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Emerging Trends and Evolving Behaviours in European Consumer Sunscreen Purchasing

Individual Part

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Abstract

In a society where individuals are concerned about their physical appearance and well-being, there has been a growing interest in health awareness and skin ageing. This interest has been fuelled by the emergence of technologies that provide easy access to information on these matters. The purpose of this marketing research is to examine the changing consumer perception and preferences about sunscreen products in the European market. Additionally, this research investigates the impact of social media on the buying of sunscreen goods and how it consistently shapes and influences consumers' decision-making processes. In order to do this, several approaches including expert interviews, perceptual mapping and conjoint analysis were performed. The primary findings suggest a growing segment of consumers for sunscreen products, particularly among younger generations who exhibit heightened health consciousness.

Keywords:

Market Research, Perceptual Mapping, Conjoint Analysis, Consumer Behaviour, Consumer Preferences, Consumer Perception, Sunscreen, Europe

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1. Introduction

The sun care market in Europe represents a dynamic and evolving industry, deeply influenced by consumer perceptions and preferences (Statista, 2023). With the growing awareness of skin health and the diverse needs of Europeans, understanding consumer behaviour in this sector is crucial (Statista, 2023). The process of consumer buying decision-making in the European sunscreen industry has seen substantial changes, which may be attributed to a complex interaction of several elements. In the following pages, the changes and patterns that have impacted purchasing habits will be examined, with a specific emphasis on the impact of developing consumer insights and market developments on the decision-making process. This study investigates the complex interplay between functional and affective motivations, the influence of brand differentiation tactics, and the significance of consumer trust in the field of sunscreen acquisitions. It provides a thorough examination of the present landscape of consumer involvement within this industry.

In the field of marketing research, perceptual mapping and conjoint analysis are pivotal tools. On the one hand, perceptual mapping allows individuals to visually comprehend how consumers view sun care products, offering insights into their preferences, attitudes, and perceptions. This graphical representation aids in identifying market gaps and understanding competitive positioning. On the other hand, conjoint analysis provides a deeper understanding of consumer decision-making processes, dissecting how various product attributes influence their preferences.

This exploratory journey aims to understand the sun care market in Europe, focusing primarily on consumer perceptions and product preferences. This research attempts to uncover current trends, interpret consumer demands, and estimate future market dynamics through an in-depth analysis of consumer perceptions and preferences towards diverse sunscreen brands. Our goal is to play a crucial role in influencing strategic marketing decisions by thoroughly researching how customers perceive and choose varied brands. The following chapters will dive into the methodology employed, with a discussion on how perceptual mapping and conjoint analysis are utilised to explore the complexities of consumer behaviour in the European sun care market. There will also be analysed the various factors influencing consumer perceptions and preferences, such as cultural influences, awareness of skin health, environmental concerns, and the use of social media, which will be elaborated further on in the bonus part section.

2. Market Overview

The sun care market is currently experiencing robust growth as consumers increasingly prioritise both their health and beauty. In a world where people are becoming more aware of the harmful effects of sun exposure, sun care products have become a fundamental component of daily skincare routines (Rigel, 2008). According to market research, the global sun care products market demonstrated substantial growth, going from $12.96 billion in 2022 to $13.85 billion in 2023, reflecting a noteworthy compound annual growth rate (CAGR) of 6.9% (The Business Research Company, 2023). This impressive expansion underscores the rising demand for sun protection products across the globe. The sun care market is quite diverse, featuring various product types, end-use applications, price ranges, distribution channels, and regional preferences, all of which contribute to its dynamism and adaptability (Anuj, 2023) Major players in this market include industry giants such as L'Oréal SA, Johnson & Johnson, Procter & Gamble Company, Beiersdorf AG, Coty Inc., and Shiseido Company Ltd. These key players continually innovate to meet consumer needs and stay competitive in a rapidly evolving landscape (The Business Research Company, 2023).

Furthermore, the COVID-19 epidemic significantly affected the sun care industry as a result of lockdown measures and decreased outdoor activities. Consequently, the demand for sunscreen declined due to the reduced need for it. On the one hand, the pandemic increased the importance of wellness and health; on the other hand, financial concerns led consumers to cut back on all unnecessary products to reduce their spending (Market Data Forecast, 2023).

Additionally, two interconnected trends currently dominate the sun care market: the demand for higher Sun Protection Factor (SPF) protection level and a shift towards inorganic SPF actives (Wu, 2018). Consumers are becoming more educated about the diverse types of SPF ingredients and are seeking products that offer broad-spectrum protection (EWG, 2021). This trend highlights the importance of sunscreens that shield the skin from both UVA and UVB rays. Ultraviolet A (UVA) radiation, recognised for its longer wavelength, is commonly linked to the aging of the skin. Conversely, Ultraviolet B (UVB) radiation, which has a shorter wavelength, is frequently connected to the burning of the skin (Skin Cancer Foundation, 2023). Moreover, consumers are keen to enjoy the sun while minimising potential sun exposure damage (WHO, 2003). They are increasingly adopting an integrated approach to sun protection, combining sunscreen use with other protective measures such as wearing protective clothing, seeking shade, and staying hydrated (WHO, 2003). This trend is not only about protecting the skin but also maintaining a healthy and youthful appearance (Guan et al., 2021). Sun care brands are also adapting to changing regulations and are working to meet performance requirements, ensuring that their products offer effective protection while adhering to safety and environmental standards (FDA, 2019). As regulations surrounding sun care products become more stringent, companies are investing in research and development to create innovative solutions that meet the evolving requirements (BASF, 2023). In the backdrop of the ongoing global wellness movement, consumers are not just looking for effective sun protection; they also want sun care products that are pleasurable to use (NielsenIQ, 2021). Brands are focusing on creating sunscreens and sun care products that provide a luxurious and enjoyable experience. This includes factors like fragrance, texture, and ease of application, all of which enhance the overall sun care experience (Cosmetics Business, 2023).

Looking ahead, the global sun care products market is expected to continue its growth trajectory, growing at a CAGR of 3,5% from 2023 to 2028. North America is expected to maintain its dominance in the market, reflecting the region's strong consumer awareness and preferences for sun protection products (Market Data Forecast, 2023). As consumers increasingly prioritise their health, beauty, and overall well-being, the sun care market is likely to remain a thriving industry, driven by innovation and consumer demand.

Overall, the sun care market is experiencing growth as consumers increasingly prioritise health and beauty, overcoming challenges from the COVID-19 pandemic. Key trends involve a rising demand for higher SPF protection and a shift towards inorganic SPF actives. Consumers are actively seeking broad-spectrum protection and adopting sun protection measures. In response, sun care brands are innovating to meet evolving regulations. Aligned with the global wellness movement, consumers now desire not only effective sun protection but also pleasurable experiences from sun care products. Consequently, the market anticipates sustained growth driven by the ongoing consumer emphasis on health and beauty.

3. Literature Review

3.1 Evolving consumer behaviour and priorities in sunscreen

As the modern consumer environment has become more health-aware, the confluence of health, wellness, and cosmetic consumption has been a rich area for study in recent years. There has been a noticeable shift in attitudes and behaviours about health and well-being, particularly in the cosmetics sector. This trend is especially apparent in the sunscreen industry, where careful attention to self-care and health preservation has a well-established history (Rogers & Cosgrove, 2020).

Consumer behaviour has shifted dramatically towards preventive skincare practices because of easier access to health-related information via social media and the internet, as well as rising awareness regarding the impacts of the environment, including UV radiation, on skin health (Das et al., 2022). Research by Chan, K. T. (2004) and Evangelista et al. (2022) demonstrate how consumers' demand for young, healthy skin is expanding, which is driving the adoption of cosmetics, meant to improve skin health and slowdown the appearance of ageing. Consumers are becoming more cost-conscious and minimalistic in their purchase patterns as a result of the growing expense of living and the adoption of a "less is more" philosophy; indeed, their consuming habits have become minimalistic. This change is pushing people in the direction of multipurpose goods that provide cost-effectiveness, convenience, and adherence to a minimalist approach to skincare regimens (Wilson & Bellezza, 2021). The cosmetic industry has responded to this trend by focusing on multipurpose products that combine several benefits in a single product, offering not only space-saving solutions but also catering to the consumer preference for consumption minimalism (You et al., 2021).

