

Preferências em matizes cromáticos através dos produtos de moda na região Seridó do Rio Grande do Norte, Brasil

Chromatic preferences in group of hues through fashion products in the Seridó region of Rio Grande do Norte, Brazil

Preferencias en tonos cromáticos através de productos de moda en la región Seridó de Río Grande do Norte, Brasil

Recebido: 30/06/2020 | Revisado: 19/07/2020 | Aceito: 21/07/2020 | Publicado: 02/08/2020

Ítalo José de Medeiros Dantas

ORCID: <https://orcid.org/0000-0003-0710-6142>

Universidade Federal de Campina Grande, Brazil

E-mail: italodantasdesign@hotmail.com

Heloisa Mirelly Ferreira Alves

ORCID: <https://orcid.org/0000-0001-9002-3780>

Instituto Federal de Educação, Ciência e Tecnologia do Rio Grande do Norte, Brazil

E-mail: heloisamirelly57@gmail.com

Mariana Nunes do Nascimento

ORCID: <https://orcid.org/0000-0002-0489-8060>

Instituto Federal de Educação, Ciência e Tecnologia do Rio Grande do Norte, Brazil

E-mail: mariana.n.n@hotmail.com

Aline Gabriel Freire

ORCID: <https://orcid.org/0000-0002-0365-227X>

Instituto Federal de Educação, Ciência e Tecnologia do Rio Grande do Norte, Brazil

E-mail: aline.freire@ifrn.edu.br

Lívia Juliana Silva Solino

ORCID: <https://orcid.org/0000-0003-2530-1144>

Instituto Federal de Educação, Ciência e Tecnologia do Rio Grande do Norte, Brazil

E-mail: livia.solino@ifrn.edu.br

Resumo

A cor é o primeiro contato do observador com a superfície dos objetos e da maioria das pessoas com o mundo. Como natural da vivência humana, há tendência de preferir determinados objetos, elementos ou artefatos em detrimento a outros; assim, conhecer os

meios de manipular essas preferências em cores mostra-se como importante para garantir efetividade e aceitação no desenvolvimento de produtos. Pensando nisso, o presente trabalho objetivou mapear e descrever as preferências de cores através dos grupos de matizes cromáticos dos habitantes de Caicó, no estado do Rio Grande do Norte, quando estas relacionadas aos produtos de Moda. Sendo classificado como uma pesquisa de campo - *survey*, objetivo exploratório-descritivo e abordagem quantitativa-qualitativa. O questionário foi aplicado durante a VI EXPOTEC do IFRN/Caicó com uma amostragem de 170 indivíduos, compreendendo 117 pessoas do gênero feminino e 53 do masculino, com faixas-etárias que iam desde 7 a 64 anos. Como resultado, obteve-se predominante direcionamento aos matizes rosas e violetas, de modo geral e especificamente 3 das 5 zonas da cidade, além de grande recusa aos matizes esverdeados identificados em todas as regiões da cidade.

Palavras-chave: Moda; Cor; Matiz; Psicologia das cores; Preferências cromáticas.

Abstract

Color is the observer's first contact with the surface of objects and most people with the world. As natural to human experience, there is a tendency to prefer certain objects, elements, or artifacts over others; Knowing the means of manipulating these color preferences is therefore important to ensure effectiveness and acceptance in product development. The present work aimed to map and describe the color preferences through the groups of the color hue of the inhabitants of Caico, in the state of Rio Grande do Norte, Brazil, when they are related to fashion products. Being classified as a field research - survey, exploratory-descriptive objective, and quantitative-qualitative approach. The questionnaire was conducted during the VI EXPOTEC of IFRN/Caico with a sample of 170 individuals, comprising 117 females and 53 males, with ages ranging from 7 to 64 years. As a result, there was a predominant targeting of pink and violet hues, in general, and specifically in 3 of the 5 areas of the city, as well as a great refusal to the greenish hues identified in all regions of the city.

Keywords: Fashion; Color; Hue; Color psychology; Color preferences.

Resumen

El color es el primer contacto del observador con la superficie de los objetos y la mayoría de las personas con el mundo. Como parte natural de la experiencia humana, existe una tendencia a preferir ciertos objetos, elementos o artefactos sobre otros; por lo tanto, conocer los medios para manipular estas preferencias en color es importante para garantizar la efectividad y la aceptación en el desarrollo del producto. Pensando en ello, el presente trabajo

tuvo como objetivo mapear y describir las preferencias de color a través de los grupos de tonos cromáticos de los habitantes de Caicó, en el estado de Rio Grande do Norte, cuando estos están relacionados con productos de moda. Ser clasificado como investigación de campo: encuesta, objetivo exploratorio-descriptivo y enfoque cuantitativo-cualitativo. El cuestionario se aplicó durante el VI EXPOTEC de la IFRN/Caicó con una muestra de 170 individuos, que comprende 117 mujeres y 53 hombres, con edades comprendidas entre 7 y 64 años. Como resultado, hubo una orientación predominante de los tonos rosados y violetas, en general y específicamente 3 de las 5 áreas de la ciudad, además del gran rechazo a los tonos verdosos identificados en todas las regiones de la ciudad.

Palabras clave: Moda; Color; Matiz; Psicología del color; Preferencias cromáticas.

1. Introduction

Fashion products are planned and designed through elements that form a composition; these elements have the power to manipulate the visual perception of the receivers through visual communication, ensuring that their details are visualized in the order that the designer has planned. However, these elements carry their hierarchical characteristics that ensure that some are perceived first than the others, as is the case with colors (Roger, 2009).

Kareklas *et al.* (2013) explain that color is the first element to come into contact with the consumer's perception, influencing behavior and predilection, ensuring instant connection and quick response, that is, it is attributed the function of ensuring an effective receptivity in the product-user relationship in a visceral sense, leveraging the aesthetic qualities of the products. With this, it is recognized the existence of direction in purchases based on preferences in colors and, thus, just like the semantics of the products, this subjectivity is understood as a line guided and built through human experience by influences of contextual aspects, cultural, local or social in which the individual is inserted (Farina, Bastos & Perez, 2006; Heller, 2012).

The areas of studies that address chromatic preferences are mostly centered on the sciences that involve psychology, being within the color psychology subarea, being scarce when it comes to design and even more so on clothing. And, despite being widely researched in an international context, both in terms of volume and in terms of historical context, including an area of ancient research, on national soil, investigations that address this aspect of color are rare (Chen *et al.*, 2019).

