



Consumer choice: a study on the phenomenon of analog photography in the digital era.

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Abstract

Title: Consumer choice: a study on the phenomenon of analog photography in the digital era.

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What role does photography play in people's lives? In a digital era marked by strong technological advances, why are analog cameras once again emerging as a choice for consumers? Do these have a unique value proposition that digital tools do not offer? Or are they just a way of escaping technology and an attempt to relive the past? These are some of the questions that this Thesis proposes to analyze, as it is interesting to understand the reasons why there is such a strong tendency towards the use of this vintage device.

The experimental aspect of this study consisted of the presentation of photographs with different aesthetics (analog and digital) with the aim of understanding the respondents' perceptions regarding various dimensions. The results demonstrated that variables such as the impact on self-esteem, the formulation of nostalgic feelings and the perception of authenticity, have a more positive effect on the evaluation of the attributes of vintage cameras compared to digital ones.

This research contributed to understanding the reasons that lead consumers to appreciate analog cameras at a time when the offer is so diverse and highly innovative, focusing on the analysis of consumer behavior. Additionally, it is proposed to analyze how individuals who are not current users perceive this type of photography.

Keywords: Analog photography; Digital photography; Hedonism; Technological advances; Experience; Uniqueness; Self-esteem; Affective memories; Nostalgia; Authenticity; Vintage.

Sumário

Título: Escolha do consumidor: um estudo sobre o fenômeno da fotografia analógica na era digital.

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Qual é o papel que a fotografia tem na vida das pessoas? Numa era digital marcada por avanços tecnológicos, por que razão as câmaras analógicas surgem novamente como uma escolha por parte dos consumidores? Terão estas uma proposta de valor única que as ferramentas digitais não oferecem? Ou serão apenas um meio de fuga à própria tecnologia, uma tentativa de reviver o passado? Estas são algumas das questões que a presente Tese se propõe a analisar, visto ser interessante nos dias que correm perceber os motivos pelos quais se observa uma forte tendência de utilização deste objeto vintage.

A vertente experimental deste estudo, consistiu na apresentação de fotografias com diferentes estéticas (analógica e digital) com o intuito de explorar as perceções dos inquiridos relativamente a várias dimensões. Os resultados demonstraram que, variáveis como o impacto na autoestima, a formulação de sentimentos nostálgicos e a perceção de autenticidade, tem um efeito positivo nas perceções dos atributos das câmaras vintage em detrimento das digitais.

Este estudo contribui para perceber os motivos que amplamente levam os consumidores a apreciarem câmaras analógicas numa época em que a oferta é tão diversificada e altamente inovadora, focando-se na análise do comportamento dos consumidores. Adicionalmente, propõe-se analisar o modo como os indivíduos que não são utilizadores percebem esta tipologia de fotografia.

Palavras-chave: Fotografia analógica; Fotografia digital; Hedonismo; Avanços tecnológicos; Experiência; Singularidade; Autoestima; Memórias afetivas; Nostalgia; Autenticidade; Vintage.

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1. Introduction

The first photographic experience dates back to antiquity when several personalities developed fundamental studies that allowed its evolution over the years. Modern photography, as we know it today, results from the deep research by the French inventor Niépce who, in the early 1800s, created a prototype of a camera and the first known permanent image (Masoner, 2023).

Since then, renowned photographers all around the world have explored different chemical techniques that placed the universe of photography in a position of constant development. From photographing landscapes to portraying humans, from having only one version of each picture to printing several copies, from observing the world in black and white to showing reality in colors, a long way has been covered (Welch, 2015). Initially, cameras were mainly used by professionals, however, with the increasing accessibility, individuals in general adopted their use for the most diverse circumstances. Cameras evolved from heavy-duty instruments to lighter portable options. The used means have followed the trend and several digital tools appeared in the meantime testifying the crucial role of technology in the advances felt in this area. Nowadays, everyone who wants to take photos and store them digitally can instantly use an object highly present in our lives, a smartphone.

The act of taking photographs plays a highly important role in everyone's life as it allows individuals to have further contact with their past and remember, through visual stimulation, special moments, people and places (Wild Romantic Photography, n.d.). Thus, this tool has an enormous emotional value that allows society to “visualize the past, depict the present, and imagine the future” while immortalizing memories and forming feelings of nostalgia. That being said, it can be considered a hedonic experience since it consists of an occasion of pure entertainment that has the purpose of providing sensations of pleasure, particularly focusing on the emotional aspect (Liao, 2021).

Taking into account the symbolism that this element has and, at the same time, the era in which we find ourselves, so apologetic for immediacy, it becomes increasingly natural for individuals to seek differentiated experiences that make the simple act of photographing a truly special and unique activity. This explains that in the 21st century, where products designed with the latest technologies are presented to the population on a daily basis, interest in analog cameras arises again. It cannot be denied that in several aspects, innovation and scientific knowledge drive the

improvement of goods and services at our disposal. However, the uncomplicated nature and characteristic wisdom of pioneering objects are so valuable that make people want to remember these sensations, choosing vintage items for that purpose. This concept, according to Martin (2024), is used to describe a set of items, originated in recent decades, that have developed a relevant meaning in the minds of consumers at a cultural and nostalgic level. Although these are not new and do not have technological content incorporated, are highly valued by society for reflecting the trends and aesthetics of the period they represent in particular. But are only factors related to nostalgia and innovation that dictate the current success felt in the analog supply sector? What other reasons can be responsible for these tools to compete with digital cameras and be perceived as providers of truly unique experiences? Projecting for the future, what are the perspectives regarding consumer choices? Is it possible that we are now witnessing a scenario of change in the preferences of individuals?

These are some of the questions that constitute relevant premises for the rise of this study, aiming to explore how photography have evolved over the years. Bearing this in mind, a concrete general research question will be answered: Why do some people use analog cameras when digital are arguably better in certain technical features?

To this end, several dimensions will be taken into account to comprehend the role that photography has in the life of each individual and society as a whole. In more detail, it is intended to understand the reasons why there is an increased use of analog tools in an era so marked by strong technological advances, a topic that personally interests me and, at the same time, a phenomenon that I consider relevant to be addressed. Therefore, the focus is to investigate the motivations and desires of consumers that prove this theory, as well as understand how their behavior is influenced. The target audience under consideration meets the requirements to be considered an author of vernacular photography, according to the American Art Museum Bowdoin College (2021), a typology “done by amateurs to capture everyday life (...) for non-artistic purposes”.

2. Literature Review

In this chapter, conclusions drawn from relevant literature will be summarized, being fundamental to support the veracity of this Thesis. In all the subtopics, the variables of interest will be mentioned as well as the hypotheses formulated.

2.1. The phenomenon of the increasing use of analog cameras in the digital era

When the largest producer of photographic film, Kodak, filed for bankruptcy (Wires, 2012) after years of dominating the market worldwide, it seemed that analog cameras would have lost their prominent place. With the emergence of several digital cameras, many people saw these tools as options with higher resolution. In particular, with the widespread accessibility of smartphones in society, an option with high image quality has emerged, allowing photo-taking to become a daily and ubiquitous activity for millions of people (Diehl et al., 2016). By facilitating the capture and storage of thousands of photographs, Burmester (2006) considered that this development allowed a balance and the possibility of more subjectivism.

Despite the thought that nowadays, with the strong innovations felt in the field of photography, analog cameras have become obsolete, this idea cannot be considered true. Schlagwein (2021) argues that analog has made a comeback and is “experiencing a renaissance among photo enthusiasts”, especially among the younger generation that is highly interested in exploring what it was like to take photography in the last century. A survey carried out by ScanCafe (n.d.) reinforced the current growing demand, proven by the increase in sales volume in the United States of America, attributing the popularity and “special place in the hearts of many (...) to their unique aesthetic appeal and the ability to capture genuine, raw moments”. Thus, given the nature of the limited number of photographs possible to take on each roll combined with the surprise factor of developing them, the capture process becomes more engaging. This is considered a creative process that attracts young individuals, partly due to the impact of social media, despite the average price of devices having enhanced. The strong influence of celebrities positively encourages the use, by activating an area of the brain involved in the process of recognizing and building trust (Fortunato et al., 2014). However, users considered that the price increase is a sign that this typology has a future and are willing to continue investing in it (Schlagwein, 2021) since it is perceived as an experience.

Although technologies have merit due to the achievements in the industry, there seems to be a set of factors that make analog photography remain in consumers' preferences, being interesting to explore more in detail the motivations behind this phenomenon.

To study the behavior of certain variables in the perception of users, the first hypothesis of this study can be formulated:

H1: The participants' average perception of taking photographs with analog cameras across various aspects is significantly more positive when compared to the same aspects regarding digital cameras.

This hypothesis will be divided into ten sub-hypothesis (see Hypotheses Testing) so that each dimension can be analyzed in detail.

2.2. How does the consumer choice relate to the creation of affective memories? And how is connected with nostalgia?

As emotional beings, we are highly influenced by the feelings developed concerning moments experienced in the past, which can explain the role of photography in our lives. By capturing these occasions, individuals allow themselves to not only keep them in mind but also through a visual stimulus that can last forever. This instrument is much more than that, it is a powerful stimulus that takes us back to the emotions felt before regarding places, people and events, offering the opportunity to evaluate our journey by taking “a closer glance at our life (...) to concentrate on a specific time” (Glazer, 2019). Therefore, it becomes interesting to understand how photography can relate to the construction of affective memories in the minds of consumers and, consequently, how the concept of nostalgia influences this universe.

According to researchers of the Derek Bok Center for Teaching and Learning (n.d.), memory is a process of information retention over time, forming the framework for actions. The article reviewed provides evidence suggesting that it operates through a theory called “dual-process”, which combines an unconscious aspect of routine thought with a conscious one related to problem-based thought. The theme that includes the relationship between memory and photography is included in the first aspect mentioned. The research mentions that this part of memory is responsible for certain cognitive behaviors characterized as automatic, taking into account that they represent the memorized knowledge and the intuitive judgments. Also, the term that explains how individuals are capable of having an enormous storage capacity, both through information, visual and sound stimuli, is called long-term memory.

By constituting the basis of who we are as individuals, human memory has a clear connection with the photographs captured. Photography is nothing more than information about the past perceived in present time and, in the same way, memories are the effects of past experiences

on our present self (Sariñana, n.d.). While in our autobiographical memory, in which the sense of sight is so important, we collect information about a specific moment regarding what, where and when it happened, in a photograph we can collect similar information. Thus, the same author defends that photographs do not serve just as memory storage but also, when viewed, activate memory recall. Indeed, other article argue that taking pictures can help individuals form memories since cameras appear to provide a boost to visual memories (Battista, n.d.).

The American Psychological Association (2018) describes “affective” as something capable of producing emotions and having symbolic value in the minds of individuals. In particular, regarding the term affective memories, according to Titchener (n.d.), these consist of the “power to voluntarily recall a past affection”, being highly related to feelings of pleasure. That being said, it is natural that the act of photographing special moments along each person's journey promotes the creation of affective memories.

This act becomes an even more impactful experience with the adoption of analog cameras, which, by bringing together a set of unique characteristics, allow to further intensify the relationship with the formation of affective memories. Due to the limited number of exposures of each roll, unlike digital tools, individuals carefully choose the appropriate moments to capture photographs. By deliberately planning this act, they transform each image into a conscious choice that they will certainly value more than the possibility of taking countless photographs. Thus, although all forms of photography document positive experiences, the analog typology strongly contributes to having a relevant role in the memory of individuals, by increasing the emotional connection.