This phenomenon has been particularly evident in the skincare and sunscreen industry, where there has been a discernible increase in the availability of products that incorporate a Sun Protection Factor (SPF) into daily moisturisers or that encompass anti-pollution and anti-aging attributes in their compositions. The expansion of multipurpose product offerings focusing mostly on SPF and moisturiser combinations can be attributed to consumers' increasing recognition of the detrimental impacts of ultraviolet (UV) radiation on the skin and their need for goods that provide full protection (Amberg & Fogarassy, 2019). The observed change in patterns of cosmetic consumption and decision-making is consistent with prevailing marketing trends, which indicate a growing focus on proactive health measures within the cosmetics industry. These measures aim to protect the skin from harmful UV radiation and mitigate the effects of skin ageing (Das et al., 2022; Amberg & Fogarassy, 2019). As mentioned by the Skin Cancer Foundation in their article published on October 24th, 2023, consistent application of sunscreen with a Sun Protection Factor (SPF) of 15 or above can effectively diminish the likelihood of melanoma development by 50% when utilised in accordance with instructions.

Marketing research demonstrates a growing emphasis on green consumer behaviour within the cosmetic business, driven by increasing awareness of the importance of environmentally friendly goods (Amberg & Fogarassy, 2019). This trend is fuelled by the widespread availability of information through social networks, media platforms, the internet, and expert opinions. Cosmetic companies endeavour to fulfil consumers need for goods that use natural components. A study conducted by Amberg N. & Fogarassy C. in 2019 on green consumer behaviour has placed significant emphasis on the increasing popularity of mineral-based sunscreens, as those are mainly composed of natural ingredients. Mineral filter-based sunscreens block UV rays from penetrating the skin, whereas chemical filter-based sunscreens prepare the skin to absorb the UV rays without burning. The tendency towards using mineral filter-based sunscreens might lie in their capacity to block UV rays and thereby decelerate the ageing process of the skin (Amberg & Fogarassy, 2019), also accompanied by consumers' preference for goods including fewer chemicals and possible irritants, particularly in their overall cosmetic purchases. This observation suggests a more widespread inclination towards prioritising health and well-being, as seen by the growing emphasis on health consciousness within the cosmetics business, particularly in relation to the market for sunscreens (Amberg & Fogarassy, 2019).

One of the main reasons why trends like green consumerism appear and spread massively among consumers worldwide is the apparition of social media and the major place it has taken in consumers’ daily lives in the last twenty years (Sánchez-Fernández & Castillo, 2021).

Social media networks have become vital for accessing information and are continuously shaping consumers' behaviour and opinions according to the latest trends all over the world. While exploring this development, it is crucial to understand how social media has not only informed but also influenced consumer behaviours and preferences. After the establishment of such platforms as Twitter, Instagram, and TikTok in consumers' daily lives, people exerting a subconscious influence on others emerged rather soon (Sánchez-Fernández & Castillo, 2021). Those social networks have provided a means for influencers to exert power by endorsing items and shaping consumer purchase behaviours. According to Lim Xin Jean et al. (2017), these influential individuals, whose material has a wide reach, have assumed a crucial role in defining attitudes and trends within the beauty business. Concurrently, professionals in the field of dermatology and other specialists in the skincare industry have established a presence on these digital platforms, offering evidence-based advice and clearing misconceptions. Consequently, they play a crucial role in directing customers towards well-informed choices (Cooper et al., 2022).

Nevertheless, the process of democratising platform access has resulted in a situation where the reliability of shared information is not guaranteed. This is mostly due to the abundance of false advice distributed by people lacking the necessary qualifications (Lim Xin Jean et al., 2017). The transmission of misinformation has the ability to generate confusion and encourage the adoption of activities that may have adverse consequences (Lim Xin Jean, et al., 2017). The presence of this contradiction underscores the two-sided character of social media in relation to consumer health knowledge, functioning as both a tool for enlightenment and a source of disinformation.

Overall, studies on changing consumer behaviours and preferences emphasise an increased consciousness of health, mostly influenced by the easy access to information via social media and other networks. The dawn of the internet era has empowered powerful individuals to have a profound impact on public opinion and consumer behaviour with regards to certain items and companies. The increasing concern over the detrimental impact of UV radiation on skin well-being and accelerating skin ageing has resulted in a heightened need for skincare products containing Sun Protection Factor. Furthermore, the rising costs of living and a growing concern for environmental sustainability have also impacted consumer tastes, leading them to make economical and environmentally responsible choices. This tendency exemplifies a wider change in consumer awareness, placing importance on both cost-consciousness and ecological accountability.

3.2 Navigating Decision-Making dynamics in the European Sunscreen Market

The retail distribution sector has undergone substantial changes throughout the 2000s, primarily driven by advancements in technology. More recently, the COVID-19 pandemic has further influenced this landscape by necessitating stay-at-home measures, promoting remote work, and increasing reliance on digital devices in daily life (Zwanka & Buff, 2022). This has resulted in the emergence of several e-retailers that offer a wide range of online purchasing options to consumers. The convenience of online purchasing is attributed to its time-saving nature and the ability to swiftly compare prices and quality across a wide range of items (Zwanka & Buff, 2022; Gu et al., 2021).

This future trend could be explained by the rise of digital marketing strategies influencing online purchase behaviour. As stated before in the literature review, influencers impact on consumer preferences through social media platforms supplemented by an effective online marketing strategy could be linked to the rise of online shopping and the ease of reaching the right target audience. The decision-making process for purchasing sunscreen in the market is influenced by various factors, including situational factors, the social and physical environment of the purchase location, and the consumers' decision-making process (Stávková et al., 2008). This process involves the consumers' understanding of the brands and products available, as well as their consideration of the schemes associated with these brands and products. Additionally, the characteristics and quality of the products play a significant role, as consumers identify the most crucial factors that influence their purchases across different product categories. Furthermore, the level of consumer involvement in the decision-making process varies depending on the perceived importance of the decision (Stávková et al., 2008).

Although there are other aspects that significantly influence consumer decision-making behaviour, it is certain that pricing remains one of the primary determinants and can play a pivotal role in the consumer decision-making process (Karmarkar et al., 2015). However, when it comes to health-related items, customers are mostly influenced by the necessity arising from health concerns, the quality of the products, and recommendations from specialists or dermatologists. As a result, pricing does not significantly constrain consumer choices in the health business (Stávková et al., 2008). However, it should be noted that sunscreen is not classified as a health-related product in Europe (Sabzevari et al., 2021). Consequently, this lack of categorisation results in customers exhibiting a heightened sensitivity to price when making sunscreen purchases, as demonstrated by the findings of Stávková et al., (2008).

In light of this, a study on cost consciousness and price primacy discovered that customers' assessments of products change when they are made aware of a product's price early in the decision-making process. When buyers see the price first, they are more likely to base their judgements on the product's monetary value rather than its aesthetics or desirability. This suggests that customers' perceptions and values of a product can be influenced by early exposure to price information, which could result in a more cost-conscious approach to making decisions (Karmarkar et al., 2015). This is especially pertinent to the sunscreen industry, as buyers may compare the price of the product to its perceived value and advantages, which include its SPF rating, anti-aging capabilities, and environmental friendliness (Karmarkar et al., 2015).

While consumers show a willingness to invest in higher-quality, eco-conscious products, maintaining competitive pricing is still crucial. According to research on consumer behaviour within the cosmetics industry, it is evident that individuals place significant emphasis on both the quality and sustainability of products, but it is noteworthy that consumers also exhibit a strong inclination towards price sensitivity, often seeking the best value for money (Karami, 2022). Consumer preferences in the medical cosmetics sector, specifically involving sunscreens, reveal an apparent inclination towards the functional advantages offered by a brand as opposed to its symbolic benefits (Karami, 2022). According to existing literature, it is recommended that companies adopt a focused differentiation strategy in order to distinguish themselves. This approach should prioritise the enhancement of product features and functional utilities that align with the brand's perceived quality and practicality, given that customers in the medical cosmetic industry are more concerned with functional benefits than symbolic ones (Aaker, 1996; Dyson et al., 1996; Keller, 1993). These enhancements are associated with the establishment of client trust and happiness towards the brand. Furthermore, the level of transparency and honesty exhibited by a brand in completing its commitments is of utmost importance in cultivating a consumer connection built on trust (He et al., 2012; Nguyen et al., 2011). Marketers are advised to reduce the disparity between what is promised and what is delivered, as this alignment plays a crucial role in strengthening consumer trust, satisfaction, and the overall reputation of the brand (Karami, 2022).

Kim & Seock (2009) conducted a study in which they identified a significant determinant of customer behaviour within the sunscreen market: an increased level of health consciousness among female consumers. The previously mentioned tendency has led to a clear transition towards environmentally conscious and sustainable cosmetic products. Motivated by an interest in understanding the components of skincare merchandise and a commitment to reducing chemical exposure, individuals are progressively favouring products that are more likely to be made with organic ingredients. The previous transition, supported by findings from Decision News Media (2004) and the Organic Monitor Report (2007), emphasises an increasing dedication to ecological consumption within the cosmetics sector.

