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CULTURAL IMAGINARY OF CASTILLA Y LEÓN FESTIVITIES GENERATED WITH ARTIFICIAL INTELLIGENCE
A Comparative Study Using Playground AI

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ABSTRACT

This study analyzes the generation of 133 images using artificial intelligence (AI) to represent Cultural Interest Festivals (FIC) of Castilla y León through the Playground AI platform. The images were created based on real photographs of the festivals. The results were evaluated through comparative surveys, focusing on two aspects: the familiarity and comfort they evoke, and their resemblance to reality. While the original photographs are more similar to reality, the images generated by Playground AI excel in better representing the festivals and are considered more appealing by the respondents. We conclude that these digital tools adapt both the symbolic and literal dimensions while preserving the essence of the original source. Furthermore, they standardize the aesthetics through artistic filters with chromatic harmony, achieving a visually more pleasant appearance that effectively highlights the representative aspects of these cultural celebrations.

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1. Introduction

The term "artificial intelligence" (AI) is used to describe a range of technologies that possess characteristics or capabilities that were previously exclusive to the human intellect. The term is applied when a machine exhibits cognitive functions that humans associate with other human minds, such as learning or problem solving (Icarte Ahuada, 2016; Toca Torres, 2014).

The application of artificial intelligence is becoming increasingly prevalent in people's daily lives. It is used to perform a range of everyday activities, including listening to music, controlling domestic lighting and navigation to a desired location (Cwaik, 2020). In order to provide visual representation and description of the Festivals of Regional, National and International Interest of Castilla y León, we have employed the use of artificial intelligence. The necessity to provide a visual representation of these festivals gives rise to the legal issues pertaining to the authorship of the photographs. The legal questions surrounding the authorship of artificial intelligence present a challenge to the conventional rules governing property rights, as algorithms have the potential to generate works that could be deemed creative if they were produced by humans (Estupiñán Ricardo et al., 2021).

1.1. The Uncanny Valley in Visual Culture: Exploring Algorithmography

In 1970, Masahiro Mori, a Japanese expert in robotics, proposed the "Uncanny Valley" theory. This theory posits that robots are perceived as pleasant when they exhibit human-like characteristics, but when they achieve a high degree of resemblance, they evoke a natural fear response. Mori employed the metaphor of the valley to illustrate how the augmentation of human characteristics in a non-human entity gives rise to a sense of strangeness and alienation from our capacity for empathy. This theory was subsequently expanded to encompass any anthropomorphic figure, investigating our unease and rejection of human-like physical and virtual representations when they fail to achieve a 100 percent true-to-life likeness (Milo, 2023), such as a robot. It has been demonstrated that robots are perceived as disturbing when they are considered to be capable of experiencing human emotions, whether this is due to their physical appearance, their actions, or simply the way in which they are described. One potential explanation for this phenomenon is that humanoid robots may elicit a disturbing response due to their perceived capacity for human-like cognition. Despite the fact that robots lack a genuine mind, many individuals tend to ascribe mental characteristics to them, which can subsequently give rise to feelings of unease. This attribution of human characteristics, such as the ability to feel emotions, gives rise to the perception of a mind in humanoid robots, which can in turn give rise to affective aversion. This mental perception in humanoid robots can result in a discrepancy between people's expectations and the explicit knowledge that robots are merely machines, which in turn gives rise to emotional discomfort.

In the context of digital marketing, the growing popularity of artificial intelligence tools, such as ChatGPT, presents analogous challenges. While these tools seek to emulate human language in order to create online content, they must strike a balance between achieving effectiveness and avoiding the Uncanny Valley effect. The perception of AI-generated content as too human-like may lead to discomfort among users, potentially influencing their interpretation of the message and the brand behind it (Lizama, 2024).

Furthermore, the illustrative images of visual culture generated through AI can also present the problem of unsettling the viewer. Thus, we have attempted to circumvent this phenomenon of unease in order to prevent any discomfort or disquiet among the viewers. In order to circumvent this issue, we have provided the AI with a prompt and instructions for generation. Additionally, we have requested that the tools produce images with a pictorial style, which serves to further distance the characters, figures, and landscapes from reality.

It is a challenging task to generate images with a cultural context. The advent of artificial intelligence (AI) has brought about a transformation in the processes of creation and signification. In their 2023 article, Hernando Gómez Gómez and José Luis Rubio Tamayo introduce the concept of algorithmography, which they define as a process of creating images from other images. They emphasise the necessity of considering the ecological dimension of the image in the context of its production and consumption in the contemporary socio-economic context. Furthermore, the concepts of adoption and appropriation in the creation and interpretation of images are examined. It is proposed that the processes of adoption and appropriation assume a novel dimension with the advent of AI, which is

capable of generating images based on concepts and meanings that have been previously defined by the collective.

The current situation is witnessing a shift in the way communication is conducted, particularly in the context of artificial textual and image generation. This is a cause for concern, particularly in light of the challenges communication specialists face in creating material and distinguishing between what is real and what has been created using AI. Gómez de Ágrda et al (2021). argue that perceptions of this nature "are increasingly shaped by digital media that can be manipulated by sophisticated AI processes (Lin, 2018), allowing images to be modified in ways that were previously practically impossible" (p. 3).