Nostalgia is then intrinsically related, being a subjective phenomenon that differs from person to person (Morlot, 2013). Defined by the American Psychological Association (2018) as “a longing to return to a place to which one feels emotionally bound,” it allows individuals to come back to earlier periods in life. By being related to a specific period in history, individuals associate the analog typology with culture. Thus, especially for those who lived in a time when this was a dominant practice, images became a fundamental part of their storytelling. By choosing vintage cameras, consumers evoke a feeling of nostalgia not only for the produced images but also for the device itself.

Another aspect that contributes to reinforcing the feeling of nostalgia is the fact that analog photography presents a slower process in terms of the period between the capture and the moment of revealing its results. Contrasting with the readiness of digital, it allows individuals to have a different experience and create a stronger connection with these photographs due to the waiting time. Additionally, although it is possible to print all photographs regardless of the camera used, analog typology is more associated with the physical development in laboratories, which makes it possible to turn captured images into a reliable and tangible form of archive and preserve stories (Zureikat, 2023). By printing, a new meaning is given to these visual instruments as they become a part of our physical world, remaining over time through albums.

According to the literature mentioned, the second hypothesis is formulated:

H2: The ability to create affective memories when taking photographs with an analog camera is associated with stronger feelings of nostalgia.

2.3. How can the confidence in the recognition of the degree of vintage have an impact on how consumers perceive authenticity?

Retro marketing has become a trend lately, being considered among managers a key area that allows to increase sales by investing in products or services that “give pleasure to consumers because they (...) remind us of a past memory event or an object” (Ozkan, 2019). More than belonging to the past, its rise becomes an opportunity to stimulate the creativity of companies in the present and the future.

Brown (1999) distinguished categories to deepen knowledge of this marketing typology. The repro phenomenon is described as a marketing strategy that reproduces the old pretty much as it was, although some meanings may have changed over time. Retro refers to combining the old with the new, usually achieved in the form of old styling with high technology. Finally, repro-retro involves resurrecting the past, consisting of the relaunch of a nostalgic product. This is how more products are standing out on the market, resulting from tradition combined with innovation or that refer to emotions of the past, and analog cameras are no exception. That being said, it is possible to see that this new concept of marketing is closely related to the trigger of nostalgia, a feeling that was previously discussed. Besides that element, several factors can

explain the desire of individuals to return to what is old, being one of them the level of vintage associated.

Vintage is about looking forward through the window of the past (Walsh, 2010), concerning goods from an earlier era. This segment is growing and demonstrates its potential, as is the case revealed by a study that shows that 60% of American shoppers “regularly buy vintage, and many miss old products” (Emarsys, 2022). Also, this study proved that all ages are embracing this trend, essentially the youngest, as 72% of the participants between 25 and 34 years old buy vintage products. This strong appeal to consumers can happen for a variety of reasons, listed below (Sarial-Abi et al., 2017). There are economic reasons that justify the purchase, not only because some items may be cheaper than new ones but also, conversely, because others are seen as investment pieces. Regarding the impact it has on the minds of individuals, purchasing products with this typology helps people express their “uniqueness, authenticity, and self-expression”. On a cultural level, enduring items allow a “sense of intertemporal interconnection”.

This last article reveals that, from a consumer perspective, vintage products are becoming highly interesting for the reactions evoked, in terms of a psychological approach. These items are not intended to be replicas of the style of an earlier era, but rather to be valued for having been used previously and producing a connection with history. At the same time, they become appealing to consumers as they are presented as an opportunity to give a new life to something from the past, to continue to be used, repurposed, and customized into the future. Analog cameras are considered vintage if produced between the 1930s and 1990s or have distinct features that have the characteristic aesthetics of that era (Arys, 2023). As stated before, when compared to digital devices, these are valued differently in the minds of consumers as they relate to an era where photography was devoid of technology and there was an opportunity for the surprise factor. Many of its users also choose it for the lifestyle associated, as they demonstrate to society that they value tradition, have a deep appreciation for history, and, in a certain way, wish to stand out from mass culture by expressing their individuality and exploring different experiences.

The demand for differentiation results in the desire for authenticity, which consists of the quality of being considered genuine through the assessment of whether a product is “true with respect to some property” (Newman & Dhar, 2014). Newman (2019) considers that perceptions of authenticity, or lack of it, affect judgments and behaviors across a wide variety of domains.

Since childhood, humans are sensitive to notions of authenticity and strongly value originality, playing a key role in the enjoyment of experiences. The topic of authenticity becomes truly fascinating as it is seen as the driver for consumer preferences, in areas that include “art, clothing, luxury goods and collectables”. The desire to obtain this feeling is relevant to the option for analog, allowing consumers to assert their identity, highlight their individuality and demonstrate the factors valued as buyers. The authenticity provided allows them to be distinguished from non-users, through a consumer choice with unique characteristics that are not present in digital tools.

The aesthetic full of imperfections, by including grains and distinct color tones, reinforces how individuals perceive this typology as authentic. It is argued that “while digital manipulation has its merits, there is something irreplaceable about the authenticity of analog” (ScanCafe, n.d.), being one of the reasons for the gain of users. Morlot (2013) also reveals that by using editing applications, users of several social media manipulate their images and “add visual signs of imperfection to their pictures such as dust specks, cracks, fading tones or Polaroid frames”. In his view, this action's main objective is to reproduce the visual appearance of analog pictures to achieve a sensation of authenticity, making them look like old ones since “digital pictures' ability to authentically represent the reality is weaker”. This argument is an example of how feelings of authenticity can emerge from inauthentic situations, proving the need for individuals to pursue this feeling. The concern for the aesthetic sense is common in people who have a special taste for vintage objects, helping to explain the relationship between these two dimensions.

Taking into account the theoretical context, the third hypothesis is formulated:

H3: The confidence in the vintage degree recognition when taking photographs with an analog camera is associated with a higher level of perception of authenticity.

2.4. How is individuals' self-esteem influenced and how is it related to the pursuit of hedonic experiences that make them feel unique?

The concept of self-esteem refers to an individual's sense of his worth. In other words, it can be considered as “the extent to which a person values, approves of, appreciates, prizes, or likes himself” (Sharma, 2014). A definition from sociology points out that it consists of one's attitude, favorable or unfavorable, toward oneself (Rosenberg, 1965).

Studies in the field of Psychology believe that several factors influence the way that we perceive ourselves, for example, genetics, personality traits and life experiences (Ackerman, 2018). Maslow developed the renowned Pyramid of Needs, a figure that symbolizes that each individual follows a hierarchical scale to achieve a state of full realization. While there are primary needs, which are physiological and safety, there are secondary ones that concern aspects of love and belonging, esteem and self-actualization. Esteem is established at the fourth stage, divided into the level of the self and the perception of the individuals around (Cavalcanti et al., 2019). The first one is related to the respect that an individual attributes to themselves and the merit he gives to his achievements. As a complement, the second concerns the desire to have a good reputation and the extent to which our capabilities are recognized. Understanding this tool helps to conclude the importance that this topic has in each person's life.

As emotional beings, it is natural that individuals seek experiences that add value and make them feel truly complete, being fundamental to building their self-esteem. These experiences guide our decisions as consumers of specific brands or products and, in general, our social interactions. Since these activities are related to “multisensory, fantasy, and emotional aspects” (Alba & Williams, 2012), they follow hedonistic theories that are closely linked to the search for moments that give rise to sensations of “pleasure, enjoyment and excitement” (Stelmaszewska et al., 2004).

The need for humans to have pleasurable experiences can explain the trending use of analog cameras in a completely digital era. As a generation so accustomed to the concept of immediacy and the ease of accessing innovative objects, the opportunity to choose a tool that presents differentiating characteristics and forces users to be positively selective when it comes to choosing which moments are worthy of photographing provides a truly special experience. This is an object that apparently presents a utilitarian profile since its main function is to capture images, however, the involving process (from the moment of taking the photograph to the development of the roll) combined with the emotional symbolism, turns it into a hedonic experience.

By having a sense of accomplishment with producing aesthetically pleasing images, resulting from an artisanal process, there is more opportunity for creativity. For those who are interested in pursuing an artistic path, analog photography can be seen as a means of demonstrating their talent and personal style, which will have a positive effect on the way they feel about themselves. At the same time, unlike what happens in digital where it is possible to delete or

edit images with some particularity, analog, being more exposed to the possibility of error, makes its users accept imperfection more easily and enjoy the enriching process of valuing the authenticity of moments. This spirit encourages an attitude of acceptance towards ourselves and the individuals around us, again allowing self-esteem to be positively impacted. Therefore, a direct relationship seems to be confirmed between the choice for analog and the contribution to improving self-esteem, encouraging other individuals to also have this meaningful experience.

Despite the growing trend, as there is currently no widespread use among the population, choosing analog cameras can be a way for individuals to feel unique within the reality that surrounds them. The concept of uniqueness refers to the quality of individuals, within all the factors in common with each other, being able to act differently from the context in which they are inserted. This is a way for people to highlight their singularity which involves an intrinsic need to “make a conscious attempt to stand out from the crowd” (Bekmezci et al., 2022). This need can be reflected when individuals are innovative in their purchasing choices, in order to make original options that are out of the ordinary. This is a way for objects to reflect their interests and values, allowing them to claim their personal expression. For this reason, there is currently a growing enjoyment for collecting rare objects, as these are seen within the community as valuable symbols of a certain era.

That being said, by adopting the use of analog, users can express their identity, differentiating from others who only follow technological advances and opt for digital tools. By feeling special in their consumption habits and having a unique position in their choices, there is an opportunity to improve how they feel about themselves. Thus, the uniqueness variable appears to have a contribution to the relationship between the use of a vintage camera and the impact on the self-esteem of their users.

This led us to define the fourth hypothesis of this study:

H4: The increase in the feeling of uniqueness mediates the positive relationship between the confidence in the vintage degree recognition and the impact on the self-esteem when taking photographs with an analog camera.

2.5. What are the future market expectations regarding the use of analog and digital tools?

To understand future expectations regarding a specific market, it is necessary to have in-depth knowledge of the behavior of its current and potential consumers, as they establish trends and, through purchasing decisions, approve or not, product launches.

It is well known that trends change over time, not everything that worked in the past has a prominent place in the present, nor everything that is currently successful will be in the future. Deloitte (2023) revealed that “the world has never been certain or stable, but rarely has it ever been as uncertain and complex as it is today”. This occurs due to changes in consumer behavior, which through their needs and desires make companies have to constantly evolve to guarantee the best launches and sales strategies (MaxData, 2023). The areas of psychology and marketing explain that several variables impact the construction of the target profile, including psychological, social and cultural factors. Therefore, in an era with high exposure to technology where consumers have contact with constant launches of new products and brands on the market, being increasingly meticulous with these factors proves to be essential.

The camera market has evolved significantly over the last decades, due to the introduction of new technologies. The volume of use of innovative tools is forecast to continuously increase 5% by 2028, and their price level is expected to increase by 2% (Statista). Regarding analog tools, the segment is also projected to grow at a level of 6% until 2029 as well as the price associated (ScanCafe, n.d.). These statistics demonstrate that future expectations for both types are positive and there is space for companies to continue investing to meet the expected demand.