Yet, it is common for consumers to forego the allocation of considerable time and effort towards evaluating other purchasing options. The lack of a full comparison can be attributed to consumers dependence on their own expertise and capacity to discern distinctions among products. Hence, a significant proportion of the green items that are bought show greenwashing tendencies and have chemical components. Subsequently, the influential cosmetic industry lobby successfully uses advertising strategies that foster consumers' perceptions that they are buying environmentally friendly products (Kim & Seock, 2009). The study also highlights the existence of a positive correlation between consumers' level of health consciousness and several factors, including their impression of personal competence, frequency of purchasing beauty products, and significance attributed to product qualities. These characteristics show an interesting association with individuals' beliefs about the potential health advantages and efficacy of cosmetic care products. Constant reliance on personal judgement and knowledge can lead to potential misinterpretations, as it often relies on subjective confidence rather than objective, supported information. Given the preceding context, it is crucial to understand the factors influencing consumer buying behaviour in relation to sunscreen products, particularly knowing the circumstances of misleading information consumers find themselves in (Kim & Seock, 2009). These findings underline a persisting insufficiency in the acquisition of precise and reliable information about cosmetic products among individuals (Kim & Seock, 2009). Within the sunscreen industry, it is evident that a significant portion of customers possess a basic awareness regarding the necessity of utilising sunscreen for protection against sun exposure. However, a notable proportion of these individuals lack a wide comprehension of crucial aspects, such as the significance of Sun Protection Factor (SPF) levels, which are prominently displayed on the packaging of sunscreen products. The lack of comprehension on this matter frequently results in the distribution and transmission of inaccurate or misleading information concerning sunscreen among peers and relatives, hence worsening the level of misconceptions (Lim Xin Jean et al., 2017).

Through research directed by Simonson and Drolet in 2004 regarding the anchoring effects on consumers' willingness-to-pay and willingness-to-accept, numerous factors were identified as having an influence on the willingness-to-pay a certain price for a product and the willingness-to-accept a certain selling price, which ultimately affects consumer purchase behaviour.

Simonson and Drolet (2004) define the willingness to pay as the highest monetary value that a consumer is willing to allocate towards the purchase of a specific product or service. The consumer's perception of a product, which will impact their willingness to pay, is a metric that can be impacted by personal preferences, perceived utility, and external factors such as marketing strategies, brand reputation, and societal influences. Understanding consumer behaviour is crucial in defining the price range at which a product is likely to be purchased by the intended market. Additionally, the concept of willingness to accept refers to the lowest value at which a consumer is inclined to give up a product or service. The determination of an individual's decision-making process can be influenced by various elements, such as the personal value attributed to the item, the perception of available alternatives, and the prevailing market conditions. In the context of the sunscreen industry, an individual's willingness-to-pay might be influenced by factors such as the initial price they come across or a peer's endorsement of a high-end brand. The concept of anchoring serves to not only enhance the perceived worth of products that are priced similarly or favourably, but it also has the potential to influence consumers' willingness to accept higher prices as an indicator of superior quality. On the other hand, if an anchor is established at a lower price point, it may cause customers to perceive higher-priced alternatives as less valuable, indicating a narrower willingness-to-accept gap. The Sun Protection Factor (SPF) values may also function as a reference point. For instance, when a buyer first comes across a sunscreen with a high SPF rating, they may fixate on the notion that a greater SPF necessarily guarantees superior protection. As a result, they could inadvertently disregard other significant product characteristics, such as water resistance. Such anchoring influences, rooted in social interactions and initial price encounters, underscore the complexities of purchase decision-making, demonstrating that consumer valuation is often a reflection of twisted cognitive biases and social influences rather than purely rational economic considerations (Simonson & Drolet, 2004).

In a nutshell, consumer decision-making is significantly impacted by the increase of digital marketing methods, leading to the widespread adoption of e-commerce across several sectors. The increasing excitement over ingredients in skincare products has resulted in a shift towards organic products. This, in turn, has prompted brands to engage in greenwashing as a means to attract consumers. Additionally, due to a lack of comprehensive knowledge about sunscreen products and a reliance on personal judgement, there is a prevailing misunderstanding about sunscreen products, and consumers are unaware of what they are truly purchasing. When it comes to the price of sunscreen, while it may not be the most important element in determining buying behaviour, due to the anchoring effect, it may significantly impact the amount consumers are willing to pay if it is the first thing they encounter, regardless of the quality or effectiveness of the sunscreen.

3.3 Health awareness, social forces and beauty ideals

As the years go by, consumers are becoming more sensitive to health-related factors. Moorman & Matulich (1993), back in the 1990s, already suggested that consumers with higher health motivation are more likely to engage in health-related behaviours. The research indeed highlighted that these behaviours were influenced by increased acquisition of health information from media sources, greater contact with health professionals, and a more pronounced adoption of dietary restrictions. Moreover, in recent years, with the advancement of technology and access to information, consumers have become even more aware of the potential risks associated with certain behaviours and lifestyle choices (Sampet et al., 2017). Although this rising awareness should drive people to adopt more cautious and proactive approaches to safeguarding their health, there are still a significant number of individuals who avoid the problem (Wooley & Risen, 2020). Studies have indeed demonstrated that risk awareness does not always lead to healthier behaviours. As a matter of fact, many individuals still engage in unhealthy practices, even if they are aware of the risks involved (Berger & Rand, 2008). These risky behaviours are often associated with concerns regarding identity communication, as individuals continuously aim to send signals and convey particular social identities to others within their social circle. As Berger & Health (2007) mentioned in their research, every choice individuals make serves as a marker of identity, social groups, and social class. Consumers have a strong social nature, and social forces have a big impact on them when it comes to making health decisions, as Huang & Lee (2023) highlight in their study. Huang and Lee's (2023) research sheds light on a fundamental aspect of consumers: their inherent social nature. This social inclination holds particular significance in the realm of health decisions, where consumers often find themselves significantly influenced by various social forces. These forces can emanate from peer groups, family, societal norms, and even the healthcare system, and are considered extremely powerful tools in today's society. Although social drivers can often provide social support and motivation for adopting and maintaining healthy habits, consumers' desire to fit in or be seen as part of a specific social group can sometimes lead to risky and unhealthy practices, such as smoking, substance abuse, and extreme tanning (Huang & Lee, 2023). In the realm of beauty, for instance, research has shown that social norms and perceptions of beauty have been influencing individuals' health-related practices for years. Nowadays, consumers actively engage in what's referred to as "Beauty Work." This term encompasses the various beauty practices people undertake for themselves to achieve specific advantages within a social context or hierarchy (Samper et al., 2017). The motivations for investing effort in enhancing one's appearance are evident: society tends to associate attractive individuals with more desirable personality traits, increased interpersonal influence, and even higher income potential. This influence on physical attractiveness is particularly significant for women, given the societal expectations and pressures they often face to evaluate and improve their physical appeal (Netemeyer et al., 1995). As Samper et al. (2017) highlighted in their study, the majority of women, with some exceptions in cultures like Korean and Japanese, often engage in a variety of beauty practices, including tanning without sun protection, as a way to enhance their physical appearance and elicit specific benefits within a social group.

Overall, what can be drawn from the above-mentioned studies is that this societal-driven pressure to conform to certain beauty standards can significantly impact the mental and physical well-being of individuals. In the relentless pursuit of these beauty ideals, some may resort to risky behaviours, like tanning without sunscreen, potentially exposing themselves to severe consequences, including the risk of developing skin cancer (Samper et al., 2017).

3.4 A framework for healthier choices

As experts have acknowledged that an increasing number of people are behaving in ways that are harmful to their health, new frameworks have been used to address this challenge. Yang et al. (2012) have indeed introduced a framework for understanding and promoting healthier decision-making. The so-called "Hot and Cold Decision Triangle's" framework is based on the idea that individuals have two decision states: i) Hot States, which are driven by visceral influences and heuristics, and ii) Cold States, which involve more deliberate and rational thinking. Thus, when people are in a hot state, they may be more inclined to engage in risky health behaviours, as they tend to act quickly, effortlessly, and automatically in order to satisfy their immediate urge. In cold states, individuals are more likely to engage in deliberate and rational thinking, considering long-term consequences and making choices that align with their goals and values. To conclude, when people are in a cold state, they are more willing to prioritise long-term health rather than satisfy an immediate urge.