Given this context, the city of Caicó, as the capital of Seridó, in the state of Rio Grande do Norte (Brazil) presents itself as a stage of exponential growth in the production of textile and fashion items, ranging from clothing to bed, table and bath and even bonnet productions, making it necessary, in this way, studies that enable a better understanding about the phenomena that interconnect the target audience groups. Thus, providing the industry with information on best product development practices, ensuring productive effectiveness, consequently generating profits, economic turnover, and jobs in the region (FIERN, 2019).

Through all the discussions brought up, this article aims to map and describe the preferences in groups of chromatic hues when related to the perception in fashion products of the inhabitants of the city of Caicó in the state of Rio Grande do Norte, Brazil, bringing the differences of preferences between city zones as input for understanding the ease of change in the polysemic perception of color at the mercy of location.

2. Theoretical Framework

Pedrosa (2014) defines color as having no tangible existence, resulting from the action of light on the visual system. Silveira (2015), adds that the act of visualization and illumination of colors is based on a set of physical, physiological and psychological processes, however, it is realized that it is also important to understand the dynamics existing in the relationships of cultural and sensory dimensions to these topics.

Among the parameters for the existence of color, it is subdivided into hue, brightness, and saturation, each with a characteristic that will give the element a differential, significantly altering its perception. The hue is characterized as the pure color and without variation, without adding white or black, that is, the color in its natural state; saturation concerns the intensity that the color appears, being perceived in a more or less vibrant way, this point is important because it expresses the level that the color will have in the sense of chromaticity; brightness is related to light or dark color quality. All of these dimensions, when altered, tend to change the effect of human-color perception, generating new interpretations and new effects (Garcia, 2017).

The studies by Wilms and Oberfeld (2017) identified these effects of variation in human emotions as a consequence of these three parameters, concluding that it is not only the hue that affects perception but the three dimensions. In the design of fashion products, the importance of paying attention to hues, saturation and shine are emphasized, as, as a result of fashion collections having a large chromatic design, colors with very similar hues, and shades

tend to cancel out when arranged in a color chart. Through this, it is possible to realize the importance of the area of product development or marketing when knowing issues related to chromatic phenomena when related to a group of people, such as their effects, perceptions, and preferences (Singh, 2006).

Farina, Perez, and Bastos (2006, p. 25) define the chromatic preference as having no real existence, being a characteristic built through the forms of subjective visual and sensory perception, the “attitude of an individual towards color is modified by the influence of environment in which he lives, his education, his temperament, his age”. There are countless theories to define the core of the emergence of chromatic preferences, Taylor, Clifford, and Franklin (2013) explain that these studies seek to generalize the way people, across cultures, tend to prefer colors, generating patterns and systematizing the results, aiming to determine a universal formula that will serve as input for the most varied areas that work with human-color interaction.

The first studies on chromatic preferences came in the 19th century, in the research of J. Cohn in the year 1894, attributing only these tendencies to personal tastes, identifying, even then, that more saturated colors were the most preferred among people. At the beginning of the twentieth century, more precisely in the 40s and executed by J. Eysenck (1941), these first studies defined that there are no high differences in chromatic preferences between genders (Taylor, Clifford & Franklin, 2013)

In later research, Palmer and Schloss (2010) explore the theory of the relationship that exists between color preferences and their associations with natural objects or events, so if a person has an appreciation for the sky, then blue, for its instead, it will be one of your favorite colors. This idea also goes for colors that are categorized as not preferred, since yellow-brown tones tend not to be favorites for remembering spoiled foods. Taylor and Franklin (2012) continued with this research and identified, in turn, this reality as corroborating more in British males than females.

3. Methodology

Concerning its nature, the research is classified as applied due to its use in solving real problems in the fashion industry, within the Creative Industry, an area with relevant growth prospects. As for the object, it is classified as field research - survey, as it intends to collect data from direct contact with the target audience in question, with an exploratory-descriptive objective and a quantitative-qualitative approach (Gil, 2008).

As for the technical procedures explored in the research, it begins with the construction of the questionnaire used to obtain the data. Based on the color chart developed by Silva (2017) in her thesis (Figure 1), the test had 39 colors, 12 pure colors, 12 darkened colors with 50% black, 12 lightened colors at 50% opacity, arranged and divided into groups of 4 hues and 3 tones and one group with 3 achromatic colors. The color's numbers being randomly assigned even in the aforementioned author's research.

Figure 1: Grouping of colors used in experiments in five categories.

| | | COLORS | | |
|--|--|-------------|--------------|------------|
| | | LIGHT TONES | MEDIUM TONES | DARK TONES |
| GROUP 1 Bluish Cold colors | | 983 | 681 | 486 |
| | | 503 | 910 | 230 |
| | | 638 | 713 | 576 |
| GROUP 2 Pinks and violets Cold/warm colors | | 864 | 524 | 186 |
| | | 499 | 101 | 995 |
| | | 321 | 970 | 459 |
| GROUP 3 Orange, reddish and yellowish Warm colors | | 874 | 889 | 976 |
| | | 663 | 307 | 123 |
| | | 764 | 512 | 624 |
| GROUP 4 Greenish Cold/warm colors | | 515 | 751 | 483 |
| | | 431 | 425 | 903 |
| | | 725 | 508 | 817 |
| GROUP 5 Achromatic Neutral colors | | 863 | 192 | 741 |

Source: Translated from Silva (2017).

The experiment sheet was developed in the Brazilian Portuguese language, but for this article, with the purpose of better understanding, it has been translated into English (see Figure 2). Initially contained a demographic survey, followed by subjective and objective questions, where it first questioned its chromatic preferences in general, followed by questions regarding shopping experiences with a bias towards fashion products, based on in the questionnaire applied by Crepaldi (2006).

Figure 2: Questionnaire applied in the survey.

QUESTIONNAIRE - CHROMATIC PREFERENCES

Gender: _____
 Age: _____
 City: _____
 Neighborhood: _____
 Favorite color: _____
 Least favorite color: _____

When buying fashion products, which of the following areas do you feel influenced by color?
 Product Packaging Store environment

Among the factors that lead to the purchase of a fashion product, do you consider color a factor?
 Yes No

INSIDE THE COLOR CHART BELOW, INDICATE 5 COLORS THAT MOST ATTRACT YOU ABOUT FASHION PRODUCTS

| LIGHT TONES | MEDIUM TONES | DARK TONES |
|-------------|--------------|------------|
| 983 | 681 | 486 |
| 503 | 910 | 230 |
| 638 | 713 | 576 |
| 864 | 524 | 186 |
| 499 | 101 | 995 |
| 321 | 970 | 459 |
| 874 | 889 | 976 |
| 663 | 307 | 123 |
| 764 | 512 | 624 |
| 515 | 751 | 483 |
| 431 | 425 | 903 |
| 725 | 508 | 817 |
| 863 | 192 | 741 |

Source: Elaborated by the authors and adapted from Crepaldi (2006) and Silva (2017).