For individuals to desire to continue using a certain product, not opting for the competition, it is necessary for them to feel a high level of satisfaction. Conceptualizing this term, it refers to “the fulfillment of need or desire (...) influenced by prior expectation regarding the level of quality” (Adah & Elegba, 2015). This is an affection toward a certain object or experience that is strongly associated with the concept of consumer satisfaction which is described as a judgment of pleasurable level of consumption, including levels of under or over-fulfillment.

Giese and Cote (2000) identified the components of satisfaction as a response that can be either emotional or cognitive as it involves consumer’s attitudes. This belongs to a particular focus (such as expectations, a product, a consumption or an experience) and occurs at a particular

time (such as after consumption, after choice or based on accumulated experience). There are two important categories to be mentioned called transaction-specific satisfaction and overall satisfaction, which respectively concern the post-choice evaluative judgment of a specific purchase and the experience with it over time. The perception of satisfaction can vary from one person to another, however, as marketers, it is interesting to evaluate this dimension as a whole, trying to understand whether the target's expectations are being fulfilled.

When there is a long-term level of satisfaction, a scenario of future motivation, that drives people to continue purchasing a certain product or enjoying a service, can be verified. According to the American Psychological Association (2018), motivation consists of “the impetus that gives purpose or direction to behavior and operations in humans at a conscious or unconscious level.” This is the attribute that moves individuals to do or not do something. One of its dimensions is the intrinsic motivation, which is believed to be based on achieving sensations of personal enjoyment (Lai, 2011), consisting of the incentive to engage in a specific activity derived from the interest in the activity itself.

Concerning the segment of analog cameras, how satisfaction and motivation are related follows the literature. Current users demonstrate to be satisfied with using this tool due to a set of factors, mentioned throughout this chapter, which not only differentiate it from digital options but also add value to their lives with a meaningful experience. The act of photographing is an experience that contributes to life satisfaction (Diehl et al., 2016), due to the emotional symbolism that this activity represents. However, contrary to what would be expected, at a time when innovation seems to be the priority, vintage is still an interesting option today. Aligned with the growth prospects, a research revealed that around 75% of its participants desire that new analog cameras be launched on the market (ScanCafe, n.d.), reinforcing that consumers are motivated to even explore more this segment that continues to “attract a loyal following”.

This perspective is argued by several professionals who claim that the analog typology has emerged again to remain in a prominent position. From the perspective of MarkWide Research (2024), some of the strengths that make consumers satisfied are related to the offering of a unique aesthetic appeal that allows them to create images with a distinct and nostalgic look. At the same time, the tangible and authentic experience, from shooting to developing and printing photographs, proves to be a differentiating factor. The passionate community of enthusiasts, professionals and artists also supports the growth by inspiring the society around them. This study also revealed that there are growth opportunities for the sector, being focused on niche

market expansion (such as fashion, fine art and experiential marketing) and the adoption of a hybrid approach, combining digital technology with analog aesthetics to attract a broader audience who seek a balance.

One of the examples of how technology facilitates positive thoughts about analog typology is through the development of applications that allow their users to embody analog aesthetics (recognized by the presence of texture and distinct color tones) in any photograph, through automated filters. In this way, by using any smartphone, it is possible to edit photographs so that they appear to have been taken with an analog camera. Although the immersive experience that is so characteristic is not present and the results are not authentic, the fact that these applications have emerged is yet another reason that demonstrates individuals' taste for the specific aesthetics reproduced. Caoduro (2014) argues that the emerging appropriation of the design by digital media, aims to make “photos more important and real, given that the physicality of the analog still grants a significance that digital has not yet achieved”.

Analog photography has also evolved by bringing to the market several innovative camera options that allow individuals to take photographs with this aesthetic but which have an instantaneous attribute, allowing the printing at the moment. This is a way of bringing the analog concept to the current technological reality that allows, especially younger people who highly value this second aspect, to have a balance between the two worlds. Schlagwein (2021) addressed this growing interest by giving the example of Polaroid cameras, which in the last 15 years went from selling worldwide under half a million Instax models per year to selling around 10 million. This data makes us reflect on why there has been such strong growth in a tool that many consider old-fashioned. The brand Fujifilm considers that the younger generation is highlighting this typology due to the novelty factor of having grown up in total digital reality. In a world where almost everything is instantaneous, are young people taking advantage of an opportunity to escape technology? Digital cameras stand out for their best image quality, versatility and associated practicality. They indeed have a set of characteristics that make the advantages of innovation shine, but certain factors reveal that these are not decisive.

As a professional in the field, Secchi (n.d.) argues that there must be a balance to “embrace digital photography's convenience and technological advancements, but do not forget the value of analog”. The meaningful experience generated by analog cameras proves that they are back to leaving their mark and contributing to the future history of photography. Therefore, it is expected that current users will continue to choose this typology, due to the enormous

satisfaction and motivation demonstrated, using at the same time digital cameras. By being used together, it is predicted that the choice of which camera to use at a certain moment essentially depends on the needs of the context in question: individuals will use the smartphone for everyday snapshots, while an analog camera is reserved for very special moments (Schlagwein, 2021). That being said, it is concluded that coexistence can be the solution that will enrich the photographic experience and be an asset for everyone interested in this topic.

Taking into account the growth felt, the last hypothesis is formulated:

H5: The level of perception of satisfaction when taking photographs with an analog camera is associated with higher motivation to choose it in the future.

3. Methodology and Data Collection

To enrich the conclusions regarding the secondary evidence, it is essential to invest in the development of primary data. Therefore, the methodology is presented below, constructed to answer the general research question established, as well as justify the possible acceptance of the formulated hypotheses.

3.1. Sample

The questionnaire gathered a total of 429 responses, being subsequently filtered as it accounted for 153 responses from participants who did not complete it until the end and 12 completed answers to test it before it was shared. In this way, 263 complete participation were recorded, all of which were voluntary and divided into two blocks, corresponding to 211 people (80,2%) who use or have used analog cameras in the past and 52 (19,8%) who are non-users (Table 1).

Do you use or have you ever used analog cameras?	Frequency (units)	Percentage (%)
Yes	211	80,2
No	52	19,8

Table 1: Respondents who use or have used analog cameras.

To test the hypotheses, only the group referring to analog users was considered, therefore all the relevant data to justify them will be related to these participants in particular. The survey was shared online through different social media platforms so that the sample was as diverse and representative as possible.

The questionnaire was available both in Portuguese and English to ensure a better experience for the respondents and, consequently, achieve more reliable results due to possible barriers of interpretation and formulation of answers in a language that participants are not comfortable with.

3.2. Materials and Measures

To conduct this Thesis, several variables were defined to ensure that all relevant areas were addressed.

Independent variables

To support the acceptance or not of the hypotheses, two independent variables were manipulated. These were two conditions of typologies of photography (analog, digital) and user status (being an active or previous user of analog cameras, never been a user of analog cameras).

The typology of photography condition was presented to the participants in a section with a total of four photographs, two taken with a digital camera and the recreation of these two with an analog aesthetic. This visual stimuli is from my authorship and the typology was correctly identified using subtitles. The objective was to make the respondents analyze the different photographs and make honest considerations about parameters while comparing both typologies. Thus, participants were encouraged to try to personalize the situation presented to their reality as much as possible.

To evaluate differences between the users and non-users, this condition was constructed so that all respondents had contact with the same experimental part, responding in the respective sections. This variable was useful to, in an exploratory approach, understand the reasons that make the group of non-users in particular not choose the analog option, as well as, on the other

hand, understand why users are motivated to proactively choose this tool, as well as the purposes and the most relevant circumstances mentioned.

Dependent variables

The dependent variables defined aim to analyze the perceptions of individuals towards both options of cameras, throughout the experimental stimuli. In this subtopic, all variables included in the study will be mentioned, as well as the measurement scales used.

To measure the sphere of experience the question “How do you evaluate the perception of experience in relation to the process of taking both photographs?” was presented and participants were asked to rate it, using a seven-point Likert scale from 1 (Very negative) to 7 (Very positive).

Next, when asking “To what extent do you think you can create affective memories in both types?”, the ability of individuals to develop affective memories related to important moments in their lives, when using each typology, was measured. A scale of 1 (Not at all) to 7 (Extremely) seemed appropriate, being this question considered the main anchor to answer Hypothesis 2.

Related to the previous variable and given its importance during the study, it was essential to understand what perception the respondents had in their minds regarding the concept of nostalgia. Thus, they were asked, using the same scale as the previous variable (from 1-Not at all to 7-Extremely), to evaluate the question “When you think about each of the options, to what extent do they remind you of moments lived in the past?”.

To properly justify the acceptance of Hypothesis 3, the perception of authenticity was measured, using a scale from 1 (Very poor) to 7 (Very good), by including the following question “What perception do you have of the authenticity of both types of photography?”.

Next, the degree of vintage, a relevant subject to answer Hypotheses 3 and 4, was addressed by asking “How likely are you to associate both types of photography to a vintage sensation?” and providing a scale from 1 (Definitely not) to 7 (Definitely).

To test the uniqueness dimension, the question “What is the level of feeling of uniqueness that you associate with each type of photography?” was asked, with answer options between 1 (Very low) and 7 (Very high).

A parameter related to self-esteem was measured through the question “How would you describe the kind of impact that the idea of using each option has on your self-esteem?”. For this variable, the measurement was based on a scale from 1 (Extremely negative) to 7 (Extremely positive). This question, combined with the previous one, is expected to be the main source to outline conclusions regarding Hypothesis 4.

Regarding the sphere of creativity, participants were asked to rate “How important is the role of each type of photography when it comes to encouraging you to explore your creativity?” on a scale from 1 (Unimportant) to 7 (Very important).

To support the acceptance of Hypothesis 5, the variable future motivation to use was defined through the question “How would you describe your level of motivation to choose each type of photography in the future?”. To evaluate it was used a scale from 1 (Very low) to 7 (Very high).

Finally, using the previous scale (1-Very low to 7-Very high), it was interesting to know, after being confronted with all the variables, how individuals perceive the level of satisfaction. Therefore, the question “In general, how would you rate your perception of satisfaction of using both types of photography?” was included.

Demographic variables

To determine the demographic profile, useful to characterize the sample of the quantitative research, several questions were included. It is important to remember that as user status was defined as an independent variable, this data was asked separately for users and non-users to overcome the possibility of gathering interesting data that could support possible conclusions regarding one of the groups.

Concerning the gender (“How do you identify yourself?”) participants could choose one of the following options: Male, Female, Non-binary/Third gender and Prefer not to say. To statistically gather data regarding their age, the open-question “How old are you? Please write the age in the form of a number” was created. To assess the nationality of the respondents

("What is your nationality?") was presented a multiple-choice question with several options: Portuguese, Spanish, French, German, British, Italian, Other nationality (please specify). Next, regarding the topic of education ("What is the highest level of education you have completed?"), five options of answers were included: Less than high school, High school graduate or equivalent, Bachelor's degree, Master's degree and Doctorate. Occupation was also included ("What is your current occupation?") with the following options : Student, Student worker, Self-employed, Employed, Unemployed and Retired. In order to cover the economic dimension, the variable Monthly gross income ("What is your estimated monthly gross income?") was introduced, with the following scale of answers: Less than 500€, 500€-999€, 1000€-1499€, 1500€-1999€, 2000€-2499€, 2500€-2999€, 3000€-3499€ and 3500€ or more. Finally, due to the theme of the Thesis' Seminar, participants mentioned their monthly budget for hedonic experiences ("What is your estimated monthly budget for hedonic experiences? Please include expenses related with activities of purchasing products or services that are not primary needs but contribute to your happiness and motivate feelings of pleasure."), choosing one of the ranges: Less than 50€, 50€-99€, 100€-149€, 150€-199€, 200€-249€, 250€-299€, 300€-349€ and 350€ or more.