Moreover, Yang et al. (2012) highlighted that the way health information is framed can also influence people's likelihood of behaving. The research indeed provides an illustration of sunscreen use. According to the research, beachgoers who were given gain-framed health information focused on the benefits of using sunscreen (e.g., "Applying sunscreen enhances the likelihood of preserving a healthy and youthful appearance of the skin.") are more likely to use sunscreen than those who read loss-framed information, emphasising the risks of not using sunscreen (e.g., "Failure to use sunscreen raises the likelihood of developing skin cancer and experiencing premature skin ageing.").

In conclusion, by understanding the factors that influence individuals' decision-making in hot and cold states and how to better frame health information, the "Hot and Cold Decision Triangle's framework" can help researchers and practitioners develop interventions and strategies to promote healthier choices and practices, like the importance of using sun protection to prevent skin cancer.

3.5 Awareness and perception around skin cancer

Skin cancer is a growing public health concern, and in recent years, Europe has witnessed a dramatic rise in the number of cases. Skin cancer is generally classified as nonmelanoma skin cancer (NMSC) or melanoma with its primary cause being overexposure to sunlight (D'Orazio et al, 2013). The UV rays from the sun damage DNA in the skin, causing abnormal cells to form and rapidly divide in a disorganised way, forming a mass of cancer cells (Kim & McGill, 2011). However other risk factors include a history of sunburn, use of UV tanning beds, certain skin conditions, exposure to arsenic, cigarette smoking, and age.

A study by Keller (2006) on the efficacy of health-related messages examined the relationship between a person's mindset (regulatory focus) and how effective they believe a health action is ('efficacy') and whether people were more likely to follow health recommendations when their mindset matched the action's effectiveness. It used sunscreen as an example. The results of the second experiment indicated that those who were concerned about preventing negative outcomes, such as developing skin cancer, were more inclined to utilise sunscreen when informed about its efficacy in reducing skin damage (Keller, 2006). However, those who prioritise their own confidence ('self-efficacy') might show less motivation to utilise sunscreen, while being aware of its effectiveness. Henceforth, as suggested by Keller (2006), it is important to align people's mindset with the idea of using a health product or engaging in a healthy behaviour in order to enhance motivation.

A further study aims at investigating how warning messages that stress the social effects of bad health outcomes can influence people, with a focus on the risk of skin cancer from UV rays.

The author demonstrates that messages that emphasise social consequences of negative health outcomes, such as the impact on one's appearance or social status, can be more effective in influencing perceptions of risk than messages that focus solely on health consequences. The study found that messages that emphasised social consequences led to higher perceived risk of skin cancer from UV sun rays than messages that solely emphasised health consequences. The research suggests that health prevention campaigns regarding sun safety behaviour should consider emphasising social consequences in warning messages to increase the effectiveness of the message. The study also highlights the potential impact of social media on skin cancer prevention, as skin health is perceived as an indicator of one's beauty, leading to rising awareness of sun damage and interest in skin care (Murdock et al., 2017).

Although awareness levels have increased in the past years, a study run by Wooley et al. (2020) highlights that there is a rising tendency among people to avoid information regarding potential skin sun damage and that this so called “want-should conflict” may dissuade individuals from adopting appropriate precautions when exposed to the sun and ultimately leading people to information avoidance. The study also emphasises that while running an experiment on sun protection cognitions and behaviour that gave people free UV photographs screening, the researchers recognised that most people would avoid it. Although skin health is more often associated with beauty standard and people are more aware of the sun damage on the skin, a high number of individuals still engage in behaviours like tanning or sun exposure due to the desire for a certain aesthetic appearance (Woolet et al., 2020).

Research conducted by Kim & McGill (2011) illustrates how risk perception on skin cancer is systematically influenced by anthropomorphism and individuals’ feeling of social power. Anthropomorphism can be defined as the tendency to attribute human-like qualities to non-human things or entities. In Study 2, participants were asked to evaluate the risk of developing skin cancer. The findings indicated that individuals with low social power perceived a greater risk of contracting skin cancer when the disease was given human-like qualities (anthropomorphised) compared to when it was not. In contrast, individuals with high social power did not exhibit a significant difference in their risk perception, whether the disease was anthropomorphised or not. This research highlights the influence of anthropomorphism on risk perceptions, with this influence varying based on an individual's level of social power. Specifically, in the context of skin cancer, those with lower social power tend to perceive a higher risk when the disease is anthropomorphised, possibly due to feelings of vulnerability or reduced control. The authors ultimately underlined that recognising these dynamics can help in the development of more effective risk communication strategies for the future (Kim & McGill, 2011).

Overall, what can be outlined is that as skin cancer is a growing public health concern in Europe effective communication strategies for skin cancer prevention should focus on aligning individuals' mindsets with health actions, highlighting social consequences in warning messages, and acknowledging the influence of anthropomorphism and social power on risk perceptions. In addition, awareness efforts must address the contradiction between desires and societal expectations, as well as the aesthetic reasons that drive behaviours like tanning. These diverse methods are essential for creating specific treatments that encourage better choices and contribute to a complete strategy in addressing the increasing public health issue of skin cancer in Europe.

4 Methodology

To better assess consumers' preferences in the sunscreen market, this research employs a hybrid approach, incorporating both qualitative and quantitative research methods. In the qualitative phase, preliminary interviews were conducted with experts in the sun care market to help identify key issues and relevant topics for the research, but mostly to help understand what consumers value the most when using and purchasing sunscreen. For the quantitative approach, two distinct surveys were designed. The first survey was created to gather data on sunscreen brands preferences and consumer perceptions on certain attributes, ultimately for the purpose of constructing a perceptual map. The second survey, specifically developed for conjoint analysis, caters to a wide range of consumer needs and preferences in the sunscreen market by providing a combination of attributes and levels.

In this study, the use of perceptual maps and conjoint analysis have been integrated, two separates yet mutually supportive methodologies in consumer research, to gain a more comprehensive understanding of consumer preferences and brand positioning within the sunscreen market.

4.1 Preliminary Interviews

For the matter of this research, three exploratory interviews were conducted with field experts from three different brands actively operating in the European sunscreen market. These interviews played a crucial role in confirming consumer insights, guiding the next steps of the investigation, and ultimately ensuring that the research was aligned with the realities of the

European market. The three interviews were conducted through Google Meetings. The duration of the interviews lasted between 20 minutes and 90 minutes. The professional script was divided into the following order:

- The initial stage consisted of a brief overview of the study subject, followed by an introduction of the expert and their specific area of expertise to establish the context for the interview.
- Defining the most significant attributes to comprehend experts' knowledge of consumers' valued features while buying sunscreen.
- Next, attention was directed towards consumers' preferences by soliciting ideas and understandings from professionals on what people prioritise and choose in terms of sunscreen goods.
- The final stage of the interviews focused on obtaining perspectives on forthcoming market trends, analysing the market's development, identifying its challenges and envisioning future predictions as seen by specialists.

The first interviewee happened with an employee at a well-reputed French cosmetic company, Clarins Group, responsible for the marketing directions regarding Belgium and Luxemburg for the subsidiary brand Clarins. The specialist, Mr. Santini confirmed social networks and increased access to information through internet boosted younger generations to gain awareness regarding the damage of sun exposure on skin, as well as the risk of skin cancer caused by daily UV radiations on unprotected skin. Over the past decade, influencers[1] have become crucial in shaping the beauty industry, greatly impacting both consumers and cosmetic companies. Their

[1]Influencers are influential people engaging with their community on social networks by sharing tips and experiences regarding brands and product, they also drive brands messages to a target segment ((Lim Xin Jean, et al., 2017)

success is rooted in the engaging and qualitative content they provide to the beauty community. These influencers are central to modern marketing strategies, enhancing customer experiences with their authoritative opinions. They hold significant power over the perception of beauty products, benefiting from a high level of trust and close relationship with their audience. This trust stems from their reputation for giving honest and objective opinions, making them key figures in setting trends and guiding consumer choices in the beauty sector. Their role in marketing has transformed the interaction between brands and consumers, making it more personal and intimate. Unfortunately, according to Mister Santini, brands nowadays greatly pay and gift those influencers for promoting their products. The evolving dynamics of the influencer profession have increasingly strayed from its foundational principle of providing objective product promotion based on personal experience. This shift has led to a weakening of community trust in influencers, as the authenticity of their endorsements is now often perceived as compromised. In the current landscape, the focus appears to have shifted towards who offers the most attractive gifts or the highest payments, rather than genuine, experience-based recommendations. During the discussion, Mr. Santini emphasised a substantial deficiency in consumer awareness about sunscreen, specifically with regard to the comprehension of SPF values. He observed that the main target demographic for Clarins, women between the ages of 35 and 65, belong to a generation where the use of sunscreen was not widespread and having a sun-kissed complexion was frequently seen as socially desirable. According to the expert, this cultural context has led to this group of people having less knowledge about the possible risks of sun exposure and being more doubtful about the significance of sunscreen protection. Conversely, the expert noted that younger generations had a far greater degree of awareness and expertise on these matters. They exhibit a greater degree of conscientiousness when it comes to using sunscreens with elevated SPF levels, comprehending the hasards linked to UV radiation, such as the heightened likelihood of developing skin cancer and the detrimental effects of sun exposure on skin ageing. This change in attitude is also indicative of a wider cultural transition, whereby physical appearance and the preservation of young skin have become more significant, a pattern that has been supported by earlier research investigations (Kim & Seock, 2009). Mr. Santini stressed that the increasing awareness among younger individuals has resulted in more knowledgeable decisions about safeguarding oneself from the sun, showing a favourable change in consumer conduct towards healthy techniques for skincare.