The instructions in the main part of the experiment indicated the selection of 5 of any of the colors that most attracted the respondent when it came to fashion products. The research was applied on October 23 and 24, 2019, from 16:30 to 21:00, during the VI Scientific, Cultural and Technological Exhibition of the Federal Institute of Education, Science, and Technology of Rio Grande do Norte - Caicó campus, Brazil, in a room thematic on chromatic analysis, making use of two new ipads (6th generation) with a 10.2-inch retina display and a resolution of 2160 x 1620 pixels at 264 dpi, both with the same lighting settings, thus ensuring that respondents were submitted to same color visualization conditions and at the same time optimize the time of application of the questionnaires.

4. Discussion and Results

Executed during the VI Scientific, Cultural and Technological Exhibition of the Federal Institute of Education, Science, and Technology of Rio Grande do Norte - Caicó campus, the research had the voluntary participation of 170 individuals from the city of Caicó, these being divided by zones in the which neighborhoods are inserted for better homogenization during the stage of analysis of the results obtained. At the same time that the location influences the chromatic perception, aspects such as socioeconomic insertion of the

neighborhood were considered, as well as punctuated by Guimarães (2000) where groups of people with higher socioeconomic status, tend to prefer fewer colors for satisfaction, while on the contrary, when in a lower socioeconomic situation, they escape this pattern of chromatic preference, admiring composition with a greater number of colors.

Thus, the volunteers were separated by the zones in which the neighborhoods are inserted, this division is shown in Table 1 below:

Table 1: Division of the environment surveyed by neighborhoods.

| Caicó city (Rio Grande do Norte – Brazil) | | |
|--|---|------------|
| Zones | Neighborhoods | Volunteers |
| Centre | Centro e Acampamento | 24,12% |
| North | Darcy Fonseca, Boa Passagem, Conjunto Senador Dinarte Mariz, Recreio, Raimundo Silvino, Samanaú, Alto da BoaVista, Salviano Santos, Serrote Branco e Vila do Príncipe | 24,12% |
| East | Bento XVI, Canuto & Filhos, Santa Costa, Vila Doutor Carlindo Dantas, Maynard, Penedo, Castelo Branco, Conjunto Ipê, Itans, Nova Descoberta e Vila Altiva | 23,53% |
| West | Barra Nova, Lula Januário, João XXIII, Distrito Industrial, São José, João Paulo II, Paulo VI, Walfredo Gurgel, Frei Damião e Adjunto Dias | 15,88% |
| South | Soledade e Paraíba | 12,35% |

Source: Prepared by the authors based on Araújo (2017).

About the city of Caicó, in the state of Rio Grande do Norte, Brazil, Sales *et al.* (2020, p. 4-5) explains that “is included in the Brazilian semi-arid region, located in the [...] Western Seridó Microregion. [...] ranking as the fifth largest municipality and the seventh most

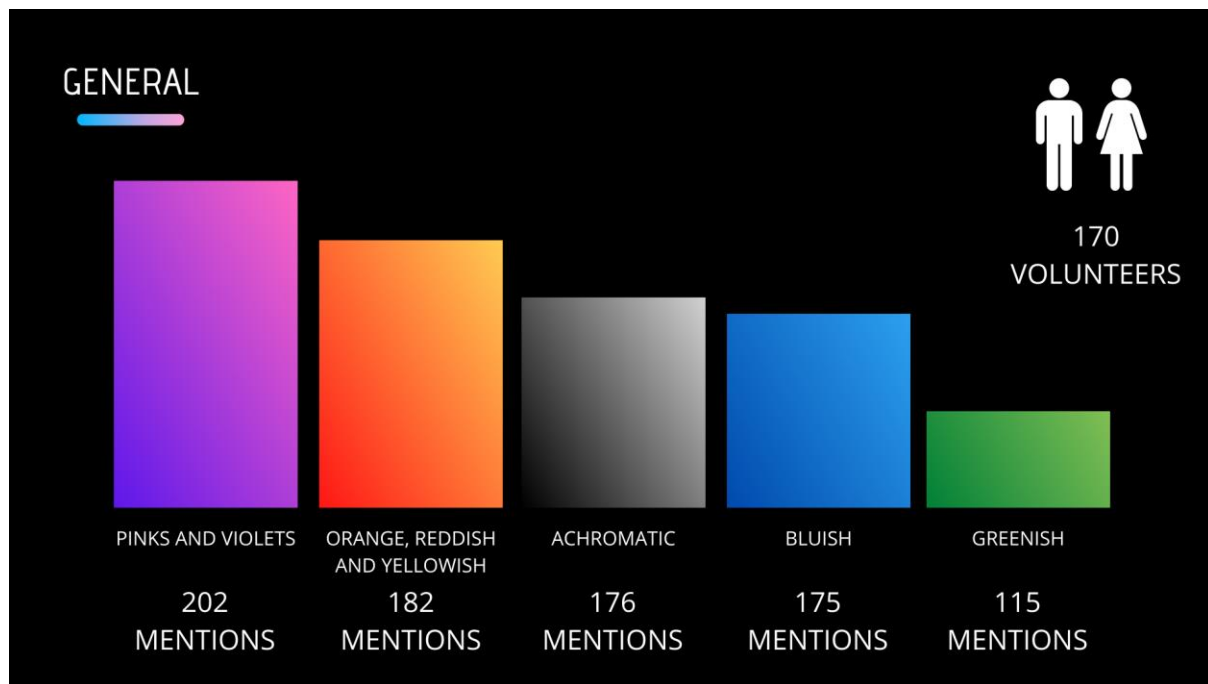
populous city in the state, with an estimated population of 67,952 inhabitants”. To determine a better understanding of the socio-economic situations that surround each area of the city, it is important to explore it through each of its specific points, debating its characteristics and the reality to which the inhabitants of each location are found.

For this reason, about the Central area of the city, its socio-spatial composition is sheltered by several stores and points of commerce, being considered socially as the marketing center of the city, thus, it is characterized as a region of inhabitants of high socioeconomic and purchasing power. When it comes to the North zone, the neighborhoods are considered as, brought by Brito (2016), vulnerable when it comes to socioeconomic situation, but superior when related to the West zone, being more focused at the same time on the categories of upscale neighborhoods when is observed through this perspective than the categories of poor neighborhoods.