1.2. Visual Semantics: From Peirce and Barthes to Artificial Intelligences

In order to generate images, it is first necessary to consider the underlying semantics and semiotics (Mengoni, 2021). This approach allows us to gain insight into the historical evolution of visual understanding and representation. This paper makes reference to Peirce's theory of signs (Bravo Heredia, 2010), with a view to examining the manner in which it exerts an influence on the way in which artificial intelligences and algorithms analyse and construct new images, incorporating cultural elements. Gómez Gómez and Rubio Tamayo (2023) posit that Peirce's semiotic categories are pivotal to comprehending the evolution of image meanings and the narrative construction that surrounds them. The relationship between AIs and Peirce's category theory indicates that AIs are gradually acquiring the capacity to comprehend and generate concepts associated with images.

The nature of the images generated by AIs is discussed, with particular emphasis on their abstract approach to the representation of festivals of tourist interest and the importance of considering their cultural and folkloric context. In order to gain a deeper understanding of the relationship between semantics and visual representation, it is essential to conduct an analysis of the denotative and connotative significance of the image in question. This is particularly relevant in the context of the growing use of artificial intelligence (AI) and other technologies in the generation of artificial images.

It is not a prerequisite that there is a direct figurative equivalence between the image and its original reference. In a 2002 publication, Justo Villafañe and Norberto Mínguez put forth a model of degrees of iconicity-text-image-concept equivalence. This model encompasses a range of equivalence types, including literal, symbolic, and chromatic. The potential impact of artificial intelligence on the development of artistic skills comparable to those of humans has been the subject of analysis by several authors, including Gómez Gómez and Rubio Tamayo (2023), Jordanous (2012), López Cardona et al. (2020) or McCormack et al. (2020). It is an irrefutable fact that AIs will persist in exploring novel methods of image generation. However, photography will continue to be a significant medium for capturing visual reality.

In his analysis of the relationship between denotation and connotation, Roland Barthes (Menéndez-Pidal, 2010) identifies three orders: coded versus uncoded, perceptual versus cultural, and literal versus symbolic. In this model, the denotative iconic message serves as the basis for the second, non-coded message, which in turn acts as the foundation for the literal message. In this context, the literal image represents the denotation, whereas the symbolic image represents the connotation. The viewer processes both the visual and the cultural message concurrently.

In terms of simplifying concepts, Barthes (Allen, 2011) understood intertextuality to be the relationship between texts, namely that texts are interwoven in a network of references and meanings. A learning AI will utilise the texts and images provided to generate a new discourse or a new interpretation of reality. Its artificial neural network interrelates the texts provided and generates a new one with a direct relationship to those provided.

It is evident that the preceding academic contributions serve as the basis for a novel reconfiguration of reality. In certain instances, the authorship of the messages is challenging to discern. However, the process of adaptation must be gradual and must adhere to ethical and legislative constraints.

1.3. Key Terms in Artificial Intelligence Generated Image Analysis

In their 2023 publication, Hernando Gómez and José Luis Rubio put forth a model of equivalence between text, image, and concept, wherein artificial intelligences can generate images with varying degrees of linguistic interpretation and abstraction. The initial three levels are as follows:

- Literal figurative equivalence: This concept concerns the resemblance in the depiction of actions and the configuration of elements in the image to the original concept, which ultimately results in a narrative that is analogous to the source text.
- Symbolic figurative equivalence: In this case, although some elements may vary, the overall meaning of the image remains consistent, thus requiring an understanding of the original narrative.
- Colour range: The alteration of colour can affect the interpretation of the message and the symbolic significance of the image, depending on the cultural context.

Furthermore, the denotation and connotation, or the meaning of the image (Menéndez-Pidal, 2010), must be taken into account in the analysis:

- Denotative meaning: It refers to the objective and literal denotation of a term or phrase, as defined in a dictionary. This term refers to the objective and literal denotation of a term or phrase, as defined in a dictionary. The term is defined in accordance with the standard dictionary definition. The denotation precludes any possibility of interpretation. It accurately represents the precise denotation of the term.
- Connotative meaning: It derives from the subjective interpretation of its denotative meaning. Subjective and symbolic. Context-dependent; conveys feelings and emotions. The interpretation of this term is susceptible to significant influence from the customs and experiences of the region and culture in question.

1.4. Objectives and Research Questions.

The principal objective of this study is to ascertain whether Masahiro Mori's Uncanny Valley theory is applicable to cultural representations created by artificial intelligence. The objective is to evaluate the extent to which the generated images circumvent the Uncanny Valley through the inclusion of technical and aesthetic resources (SO1). In order to achieve this, it is vital to ascertain whether the visual rhetoric put forth by Barthes is incorporated into the generative processes of AI (SO2).

This research raises several questions, including: (Q1) How are the visual representations of characters and settings at cultural festivals composed, in terms of the degree of literal and figurative equivalence? (Q2) How is the festival and its mental construction represented at the level of symbolic figurative equivalence? Furthermore, (Q3) do the images generated by AI harmonise light and colour, addressing the chromatic range of the images?

In addition, we pose (Q4) the question of which of the representations evokes a greater sense of affinity and comfort, and (Q5) which representation most closely aligns with the real world? This analysis will facilitate a more nuanced understanding of the potential for artificial intelligence to replicate and enhance cultural representations while maintaining an aesthetically pleasing quality and avoiding the discomfort associated with the Uncanny Valley phenomenon.

In terms of denotative and connotative meanings (Q6), to what extent do digital recreations represent reality in an objective, literal and informative way, or to what extent does connotative meaning prevail, with a particular focus on the subjective, symbolic and emotional components? (Q7) These two aspects are inherently linked to the concept of human resemblance, as discussed in the context of the Uncanny Valley.