Other variables

Before the experimental part, respondents answered questions to explore details regarding their behavior, from an exploratory perspective. Thus, it is possible to highlight some variables that, although did not directly contribute to the construction of the hypotheses, were useful in introducing the experiment and can be used to support the results obtained.

Respondents who are not users had to answer a question to understand why this was their status ("To what extent can you relate with the following sentences regarding the reasons why you do not use analog cameras?"). In this question, the scale chosen was between 1 (Not like me at all) and 7 (Very much like me) and the following six statements were presented: I have no interest in analog photography; I prefer to only use digital cameras/smartphones; I do not want to bear the cost associated with developing the rolls; I do not want to be restricted in the number of photographs I can take; I do not like the aesthetics of analog images; I prefer to use appropriate editing filters than taking photographs with the camera itself.

Regarding users, five questions were presented to cover some topics of interest. Firstly, they were asked about the frequency of use (“On average, how often do you take photos with analog cameras?”), giving the following answer options: Every day; Every week; Every two weeks; Monthly; A few times a year. Next, it was interesting to explore when they use it (“How likely are you to take analog photographs in the following circumstances?”), using a scale between 1 (Extremely unlikely) and 7 (Extremely likely) while presenting the following statements: When I am with my friends; When I am with my family; For photographing landscapes; For photographing animals; For photographing random objects; For photographing gastronomic experiences; During travels and vacations; During party moments. The purposes of the use were also addressed (“To what extent do you agree with the following purposes that lead you to personally use an analog camera?”) following an agreement scale between 1 (Strongly disagree) and 7 (Strongly agree) to measure same affirmations: To register my personal memories; To explore my artistic creativity; To later share that photos on my social media accounts; To later make a physical photo album; Due to professional reasons; As a hobby. In the same logic, motivations were included (“To what extent the following aspects consist of important motivations for you to choose analog cameras?”) evaluated with a scale between 1 (Unimportant) and 7 (Very important) and including the following topics: The specific aesthetic; The creative process; The limited number of photographs that the roll allows to take; The surprise factor of revealing the photographs; The history of photography associated; The association with contemporary art; Being considered as a vintage object; Differentiates me from the people around me. Lastly, participants were asked to rank the three tools (Analog cameras, Digital cameras and Smartphones) according to their preference.

3.3. Procedure

The online survey (See Appendix I: Survey Transcript) was developed in Qualtrics, a data collection software that enables users to create questionnaires, with different types of stimulus. After being developed it was shared during December, with valid responses occurring between the 5th and 20th. The purpose was to obtain a relevant sample that would allow to substantiate the defined hypotheses and respond to the general research question. In this sense, it was constructed based on several sections so that all areas of interest were addressed and both the independent and dependent variables were, respectively, manipulated and measured.

The first section consisted of an introduction where participants were informed about all the important details regarding their participation. They became knowledgeable that the survey took place following a Master's Thesis being developed in the Católica Lisbon School of Business and Economics, included in the Marketing and Hedonic Experiences Seminar. The purpose of understanding the consumers' perception regarding the use of analog cameras, considering the digital era, was also shared. Regarding other technical details, respondents were informed about the duration, the importance of answering all questions spontaneously and the confidential character of the research. Finally, they were informed that could select the language of response and that the time spent on filling the survey was highly appreciated.

In the second section, a brief introduction regarding the topic of analog cameras was included. This was a way to introduce the topic under analysis and enable respondents to access important information, especially for those who had never used it. Thus, in this text section, the following paragraph was shared “Analog cameras are a classic model that allows the capture of images through photographic rolls, using chemical processes for this purpose. Thus, the images are stored and can only be viewed after the roll is revealed, in physical or digital format, offering consumers a different photographic experience” and also an example of an analog camera was included, where the brand itself did not constitute a factor of interest but it was used as a reference of this tool.

The next section was created as a screening question to divide the respondents into sections. In this, respondents select whether they use or have ever used analog cameras or whether they have never used them in the past. If they select the “Yes” option and are therefore users of analog cameras, they would be redirected to the following section, where they would have to answer a set of questions to understand their consumer behavior and draw general conclusions about this kind of status. In general, these questions were related to the frequency, circumstances, purposes and motivations. If the respondents chose “No”, meaning they are non-users, they would be forwarded to a section where they would have to mention the reasons why they are not attracted to this option.

After this introductory moment, both groups move to the next sections where, separated by status, they have contact with the experimental nature of this study. As mentioned, the participants were presented with a visual stimulus (two photographs taken with a digital camera and the recreation of these with an analog aesthetic) and were asked to give their opinions

regarding both their perceptions of analog and digital photography. To this end, the following parameters are evaluated: perception of experience, level of uniqueness, impact on self-esteem, ability to create affective memories, feelings of nostalgia, perception of authenticity, degree of vintage, exploration of creativity, motivation to use in the future and general perception of satisfaction.

Finally, respondents shared some personal information to collect demographic data. These focused on gender, age, nationality, education level, current occupation, monthly gross income and budget for hedonic experiences.

3.4. Design

The experiment had a 2 typologies of photography (analog, digital) manipulated within subjects. In other words, the same respondent was presented with both conditions to evaluate the differences between them.

The study also had a 2 user status (being a user or having used analog cameras in the past, never been a user of analog cameras) manipulated between subjects. As mentioned, the specific sample chosen for a detailed analysis were users of analog cameras.

3.5. Variables Coded

To create a correct numerical analysis during the study, the variable referring to the frequency of use of the analog cameras was recoded (Table 2).

Variable	Values
Frequency of use of analog cameras	1 = "A few times a year"; 2 = "Monthly"; 3 = "Every two weeks"; 4 = "Every week"; 5 = "Every day".

Table 2: Variable recoded.

4. Analysis and Results

The following chapter presents the analysis of the quantitative data regarding the survey conducted, using the software SPSS.

4.1. Sample characterization

After disregarding 52 participations relating to the group of non-users, the sample considered in the hypotheses of this study consists of 211 people who have the common characteristic of being users of analog cameras.

This sample was composed of 33,6% males, 64,9% females and 5% non-binary individuals, with the remaining participants deciding not to select any option concerning their gender. Regarding nationalities, the majority (86,7%) were native Portuguese and the remaining ones were mostly British or German.

The users were aged between 14 and 81 years old, with the emphasis being on Generation Z (55,4%) and Millennials (19,7%). The level of education was also approached, with 56,4% of individuals having a Bachelor's degree, 24,6% having a high school diploma and 16,1% having a Master's degree.

The age groups reflected the current occupation, where the majority of participants were employed (41,2%), with students (33,6%) and student-workers (14,7%) also demonstrating a representative significance. Since there is a large number of individuals who are still studying, it is natural that the estimated monthly gross income would be significant in amounts up to 500€ (28,9%). However, there are still declared incomes in the range between 1000€ and 1499€ (29,4%) and 500€ and 999€ (13,7%). Lastly, following this trend, 19,9% shared that their estimated monthly budget for hedonic experiences is equally up to 50€ and between 100€ and 149€, with 27% revealing to spend between 50€ and 99€ (See Appendix II: Survey's Results - Sample Description).

4.2. Exploratory Analysis

As explained in the procedure followed, users answered a set of questions outlined to define patterns of consumption preferences. (See Appendix II: Survey's Results - Exploratory Analysis).

As expected, the frequency of use revealed to be mostly "a few times a year" (87,7%), proving the idea that this vintage tool is used in particular moments considered unique and special. Only a small percentage choose this type monthly (7,6%) and weekly (3,3%).

The likelihood of taking photographs in certain circumstances was addressed in an attempt to understand which are the moments in which participants use the typology more. The circumstances that demonstrate greater probability are related to pure moments of leisure, being during vacations ($M=4,56$; $SD=2,50$), moments with friends ($M=4,11$; $SD=2,41$) and festivities ($M=4,07$; $SD=2,52$). This discovery helps to reaffirm the fact that the experience of photographing using an analog camera is associated with a hedonic event that brings sensations of pleasure. On the other hand, the participants revealed that in moments where analog cameras can be considered, through a more utilitarian approach, as a simple object, they are not so interested in using (photographing objects and gastronomic experiences, respectively with $M=1,82$; $SD=1,88$ and $M=1,52$; $SD=1,71$).

To complement these findings, the purposes were also considered for analysis. The importance of creating affective memories in people's minds was proven when the purpose of recording personal memories was highlighted ($M=5,07$; $SD=2,22$). In agreement with the reviewed literature, this appears to be one of the main reasons why individuals enjoy the act of photographing with analog cameras. Aligned with this, the exploration of nostalgic feelings can be expressed through the immortalization of these memories through physical photo albums ($M=3,94$; $SD=2,45$). Thus, the memories become tangible and the overall experience becomes more valuable. Additionally, the exploration of artistic creativity ($M=3,48$; $SD=2,42$) demonstrated some importance from the perspective of the participants, perhaps motivated by the opportunity to relive antiquity and explore their abilities outside of virtual reality. Finally, the reason least mentioned by participants was the use due to professional reasons ($M=1,21$; $SD=1,87$), which was confirmed by the fact that this activity is seen as a hobby persecuted in free time ($M=3,64$; $SD=2,54$).

Regarding the motivations that make people choose analog cameras instead of other tools, the surprise factor of developing stood out as the most important factor ($M=4,68$; $SD=2,21$). This finding is justified by the fact that analog photographs are associated with a more involved process, which, contrary to what happens with the instantaneity of digital, allows users to enjoy the power of spontaneity. Specific aesthetics ($M=4,26$; $SD=2,20$) also revealed to be a motivation that distinguishes them due to the presence of different textures and tones. Being associated with the history and evolution of photography ($M=4,01$; $SD=2,42$) and, therefore, being considered a vintage object, is still a motivation for individuals. In opposition, it was discovered that these being associated with contemporary art ($M=2,65$; $SD=2,29$) is not a

decisive factor that influences their choices. Finally, even though the literature points to the fact that the perception of uniqueness contributes positively to an individual choosing a certain product, the participants in this study did not consider that the distinction of the people around them ($M=2,53$; $SD=2,35$) consisted of a fundamental motivation to opt for the analog typology.

Finally, when asked to rank their preference, most placed smartphones first, followed by digital cameras. Even if the preference is not for the analog, when analyzing the remaining data, it is possible to perceive that there is still interest in it, going towards the idea that in the future the use will be done jointly, using the functions of each in specific situations.

Additionally, although non-users were not taken into account in the hypotheses, the group revealed the reasons why they decide not to use analog cameras. Among these, the preference for digital cameras or smartphones ($M=5,04$; $SD=1,80$) and not wanting to be limited in the number of photographs they can take ($M=4,58$; $SD=2,24$) stood out. Respondents also revealed that the reason is not at all associated with not being interested in the specific aesthetics ($M=1,65$; $SD=1,93$), which is important to conclude that their preference for technological tools may involve the search for a practical experience.