The next individual interviewed was Cedric Moulron, creator of Biosolis, a sunscreen brand that is entirely organic and biological, and is mostly available in the United States. After observing the detrimental effect of chemical components of solar products on corals and reefs, the specialist launched this entirely organic sunscreen posing no damage to the skin nor marine organisms. During our informative discussion with Mr. Moulron, we acquired essential knowledge about the regulations around sunscreen and the lesser-known facets of this sector. One striking revelation from our discussion with Mr. Moulron was the categorisation of sunscreen in Europe as a cosmetic product rather than a health product. This classification has significant implications for its regulation. Unlike being governed by public health authorities, sunscreen in Europe falls under the attention of Cosmetic Europe, a collective of key industry players. This group, essentially a think tank, establishes its own standards and rules, independent of state intervention. In contrast, according to Mr. Moulron, sunscreens are categorised as over the counter (OTC) medications and are overseen by the Food and Drug Administration (FDA) in the United States, which is a governmental agency. The FDA's regulatory authority guarantees the maintenance of marketing and product standards, which are kept apart from the cosmetics industry stakeholders. The contrasting regulatory approaches between Europe and the USA constituted a significant finding in our study. This emphasised the impact of sunscreen classification on both its regulation and consumer perception, as well as industry activities. Having a clear grasp of this concept is essential for understanding the worldwide dynamics of sunscreen advertising and its consequences for consumer safety and the effectiveness of the product.

The third interview conducted took place with Celine Nobels, holding the position of Digital Manager for Search & Website in France and Benelux at Beiersdorf. Her primary emphasis is on the subsidiary brand Nivea. Ms. Nobels recognised the significant impact of social media in augmenting awareness of skincare and overall wellness, particularly among younger demographics. She stressed their increasing inclination to comprehensively understand several product alternatives in the sunscreen industry prior to making a buy. Furthermore, Ms. Nobels verified that younger individuals have greater awareness of the hazards associated with UV radiation on their skin, resulting in a more proactive inclination to include sunscreen in their daily regimens. This tendency is less prevalent among older generations. Her ideas were crucial in our study, as she assisted in defining and confirming the seven essential components for our conjoint analysis. Ms. Nobels has identified these aspects as influential in shaping consumer purchase choices in the sunscreen industry. Her insights provide vital information on the objectives and preferences of contemporary consumers and this input was crucial in enhancing our comprehension of the prevailing patterns and decision-making mechanisms inside the sunscreen sector.

In summary, the three interviews performed were significant in identifying and confirming the key aspects that influence consumer decision-making when purchasing sunscreen products. The experts emphasised the growing awareness among young people about skin-ageing and the harmful effects of sun exposure on the skin. This has led to a greater desire among the younger generation to protect their skin and educate themselves on this matter, which differs from the attitude of their parents. An important observation from the interviews was the contrasting regulation and classification of sunscreen products in Europe and the United States. In Europe, sunscreen is regarded as a cosmetic product and is not overseen by the government or public health authorities. However, in the United States, it is classified as an Over-the-Counter (OTC) product and is regulated by the Food and Drug Administration, a public agency.

4.2 Choice of Brands

In this marketing research about consumer perception and preferences on sunscreen, a range of well-known brands was carefully selected to provide a comprehensive view of how consumers perceive and choose sunscreen products. After collaborating with the team and consulting with experts, the decision to choose six brands was made. This selection includes Nivea and Garnier that are accessible to a wider audience, Avène and La Roche-Posay that fall into the premium category, and Australian Gold and Piz Buin that specialise in sun care. In this section, the most important characteristics and factors that led to the selection of the following brands for both the perceptual map and conjoint analysis will be highlighted:

Nivea is a well-known and established brand in the skincare industry, with a long history of producing sun care products. Its influence in Europe is substantial, as evidenced by its leading position in the health and beauty category in 2021 (Statista, 2023). Nivea not only enjoys widespread appreciation but also holds the distinction of being recognised as the foremost sustainable and eco-friendly brand, as per consumer perceptions in the country. Accessibility on a global scale ensures that Nivea remains within reach for consumers seeking quality skincare solutions (Statista, 2023). Nivea is an ideal choice due to its widespread popularity, diverse product range, and established reputation, offering valuable insights into consumer preferences and market trends in the skincare industry.

Garnier, renowned for its natural and sustainable products, is a prominent player in the cosmetics and skincare market. Its commitment to Green Beauty and cruelty-free practices showcases its dedication to environmental and ethical values (L'Oréal, 2023). When considering Garnier alongside another popular brand, Nivea, a comprehensive understanding of consumer choices in the cosmetics and skincare market emerges. Both Garnier and Nivea enjoy widespread recognition and accessibility, making the comparison valuable among similarly positioned brands. Garnier stands out because of its prominent position in the skincare market, offering a wide range of products spanning from skincare to haircare, so for these reasons it could be an interesting option for our research.

For over 70 years, ***Piz Buin*** has been a pioneer in providing sun worshippers with sunscreen products that strike the perfect balance between achieving a beautiful tan and ensuring necessary sun protection. Originating in 1938 when Franz Greiter, a chemistry student, developed the world's first solar product after experiencing a sunburn while climbing the Piz Buin alpine peak, the brand has been at the forefront of sun care innovation (Piz Buin, 2023). Piz Buin introduced the Sun Protection Factor (SPF) system in the 1960s, contributing to safer sunbathing practices. Whether at the beach, in the mountains, or in the city, Piz Buin continues to offer sophisticated sun care products, allowing people to enjoy life in the sun safely (Piz Buin, 2023). Piz Buin historical significance and commitment to innovation make it an ideal choice for research.

Avène, a Pierre Fabre Dermo-Cosmetique brand, has achieved the highest level of the For Life benchmark for its Corporate Social Responsibility (CSR) approach, with a score of 81.5. Actively involved in sustainable development, the brand is committed to integrating these principles into its operations and embraces a continuous improvement process (Avène, 2023). Avène focuses on formulating products with the optimal number of ingredients for safety and effectiveness, undergoing non-allergenic, tolerance, and dermatologically controlled tests. Their dedication extends to minimising the risk of allergic reactions in product development. Additionally, the brand is dedicated to advancing dermatology and enhancing the quality of life for individuals with sensitive skin (Avène, 2023). The brands’ commitment to sustainable development, product safety, and dermatological advancements makes it a compelling subject in the beauty industry.

La Roche-Posay provides an extensive array of high-performance, broad-spectrum protection against both UVA and UVB rays. Their formulations, known for their high tolerability, adapt to individuals of all ages and skin types. This brand stands out for delivering products with superior tolerance, ensuring formula quality protection. Rigorously tested on sensitive skin and crafted with only essential ingredients, La Roche-Posay prioritises efficacy and skin-friendly solutions (La Roche-Posay, 2023). Including La Roche-Posay allows for a comparison with Avène, as both brands cater to consumers with specific skincare concerns.

Crafted in the USA, ***Australian Gold*** cosmetics boast superior quality rooted in botanical ingredients. The iconic Sydney koala symbolises the brand, featured in unmistakable packaging and fragrances of varying intensity. Australian Gold products are defined by their all-encompassing qualities, offering formulations that combine moisturising, nourishing, anti-aging, anti-free radical, repairing, and tanning actions. In essence, Australian Gold represents a harmonious blend of quality attributes designed to enhance skincare. Adding Australian Gold provides insight into how consumers perceive sunscreens from brands emphasising tanning and outdoor leisure thanks to its unique qualities (Australian Gold, 2023).