2. Methodology

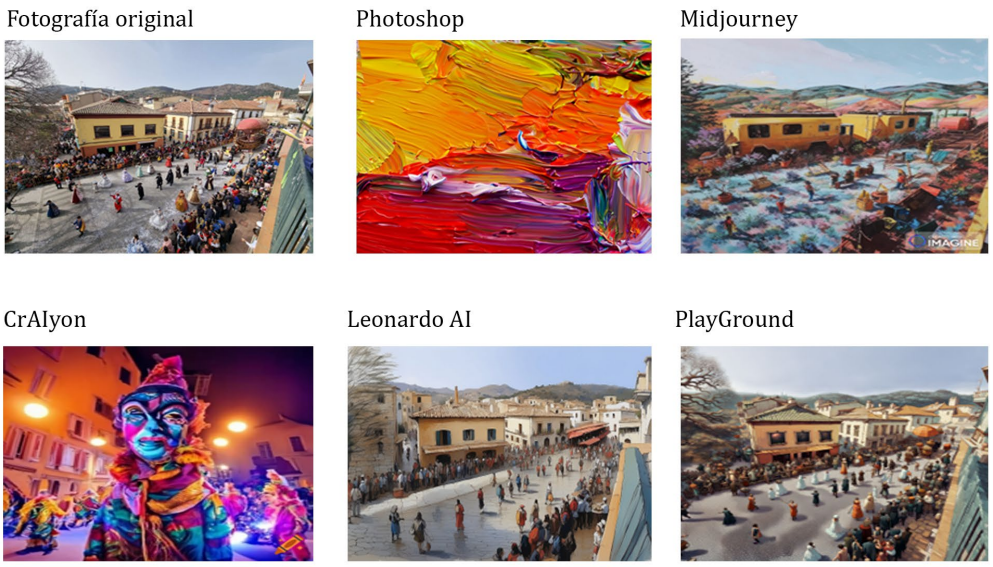
The analysis sample was generated using the Playground AI image generation application (version 2023). A total of 133 final artificial illustrations were created to represent each of the 133 Festivals of Cultural Interest registered in different locations within the Castilian-Leonese region. To assess their suitability, 266 respondents were invited to provide feedback on the visual representation of each festival.

2.1. AI Imaging Generation

Initially, an investigation was conducted into the utilisation of diverse artificial intelligence programmes (Figure 1) that employ algorithms to generate images. The following programs were considered: Dall-e 2, Photoshop, Midjourney, Craiyon, Leonardo AI and Playground AI. The latter was ultimately selected. The generation of images with text was attempted by introducing a description of the party; however, the results were found to be unsatisfactory. Consequently, the application was trained with several images of the parties that were to be recreated. We elected to utilise this tool as a means of departing from photographic realism and instead pursuing the creation of images characterised by textures and pictorial forms. This is due, on the one hand, to the unavailability of royalty-free photographs of all the festivals. In each case, a genuine photographic image was employed as a point of reference.

The following example image is a reference to the Los Carnavales de Cebreros de Ávila festival (File 37). The municipal authorities provided a series of royalty-free photographs of the festival. In each instance, the same prompt and text instruction were provided: "Transform the image into an oil painting, respecting the original image and its constituent elements". The degree of specificity in the descriptions provided in English was contingent upon the manner in which the AI analysed the reference image. It was observed that the programme was more amenable to the instructions provided in English, and thus more detailed descriptions were included.

Figure 1. Artificial Intelligence generated images of the Festival: Carnivals of Cebreros, Ávila.



Source: Own elaboration, from (from left to right) original photograph, Photoshop, Midjourney, CraAIon, Leonardo AI and Playground AI, 2024.

The DALL-E 2 tool was initially considered for use in this project; however, it was discovered that the tool did not permit the utilisation of a base image. As illustrated in Figure 1, while Photoshop is a valuable tool for image editing, it proved ineffective in achieving the desired transformation of the overall image.

The Midjourney software permits the user to select a reference image and then apply an artistic style to it. However, the result did not meet expectations in that the image retained a similar framing and shape but did not respect the original elements.

Similarly to DALL-E 2, Craiyon does not permit the utilisation of a reference image, instead requiring only prompt descriptions. Despite the provision of comprehensive instructions, the outcome was unsatisfactory, with the generated images pertaining to the primary term "carnival" being either implausible or incongruous with the festival in question.

The Leonardo AI, which permits the specification of a prompt and the submission of a reference image, yielded more encouraging outcomes, with the colours, framing and structure of the original

image largely preserved. However, the carnival costumes, which were integral to the original image, were not retained.

It was ultimately determined that operating with Playground AI was the optimal choice, as evidenced by the successful implementation of the prompt and the "Ona a Board" file-loading training option, which utilized the "Lush Illumination" filter in all cases. This approach resulted in a pictorial transformation that was, for the most part, faithful to the original image of the analysed parties. While additional detail was required in each file to achieve the desired refinement, the process entailed training with the option from images to ensure stylistic consistency across all festivities, while allowing for heterogeneity and adaptation to the specific characteristics of each celebration.

In some tests, the style of the filter was modified, yet no significant alterations were observed in the images, which is contrary to the assertion that the style will undergo a transformation. The "Expand Prompt" option was not included in the tests, nor was it activated. Upon activation, this button prompts the AI to generate images and ideas based on the inputted prompt, demonstrating its capacity for improvisation. It is advisable to refrain from activating the basic image option if one wishes to maintain a certain degree of fidelity to the original image. Otherwise, the AI may deviate from the intended representation and introduce elements that bear no objective resemblance to the source material.