About the East, Brito (2016, p. 48) explores this area, alongside the South, as being noble, with a great “flow of people, goods, and capital”. When it comes to the West, it is in a needy situation, in terms of socioeconomic insertion, being composed of peripheral neighborhoods and with higher levels of poverty. Regarding the South zone, next to the East, it is considered as a noble region, Brito (2016, p. 46) points out that “we emphasize the South and East Zones of the city as those in which the spaces of social, economic and territorial development are located in Caicó”. It is worth mentioning that, currently, it is perceived and corroborated with the characteristics of the regions that make up the municipality studied by Brito in 2016.

In general, 117 women and 53 men participated, with ages predominantly between 7 and 20 years of age (46.47%), followed by 21 to 40 years (41.18%), 41 to 60 years (11, 18%) and, finally, 61 to 64 years of age (1.18%). Initially analyzing all the answers related to which colors most attract in fashion products, which corresponds to 850 choices, the main hues cited were those that were within the group of roses and violets (see Figure 3), being the subject of 202 mentions.

Figure 3: General search results.



Source: Elaborated by the authors.

Then came the group of yellow, orange, and reddish, representing 182 choices, then comes the group of neutral/achromatic colors, with 176 mentions, with only 1 choice of difference from the group of bluish ones that has 175 choices. Lastly and far from the other groups, the greenish ones, with 115 mentions.

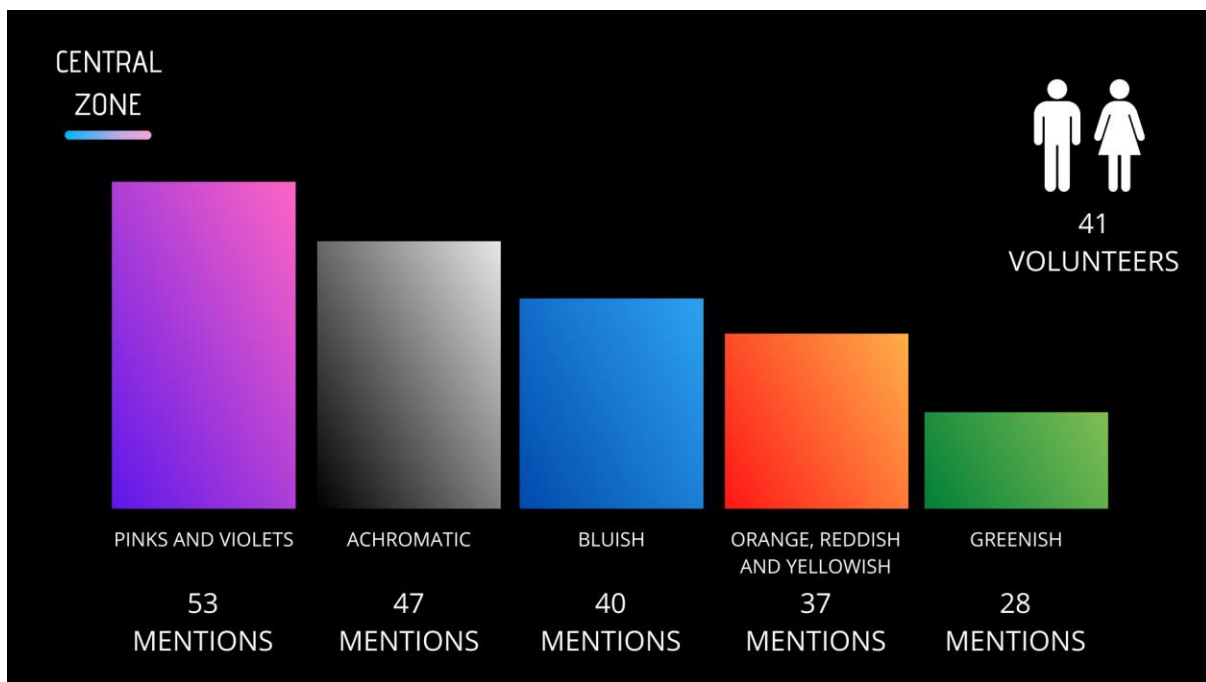
The final result was mainly due to the high selection of pink and violet hues by the female respondents (117 people), while the male (53 people) had as a primary result the bluish hues, followed by the achromatic ones, with the pink and violet hues conditioned to your selection last; this group of hues was even below the greenish ones, which showed, in general research, a very low level of interest.

Results that fully meet and corroborate the statements made by He et al. (2011) when explaining that male people tend to prefer green and bluish hues due to the feelings of calmness that the colors mentioned conveying, while those of the female gender have their preferences centered on pink and violet hues, as which the present research determined, also existing when observing from the point centered in the universe of fashion products. In this way, it is noticeable, locally, the establishment and propagation of the cultural expression 'boy wear blue and girl wears pink', socially perpetuated for many years and disseminated in human cognition to the point that when asking to determine their shades of preferences, genders demonstrate trends and agree to these particular color groups, involuntarily.

Moving on to other parts of the overall graph, the orange, yellow and red tints emerged as the second most preferred among the research volunteers. In this sense, a possible attraction is attributed that arises as a consequence of the bodily relationship that color exercises over the local human mind because the environment has aspects of always being dry, with a strong sun, the symbols linked to the heat become evident, as that the cognitive perception of the population tends to get used to the vibrations that this group of hues evokes. In this perspective, Farina (2006, p. 100) puts the material symbology of these colors, specifically orange, as “fire, sunset, light, flame, heat, party, danger, aurora, sun rays, robustness”.

About the central neighborhood, your region is composed of 2 neighborhoods, with 205 color selection and 41 respondents, of which 27 are females and 14 males. Most of them, however, are within the age groups of 21 to 40 years of age, representing 51.22% of the research in this neighborhood, then 7 to 20 years of age, with 41.46% and, finally, 41 to 60 years old, with 7.32%, with no incidence of people above or below the mentioned age groups.

Figure 4: Results for the central area of the city.



Source: Elaborated by the authors.

As in the general survey (Figure 4), pink and violet hues had a greater concentration of choice, with 53, followed by neutral/achromatic tones, with 47 mentions, then the group of bluish and yellow, orange and reddish, with 40 and 37 choices, respectively, finally, again,

with greenish hues, with 28 mentions. From these results, it is possible to perceive that the dominance of the zone is categorized as adult women with a high purchasing power, which justifies the pink and violet hues as being in the first place.

