended to show how the multiple identities of rural women materialize in a differentiated way in their bodies-territories, and in the emotions associated with them.

## Conclusions

In this research, the perceptions and emotions related to the territory of three groups of rural women of Bosque Modelo Risaralda, Colombia, were analyzed by sentiment analysis technique to body mapping.

Among the most relevant findings, the repeated connection between everyday places such as home and positive emotions was highlighted, and also the association of less pleasant places, such as public places and some parts of the home with negative emotions. The home was identified as a safe environment by placing it in the chest (mainly in the heart) as a symbol of love for their family.

However, some participants also referred to this place as unsafe, because they felt fear, sadness and anger. This corroborates the vulnerability of women in both intimate and public places.

A relationship between environmental conflicts in the territories and women's bodies was also evident when addressing possible health implications that these could have on them. These conflicts were placed in the womb as a symbol of an affectation to life, and in the chest, because these problems are not separate and cause them sadness, disgust and fear. At the same time, these conflicts awaken confidence and the desire to meet other women to transform their realities.

The body mapping technique allowed participants to explore the relationship they established between their body and their experiences in the territories in a deeper fashion. The act of drawing made surpassing a logical discourse and expressing unconscious aspects which would hardly arise through a verbal or written exercise possible for the women.

This tool serves as a guide to understanding people's explanations of their bodies, and also reveals discussion topics that go beyond the purely biological. It begins an exploration of social issues and deeper connections between self-image, cultural perceptions, and social contexts.

The sentiment analysis technique was evidenced to be valuable for identifying trends and patterns that could have been lost in conventional manual analyses. It offers a complementary perspective that enriches the understanding of qualitative information without replacing contextual interpretation of this type of research. Its implementation opens up new possibilities for interdisciplinary research by combining computational and qualitative techniques to enhance the analysis of data.

This task was part of a female leadership program, which led to the conclusion that women's empowerment must begin with spaces for self-knowledge to promote personal growth and emotional well-being. Issues that are normally neglected and must be taken up again to improve the participation of women in social transformation.

## References

- Bustos, E. & Molina, A. (2012). El concepto de territorio: una totalidad o una idea a partir de lo multicultural. En *XI INTI International Conference. Territorios Posibles*, La Plata, Argentina. [https://sedici.unlp.edu.ar/bitstream/handle/10915/36097/Documento\\_completo.pdf?sequence=1](https://sedici.unlp.edu.ar/bitstream/handle/10915/36097/Documento_completo.pdf?sequence=1)

- Campos, M., Silva, J., & Silva, E. (2021). 'Teu corpo é o espaço mais teu possível': Construindo a análise do corpo como espaço geográfico. *Revista da ANPEGE*, 16(31), 101-114. <https://doi.org/10.5418/ra2020.v16i31.10750>
- Chaves, O. (2015). Territorio y derechos Cartografías corporales en la investigación sobre territorio en los contextos escolares. En Palacio, J. (Comp.). *Cuerpo y educación. Variaciones en torno a un mismo tema* (pp. 119-136). Instituto para la Investigación Educativa y el Desarrollo Pedagógico, IDEP.
- Colectivo de Geografía Crítica del Ecuador. (2018). *Geografando para la resistencia. Los feminismos como práctica espacial*. [https://geografiacriticaecuador.org/wp-content/uploads/2018/04/Cartilla3\\_los\\_feminismos.pdf](https://geografiacriticaecuador.org/wp-content/uploads/2018/04/Cartilla3_los_feminismos.pdf)
- Cornwall, A. (1992). Body Mapping in Health RRA/PRA. *RRA Notes*, 16(1), 69-76. <https://www.iied.org/g01449>
- Cruz, D., Vázquez, E., Ruales, G., Bayón, M. y García-Torres, M. (2017). *Mapeando el cuerpo-territorio. Guía metodológica para mujeres que defienden sus territorios*. Colectivo Miradas Críticas del Territorio desde el Feminismo.
- De Souza, J., Ventura, C., de Oliveira, J., Gaino, L., dos Santos Monteiro, J., de Oliveira, J., de Almeida, L., Richter, S., & Saint-Arnault, D. (2021). Experience of Vulnerable Women Narrated Through The Body-Mapping Technique. *International Journal of Environmental Research and Public Health*, 18(24), 1-15. <https://doi.org/10.3390/ijerph182413094>
- Fernández-Abascal, E. & Sánchez, M. (2010). Psicología de la emoción. En *Psicología de la emoción* (pp. 17-74). Editorial Universitaria Ramón Areces. <https://produccioncientifica.ucm.es/documentos/6436eecc4faaa2517ca2df7>
- Gastaldo, D., Magalhães, L., Carrasco, C., & Davy, C. (2012). *Body-Map Storytelling as Research: Methodological Considerations for Telling The Stories of Undocumented Workers Through Body Mapping*. CASI.
- Harper, D. (2002). Talking About Pictures: A Case For Photo Elicitation. *Visual Studies*, 17(1), 13-26. <https://doi.org/10.1080/14725860220137345>
- Herner, M. (2009). Territorio, desterritorialización y reterritorialización: Un abordaje teórico desde la perspectiva de Deleuze y Guattari. *Huellas*, 13, 158-171. [https://conceptos sociales.unam.mx/leer\\_conceptos.php?id=556](https://conceptos sociales.unam.mx/leer_conceptos.php?id=556)