The most efficacious training process was that which employed the "Image to Image" technique. The training method, which involved providing a summary paragraph for each fiesta in Spanish, did not yield the desired outcomes. In all cases, the AI was supported by a series of authentic photographic images of the festivals in each location. The "Stable Diffusion XL" model was selected to provide greater diversity in terms of potential outcomes and dimensions. The AI training is based on an algorithmic mathematical model that classifies and reinterprets patterns (Heras Benavides, 2017) through the interrelation between units, artificial neurons, connected (Tostado Sánchez et al., 2016). In order to obtain optimal results for this research, it is necessary to provide a large amount of information.

In consideration of size and resolution, it is essential to acknowledge that the 1024x1024 option may initially appear to be the optimal choice, as it offers the largest dimensions and consequently the highest image quality (Yoguel et al., 2021). Nevertheless, subsequent trials have indicated that this option may not be the most appropriate in certain instances. This is due to the fact that the AI attempts to expand and utilise the generative fill to occupy the entirety of the available space, which results in the deformation of the image elements. Firstly, the figures and environment are stretched unnecessarily. Secondly, elements that are not relevant to the image are included, despite it being a pictorial creation. It is possible to edit the image in order to reduce its elongation, but the resulting image appeared unnatural. It is recommended that the 768x512 dimension be selected if the objective is to create a horizontal image. This alternative ensures that the image is not distorted and that all the available space is utilised effectively. Conversely, should a vertical image be desired, an alternative option would be to select the 512x768 size.

The quality of the generated image was found to vary depending on the reference image used. In some cases, one image was deemed to be of superior quality to the other. The subject displays an inability to recognise people and some animals, including bulls and horses, as well as religious and processional images, carvings of virgins or saints. The most successful results were those depicting landscapes and buildings. An illustrative example is the Romería de Nuestra Señora de Chilla, held in Candeleda, Ávila. To illustrate, the image of the Virgin (Figure 2) with the infant in her arms was not correctly processed by Playground AI, as were the various facial features of the people surrounding her, despite instructions in English. To the greatest extent feasible, we employed a training strategy that involved photographing individuals with their backs to the camera. This approach was adopted to circumvent potential infringement of image rights and to enhance the quality of the generated images.

Figure 2. Versions of the Romería de Nuestra Señora de Chilla, Candeleda (Ávila, Spain)

Source: Prepared by the authors, based on photographs from the Ávila Town Hall, 2024.

2.2. Conducting the Survey

In order to collate the results, 266 cards featuring festivals of Cultural Tourist Interest (FIC) in Castilla y León were distributed to adults approached in the street who had agreed to participate in the survey. Each respondent completed one of the 133 questionnaires pertaining to Festivals of Tourist Interest in Castilla y León. Each questionnaire comprised a brief text accompanied by printed instructions. The interviewer was present throughout the duration of the survey to provide clarification on any complex concepts, such as the distinction between denotative and connotative meanings, or to address any queries that may have arisen.

In order to ensure statistical robustness, each token was distributed to two individuals. Each card comprised a brief text with instructions and two images. The image on the left depicted a genuine photograph of the event, while the image on the right was an illustration generated by Playground AI. With the exception of three respondents who required in excess of 20 minutes to complete the task, the average time taken was 5 minutes and 42 seconds.

The instructions, together with the URL and QR code for the survey, are displayed at the top of each card. To illustrate, Figure 3 depicts card number 52, which pertains to La Pingada de Mayo. As illustrated on the left, the photograph was taken by Raúl de la Montaña and is hosted on the Hontoria del Pinar Town Council website. The image on the right has been generated by the AI.

Figure 3. File no. 52 / Fiesta: Fiesta del Mayo Hontoria del Pinar (Soria, Spain).

Source: Own elaboration, based on original photo (de la Montaña, 2001), 2024.

The initial questions seek to ascertain the respondent's level of knowledge regarding the subject party, utilising a Likert scale format. These are followed by questions pertaining to socio-demographic characteristics, including gender identity and age range.

The subsequent two sections of the study comprised identical sets of questions utilising a Likert scale, wherein respondents were instructed to indicate their level of agreement with each statement on a scale of 1 to 5. This was initially done in relation to the photograph and then repeated in the context of the illustration. The questions that were posed were as follows:

- (P1). Literal figurative equivalence: Does the picture represent the composition, the characters and the setting of the festival?
- (Q2) Symbolic-figurative equivalence: Does it represent the festival and its mental construction?
- (Q3) Chromatic range: Do you think it harmonises light and colour?
- (Q4) Level of familiarity: Does it give you a sense of affinity or comfort?
- (Q5) Degree of human resemblance: Do you think it looks more like reality?
- (Q6) Denotative meaning: Do you think it is: objective, literal, informative?
- (Q7) Connotative meaning: Do you think it is subjective, symbolic, emotional?
- (Q8) Taste, opinion: Do you generally like it?

These five-point Likert scales (1 Not at all; 2 A little; 3 Moderately; 4 A lot; 5 Completely) ask identical questions but rate the photograph in the first block and the generated illustration in the second block.