However, when perceiving these results from another perspective, about achromatic present a high degree of selection, one can build a relationship of purchasing power with chromatic preferences, which is brought by Guimarães himself (2000) when he stated that the use of many colors would be most associated with people from the lower economics classes, as people with a higher purchasing power would be less likely to use a large group of colors, opting for achromatic colors.

The lower the socioeconomic condition of a certain group, the less influence it will have on the aesthetic standards and norms that define the sophistication of the look - which we could consider chromatic freedom -, the higher this socioeconomic condition, the less color will be necessary for the satisfaction of the group look and understanding information (Guimarães, 2000, p. 111).

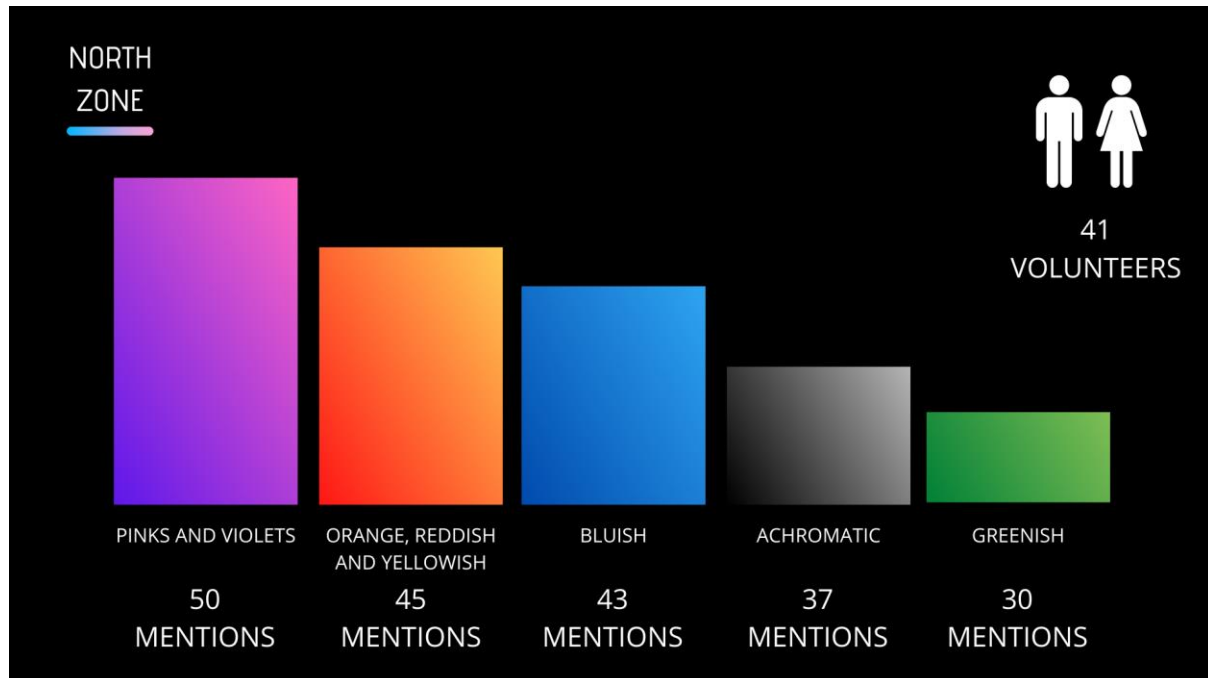
Also, there was a low number of people who determined their preferences within the group of greenish hues. As the main focus of the research is fashion products in general, without sticking to any specific shape or modeling, it is believed that the use of this color was not considered as a key piece. Thus, it is believed that although green has positive cultural symbolic associations, such as hope, prosperity, and youth, it ended up that its socially established aesthetic perception as complex, difficult to use and harmonize with other colors, ended up overlapping any type of positive interpretation for these colors, thus, there is a process of repulsion towards the preferences for this group of hues. According to the methodological conditions in which the volunteers were placed within this experimental research of visual perception, they ended up preferring to select other groups of colors to represent their preferences instead of the green ones.

If an individual thinks, consciously or unconsciously, of color to a particular use that he will make of it, it is evident that his reaction is not to the color itself but the color in the function of something. [...] Many preferences about colors are based on pleasant associations or experiences in the past and, therefore, it is difficult to change preferences about them (Farina, 2006, p. 87, p. 96).

In the case of the North Zone, with 10 districts, 41 people participated in the survey, representing 205 selected colors. Of this number of research volunteers, 30 people were female and 11 male, mostly aged between 7 and 20 years old, corresponding to 43.90% of the

results, followed by 21 to 40 years old with 46.34%, and lastly, the age groups of 41 to 60 years and 61 to 64 years of age, with 4.88% each.

Figure 5: Results for the northern part of the city.