In summary, the selection of these brands provides a diverse and comprehensive view of consumer perceptions of sunscreen. By including both well-established, general skincare brands, premium brands and specialised brands known for sun care or dermatological expertise, it is possible to analyse how several factors, such as brand image, product features, and consumer preferences, impact the way people perceive and choose sunscreen products. These diverse set of brands allows for a comprehensive exploration of consumer perceptions within the sunscreen market

4.3 Perceptual Map

In the context of conducting a thesis on consumer behaviour towards sunscreen brands, the use of perceptual maps can be a valuable tool to understand how consumers perceive different sunscreen products and brands within the market (Bijmolt & Wedel, 1999). Perceptual maps, often referred to as positioning maps, offer a visual representation of products or brands positioning in the market. They assist marketers to detect gaps and opportunities for the introduction of new products or repositioning current ones. These positioning maps offer a comprehensive view of the competitive landscape, illustrating the proximity of brands to one another. This allows for the identification of direct competitors, which in turn helps brands in formulating their marketing strategies, developing products, and positioning themselves in a way that aligns with consumer preferences and sets them apart from competitors (Bijmolt & Wedel, 1999). Moreover, perceptual maps can be used to identify potential partners or merger targets for sunscreen brands. When two distinct brands are positioned closely on the map and share a similar target market, they might consider collaboration or merger opportunities to leverage their strengths and capture a larger market share (Bijmolt & Wedel, 1999).

In the academic context, conducting research on consumer behaviour towards sunscreen brands can be a valuable contribution to the field, especially considering the growing significance of sun care products in today's health and beauty landscape. Researchers in this area can employ different methods, including perceptual mapping, to offer fresh insights into consumer preferences and the competitive dynamics of the sunscreen market.

In conclusion, the use of perceptual maps may facilitate researchers and sunscreen businesses in gaining a deeper comprehension of customer perceptions and preferences regarding sunscreen products. Academic research within this domain has the capacity to provide a significant scholarly contribution, despite the limited audience it may attract (Steenkamp et al., 1994). In the case of sunscreen brands, a perceptual map can be constructed by identifying relevant attributes considered essential in the decision-making process of purchasing sunscreen. The identified attributes for this research include factors such as quality, price, value, usability, and other relevant attributes (Bijmolt & Wedel, 1999). After identifying the main attributes, a survey is used to solicit customer opinions on the relative rankings of different sunscreen brands based on these criteria. The resulting perceptual map will display the comparative placement of various sunscreen brands as perceived by customers. It helps in determining the perception of brands as either high-quality or inexpensive, as well as their association with certain features like water resistance or skin friendliness. In addition, it analyses answers using automated summaries and visualisations, enabling quick review of the latest responses (Bijmolt & Wedel, 1999).

The perceptual map conducted to understand consumer perception regarding sunscreen products offerings in the European market, included a process based on 4 main steps:

(i) Define desired attributes and most popular brands by questioning field experts
(ii) Display the proper attributes and brands to a fitting sample of respondents
(iii) Analysis of the data by applying a factorial technique called SPSS to aggregate the various attributes
(iv) Adopt the factors obtained and construct the perceptual map.

4.3.1 Survey Structure and Design

To facilitate the construction of the perceptual map, it was necessary to collect a sufficient quantity of meticulously organised data. Hence, a web-based software known as Qualtrics was used. The software allows users to construct surveys using diverse distribution methods and produce results without necessitating prior programming expertise. (Please have a look at Appendix 4, table 1 for this section)

The initial set of questions consisted of general questions pertaining to the utilisation of sunscreen. The intent was to identify if the participants employed sunscreen, the specific circumstances in which they typically applied it, and the sources from which they obtained the product. More precisely, the survey ended when participants responded negatively to the initial inquiry, “Do you use sunscreen?”.

The subsequent set of questions requested participants to evaluate their view of certain attributes related to the six examined brands using a rating scale ranging from 1 – “Strongly Negative” to 5 – “Strongly positive”. The seven assessed aspects included the Level of Protection; Texture on Skin; Skin Safety of components; Resistance; Fragrance, Time of Absorption and finally Price Perception. Ultimately, participants were instructed to rank the qualities in terms of their significance while buying sunscreen on a scale ranging from 1 to 7, where 1 represents the most crucial element and 7 represents the least significant one. Afterwards, in order to assess brand loyalty towards sunscreen brands, participants were required to indicate which brand they used most frequently and express their willingness to experiment with new sunscreen brands or their preference to remain faithful to familiar ones. An additional question was administered to assess the underlying motives for purchasing sunscreen. Participants were required to rate three distinct motivational factors from “Extremely Unimportant to “Extremely Important”. The three motivating considerations included: Protection against health-related damages; Protection against long-term health-related damages; and Prevention of ageing signals.

Ultimately, the survey concluded by asking five demographic questions inquiring about the country of origin, gender, age, income, and whether their region was characterised by a sunny climate all year long or not.

4.3.2 Choice of Attributes

To set the groundwork for our study, three preliminary interviews were meticulously conducted with industry specialists representing three distinct brands, each occupying unique positions within their respective organisations. These interactions provided a comprehensive understanding of the diverse perspectives and insights prevailing in the suncare market.

This approach enabled the identification eight key attributes — *Protection, Texture on Skin, Skin Safety, Ingredients, Resistance, Fragrance, Absorption, and Price* — that are critical in consumers decision-making process when selecting sunscreen products.

4.3.3 Data Collection

The survey was officially launched online on October 25 2023, and eventually concluded on October 31st, encompassing a duration of one week. In order to maximise the quantity of responses obtained, an extensive transmission strategy was employed, distributing the survey widely through personal social media networks, familial connections, professional contacts, university acquaintances, and close friendships. Efforts were directed towards soliciting responses from individuals representing diverse national backgrounds, resulting in the participation of individuals from five distinct nationalities, namely Belgians, Italians, Portuguese, Spanish, and Germans. A total of 120 answers were obtained, which is considered a sufficient sample size for obtaining insights into the attitudes and preferences of European consumers about sunscreen products.

4.4 Conjoint Analysis

In order to understand and study consumer preferences for sunscreen, a conjoint analysis was performed. Conjoint analysis is a survey-based statistical technique often used in consumer and marketing research to understand how customers value different components or features of products or services. It involves presenting participants with a series of product profiles to analyse and quantify consumer preferences and trade-offs. It helps determine what combination of a limited number of attributes is most influential on respondent choice or decision-making (Scholz et al., 2010).

The conjoint research methodology has a history dating back to 1964, with early discussions on conjoint measurement by mathematical psychologists and statisticians Luce and Tukey in the 1960s. However, it wasn't until 1971 that marketing professor Paul Green, in collaboration with Data Chan at the University of Pennsylvania, realised the practical application of this technique in the field of marketing. Indeed, he applied conjoint analysis to tackle marketing challenges, such as comprehending how consumers navigate complex purchasing choices, assessing their preferences and the significance of product attributes, and forecasting their buying behaviour (Green & Srinivasan, 1978).

In their 1971 work, Green and Rao defined conjoint analysis as a method focused on understanding how two or more independent variables jointly influence the ordering of a dependent variable (Green & Rao, 1971).

According to their study, a typical conjoint analysis project involves four primary stages:

(i) Creating stimuli based on significant attributes, such as hypothetical profiles or choice sets.

(ii) Presenting these stimuli to an appropriate sample of respondents.

(iii) Calculating partworth functions for the attributes and identifying any variations among respondents.

(iv) Applying these estimates to address managerial issues like forecasting, pricing, or product design.

4.4.1 Survey Structure and Design

To develop the survey for the conjoint analysis, a full-featured market research tool called “Conjointly” was used. Following the acquisition of the academic license, the survey was structured using the platforms’ brand-specific conjoint format

The first section of the survey asked participants to indicate whether or not they used sunscreen; if “No” was selected, the participant was redirected to the end of the survey. Moreover, this initial section queried respondents regarding “usage occasion” and “number of sunscreen product purchases per year”, to understand if these factors might determine sunscreen preference, hence whether there is a relationship between variables, and if so, the degree of its strength. Moreover, as studies have demonstrated that there is a growing interest in eco-friendly products among consumers and that using green products might improve the consumption experience, participants were required to express their willingness to pay a premium for an environmentally friendly sunscreen. If they replied affirmatively, they were asked to specify the amount they would be ready to pay: (“between €1-4”, “between €5-7”, “between €8-10”, “€11 or higher”) (Tezer & Bodur, 2019). This particular question was inserted in the survey in to analyse sunscreen’s eco-friendliness importance for consumers nowadays and if developing the bonus part around it would have an interest. Moreover, to understand if climate and brand loyalty might influence sunscreen preferences and purchase decision, participants were asked if their country was characterised by a consistently sunny climate all year round. Afterwards, they were required to rate on scale from ‘strongly disagree’ to ‘strongly agree’ how much brand loyalty influence their purchase decision.