3. Analysis of results

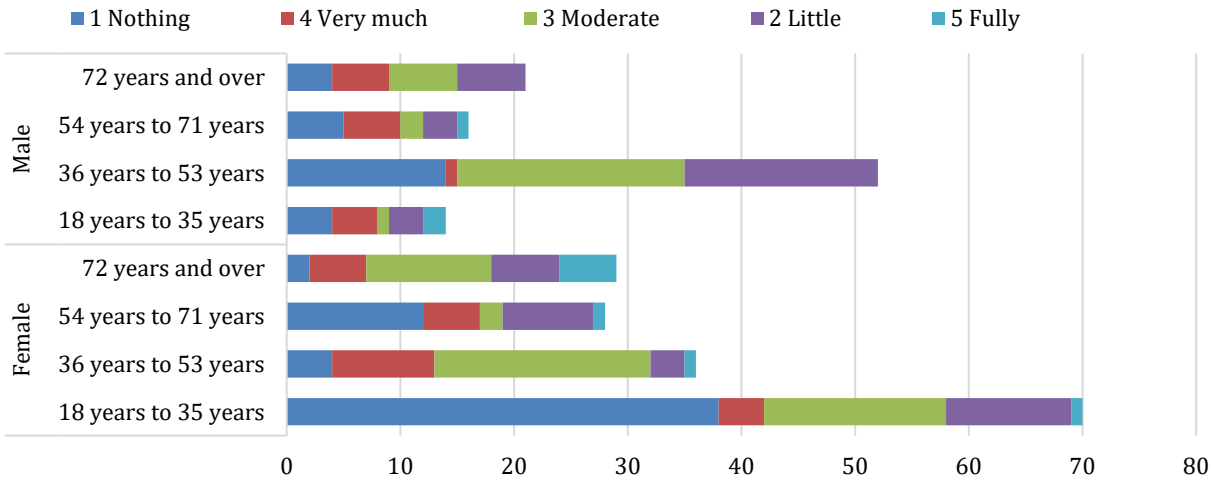
A total of 133 different festivals were subjected to analysis, of which 8.27% were identified as having the highest level of international recognition, 13.53% were classified as national, and the remaining 78.2% were designated as regional. Each card was presented twice to a total of 266 different respondents.

3.1. Knowledge of the Fiesta

In terms of socio-demographic characteristics, participants were asked to provide information regarding their age range and sex. The sample comprised 61.12% females, of whom two-thirds were under the age of 53.

As illustrated in Figure 4, approximately one-third (31%) of the respondents indicated that they were entirely unaware of the holiday in question. A mere 22% of respondents indicated awareness of the geographical location of the festival, yet professed ignorance of the festivities themselves. Just over a quarter (29%) demonstrated familiarity with the festival's theme but reported no prior attendance. Some 14% indicated awareness of the festival and reported at least one prior attendance. Only 4% of respondents indicated annual participation in the festival.

Figure 4. illustrates the responses to the question, "Did you know about or have you attended the Fiesta?" The figure presents the respondents' knowledge by gender and age range.



Source: Own elaboration, 2024.

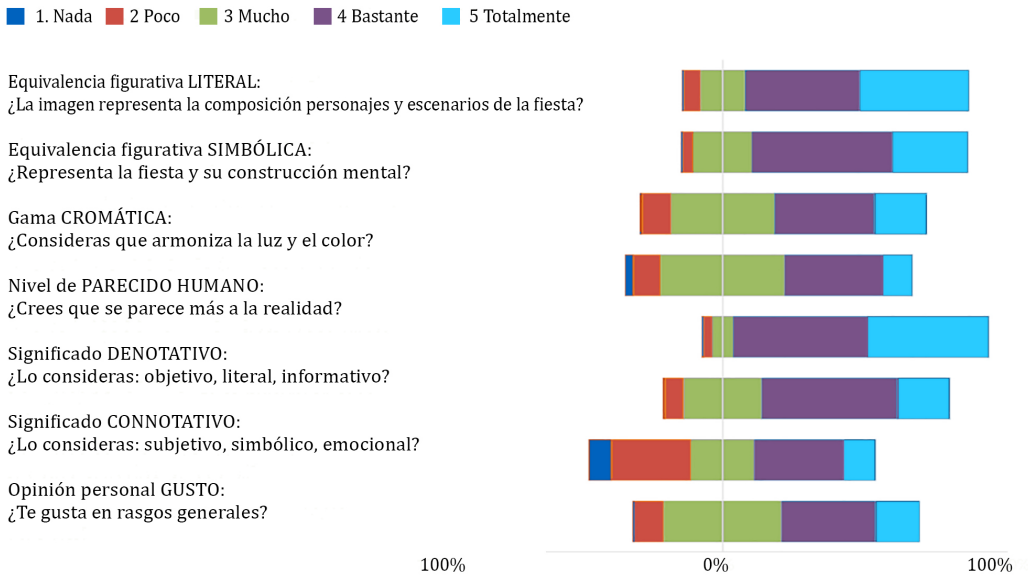
3.2. Respondents' Assessments of the Actual Photograph.

Respondents were asked to rate the photo on the left using a Likert scale (1 Not at all; 2 A little; 3 Moderately; 4 A lot; 5 Completely). The characteristic on which the photo received the most consensus is human resemblance, with the highest average score of 4.27. In Figure 5, we can see that for the question “Do you think it looks more like the real thing?', 89% of the respondents agreed most with the statement 'very much or completely”. On the other hand, the Chromatic Range aspect, when asked 'Do you think it harmonises light and colour? While the level of familiarity: Does it give you a feeling of affinity or comfort? is the one they rated the lowest, with 10% saying it was not very suitable.