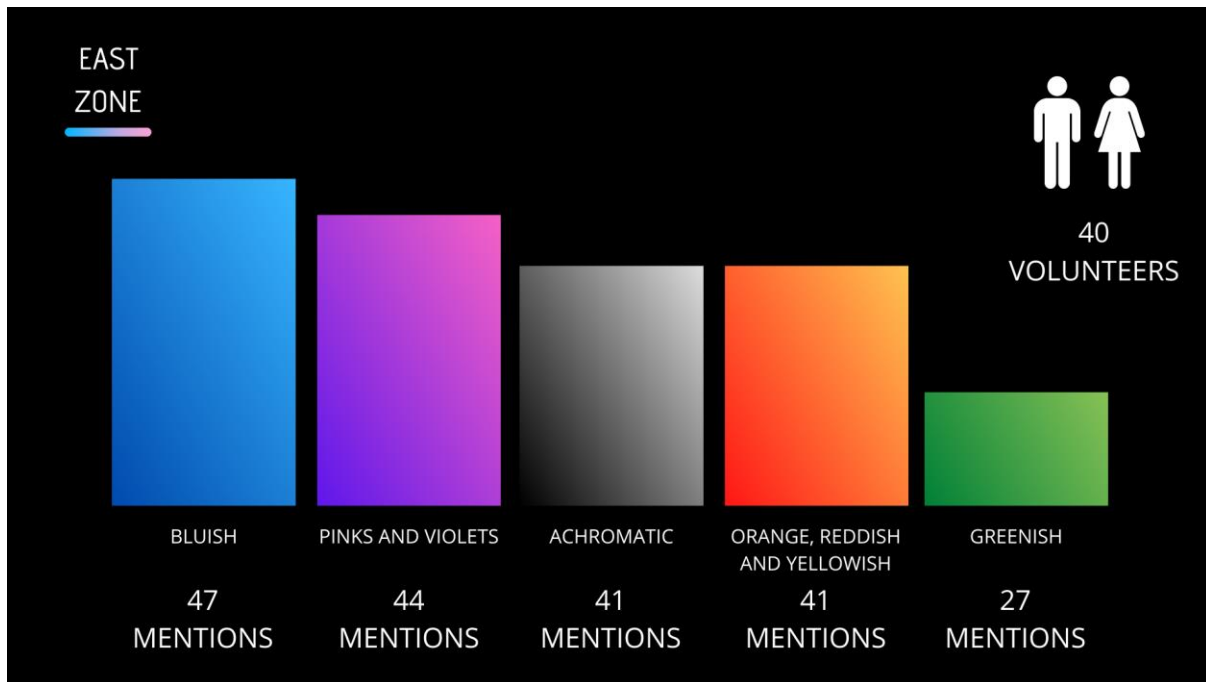


Source: Elaborated by the authors.

Continuing with similar results (Figure 5), this area of the city also showed trends of preferences directed to pink and violet hues, with 50 mentions, followed by yellow, orange and reddish, with 45 choices and bluish, with 43, then comes the hues neutral, with 37 mentions and, again, finally, the greenish ones, with 30 of the 205 choices. Corroborating in a certain way the affirmations previously constructed, in the neighborhoods that compose this zone, there is a public in a lower situation of purchasing power compared to the central zone, in this way, it was noticed a decrease in the selection of achromatic and an increase in the polychrome trend, mainly represented by the increase in the selection of the orange group, demonstrating a consistent relationship between chromatic selection and socioeconomic and purchasing power conditions.

As for the East Zone, formed by 11 neighborhoods and comprising 40 individuals as research volunteers, corresponding to 200 choices of colors, 26 of which are female and 14 are male. The age group was predominant within 7 to 20 years of age, with 52.50% of the research, followed by 21 to 40 years and, finally, 41 to 60 years of age, with 32.50% and 15%, respectively, with no incidence of ages greater or less than those already mentioned.

Figure 6: Results for the east side of the city.



Source: Elaborated by the authors.

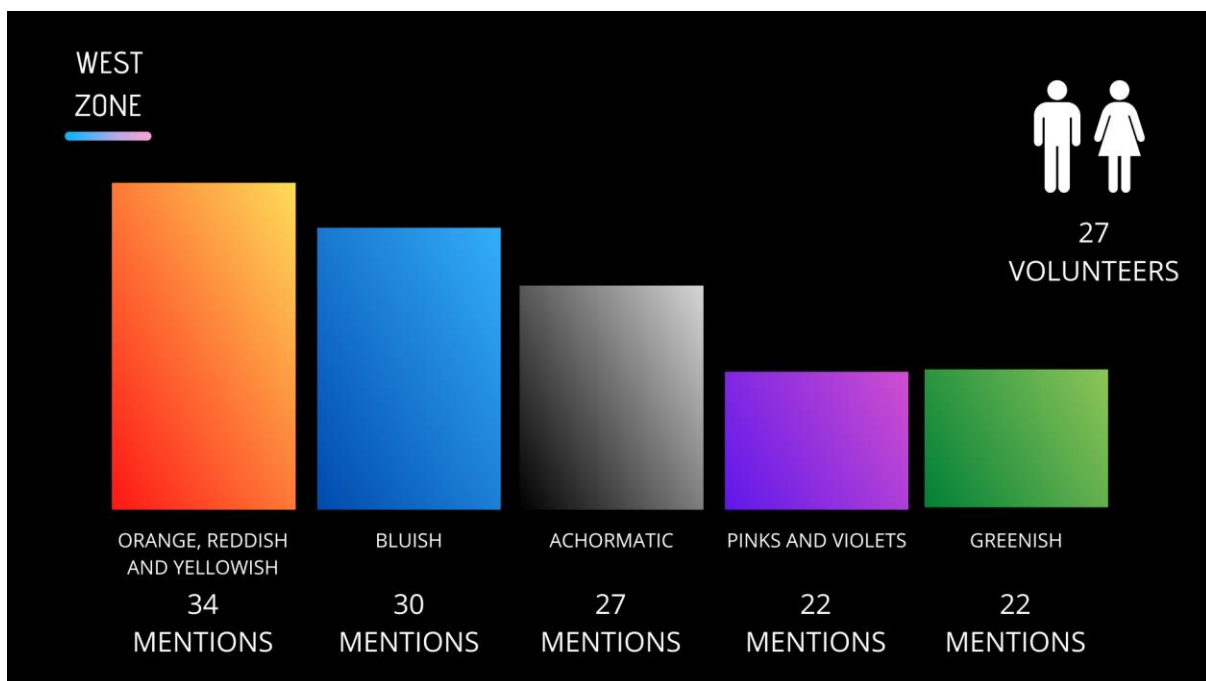
Contrary to what was being presented in this area, the bluish hues stood out, presenting 47 of the 200 choices (Figure 6). However, immediately afterward, the pink and violet hues appear, with 44 selections, and the achromatic and yellow, orange ones. and reddish, with 41 choices, each; and, finally, again, the greenish hues with 27 choices. The group of inhabitants who dominate in this region of the city is configured as those of noble-class teenagers, in this sense, blue showed a higher level than in other areas, especially when compared to areas with adolescents categorized as vulnerable, where the group of hues corresponds to the orange presented a fall. The motivations that lead to these preferences can be found at the mercy of the social contexts frequented by these groups of individuals, considering a psychological order, vulnerable adolescents are much more related to warm environments, having contact with a chromatic pluralization much greater than those classified like noble. Another possibility of motivation for the high number of choices of the bluish group is to be a color with a universal preference bias.

Resuming the chromatic selections of the central zone, it is noticed that both presented similar results in the direction of distribution, as they presented consistent results between the groups of hues, without having a considerable divergence between them. As both areas are classified as noble within the socio-spatial context of the municipality, one can think of this relationship based on the dynamics that people who make up these neighborhoods, as they are

classified as having greater purchasing power, will not necessarily need to choose between purchasing a single fashion product, but you can purchase several, with different colors.