4.3. Hypotheses Testing

4.3.1. The participants' average perception of analog cameras across various dimensions

The first hypothesis was intended to study the perception of the users regarding the use of both analog and digital cameras, addressing several factors. To draw conclusions concerning this general hypothesis, the following sub-hypotheses were defined:

H1.1.: On average, the reported perception of experience when taking photographs is more positive in participants when the camera is analog compared to when it is digital.

H1.2.: On average, the reported feeling of uniqueness when taking photographs is higher in participants when the camera is analog compared to when it is digital.

H1.3.: On average, the reported impact on self-esteem of taking photographs is more positive in participants when the camera is analog compared to when it is digital.

H1.4.: On average, the reported ability to create affective memories when taking photographs is more positive in participants when the camera is analog compared to when it is digital.

H1.5.: On average, the reported feelings of nostalgia when taking photographs are stronger in participants when the camera is analog compared to when it is digital.

H1.6.: On average, the reported perception of authenticity when taking photographs is higher in participants when the camera is analog compared to when it is digital.

H1.7.: On average, the confidence in the vintage degree recognition when taking photographs is higher in participants when the camera is analog compared to when it is digital.

H1.8.: On average, the reported exploration of creativity when taking photographs is higher in participants when the camera is analog compared to when it is digital.

H1.9.: On average, the reported motivation to choose in the future a certain camera to take photographs is higher in participants when the camera is analog compared to when it is digital.

H1.10.: On average, the reported perception of satisfaction when taking photographs is higher in participants when the camera is analog compared to when it is digital.

The process carried out to analyze the data was a comparison of means between the perceptions revealed when using each one of the typology, followed by a paired samples test. The Tables below summarize the results obtained.

	Analog cameras		Digital cameras	
	Mean	St. Deviation	Mean	St.Deviation
Perception of experience	5,39	1,40	5,46	1,25
Feeling of uniqueness	5,62	1,44	4,54	1,38
Impact on self-esteem	4,88	1,45	4,66	1,37
Ability to create affective memories	5,88	1,34	5,21	1,39
Feelings of nostalgia	5,83	1,48	4,03	1,82
Perception of authenticity	5,88	1,27	4,87	1,39
Degree of vintage	6,03	1,30	3,41	1,62
Exploration of creativity	5,08	1,81	4,69	1,66
Motivation to choose in the future	5,00	1,68	5,09	1,58
Perception of satisfaction	5,59	1,42	5,48	1,40

Table 3: Descriptive Statistics regarding participants' perception of a set of variables related with taking photographs with analog and digital cameras.

	Paired Samples Test	
	T-test (t)	P-value (p)
Perception of experience	-0,605	0,546
Feeling of uniqueness	8,085	< 0,001
Impact on self-esteem	2,252	0,025
Ability to create affective memories	6,909	< 0,001
Feelings of nostalgia	11,780	< 0,001
Perception of authenticity	8,098	< 0,001
Degree of vintage	17,751	< 0,001
Exploration of creativity	3,524	< 0,001
Motivation to choose in the future	-0,604	0,546
Perception of satisfaction	0,862	0,389

Table 4: Paired Samples Test regarding participants' perception of a set of variables related with taking photographs with analog and digital cameras.

The perception of experience is evaluated, even with a small difference, higher when the camera used is digital and not analog ($M_{\text{analog}}=5,39$, $SD=1,40$; $M_{\text{digital}}=5,46$, $SD=1,25$). The t-test showed that the means of these two variables are not statistically different ($t(1)= -0,605$; $p=0,546$), therefore we can reject H1.1., since the reported perception of experience is more positive when using the digital typology.

Regarding the feeling of uniqueness, the t-test indicates that the sample is different in their means ($t(1)=8,085$; $p=<0,001$). The descriptive statistics acknowledge that the participants find the analog typology more capable of contributing to a greater sense of uniqueness than the digital one ($M_{\text{analog}}=5,62$, $SD=1,44$; $M_{\text{digital}}=4,54$, $SD=1,38$). As expected, these data demonstrate that participants associate a greater sense of particularity with analog cameras and, therefore, H1.2. is considered proven.

The same situation occurs when analyzing the impact of different typologies on self-esteem, with H1.3. being not rejected. On average, participants showed higher levels of positive impact when using analog cameras rather than when the choice is for a technological device ($M_{\text{analog}}=4,88$, $SD=1,45$; $M_{\text{digital}}=4,66$, $SD=1,37$). The t-test is also aligned with the literature reviewed ($t(1)=2,252$; $p=0,025$).

Concerning H1.4., this hypothesis can also be considered as validated since the means between the two variables are statistically different ($t(1)=6,909$; $p=<0,001$). Also, when analyzing the means it is possible to conclude that participants consider that there exists more ability to create affective memories with the analog photography ($M_{\text{analog}}=5,88$, $SD=1,34$; $M_{\text{digital}}=5,21$, $SD=1,39$).

In line with the previous topic, the hypothesis relating to nostalgia (H.1.5.) is also not rejected, due to the significant results of the t-test ($t(1)=11,780$; $p=<0,001$). Thus, in the minds of consumers there is a greater feeling of nostalgia when using analog cameras ($M_{\text{analog}}=5,83$, $SD=1,48$; $M_{\text{digital}}=4,03$, $SD=1,82$).

The perception of authenticity was also addressed, concluding that this is not higher when choosing digital ($M_{\text{analog}}=5,88$, $SD=1,27$; $M_{\text{digital}}=4,87$, $SD=1,39$). H1.6. was validated by the paired test that proves that the sample is different in their means ($t(1)=8,098$; $p=<0,001$).

With highly significant results, the participants revealed that the degree of vintage attributed is much higher in the analog ($M_{\text{analog}}=6,03$, $SD=1,30$; $M_{\text{digital}}=3,41$, $SD=1,62$). This result, together with the t-test run ($t(1)=17,751$; $p=<0,001$), validates H1.7.

The level of the exploration of creativity was also considered to be higher in analog cameras ($M_{\text{analog}}=5,08$, $SD=1,81$; $M_{\text{digital}}=4,69$, $SD=1,66$), proving the veracity of H1.8. by the results obtained in relation to the pair of variables ($t(1)=3,524$; $p=<0,001$).

Concerning H1.9., the reported motivation to choose the analog device in the future was not considered higher than the digital typology ($M_{\text{analog}}=5,00$, $SD=1,68$; $M_{\text{digital}}=5,09$, $SD=1,58$). This result is in line with the literature mentioned which indicates that individuals will continue to use the vintage camera, but the digital will always have a prominent place due to the technological era. Therefore, even though the difference in means is minimal, this hypothesis is rejected ($t(1)=-0,604$; $p=0,546$).

Finally, the level of satisfaction does not demonstrate a statistical difference, which is why H1.10. will be rejected ($t(1)=0,862$; $p=0,389$), even though participants attribute a higher level to analog photography ($M_{\text{analog}}=5,59$, $SD=1,42$; $M_{\text{digital}}=5,48$, $SD=1,40$).

By analyzing all the sub-hypotheses, we can conclude that H1 cannot be considered valid since in not all the variables under analysis (such as perception of experience, future motivation and perception of satisfaction), users' perception is more positive on analog cameras. Still, there are significant results that demonstrate the potential of this tool.

4.3.2. The effect of the ability to create affective memories on the formulation of feelings of nostalgia

To develop proper conclusions on H2, a simple linear regression was performed to explore the connection between the two variables.

These variables demonstrate to be significantly correlated (pearson correlation=0,247, $p < 0,001$), suggesting that there is a relationship between them. Regarding the means, these are $M=5,88$ and $M=5,83$ (respectively $SD=1,34$ and $SD=1,48$) and the one sample t-test proved that they are statistically different ($p < 0,001$). (See Appendix III: Hypotheses - Hypothesis 2)

By analyzing the results presented in Tables 5 and 6, a statistically significant model was verified ($R^2=0,061$; $F(1, 210)=13,572$, $p < 0,001$). Thus, it appears that the ability to create affective memories using the analog typology makes it possible to significantly predict the formulation of stronger feelings of nostalgia ($b=0,272$, $p < 0,001$). That being said, in addition to the literature analyzed, the statistical results also support H2.

Model Summary			
R	R Square	Ajusted R Square	Standard Error of the Estimate
0,247	0,061	0,056	1,434

Table 5: Model Summary of the Linear Regression between the variables “Ability to create affective memories when taking photographs using an analog camera” and “Feelings of nostalgia when taking photographs using an analog camera”.

ANOVA					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	27,919	1	27,919	13,572	< 0,001
Residual	429,939	209	2,057		
Total	457,858	210			

Table 6: ANOVA between the variables “Ability to create affective memories when taking photographs using an analog camera” and “Feelings of nostalgia when taking photographs using an analog camera”.

4.3.3. The effect of the recognized degree of vintage on the perception of authenticity

The third hypothesis defined suggests that the degree of vintage that users recognize in the analog camera is associated with high levels of perception of authenticity in that same tool. To test H3, another simple linear regression was developed.

As seen by the Descriptives, the recognition of the degree of vintage ($M=6,03$; $SD=1,30$) and the perception of authenticity ($M=5,88$; $SD=1,27$) are considered favorable by the participants. The one sample t-test run proved that these two have a statistically significant difference ($p<0,001$) and the correlation levels between these variables are positive (pearson correlation= $0,529$, $p<0,001$). (See Appendix III: Hypotheses - Hypothesis 3)

The Model Summary (Table 7) suggests that the variables are related and that 28% of the variability found for the dependent variable “Perception of authenticity when using an analog camera” is explained by the independent “Degree of vintage attributed to an analog camera” ($R=0,529$, $R^2=0,280$).

ANOVA (Table 8) also revealed a significant main effect, indicating that the hypothesis in analysis cannot be rejected ($F(1, 210)=81,330$, $p<0,001$). When analyzing the generated coefficients, it is possible to conclude that the level of vintage significantly contributes to users recognizing the authenticity of analog devices ($b=0,518$, $p<0,001$).

Model Summary			
R	R Square	Ajusted R Square	Standard Error of the Estimate
0,529	0,280	0,277	1,082

Table 7: Model Summary of the Linear Regression between the variables “Confidence in the vintage degree recognition when taking photographs with an analog camera” and “Perception of authenticity when taking photographs with an analog camera”.

ANOVA					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	95,255	1	95,255	81,330	< 0,001
Residual	244,783	209	1,171		
Total	340,038	210			

Table 8: ANOVA between the variables “Confidence in the vintage degree recognition when taking photographs with an analog camera” and “Perception of authenticity when taking photographs with an analog camera”.

4.3.4. The effect of the recognized degree of vintage on the impact on self-esteem, when mediated by the feeling of uniqueness

The fourth hypothesis under test establishes a relation between the recognized degree of vintage and its impact on individuals' self-esteem. For this purpose, a mediation analysis was conducted using the variable concerning feelings of uniqueness.