Analysis of the questions Do you consider it objective, literal, informative? and Do you consider it subjective, symbolic, emotional? shows clear differences. The denotative meaning is rated positively by the respondents, with almost half of them (47.4%) rating it as "A lot" and almost a fifth of them (18.2%) rating it as "Completely". The connotative meaning is rated much lower, with 27.7% rating it as “A little” and 8% as “Not at all”.

When asked for their opinion Do you generally like it? The answers are very varied, but generally neutral, with slightly positive tendencies: "A little" (16.8%), "Moderately" (28.5%) and "A lot" (31.4%) are the most common. The polarised extremes “Completely” and “Not at all” do not reach a quarter (23.3%).

Figure 5. Photography results, (Likert: 1 Not at all to 5 Completely).



Source: Own elaboration, 2024.

3.3. Respondents' Ratings of AI-Generated Illustration

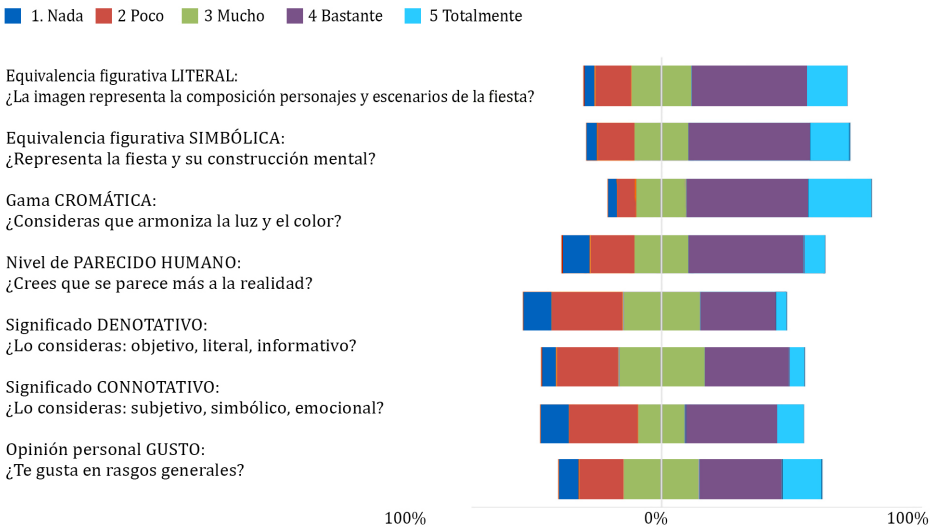
The same eight questions were asked, but this time about the AI-generated illustration. The results show a frequency of 'a lot' in all cases, ranging from 46% for symbolic-figurative equivalence to 43.8% for literal equivalence (Figure 6).

Respondents were very positive about the chromatic range, with 46% believing that light and colour harmonise “A lot” and 24.1% “Completely”. On the other hand, the level of human resemblance, where 27% think it resembles reality "A little" and 10.9% "Not at all". This is related to the level of familiarity where, although almost half (43.8%) consider the feeling of affinity or comfort to be "A lot", a quarter of respondents consider it to be "A little" (16.8%) or "Not at all" (10.9%) familiar.

When asked about Denotative and Connotative Meaning, hardly any differences are observed. Respondents give a very similar average, with a slightly “Moderate” perception (32.8%) in terms of the “objective, literal and informative” aspect of the image, and a slightly more polarised perception in terms of the subjective, symbolic, emotional meaning, where (26.3%) consider it “A little” and a third “Quite a lot” (35%). In other words, there is slightly more disagreement in terms of connotation. However, the average is almost equal: (3.07/5) for denotation and (3.08/5) for connotation.

The opinion on the image created by AI is positive and almost half of the respondents, 46.24%, consider that they like it a lot or very much, as opposed to 25.19% who say that they like it a little or not at all, in general terms.

Figure 6. Results of AI-generated illustration, (Likert scale: 1 Not at all to 5 Completely).

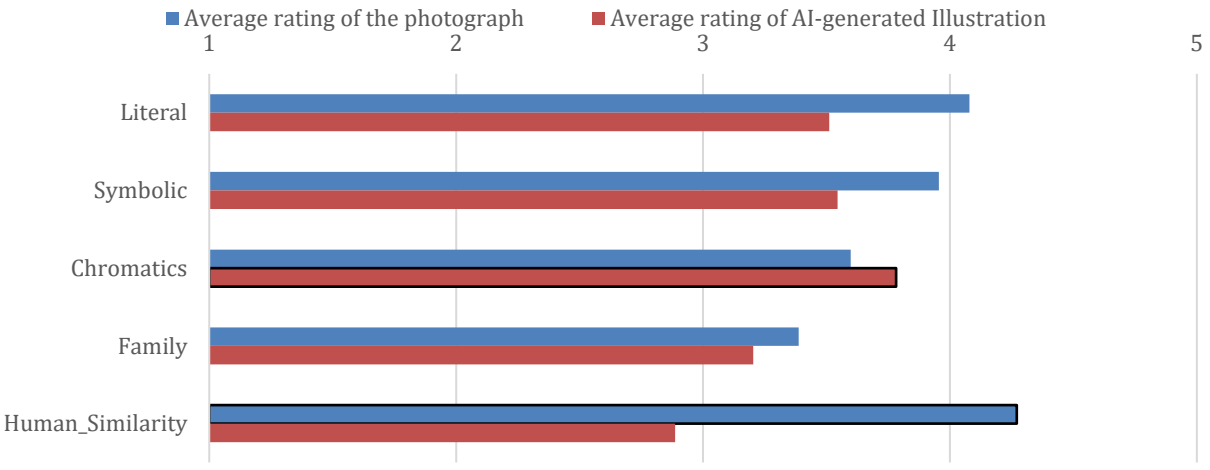


Source: Own elaboration, 2024.