The West Zone comprises 10 neighborhoods and participated in the research with 27 individuals with a predominant age range between 7 and 20 years of age, with 55.56% of the results, being followed by 25.93% of people between 21 and 40 years, for Finally, 18.52% formed by people between 41 and 60 years old, this stage of the research brought 135 chromatic selections.

Figure 7: Results for the west area of the city.



Source: Elaborated by the authors.

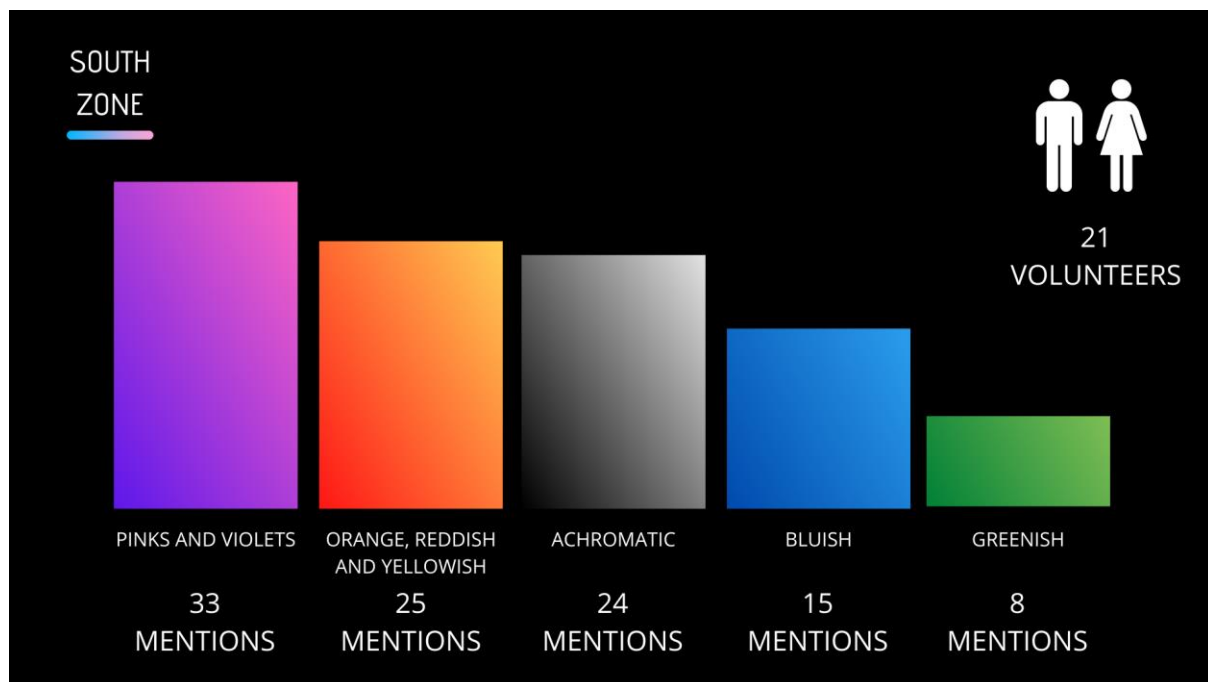
Also contrary to the results previously brought in other areas, in this region (Figure 7), the most accentuated hues with 34 mentions were yellow, orange, and reddish, followed by bluish and achromatic ones, with 30 and 27 mentions, respectively. In contrast to the other results presented, the pink and violet hues appeared last, alongside the greenish ones, with 22 mentions each.

Through the research built here, it is clear that the groups of orange colors have a strong connection with people belonging to vulnerable classes. Only in this region of the city did the pink hues fall so many points, even to the greenish group. A hypothetical possibility for this preference trend revolves around the fact that because it is a socioeconomically inferior regional group, its use of fashion products is at the mercy of the availability of pieces

and, in this way, the volunteers of that zone made a relationship of preferably with what you have access to.

The South Zone is composed of 2 neighborhoods and had the participation of 21 people, that is, 105 selection of color preferences, with age groups in the majority of 21 to 40 years old, with 42.86%, followed by 7 to 20 years old, with 38.10% and, lastly, people from 41 to 60 years old, with 19.05%.

Figure 8: Results for the south of the city.



Source: Elaborated by the authors.

The pink and violet hues appeared once again as the most mentioned (Figure 8), with 33 choices, followed by the yellow, orange and reddish hues, with 25 mentions, followed closely by the achromatic ones, with 24. Finally, the bluish hues with 15 and green ones with a relevant difference from the others, with 8 mentions. From a perspective of a zone categorized as middle class, there is a balance between what the upper classes prefer (achromatic and bluish) and what the most vulnerable classes tend to prefer (yellow, orange, and reddish hues), as the hues pink and violet returned to first place.

It is important to highlight the divergence of these results to other studies already carried out in other regions of the world, such as that of researcher Miho Saito (1994), where he identified that among three areas studied in Asia (China, Japan, and Taiwan), only 1 had an incidence of preferences for violet hues, however, not exactly as among the first options,

having, in reality, common preferences for bluish hues (vivid blue). A characteristic that differs both environments analyzed and compared, is that the locations brought by Saito (1994) have more pronounced urbanization characteristics than the city of Caicó, in the Brazilian state of Rio Grande do Norte, configuring itself in turn, as a city in the countryside of the northeast, which may denote more distinct references, in addition to the west-east aspect itself. The aforementioned author himself expresses that geographic location, environment, and culture are determining characteristics for understanding the influences of a population's chromatic preferences.

In the case of greenish hues, all areas of the city studied in this article showed negative response trends to this group of colors, appearing as the last option in all the topics brought up, contrary to the old study made by Choungourian (1968), which shows the green as the only hue that has a high and consistent content of preference in all the countries of its study (United States, Lebanon, Iran, and Kuwait). However, among these countries, the North American appeared as having the least preference for these hues, being possible to observe the divergences and convergences of the effect of time and geographic location on chromatic preferences, such as the idea of the West and the East under cultural references similar.

5. Final Considerations

Chromatic preference is a complex topic to be detailed, mainly due to the variation of perception from individual to individual, in addition to the external influences that end up serving as a mold and the variation of the geographical location that is being observed, covering psychological and cultural considerations. However, even with the number of obstacles to be found during the research, for the stages of product development, knowing the phenomena intrinsic to the target audience presents itself as one of the fundamental tasks and, when it comes to colors, it becomes a crucial point, because it is the first element that creates a connection with the consumer.