As mentioned, the Descriptive Statistics revealed that the participants attribute higher levels to the variable relating to the degree of vintage, followed by feelings of uniqueness and, finally, the impact felt on self-esteem (respectively, $M=6,03$ and $SD=1,30$; $M=5,62$ and $SD=1,44$; $M=4,88$ and $SD=1,45$). The means are statistically different from the results obtained through the One-Sample Test ($p<0,001$). The three variables, in some way, are correlated with each other, at a significant level of $p<0,001$, which suggests that there is a strong probability of occurring a situation of mediation. (See Appendix III: Hypotheses - Hypothesis 4)

To understand if a mediation arises, a macro method was run by using Process by Andrew F. Hayes, with model 4. As it can be seen in Table 9, when analyzing the “Total Effect Model”, there is a relationship between the independent and the dependent variable (coefficient=0,437; $t=6,169$) at a significant level of $p=0,000$. Regarding the mediator, the results of “Model“ also present a relationship with the independent variable at a $p=0,000$ level of significance (coefficient=0,583; $t=8,905$). The independent variable further reveals to have a direct effect on the dependent one, by confirming the positive influence and the statistical significance ($p=0,016$). As this effect is significant, we are facing a situation of partial mediation, which means that the relationship between the variables remains relevant when the mediator variable is controlled. The indirect sphere was also studied and found to be significant, with the 95%

confidence interval for the indirect effect of degree of vintage on the impact on self-esteem through feelings of uniqueness (0,149; 0,368) not including the value zero.

This mediation analysis showed that “Feeling of uniqueness of using an analog camera” is indeed a mediator of the independent variable on the dependent one, meaning that as the feelings of uniqueness arise, there is a more positive impact on self-esteem. With this being proven, it reveals that the fourth hypothesis is sustained and cannot be rejected.

Total Effect Model (Outcome variable: Impact on self-esteem of taking photographs with analog cameras)				
Confidence in the vintage degree recognition when taking photographs with an analog camera	Coefficient	Standard Error	t	p-value
		0,437	0,071	6,169

Model (Outcome variable: Feeling of uniqueness of taking photographs with analog cameras)				
Confidence in the vintage degree recognition when taking photographs with an analog camera	Coefficient	Standard Error	t	p-value
		0,583	0,065	8,905

Direct effect of X on Y			
Effect	Standard Error	t	p-value
0,185	0,076	2,424	0,016

Indirect effect of X on Y				
Feeling of uniqueness of taking photographs with analog cameras	Effect	BootSE	BootLLCI	BootULCI
		0,251	0,056	0,149

Table 9: Mediation analysis of “Confidence in the vintage degree recognition when taking photographs with an analog camera” and “Impact on self-esteem of taking photographs with analog cameras”, mediated by “Feeling of uniqueness of taking photographs with analog cameras”.

4.3.5. The effect of the perception of satisfaction on the future motivation to choose

Onto the last hypothesis, to analyze the motivation to choose an analog camera in the future depending on the perception of satisfaction, a simple linear regression was led.

The way in which these two variables are correlated proved to be significant at a level of $p < 0.001$ with a pearson correlation of 0,647. Both the variable regarding satisfaction ($M=5,59$; $SD=1,42$) and motivation ($M=5,00$; $SD=1,68$) presented a mean higher than the scale, meaning that they are relevant variables from the respondents' perspective. When analyzing the output of the one-sample test performed, it is concluded that the two means present statistically different values ($p < 0,001$), respectively assuming $t(1)=16,286$ and $t(1)=8,651$. (See Appendix III: Hypotheses - Hypothesis 5)

The Model Summary (Table 10) reveals the existence of a linear relationship between the variables under study ($R=0,647$) and that the test run fits the observed data in 41,8% ($R^2=0,418$). Regarding ANOVA (Table 11), this allows us to discover the significance attributed to the model ($F(1, 210)=150,400$, $p < 0,001$). By analyzing the coefficients, it is demonstrated that the variable “Perception of satisfaction of using an analog camera” strongly contributes to the “Motivation to choose an analog camera in the future” ($b=0,767$, $p < 0,001$). With this being proven, H5 cannot be rejected, since there is a situation of significant effect supported by the static results.

Model Summary			
R	R Square	Ajusted R Square	Standard Error of the Estimate
0,647	0,418	0,416	1,283

Table 10: Model Summary of the Linear Regression between the variables “Perception of satisfaction when taking photographs with an analog camera” and “Motivation to choose an analog camera to take photographs in the future”.

ANOVA					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	247,737	1	247,737	150,400	< 0,001
Residual	344,263	209	1,647		
Total	592,000	210			

Table 11: ANOVA between the variables “Perception of satisfaction when taking photographs with an analog camera” and “Motivation to choose an analog camera to take photographs in the future”.

5. Main findings and Conclusions

According to the literature, we are currently witnessing a phenomenon of the increasing use of analog cameras. In a digital era marked by strong technological advances, the vintage segment is increasingly sought by individuals to provide a different experience by using an alternative that escapes the instantaneity associated with innovation.

With this premise arises the first hypothesis defined to understand how the perception of analog users is influenced by the choice of the typology used (analog or digital). To this end, mean comparison and paired samples test methods were used, being several sub-hypotheses created to analyze each dimension individually. The variables of the feeling of uniqueness, impact on self-esteem, ability to create affective memories, feeling of nostalgia, perception of authenticity, degree of vintage and exploration of creativity demonstrated higher levels of perception concerning analog cameras and statistically different averages between typologies. On the other hand, data on the perception of experience, motivation to choose in the future and level of satisfaction were more favorable for digital devices. These results prove that there are factors that, in the minds of users, enhance the use of the analog typology, even though the participants' perception is not linear about all variables under analysis. Therefore, the first hypothesis is rejected since the perception regarding digital devices is more positive in certain factors.

The creation of affective memories is highly related to the act of photographing. When this experience is carried out through an analog camera it becomes more meaningful, not only because of the unique characteristics it brings together but also because it intensifies the sense of memories in the minds of its users, who take advantage of it to capture special moments.

When using this typology, nostalgia takes on a new meaning by reinforcing these sensations while using a device that is related to antiquity. Thus, the second hypothesis arises, where a simple linear regression proved that, when choosing analog cameras, the ability to create affective memories predicts stronger feelings of nostalgia.

As it is an object considered vintage, society is increasingly interested in choosing it due to the motivation of owning tools that have already played a prominent role in the past and that are a cultural symbol. This aspect is related to the desire for authenticity that allows users not only to stand out through a differentiated consumption decision but also through the choice of photography that is open to imperfection and, thus, to be authentic. The relationship between the degree of vintage recognized by users and the higher level of perception of authenticity is addressed in the third hypothesis, through a simple linear regression, proving that this relationship exists and is statistically significant.

The fourth hypothesis relates the variable concerning vintage with the impact that the use of analog cameras has on each person's self-esteem. By adopting this vintage device, individuals allow themselves to express their identity and accept that not everything has to be instantaneous, while creating special memories that contribute to their well-being. This relationship is mediated by the feeling of uniqueness which explains, through the fourth hypothesis, that the degree of vintage recognized by users, positively impacts the way they feel unique, which has a significant effect on their self-esteem.

Finally, the levels of satisfaction and future motivation for using each of the typologies were studied. In an era with new concepts emerging, it is essential that consumers are satisfied with their purchasing decisions, as this is the way they will continue to purchase these same products or services. Thus, through a simple linear regression, it was proven that there is a very strong relationship between the way people currently feel satisfied with the analog typology and their motivation to choose it in the future.

6. Theoretical and Managerial Implications

The development of this study was relevant to explore the growing use of analog cameras and the set of dimensions that motivate individuals to choose them. Thus, theoretically, this Thesis

contributes to the extension of previous literature on the sphere of the role of photography in a digital era, also concerning changes in consumer behavior.

The results obtained, both through the literature reviewed and the participants' contributions, prove that there is still interest in using this vintage object, which is a relevant idea that industry companies must take into account in their strategies so that the offer meets the expectations of potential consumers. Individuals increasingly want to get involved in hedonic activities, with the act of photographing using objects from the past being one of their desires. Thus, emotional tactics that evoke sensations of pleasure and highlight the positive impact on self-esteem should be incorporated.

This study was also fundamental to project the expectation that, in the future, both types of cameras will be used, even though under different circumstances. Therefore, this can be an essential discovery for marketers to outline their campaigns in this tone, by highlighting the attributes of practicality and better image quality achieved by technology and, also, the qualities of uniqueness and the creation of nostalgic feelings by capturing special moments with analog. Thus, retro and nostalgic marketing are two dimensions that prove to benefit individuals' perceptions, due to the emotional symbolism associated.

7. Limitations and Future Research

All academic research presents limitations that need to be taken into account when interpreting the findings.

First, constraints can be identified as the data collection method used was an online survey, which can lead participants to respond without considering their current preferences and consumption behaviors. Along with it, possible bias could have occurred since with this method the participants did not have immediate guidance and clarification of doubts. Regarding the visual stimulus introduced in the experimental part, it may have been evaluated only for the difference in aesthetics, not having the intended impact of making individuals put themselves in the position of photographers of those same pictures and answer the questions depending on their perceptions as if the experience were real.

The fact that there are few articles useful for the topic caused that the literary review may not have included enough relevant references and more numerical data was needed to analytically frame the research. Additionally, this did not allow replicating methodologies and scales used in other studies.

As for future research, some areas may be interesting to explore under this scope.

The variables should be manipulated to understand whether the phenomenon is in fact due to a social issue. Participants could be faced with scenarios where they were told that few people used the analog tool (which made them more special and within a niche) and, on the contrary, that this is a common habit in society (giving the idea that if everyone uses it they should use it too). Including this perspective could be relevant to explore whether there is any different effect on motivation to use.

Additionally, the literature suggests that there may be a strong contribution from social media, due to influencer marketing, to the growing use by younger generations, so it makes sense to analyze this dimension, given the relevance of digital platforms.

Finally, taking into account the scarcity of renowned literature, it would be interesting to include qualitative approaches (interviews or focus groups) that would allow a deeper understanding of users' perceptions and obtain new insights in this field of study. Including photographers would also be beneficial to have a professional perspective.

8. Appendices

Appendix I: Survey Transcript

Introduction

Dear participant,

This study is being conducted as a part of my Master Dissertation at Católica Lisbon School of Business and Economics, included in the Marketing and Hedonic Experiences Seminar.

The purpose of this survey is to understand the perception of the consumers regarding the use of analog cameras, considering the digital era that we live on.

Please note the following informations:

- > The estimated duration is approximatively 5-7 minutes.
- > Please answer all questions spontaneously. There is no right or wrong answers, your true thoughts are highly important.
- >The data collected will kept confidential and be evaluated anonymously.

If you have any questions or comments, please feel free to contact me by e-mail: s-maramartins@ucp.pt.

If you wish to answer the survey in Portuguese, please select the language option in the top right corner of the page.

Thank you very much for taking the time to fill out this survey!

Mariana Martins.

Introduction regarding the topic

Analog cameras are a classic model that allows the capture of images through photographic rolls, using chemical processes for this purpose. Thus, the images are stored and can only be viewed after the roll is revealed, in physical or digital format, offering consumers a different photographic experience.



Screening question

Do you use or have you ever used analog cameras?

- Yes
- No

Do you use or have you ever used analog cameras? - No

To what extent can you relate with the following sentences regarding the reasons why you do not use analog cameras? (From 1- Not like me at all to 7- Very much like me)

- I have no interest in analog photography.
- I prefer to only use digital cameras/smartphones.
- I do not want to bear the cost associated with developing the rolls.
- I do not want to be restricted in the number of photographs I can take.
- I do not like the aesthetics of analog images.
- I prefer to use appropriate editing filters than taking photographs with the camera itself.

Do you use or have you ever used analog cameras? - Yes

On average, how often do you take photos with analog cameras?

- Every day.
- Every week.
- Every two weeks.
- Monthly.
- A few times a year.