3.4. Cross-Checking of Data

Comparing the responses, Figure 7 shows that the average rating of the photograph is determined by the rating of the AI-generated image. The most contrasting value is Human Resemblance, where the highest average score (4.27/5) is obtained for the photograph and the lowest (2.89/5) for the illustration. Under the headings Literal and Symbolic, there is a slight difference of half a point between the rating of photographs and illustrations. In general, the composition, the characters and the scenery are considered better in the photographs. The same difference is observed in the representation of the festival and its mental construction.

Figure 7. Average scores for Literal, Symbolic, Chromatic and Human Resemblance (Likert scale: 1 Not at all to 5 Completely).

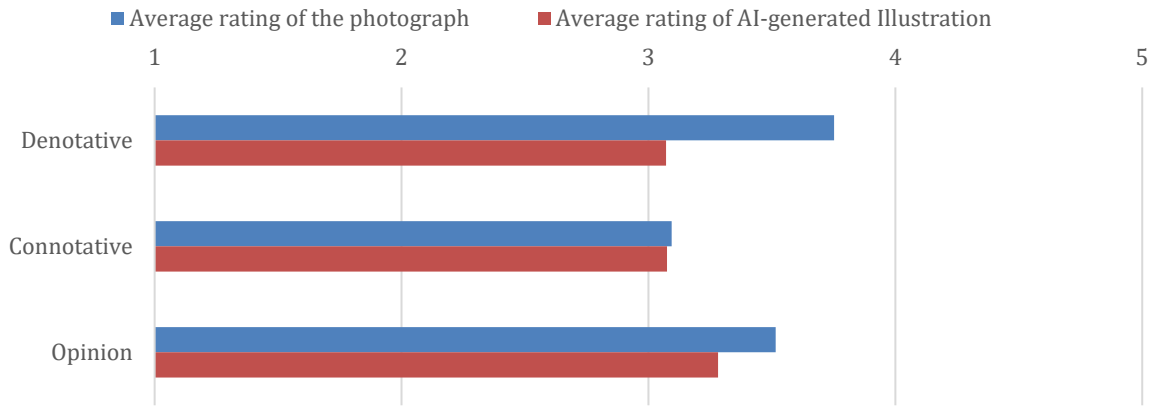


Source: Own elaboration, 2024.

The sole aspect of the AI-generated image that was rated more highly by respondents was the harmonisation of light and colour. This aspect, designated as Chromatic Range, exhibits a marginal advantage of 0.18 tenths of a point in favour of the AI image.

The level of comfort exhibited by the two stimuli is notably similar. When queried as to whether the images evoked a sense of affinity or comfort, respondents demonstrated a slight preference for the photograph, with an average rating of 3.39/5 points, compared to 3.2/5 points for the illustration.

Figure 8. Average results of Denotative, Connotative and Opinion ratings (Likert scale: 1 Not at all to 5 Completely).



Source: Own elaboration, 2024.

The denotative meaning is rated significantly differently in the photograph than in the generated illustration (Figure 8). The discrepancy of 0.68 points can be attributed to the values "literal," "familiar," and, in particular, "human resemblance." These values are the result of objective and informative considerations that elucidate the discrepancy.

In contrast, connotation pertains to symbolic and emotional values. These aspects are related to the questions on symbolic and chromatic figurative equivalence and the subjective feeling of familiarity. Furthermore, the ratings exhibited minimal discrepancy. This serves to validate the respondents' assertion that the connotation obtains a practically identical average value, with a difference of less than two hundredths in favour of photography.

4. Discussion and Conclusions

The initial finding of the study is that the respondents demonstrated a pervasive lack of familiarity and awareness regarding the holidays under examination. Firstly, a notable degree of general ignorance regarding the holidays was identified, with most participants acknowledging a lack of comprehensive awareness of the assigned holiday. This finding indicates a general lack of familiarity or interest in the festivities under study, which may be attributed to several factors, including the geographical location of the respondents or the absence of promotion of these festivities at the regional level.

The process of evaluating the efficacy of diverse artificial applications in transforming an image into a valid cultural representation uncovers the inherent complexity and challenges associated with translating visual images through AI. Despite the investigation of a range of potential solutions, no platform was able to achieve a transformation that was entirely satisfactory in terms of faithfully preserving the original elements of the culture and tradition represented in the festivities. Although some tools, such as Leonardo AI, demonstrated promising potential, the necessity for further training indicates that continuous improvement of these systems is vital to achieve more accurate and faithful results to the reference images in future research and practical applications in the artistic and creative domain.

In terms of audience ratings of the images, both the authentic photograph and the AI-generated illustration were rated positively by respondents. The photograph was perceived as more realistic than the illustration, with a higher rating for literal (P1) rather than symbolic (P2) similarity to reality. Ratings for aspects such as colour range (P3) and sense of affinity and familiarity (P4) were slightly lower. Conversely, the AI-generated illustration was also rated favourably, particularly regarding light (P3) and colour. However, the degree of human resemblance was deemed less convincing by respondents. These findings indicate that both traditional photography and AI-generated

representations are effective in conveying information visually. However, each has its own strengths and weaknesses in terms of how they are perceived by the public.