Furthermore, at the end of the survey, demographic questions and additional information have been asked to characterise the sample (country of origin, gender, age group, income level). A more detailed and organised representation of the survey structure can be found at Table 1 in Appendix 5

4.4.2 Choice of Attributes

Conjoint analysis involves deconstructing a product or service into its constituent elements, known as attributes and levels. Subsequently, various combinations of these elements are examined to determine preferences, distinguishing between more and less preferred options. Therefore, the central and most important section of this survey focused on this point. After researching the sunscreen market, to better understand what attributes consumers value the most when purchasing sunscreen products, the choice to rely on experts' opinions regarding the choice of attributes was made.

Following the interviews, six main attributes were outlined. For the conjoint analysis, the brands featured in the perceptual map, namely Piz Buin, Nivea, La Roche-Posay, Avène, Garnier, and Australian Gold (further details on the brand choice can be found at pages 30-32). were maintained. The remaining five attributes and their corresponding levels, incorporated in the survey, have been carefully designed to cater to a wide range of consumer needs and preferences. In the following a description of each one of them was developed:

- <u>Protection Level (SPF)</u>: as Mrs. Nobels highlighted, protection level stands out as a crucial factor influencing consumers when choosing sunscreen. Considering the variety in skin types, pigmentation, and overall consumer preferences associated with lifestyle, four distinct levels of sun protection factor (SPF) were incorporated: 6, 15, 20, 30, and 50+. This ensures that consumers can choose a level that aligns with their specific needs, offering a tailored approach to sun protection.
- <u>Price</u>: pricing plays a crucial role in shaping consumer purchasing decisions and is considered by multiple academics as a key influencing factor nowadays (Hydock & Wathieu, 2023). The significance of affordability was acknowledged, and as a result, a pricing range was implemented to cater to different financial choices. Moreover, by taking into consideration the price range that each brand offers for their products, five different price levels were inserted: '€10', '€15', '€20', '€25', '€30'.
- <u>Application Format</u>: an analysis of customer preferences and regularly employed options led to the selection of a curated assortment of the most popular application

- formats. Whether the consumer prefers the classic feel of lotions, the nourishing properties of oils, the convenience of mist invisible sprays, the ease of application with regular sprays, or the light and airy texture of mousse, these diverse levels aim at accommodating varied preferences and needs of consumers, ensuring a comprehensive and inclusive product offering.
- Resistance: acknowledging the importance of durability in sunscreens, a key attribute was incorporated: Resistance. Respondents had the opportunity to choose between "Water and sweat resistance" or "No resistance". This caters to individuals with diverse lifestyles and requirements, allowing them to select a sunscreen that aligns with their activities and preferences.
- Fragrance: the decision to include scent as a new attribute was made based on the information about compounds present on sunscreen labels. The fragrance levels are categorised into "Light fragrance" and "Intense fragrance". The significance lies in the fact that various brands exhibit various levels of fragrance strength. The inclusion of this feature was indeed aimed at improving the understanding of the impact of sunscreen scent on customer buying behaviour.

Given the variations in the levels of attributes among sunscreen brands, the applicability section of the survey platform was used to allocate specific levels to each brand. This approach enabled us to incorporate a diverse range of levels in the survey and simply exclude for each brand the levels that were not representative. (e.g., since 'La Roche Posay' offers sunscreen products only with an SPF level of 30 or higher, this analysis excluded the other levels from the analysis by simply unticking the box in the designated section.) A more detailed and organised representation of the attributes and levels can be found in Table 2 and 3 in Appendix 5.

4.4.3 Data Collection

Prior to its release, the survey underwent a thorough review by both the professor and a group of 10 individuals who received a copy to evaluate its effectiveness. Upon confirmation, the survey was distributed to friends, family, and colleagues, utilising diverse online platforms like LinkedIn, Facebook, and Instagram to boost response rates. The survey was active from October 30th to November 17th, accumulating a total of 107 responses. Although the survey platform recommended a minimum of 600 responses, as validated by the professor, the obtained responses can still provide valuable insights into sunscreen preferences. Moreover, it is crucial to highlight that 284 individuals initiated the survey but did not complete it. Some simply did not finish it, while others encountered a block during the conjoint analysis phase, likely due to quickly navigating through the responses. Consequently, while the survey reached a substantial audience, only 29% of the participants completed the survey. Last but not least, as highlighted in the Conjointly report section, the survey demonstrates a 'Strong' Goodness of Fit with a McFadden's pseudo-R^2 of 80.2%. This suggests that the survey effectively captures and describes the respondents' preferences. A 'Strong' goodness of fit, reflected by a pseudo-R^2 value exceeding 65%, signifies that respondents exhibit distinct and clear preferences for the presented features (Conjointly, n.d.).

5 Perceptual Map Analysis: Results

5.1 Sample characteristics

As illustrated in the chart (Figure 1, Appendix 3), the survey was predominantly answered by females, who constituted approximately 74.17% of the participants. In contrast, males represented about 25.83% of the total responses.

In terms of age distribution (see Figure 2, Appendix 3), the survey was most popular among the younger demographic. Respondents between the ages of 19 and 25 made up the largest portion, accounting for approximately 66.67% of the total. The 26 to 35-year-old age bracket comprised around 16.67% of respondents, suggesting a lesser but still notable participation from this group. Those in the 36 to 45-year-old range were among the least represented at about 4.17%, while participants over the age of 46 accounted for roughly 10.83%. The under-18 category was the smallest, with only 1.67% of respondents falling into this age group.

Looking at the geographic distribution of the survey respondents (Figure 3, Appendix 3), the majority were from Italy, making up about 50% of the total. Belgium had a substantial representation as well, with 30.83% of participants. Respondents from Portugal accounted for 7.50%, while those from Germany made up 3.33%. Spain had a minimal representation of approximately 2.50%. Lastly, the respondents from countries not individually listed, labelled as 'Other', comprised 5.83% of the total.

5.2 Screening questions

The Pie chart (Figure 4, Appendix 3) visualises responses to the occasions where people use sunscreen, showing that 52% of respondents use it for beach and pool days, 22% during outdoor sports, 15% for outdoor work, 9% use it daily under any circumstances, and 2% for various other reasons. The data indicates that beach and pool activities are the most common occasion for sunscreen application among the participants.

The chart (Figure 5, Appendix 3) depicts the responses to the most common places where people purchase sunscreen, showing Pharmacy as the most common place with 54% of people buying there, followed by Supermarkets at 33%. Online retailers are used by 6% of the respondents, 5% purchase from all the mentioned locations, and 2% from other venues not listed in the options. Pharmacies emerge as the favoured spot for sunscreen shopping.

The pie chart (Figure 6, Appendix 3) conveys the responses to the question: "Are you open to trying new sunscreen brands or prefer sticking with familiar ones?" The chart categorises the responses into two distinct segments. A significant majority of the respondents, accounting for 76%, are receptive to the idea of trying new sunscreen brands. On the other hand, the remaining

24% show a preference for remaining with the sunscreen brands with which they are already familiar. The chart overall suggests that there's a strong inclination among the majority of the surveyed individuals to explore new options in sunscreen brands rather than strictly maintaining brand loyalty.

The image features a pie chart (Figure 7, Appendix 3) detailing people's motivation for purchasing sunscreen products, focusing on the aspect of protection against short-term health-related damages such as rashes, peeling, and spots. According to the chart, a significant 42% of respondents consider it extremely important to protect against these issues when choosing sunscreen. For 30%, it is somewhat important, while 12% remain neutral on the matter. A minority of 10% find it extremely unimportant, and an even smaller group of 6% regard it as somewhat unimportant. This data illustrates that the majority place a high value on the protective aspect of sunscreen against immediate health-related skin issues.

The pie chart in the image (Figure 8, Appendix 3) illustrates the results of the question about the importance of protection against long-term health issues, such as skin cancer, when purchasing sunscreen products. The distribution of the survey responses is as follows: a substantial majority, 72%, of respondents identified the protection against health damages as "Extremely important." A minor segment, 12%, deemed it "Extremely unimportant." Those who considered it "Somewhat important" made up 8%, while 5% of participants expressed a "Neutral" stance, indicating no strong opinion on the matter. A small fraction, 3%, found it "Somewhat unimportant." The overwhelming preference for health protection indicated by the largest section of the pie chart suggests that there is a prevalent concern for health among the individuals when selecting sunscreen products.