How likely are you to take analog photographs in the following circumstances? (From 1- Extremely unlikely to 7- Extremely likely)

- When I am with my friends.
- When I am with my family.
- For photographing landscapes.
- For photographing animals.
- For photographing random objects.
- For photographing gastronomic experiences.
- During travels and vacations.
- During party moments.

To what extent do you agree with the following purposes that lead you to personally use an analog camera? (From 1- Strongly disagree to 7- Strongly agree)

- To register my personal memories.
- To explore my artistic creativity.
- To later share that photos on my social media accounts.
- To later make a physical photo album.
- Due to professional reasons.
- As a hobby.

To what extent the following aspects consist of important motivations for you to choose analog cameras? (From 1- Unimportant to 7- Very important)

- The specific aesthetic.
- The creative process.
- The limited number of photographs that the roll allows to take.
- The surprise factor of revealing the photographs.
- The history of photography associated.
- The association with contemporary art.
- Being considered as a vintage object.
- Differentiates me from the people around me.

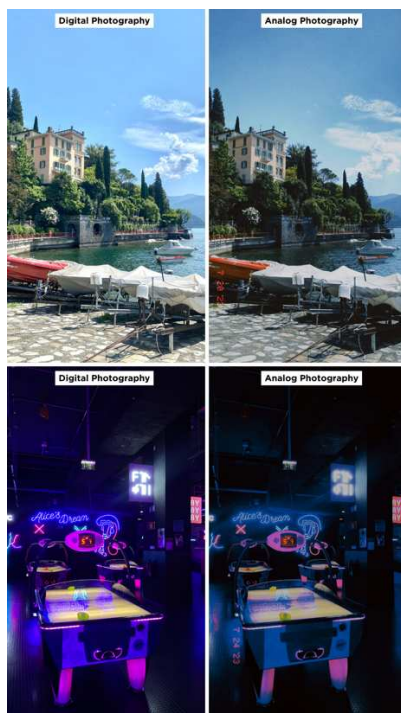
Please select the options and drag them to the position you want in order to rank your preference regarding the following tools for taking photos.

- Analog cameras.
- Smartphones.
- Digital Cameras.

Experimental – Non-users of analog cameras

In this section you will be presented with a total of four photographs: two taken with a digital camera and the recreation of this two with an analog aesthetic. The objective is to analyze the different photographs and, while trying to put yourself in the situation and personalize as much as possible to the environment that surrounds you, make honest considerations about them.

Note: For the purpose of carrying out this survey, an analog filter was applied to the original images to allow a more pleasant experience.



How do you evaluate the perception of experience in relation to the process of taking both photographs? (From 1-Very negative to 7-Very positive)

- Analog photography
- Digital photography

What is the level of feeling of uniqueness that you associate with each type of photography? (From 1-Very low to 7-Very high)

- Analog photography
- Digital photography

How would you describe the kind of impact that the idea of using each option has on your self-esteem? (From 1-Extremely negative to 7-Extremely positive)

- Analog photography
- Digital photography

To what extent do you think you can create affective memories in both types? (From 1-Not at all to 7-Extremely)

- Analog photography
- Digital photography

When you think about each of the options, to what extent do they remind you of moments lived in the past, for example in your childhood or teenage years? (From 1-Not at all to 7-Extremely)

- Analog photography
- Digital photography

What perception do you have of the authenticity of both types of photography? (From 1-Very poor to 7-Very good)

- Analog photography
- Digital photography

How likely are you to associate both types of photography to a vintage sensation? (From 1-Definitely not to 7-Definitely)

- Analog photography
- Digital photography

How important is the role of each type of photography when it comes to encouraging you to explore your creativity?(From 1-Unimportant to 7-Very important)

- Analog photography
- Digital photography

How would you describe your level of motivation to choose each type of photography in the future? (From 1-Very high to 7-Very low)

- Analog photography
- Digital photography

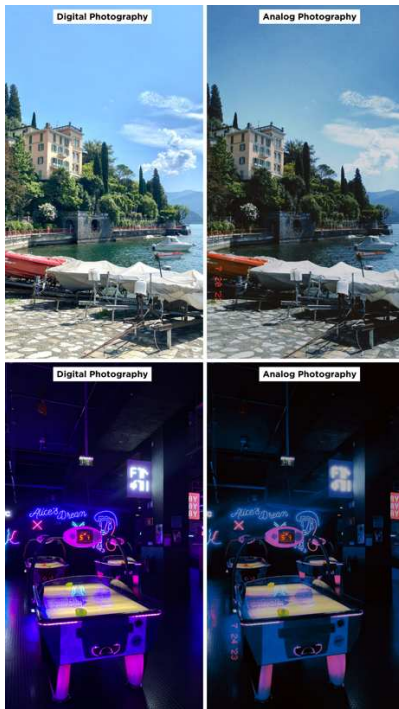
In general, how would you rate your perception of satisfaction of using both types of photography? (From 1- Very high to 7- Very low)

- Analog photography
- Digital photography

Experimental – Users of analog cameras

In this section you will be presented with a total of four photographs: two taken with a digital camera and the recreation of this two with an analog aesthetic. The objective is to analyze the different photographs and, while trying to put yourself in the situation and personalize as much as possible to the environment that surrounds you, make honest considerations about them.

Note: For the purpose of carrying out this survey, an analog filter was applied to the original images to allow a more pleasant experience.



How do you evaluate the perception of experience in relation to the process of taking both photographs? (From 1-Very negative to 7-Very positive)

- Analog photography
- Digital photography

What is the level of feeling of uniqueness that you associate with each type of photography? (From 1-Very low to 7-Very high)

- Analog photography
- Digital photography

How would you describe the kind of impact that the idea of using each option has on your self-esteem? (From 1-Extremely negative to 7-Extremely positive)

- Analog photography
- Digital photography

To what extent do you think you can create affective memories in both types? (From 1-Not at all to 7-Extremely)

- Analog photography
- Digital photography

When you think about each of the options, to what extent do they remind you of moments lived in the past, for example in your childhood or teenage years? (From 1-Not at all to 7-Extremely)

- Analog photography
- Digital photography

What perception do you have of the authenticity of both types of photography? (From 1-Very poor to 7-Very good)

- Analog photography
- Digital photography

How likely are you to associate both types of photography to a vintage sensation? (From 1-Definitely not to 7-Definitely)

- Analog photography
- Digital photography

How important is the role of each type of photography when it comes to encouraging you to explore your creativity?(From 1-Unimportant to 7-Very important)

- Analog photography
- Digital photography

How would you describe your level of motivation to choose each type of photography in the future? (From 1-Very high to 7-Very low)

- Analog photography
- Digital photography

In general, how would you rate your perception of satisfaction of using both types of photography? (From 1- Very high to 7- Very low)

- Analog photography
- Digital photography

Demographics - Non-users of analog cameras

How do you identify yourself?

- Male.
- Female.
- Non-binary / third gender.
- Prefer not to say.

How old are you? Please write the age in the form of a number.

What is your nationality?

- Portuguese.
- Spanish.
- French.
- German.
- British.
- Italian.
- Other nationality (please specify).

What is the highest level of education you have completed?

- Less than high school.
- High school graduate or equivalent.
- Bachelor's degree.
- Master's degree.
- Doctorate.

What is your current occupation?

- Student.
- Student-worker.
- Self-employed.
- Employed.
- Unemployed.
- Retired.

What is your estimated monthly gross income?

- Less than 500€.
- 500€ - 999€.
- 1000€ - 1499€.
- 1500€ - 1999€.
- 2000€ - 2499€.
- 2500€ - 2999€.
- 3000€ - 3499€.
- 3500€ or more.

What is your estimated monthly budget for hedonic experiences? Please include expenses related with activities of purchasing products or services that are not primary needs but contribute to your happiness and motivate feelings of pleasure.

- Less than 50€.
- 50€ - 99€.
- 100€ - 149€.
- 150€ - 199€.
- 200€ - 249€.
- 250€ - 299€.
- 300€ - 349€.
- 350€ or more.

Demographics - Users of analog cameras

How do you identify yourself?

- Male.
- Female.
- Non-binary / third gender.
- Prefer not to say.

How old are you? Please write the age in the form of a number.

What is your nationality?

- Portuguese.
- Spanish.

- French.
- German.
- British.
- Italian.
- Other nationality (please specify).

What is the highest level of education you have completed?

- Less than high school.
- High school graduate or equivalent.
- Bachelor's degree.
- Master's degree.
- Doctorate.

What is your current occupation?

- Student.
- Student-worker.
- Self-employed.
- Employed.
- Unemployed.
- Retired.

What is your estimated monthly gross income?

- Less than 500€.
- 500€ - 999€.
- 1000€ - 1499€.
- 1500€ - 1999€.
- 2000€ - 2499€.
- 2500€ - 2999€.
- 3000€ - 3499€.
- 3500€ or more.

What is your estimated monthly budget for hedonic experiences? Please include expenses related with activities of purchasing products or services that are not primary needs but contribute to your happiness and motivate feelings of pleasure.

- Less than 50€.
- 50€ - 99€.
- 100€ - 149€.
- 150€ - 199€.
- 200€ - 249€.
- 250€ - 299€.
- 300€ - 349€.
- 350€ or more.

Appendix II: Survey's Results

Sample Description

Gender			
	Frequency (units)	Percentage (%)	Cumulative Percentage (%)
Male	71	33,6	33,6
Female	137	64,9	98,6
Non-binary	1	,5	99,1
Prefer not to say	2	,9	100,0
Total	211	100,0	

Table 12: Frequencies of the variable "Gender".

Age			
	Frequency (units)	Percentage (%)	Cumulative Percentage (%)
14-24	98	46,4	46,4
25-34	44	20,9	67,3
35-44	21	10,0	77,3
45-54	27	12,7	90,0
55-64	15	7,2	97,2
65 +	6	2,8	100,0
Total	211	100,0	

Table 13: Frequencies of the variable "Age".

Nationality			
	Frequency (units)	Percentage (%)	Cumulative Percentage (%)
Portuguese	183	86,7	86,7
French	1	,5	87,2
German	4	1,9	89,1
British	8	3,8	92,9
Other nationality	15	7,1	100,0
Total	211	100,0	

Table 14: Frequencies of the variable "Nationality".

Level of education			
	Frequency (units)	Percentage (%)	Cumulative Percentage (%)
Less than high school	6	2,8	2,8
High school graduate	52	24,6	27,5
Bachelor's degree	119	56,4	83,9
Master's degree	34	16,1	100,0
Total	211	100,0	

Table 15: Frequencies of the variable "Level of education".

Current occupation			
	Frequency (units)	Percentage (%)	Cumulative Percentage (%)
Student	71	33,6	33,6
Student worker	31	14,7	48,3
Self-employed	10	4,7	53,1
Employed	87	41,2	94,3
Unemployed	5	2,4	96,7
Retired	7	3,3	100,0
Total	211	100,0	

Table 16: Frequencies of the variable “Current occupation”.

Estimated monthly gross income			
	Frequency (units)	Percentage (%)	Cumulative Percentage (%)
Less than 500€	61	28,9	28,9
500€ - 999€	29	13,7	42,7
1000€ - 1499€	62	29,4	72,0
1500€ - 1999€	25	11,8	83,9
2000€ - 2499€	13	6,2	90,0
2500€ - 2999€	8	3,8	93,8
3000€ - 3499€	5	2,4	96,2
3500€ or more	8	3,8	100,0
Total	211	100,0	

Table 17: Frequencies of the variable “Estimated monthly gross income”.