One of the most intriguing findings of the study was the reciprocal influence observed between the assessment of the photograph and the AI-generated illustration. Significant discrepancies were identified in the assessment of human resemblance (P5) and colour range (P3) between the two images, indicating that the evaluation of one image may influence the perception of the other. This interaction between the two forms of visual representation serves to illustrate the complexity of human perception and the importance of considering multiple variables when evaluating AI-generated images.

Furthermore, notable discrepancies were observed in the interpretation of denotative (P6) and connotative (P7) meanings between the photograph and the AI-generated illustration. While the photograph was rated more highly on objective and informative criteria (P5), the AI-generated illustration was rated more favourably on symbolic and emotional criteria (P7). These findings indicate that the selection of a particular visual representation can influence the audience's interpretation and understanding of a message, which has significant implications for effective communication in a range of contexts.

In general, despite the observed discrepancies in the perception of the images, both photography and AI-generated illustration were rated positively by respondents (P8). This indicates a high level of public acceptance and appreciation of diverse forms of visual representation, which supports the notion that diversity in the presentation of information can enrich the user experience and enhance effective communication.

The extensive training of Playground AI with the generation of more than 1,000 images of festivals of tourist interest in Castilla y León has revealed uncertainty about the limits of training and teaching artificial intelligences in this cultural context. Despite extensive interaction with the AI, no significant improvement in the quality of the generated images, either denotative or connotative, was observed in either English or Spanish. This suggests that the training process may not be linear or may be subject to intrinsic limitations of the system. Furthermore, the variability in the style of images created with the same prompt indicates the presence of predefined constraints within the algorithms, which constrains the ability to produce results that exceed certain set parameters. These limitations underscore the necessity for further research to more fully comprehend the capabilities and constraints of AIs in the creation of artistic images, as well as to develop efficacious training strategies that encourage diversity and quality in the productions generated.

The convergence between AI and artistic creation has been the subject of rigorous examination in recent years. This synergy gives rise to fundamental questions concerning the very nature of art and creativity, as well as the role of the human being in the creative process. In the context of this research, the application of AI to generate images that are not realistic but that relate to reality presents an interesting challenge in terms of the number of future possibilities for both the artistic and academic/research fields.

Since its emergence, AI has demonstrated an uncanny ability to learn and replicate complex patterns in data, including visual images. The advancement of deep learning techniques has facilitated the generation of visual content by AI models that is frequently indistinguishable from that created by humans. This is exemplified by the proliferation of deepfakes and fake news in digital media in recent years. Nevertheless, the objective of this research extends beyond mere imitation of reality; it has sought to investigate the creative potentialities inherent in AI as an artistic instrument.

The decision to utilise non-realistic instruments in the creation of images through the application of artificial intelligence is of considerable consequence in a number of ways. Firstly, it challenges the established conventions of visual representation by subverting expectations of realism. This divergence from established norms prompts an examination of the fundamental nature of the image and its relationship to perceived reality. It forces us to consider the implications of fidelity to reality in a world where the distinction between the real and the artificial is becoming increasingly indistinct.

Moreover, this research prompts inquiries into the essence of creativity and authorship in the context of AI. It prompts, for instance, the question of whether it is feasible to regard an AI-generated work as genuinely "creative" in the human sense, or what part the artist plays in the creative process when employing computational tools to generate art. The researchers involved in the project have never considered themselves to be digital audiovisual creators or artists. Consequently, they view these

definitions as market-oriented labels that are more closely associated with the future of the audiovisual market, a term that currently dominates digital markets and that was not an activity related to working life a few years ago.

Conversely, the decision to avoid generating images that are excessively realistic also presents technical and aesthetic challenges. The equilibrium between an accurate representation of reality and artistic expression can be challenging to achieve, particularly when utilising AI algorithms that are designed to enhance precision and visual fidelity. In this regard, the research is confronted with not only conceptual issues, but also practical challenges in the implementation of its approach.

The results of this study indicate that the AI illustrations analysed are not as highly rated in terms of denotative aspects as real photographs. This demonstrates that our second specific objective (SO2) has been met, namely that Barthes' visual rhetoric is not fully integrated into the generation of images. Additionally, the results indicate that the inclusion of technical and aesthetic resources enables the circumvention of the Uncanny Valley (SO2). This allows us to address the primary objective, namely that Masahiro Mori's Uncanny Valley theory can be applied to AI-generated images. This is why Playground AI avoids the use of human-like image representation, although not always successfully.

In conclusion, the methodology employed in this research paves the way for new avenues of artistic and technological exploration. By challenging the established conventions of visual expression and experimenting with new forms of representation, it creates a fertile space for innovation and discovery. Beyond the specific findings of this research, its impact lies in its capacity to prompt the formulation of novel inquiries and perspectives concerning the nexus between art and technology.

It is imperative to consider both objective and subjective aspects when evaluating images in cultural contexts. Furthermore, they emphasise the potential of image-generating technologies utilising artificial intelligence to generate compelling visual representations. It is evident that further research is required in order to gain a deeper understanding of the intricacies of human perception and its influence on communication in the context of visual culture. These findings provide a robust basis for future research in this field and have significant implications for the design and presentation of information in a range of cultural contexts.

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