- Kleinginna, P., & Kleinginna, A. (1981). A Categorized List of Emotion Definitions, With Suggestions for A Consensual Definition. *Motivation and Emotion*, 5(4), 345-379. <https://doi.org/10.1007/BF00992553>
- Lan, D., & Rocha, H. (2020). Metodologías feministas para mapear geografías oprimidas en Argentina. *Geopauta*, 4(4), 46-67. <https://doi.org/10.22481/rg.v4i4.7552>
- Londoño, G. & Herrera, C. (2018). *Propuesta educativa la paz en todos los sentidos, una experiencia corporal*. Universidad de Manizales.
- Luckett, T., & Bagelman, J. (2023). Body Mapping: Feminist-Activist Geographies in Practice. *Cultural Geographies*, 30(4), 621-627. <https://doi.org/10.1177/14744740231179479>
- MacCormack, C., & Draper, A. (1987). Social and Cognitive Aspects of Female Sexuality in Jamaica. En Caplan, P. (Ed.), *The Cultural Construction of Sexuality* (pp. 143-165). Routledge.
- MacGregor, H., & Mills, E. (2011). Framing Rights and Responsibilities: Accounts of Women With A History of AIDS Activism. *BMC International Health and Human Rights*, 11(3), 1-11. <https://doi.org/10.1186/1472-698X-11-S3-S7>
- Melgarejo, L. (1994). Sobre el concepto de percepción. *Alteridades*, (8), 47-53. <https://alteridades.izt.uam.mx/index.php/Alte/article/view/588>
- Mohammad, S., & Turney, P. (2010). *NRC Word-Emotion Association Lexicon*. <https://saifmohammad.com/WebPages/NRC-Emotion-Lexicon.htm>
- Nates, B. (2011). Soportes teóricos y etnográficos sobre conceptos de territorio. *Co-herencia*, 8(14), 209-229. <https://publicaciones.eafit.edu.co/index.php/co-herencia/article/view/283>
- Parra, J. (2018). *Mapas del cuerpo: metodología para explicar conceptos básicos del enfoque de género* (tesis de especialización). Universidad Distrital Francisco José de Caldas, Bogotá, Colombia. <https://repository.udistrital.edu.co/handle/11349/14393>

- Pedraza, Z. (2011). *En cuerpo y alma. Visiones del progreso y de la felicidad. Educación, cuerpo y orden social en Colombia (1830-1990)*. Ediciones Uniandes-Universidad de los Andes.
- Pérez, Á. (2018). *Leyendo más allá de las palabras: Uso del análisis de textos para medir el sentimiento de mercado en España* [tesis de grado]. Universidad Pontificia Comillas, Madrid, España. <https://repositorio.comillas.edu/rest/bitstreams/147827/retrieve>
- Rivas-Quarneti, N., Ferreira-Marante, R., Tojeiro-Ríos, A. & Viana-Moldes, I. (2020). Análisis ocupacional y de género en la infancia: Aplicación de los mapas corporales narrados desde un grupo de discusión. *New Trends in Qualitative Research*, 2, 784-793. <https://doi.org/10.36367/ntqr.2.2020.784-793>
- Rodó-Zárate, M. (2023). Intersectionality and the Spatiality of Emotions in Feminist Research. *The Professional Geographer*, 75(4), 676-681. <https://doi.org/10.1080/00330124.2022.2075406>
- Serrano, M. (2024). Espacializar las emociones: cartografías emocionales participativas de mujeres jóvenes que habitan espacios de violencia en la Ciudad de México. *Boletín de Antropología*, 39(67), 153-172. <https://doi.org/10.17533/udea.boan.v39n67a9>
- Silva, J. (2010). Geografías feministas, sexualidades e corporalidades: desafíos às práticas investigativas da Ciência Geográfica. *Espaço e Cultura*, (27), 37-54. <https://www.e-publicacoes.uerj.br/espacoecultura/article/view/3542>
- Silva, J., Barrientos, J. & Espinoza-Tapia, R. (2013). Un modelo metodológico para el estudio del cuerpo en investigaciones biográficas: Los mapas corporales. *Alpha*, (37), 163-182. <https://produccioncientifica.ucm.es/documentos/634364ee72ca0804099a06bf>
- Silva, E., & Silva, J. (2016). Ofício, engenho e arte: inspiração e técnica na análise de dados qualitativos. *Revista Latino-americana de Geografia e Gênero*, 7(1), 132-154. <https://revistas.uepg.br/index.php/rlagg/article/view/8041>
- Turmo, L., Li, Y., Stojanov, M., Johansson, K., Tylstedt, B., & Eklund, L. (2023). Towards Advancing Body Maps as Research Tool for Interaction Design. In

*Proceedings of the Seventeenth International Conference on Tangible, Embedded, and Embodied Interaction* (pp. 1-14). <https://doi.org/10.1145/3569009.3573838>

Volynets, S., Glerean, E., Hietanen, J., Hari, R., & Nummenmaa, L. (2020). Bodily Maps of Emotions Are Culturally Universal. *Emotion*, 20(7), 1127-1136.  
<https://doi.org/10.1037/emo0000624>

Wienand, A. (2006). *An Evaluation of Body Mapping As a Potential HIV/AIDS Educational Tool*. University of Cape Town.

Zaragocin, S., & Caretta, M. (2021). Cuerpo-Territorio: A Decolonial Feminist Geographical Method for the Study of Embodiment. *Annals of the American Association of Geographers*, 111(5), 1503-1518. <https://doi.org/10.1080/24694452.2020.1812370>

Zubillaga, M. & Lan, D. (2024). Cuerpo-Territorio en defensa de las necesidades básicas vulneradas en Tandil. *Pleamar. Revista del Departamento de Geografía*, (4), 211-224. <https://fh.mdp.edu.ar/revistas/index.php/pleamar/article/view/8297/8663>