Estimated monthly budget for hedonic experiences			
	Frequency (units)	Percentage (%)	Cumulative Percentage (%)
Less than 50€	42	19,9	19,9
50€-99€	57	27,0	46,9
100€ - 149€	42	19,9	66,8
150€ - 199€	29	13,7	80,6
200€ - 249€	16	7,6	88,2
250€ - 299€	4	1,9	90,0
300€ - 349€	4	1,9	91,9
350€ or more	17	8,1	100,0
Total	211	100,0	

Table 18: Frequencies of the variable “Estimated monthly budget for hedonic experiences”.

Exploratory Analysis

Frequency of use of analog cameras			
	Frequency (units)	Percentage (%)	Cumulative Percentage (%)
A few times a year	185	87,7	87,7
Monthly	16	7,6	95,3
Every two weeks	3	1,4	96,7
Every week	7	3,3	100,0
Total	211	100,0	

Table 19: Frequencies of the variable “Frequency of use of analog cameras”.

Likelihood of taking analog photographs in certain circumstances		
	Mean	Standard deviation
In the company of friends	4,11	2,41
In the company of family	3,61	2,27
For photographing landscapes	3,08	2,26
For photographing animals	2,15	1,95
For photographing random objects	1,82	1,88
For photographing gastronomic experiences	1,52	1,71
During travels and vacations	4,56	2,50
During party moments	4,07	2,52

Table 20: Descriptives of the variable “Likelihood of taking analog photographs in certain circumstances”.

Purposes to use an analog camera		
	Mean	Standard deviation
To register personal memories	5,07	2,22
To explore artistic creativity	3,48	2,42
To share on social media accounts	2,47	2,36
To make a physical photo album	3,94	2,45
Due to professional reasons	1,21	1,87
As a hobby	3,64	2,54

Table 21: Descriptives of the variable “Purposes to use an analog camera”.

Motivations to choose an analog camera		
	Mean	Standard deviation
The specific aesthetic	4,26	2,20
The creative process	3,89	2,27
The limited number of photographs that the roll allows to take	3,05	2,35
The surprise factor of revealing the photographs	4,68	2,21
The history of photography associated	4,01	2,42
The association with contemporary art	2,65	2,29
Being considered as a vintage object	3,00	2,40
Differentiation from the people around	2,53	2,35

Table 22: Descriptives of the variable “Motivations to choose an analog camera”.

Preferences for different camera options		
	Mean	Standard deviation
Analog cameras	2,27	,756
Smartphones	1,55	,731
Digital cameras	2,18	,766

Table 23: Descriptives of the variable “Preferences for different camera options”.

Reasons for not using analog cameras		
	Mean	Standard Deviation
No interest in analog photography	3,27	2,097
Prefer to only use digital cameras/smartphones	5,04	1,804
Not wanting to bear the cost associated with developing the rolls	4,33	2,121
Not wanting to be restricted in the number of photographs that can be taken	4,58	2,243
No interest in the aesthetics of analog images	1,65	1,929
Prefer to use editing filters than taking photographs with the camera	2,37	2,105

Table 24: Descriptives of the variable “Reasons for not using analog cameras”.

Appendix III: Hypotheses

Hypothesis 2

Correlations			
		Ability to create affective memories when taking photographs using an analog camera	Feelings of nostalgia when taking photographs using an analog camera
Ability to create affective memories when taking photographs using an analog camera	Pearson Correlation	1	,247**
	Sig. (2-tailed)		<,001
	N	211	211
Feelings of nostalgia when taking photographs using an analog camera	Pearson Correlation	,247**	1
	Sig. (2-tailed)	<,001	
	N	211	211

** . Correlation is significant at the 0.01 level (2-tailed).

Table 25: Correlations between the variables “Ability to create affective memories when taking photographs using an analog camera” and “Feelings of nostalgia when taking photographs using an analog camera”.

One-Sample Statistics			
	Mean	Standard Deviation	Standard Error Mean
Ability to create affective memories when taking photographs using an analog camera	5,88	1,342	,092
Feelings of nostalgia when taking photographs using an analog camera	5,83	1,477	,102

Table 26: One-Sample Statistics of the variables “Ability to create affective memories when taking photographs using an analog camera” and “Feelings of nostalgia when taking photographs using an analog camera”.

One-Sample Test							
Test Value = 4							
	t	df	Significance		Mean Difference	95% Confidence Interval of the Difference	
			One-Sided p	Two-Sided p		Lower	Upper
Ability to create affective memories when taking photographs using an analog camera	20,370	210	<,001	<,001	1,882	1,70	2,06
Feelings of nostalgia when taking photographs using an analog camera	17,997	210	<,001	<,001	1,829	1,63	2,03

Table 27: One-Sample Test of the variables “Ability to create affective memories when taking photographs using an analog camera” and “Feelings of nostalgia when taking photographs using an analog camera”.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4,231	,445		9,509	<,001
	Ability to create affective memories when taking photographs using an analog camera	,272	,074	,247	3,684	<,001

a. Dependent Variable: Feelings of nostalgia when taking photographs using an analog camera

Table 28: Linear Regression Coefficients.

Hypothesis 3

Correlations			
		Perception of authenticity when taking photographs using an analog camera	Confidence in the vintage degree recognition when taking photographs using an analog camera
Perception of authenticity when taking photographs using an analog camera	Pearson Correlation	1	,529**
	Sig. (2-tailed)		<,001
	N	211	211
Confidence in the vintage degree recognition when taking photographs using an analog camera	Pearson Correlation	,529**	1
	Sig. (2-tailed)	<,001	
	N	211	211

** . Correlation is significant at the 0.01 level (2-tailed).

Table 29: Correlations between the variables “Perception of authenticity when taking photographs using an analog camera” and “Confidence in the vintage degree recognition when taking photographs using an analog camera”.

One-Sample Statistics			
	Mean	Standard Deviation	Standard Error Mean
Perception of authenticity when taking photographs using an analog camera	5,88	1,272	,088
Confidence in the vintage degree recognition when taking photographs using an analog camera	6,03	1,300	,089

Table 30: One-Sample Statistics of the variables “Perception of authenticity when taking photographs using an analog camera” and “Confidence in the vintage degree recognition when taking photographs using an analog camera”.

One-Sample Test							
Test Value = 4							
	t	df	Significance		Mean Difference	95% Confidence Interval of the Difference	
			One-Sided p	Two-Sided p		Lower	Upper
Perception of authenticity when taking photographs using an analog camera	21,478	210	<,001	<,001	1,882	1,71	2,05
Confidence in the vintage degree recognition when taking photographs using an analog camera	22,722	210	<,001	<,001	2,033	1,86	2,21

Table 31: One-Sample Test of the variables “Perception of authenticity when taking photographs using an analog camera” and “Confidence in the vintage degree recognition when taking photographs using an analog camera”.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2,755	,355		7,771	<,001
	Confidence in the vintage degree recognition when taking photographs using an analog camera	,518	,057	,529	9,018	<,001

a. Dependent Variable: Perception of authenticity when taking photographs using an analog camera

Table 32: Linear Regression Coefficients.

Hypothesis 4

Correlations				
		Feelings of uniqueness when taking photographs using an analog camera	Confidence in the vintage degree recognition when taking photographs using an analog camera	Impact on self-esteem of taking photographs using an analog camera
Feelings of uniqueness when taking photographs using an analog camera	Pearson Correlation	1	,524**	,518**
	Sig. (2-tailed)		<,001	<,001
	N	211	211	211
Confidence in the vintage degree recognition when taking photographs using an analog camera	Pearson Correlation	,524**	1	,393**
	Sig. (2-tailed)	<,001		<,001
	N	211	211	211
Impact on self-esteem of taking photographs using an analog camera	Pearson Correlation	,518**	,393**	1
	Sig. (2-tailed)	<,001	<,001	
	N	211	211	211

** . Correlation is significant at the 0.01 level (2-tailed).

Table 33: Correlations between the variables “Feelings of uniqueness when taking photographs using an analog camera”, “Confidence in the vintage degree recognition when taking photographs using an analog camera” and “Impact on self-esteem of taking photographs using an analog camera”.

One-Sample Statistics			
	Mean	Standard Deviation	Standard Error Mean
Feelings of uniqueness when taking photographs using an analog camera	5,62	1,444	,099
Impact on self-esteem of taking photographs using an analog camera	4,88	1,446	,100
Confidence in the vintage degree recognition when taking photographs using an analog camera	6,03	1,300	,089

Table 34: One-Sample Statistics of the variables “Feelings of uniqueness when taking photographs using an analog camera”, “Confidence in the vintage degree recognition when taking photographs using an analog camera” and “Impact on self-esteem of taking photographs using an analog camera”.

One-Sample Test							
Test Value = 4							
t	df	Significance		Mean Difference	95% Confidence Interval of the Difference		
		One-Sided p	Two-Sided p		Lower	Upper	
Feelings of uniqueness when taking photographs using an analog camera	16,309	210	<,001	<,001	1,621	1,42	1,82
Impact on self-esteem of using an analog camera	8,811	210	<,001	<,001	,877	,68	1,07
Confidence in the vintage degree recognition when taking photographs using an analog camera	22,722	210	<,001	<,001	2,033	1,86	2,21

Table 35: One-Sample Test of the variables “Feelings of uniqueness when taking photographs using an analog camera”, “Confidence in the vintage degree recognition when taking photographs using an analog camera” and “Impact on self-esteem of taking photographs using an analog camera”.

Hypothesis 5

Correlations			
		Motivation to choose an analog camera to take photographs in the future	Perception of satisfaction of taking photographs using an analog camera
Motivation to choose an analog camera to take photographs in the future	Pearson Correlation	1	,647**
	Sig. (2-tailed)		<,001
	N	211	211
Perception of satisfaction of taking photographs using an analog camera	Pearson Correlation	,647**	1
	Sig. (2-tailed)	<,001	
	N	211	211

** . Correlation is significant at the 0.01 level (2-tailed).

Table 36: Correlations between the variables “Motivation to choose an analog camera to take photographs in the future” and “Perception of satisfaction of taking photographs using an analog camera”.

One-Sample Statistics			
	Mean	Standard Deviation	Standard Error Mean
Motivation to choose an analog camera to take photographs in the future	5,00	1,679	,116
Perception of satisfaction of taking photographs using an analog camera	5,59	1,416	,097

Table 37: One-Sample Statistics of the variables “Motivation to choose an analog camera to take photographs in the future” and “Perception of satisfaction of taking photographs using an analog camera”.

One-Sample Test							
Test Value = 4							
t	df	Significance		Mean Difference	95% Confidence Interval of the Difference		
		One-Sided p	Two-Sided p		Lower	Upper	
Motivation to choose an analog camera in the future	8,651	210	<,001	<,001	1,000	,77	1,23
Perception of satisfaction of taking photographs using an analog camera	16,286	210	<,001	<,001	1,588	1,40	1,78

Table 38: One-Sample Test of the variables “Motivation to choose an analog camera to take photographs in the future” and “Perception of satisfaction of taking photographs using an analog camera”.

		Coefficients ^a			t	Sig.
Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta		
1	(Constant)	,714	,360		1,982	,049
	Perception of satisfaction of taking photographs using an analog camera	,767	,063	,647	12,264	<,001

a. Dependent Variable: Motivation to choose an analog camera to take photographs in the future

Table 39: Linear Regression Coefficients.

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