To provide this informational supply to the regional creative industry, the present work detailed the preferences in groups of chromatic hues of the inhabitants of the city of Caicó, in the state of Rio Grande do Norte. Identifying, through this, the generalized targeting of the population mainly by pink and violet hues, except in two of the five areas of the city, one in the East, known for sheltering people with high economic power and having a direction to the bluish ones; and to the West, with a population with low economic power, with a tendency to prefer the shades of yellow, orange and reddish.

The results bring a lot of the notion in the first moment of the behavior and the environment as a result of the chromatic preferences in fashion products. Socioeconomic insertions proved to be key points to understand the core of these trends' emergence to certain groups of hues, whether they belong to a larger or achromatic chromatic spectrum. Finally, it is understood that the chromatic preferences in fashion products are directly related to how people understand that color in a socio-culturally way, about the image that the use of that color denotes, Ruviano Junior and Becker (2020, p. 3, translated by us) says that “Fashion, being a cultural artifact impregnated with meanings, is one of the most evident marks of status and gender in Western societies”.

The objectives of the work were presented as concluded effectively, given that the applied methodology was sufficiently satisfactory to map these directions of preferences. It is important to emphasize that, as time progresses, it will be necessary to update this study. As previously mentioned, human color perception tends to change, and it is also possible to observe how this occurred and contrast both works as a product of their time.

References

Araújo, F. M. (2017). *A importância da implantação da lei de bairros para o planejamento e ordenamento da zona oeste de Caicó - RN*. Bachelor's Monography, Universidade Federal do Rio Grande do Norte, Centro de Ensino Superior do Seridó, Caicó, Rio Grande do Norte, Brazil.

Brito, D. M. (2016). *Planejamento e ordenamento do espaço de Caicó (RN) na atualidade*. Bachelor's Monography, Universidade Federal do Rio Grande do Norte, Centro de Ensino Superior do Seridó, Caicó, Rio Grande do Norte, Brazil.

Chen Y., Yang, J., Pan, Q., Vazirian, M., & Westland, S. (2019). A method for exploring word-colour associations. *Color Research & Application*, 41(1), 1-10.

Choungourian, A. (1968). Color preferences and cultural variation. *Perceptual and Motor Skills*, 26, 1203-1206.

Crepaldi, L. (2006). A influência das cores na decisão de compras: um estudo do comportamento do consumidor no ABC paulista. *Proceedings of the Congresso Brasileiro de Ciências da Comunicação*, Brasília, Brasil, 29, 1-14.

Eysenck, J. (1941). A Critical and Experimental Study of Colour Preferences. *The American Journal of Psychology*, 54(3), 385-394.

Farina, M., Bastos, D., & Perez, C. (2006). *Psicodinâmica das cores em comunicação*. São Paulo: Edgar Blucher.

FIERN. (2017). *Facções de confecções: Municípios do Seridó têm os melhores IDHs do Rio Grande do Norte*. Retrieved from <https://www.fiern.org.br/faccoes-de-confeccoes-municipios-serido-tem-os-melhores-idhs-rio-grande-norte/>.

Garcia, C. C. (2017). *As previsões de tendências em cores na moda contemporânea*. Master's thesis, Universidade de Brasília, Brasília, Brazil.

Gil, A. C. (2008). *Métodos e Técnicas de Pesquisa Social*. 6. ed. São Paulo, BR: Editora Atlas.

Guimarães, L. (2000). *A cor como informação: a construção biofísica, linguística e cultural da simbologia das cores*. São Paulo, BR: Annablume.

He, W., Zhang, Y., Zhu, J., Xu, Y., Yu, W., Chen, W., Liu, Y., & Wang, W. (2011). Could sex difference in color preference and its personality correlates fit into social theories? Let Chine university students tell you. *Personality and Individual Differences*, 51(2), 154-159.

Heller, E. (2012). *A Psicologia das Cores: como as cores afetam a emoção e a razão*. São Paulo, BR: Gustavo Gili.

Kareklas, I., Brunel, F. F., & Coulter, R. A. (2014). Judgment is not color blind: The impact of automatic color preference on product and advertising preferences. *Journal of Consumer Psychology*, 24(1), 87-95.

Palmer, S. E., & Schloss, K. B. (2010). An ecological valence theory of human color preference. *Proceedings of the National Academy of Sciences*, 107(19), 8877-8882.

Pedrosa, I. (2014). *Da Cor à Cor Inexistente*. 10. ed. Rio de Janeiro, BR: Senac Nacional.

Roger, R., & Udale, J. (2009). *Fundamento de design de moda*. Porto Alegre, BR: Bookman.

Ruviaro Junior, A., & Becker, E. L. S. (2020). Moda: sua relação com o design de moda e a importância do ensino. *Research, Society and Development*, 9 (7), e842974829,

Saito, M. (1994). A cross-cultural study on color preference in three Asian cities: comparison between Tokyo, Taipei and Tianjin. *Japanese Psychological Research*, 36(4), 219-232.

Sales, J. E. S., Souza, R. G., Lacerda, R. D., Silva, R. C. M., Veloso, E. V. L., Nóbrega, J. G. S., Santos, W. B. M., & Higino, S. S. S. (2020). Frequência de leptospirose em cães sob proteção animal no município de Caicó, estado do Rio Grande do Norte, Brasil. *Research, Society and Development*, 9 (6), e69963415.

Singh, S. (2006). Impact of color on marketing. *Emerald Insight*, 44(6), 783-789.

Silva, C. A. P. (2017). *As cores e as formas dos cheiros: as correspondências entre os sentidos do olfato e da visão em frascos de perfumes*. Ph.D dissertation, Faculdade de Arquitetura e Urbanismo, Universidade de São Paulo, São Paulo, Brazil.

Silveira, L. M. (2011). *Introdução à teoria da cor*. Curitiba, BR: Ed. UTFPR.

Taylor, C., & Franklin, A. (2012). The relationship between color-object associations and color preference: further investigation of ecological valence theory. *Psychon. Bull. Rev.*, 19(2), 190-197.

Taylor, C., Clifford, A., & Franklin, A. (2013). Color Preferences Are Not Universal. *Journal of Experimental Psychology: General*, 142(4), 1015-1027.

Wilms, L., & Oberfeld, D. (2017). Color and emotion: effects of hue, saturation and brightness. *Psychological Research*, 82, 896–914.

Porcentagem de contribuição de cada autor no manuscrito

Ítalo José de Medeiros Dantas – 20%

Heloisa Mirelly Ferreira Alves – 20%

Mariana Nunes do Nascimento – 20%

Aline Gabriel Freire – 20%

Lívia Juliana Silva Solino – 20%