The pie chart (Figure 9, Appendix 3) depicts the results of a survey aimed at understanding the priority given to anti-aging benefits when purchasing sunscreen. A total of 33% of participants rated the ability of sunscreen to prevent aging as "Extremely important." A slightly higher percentage, 41%, found it to be "Somewhat important," indicating a considerable valuation of this benefit, though with less urgency. A neutral view was held by 13% of respondents, suggesting that for these individuals, anti-aging is neither a decisive nor negligible factor in their purchase decisions. Those who consider anti-aging benefits to be of lesser importance, categorised as "Somewhat unimportant," make up 7%, while a close 6% view it as "Extremely unimportant." Collectively, these findings reveal that a majority of consumers, 74% to be precise, perceive the anti-aging aspect of sunscreens as a positive attribute, with varying levels of importance, in their purchasing decisions.

5.3 SPSS Perceptual Map Analysis

The analysis of consumer perception of sunscreen brands has been conducted through a comprehensive factor analysis using SPSS Statistics. The findings from this analytical approach are detailed as follows:

5.3.1 Descriptive Statistics

The Descriptive Statistics table provides a statistical summary of consumers' ratings regarding various attributes of solar products. The mean score for each attribute suggests a positive perception, as all attributes rank above the average point on a probability scale of 1 to 5, where 1 could indicate a poor attribute and 5 an excellent one.

Protection, perceived as one of the most important attributes of sunscreens, gets the highest mean of 3.8100, indicating that consumers generally consider sunscreens to be effective. The standard deviation for protection is quite low, at 0.47917, suggesting that consumers' opinions on this attribute do not vary much, confirming the effectiveness of sunscreens in providing protection.

Texture also scores quite high, with an average of 3.6100. The standard deviation is close to that of protection at 0.43722, again indicating a relatively uniform perception among consumers regarding the feel and application of sunscreen products

Safety follows closely with a mean of 3.6217, reflecting consumer trust in the safety of the sunscreens used. However, it has the highest standard deviation of all attributes at 0.54312, implying slightly more varied opinions on this aspect than the others.

Resistance, which refer to water resistance and the ability of the sunscreen to stay effective over time, scores a mean of 3.5533. The lower standard deviation of 0.37718 denotes a smaller gap in consumer ratings, suggesting more agreement on this attribute.

Fragrance has the third lowest mean score of 3.4900, but the second lowest standard deviation of 0.21606, implying that a high number of customers agree on the aroma of the sunscreens, even if it is not ranked as highly as the rest of the attributes.

Fast Absorption has a mean score of 3.4633, with a standard deviation of 0.41365, showing that consumers find the sunscreens to absorb at a satisfactory rate, though perhaps not as quickly as some might prefer.

Price Perception has the lowest mean score of 3.4583, but with a very narrow standard deviation of 0.11754. This implies that, while consumers may not consider sunscreens as the best value for money, their opinions on price are the most constant when compared to their opinions on other attributes. Overall, the statistics demonstrate that consumers have a generally positive opinion of sunscreen products across multiple aspects, with the most agreement on

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
Protection	3.8100	.47917	6
Texture	3.6100	.43722	6
Safety	3.6217	.54312	6
Resistance	3.5533	.37718	6
Fragrance	3.4900	.21606	6
FastAbsorption	3.4633	.41365	6
PricePerception	3.4583	.11754	6

Table 1

Fragrance and the least agreement on Safety. Protection has the highest average score, showing that it is a strong point for these products. Price Perception, on the other hand, while consistent across ratings, suggests a possible area for improvement or a point of differentiation in the marke.

5.3.2 Correlation Matrix

The Correlation Matrix analysis indicates that consumers generally perceive the quality attributes of sunscreen brands—such as protection, texture, and safety—in a consistent manner; a positive assessment of one attribute is likely to be associated with positive assessments of others. This pattern suggests a halo effect where good performance in one attribute enhances the perception of others. However, the weaker correlation with Price Perception implies that consumers view the cost of sunscreens as independent of their quality, indicating that higher prices don't necessarily equate to higher perceived quality. This insight could influence marketing strategies and highlights the importance of understanding consumer perceptions in product pricing.

Correlation Matrix[a]

		Protection	Texture	Safety	Resistance	Fragrance	FastAbsorption	PricePerception
Correlation	Protection	1.000	.910	.934	.966	.760	.874	.168
	Texture	.910	1.000	.960	.968	.773	.972	-.249
	Safety	.934	.960	1.000	.937	.905	.970	-.106
	Resistance	.966	.968	.937	1.000	.736	.929	-.026
	Fragrance	.760	.773	.905	.736	1.000	.872	-.055
	FastAbsorption	.874	.972	.970	.929	.872	1.000	-.253
	PricePerception	.168	-.249	-.106	-.026	-.055	-.253	1.000

a. This matrix is not positive definite.

Table 2

5.3.3 Scree Plot

In the examination of the Scree Plot, the focus is primarily on the eigenvalues assigned to each component. The plot distinctly demonstrates a clear inflection point after the identification of the second component. This specific point is critical as it suggests that the first two components contribute most significantly to the variance observed in the dataset. The high value of the first component underscores its substantial role in explaining the variability present in the data. Similarly, the second component, also shows a significant eigenvalue. Although its value is considerable, it is somewhat lesser in comparison to the first component. As we progress from the third to the seventh components, there is a noticeable decline in the eigenvalues. Each of these subsequent components registers values below the widely accepted benchmark of 1. This decrease is indicative of their relatively minor contribution to the total variance in the dataset. Given this pattern, the decision to focus predominantly on the first two components for more in-depth analysis becomes justified. This approach allows for a more efficient and targeted examination, focusing in on the aspects that are most influential in the dataset, thereby providing a clearer understanding of the underlying structure and characteristics of the data being studied.

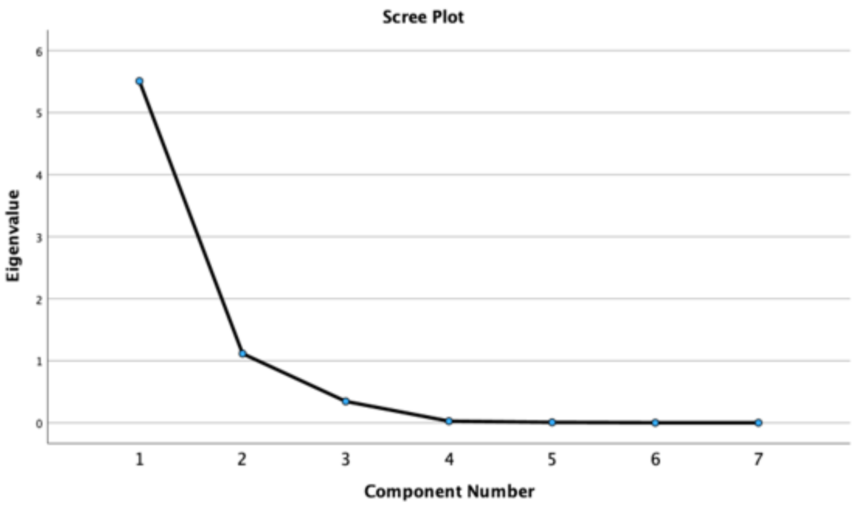


Figure 1

5.3.4 Component Matrix

Table 3 lists the factor loadings, which are the correlations between the observed variables and the factors. A high absolute value of a loading (close to 1 or -1) indicates that the factor strongly influences the variable. Safety, Fast Absorption, Texture, Resistance, Protection and Fragrance, have high loadings on Component 1, suggesting this factor could represent an overall measure of product efficacy or customer satisfaction. Price Perception has a significant loading on Component 2, which may indicate that this factor represents value for price. The Component Matrix also shows that two components have been extracted as part of the analysis process.

Component Matrix[a]

	Component 1	Component 2
Safety	.994	.006
FastAbsorption	.982	-.147
Texture	.978	-.133
Resistance	.965	.091
Protection	.944	.285
Fragrance	.875	.028
PricePerception	-.114	.993

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

Table 3

5.3.5 Communalities

Table 4 indicates the proportion of each variable's variance that is accounted for by the extracted factors. It is the sum of the squared loadings for a variable across all factors.High communalities (close to 1) suggest that most of the variance in a variable is explained by the factors. In this table, all variables have high communalities, indicating the two factors do a good job explaining the variation in the observed variables. The communalities before extraction are all set to 1, which is standard before the factor analysis begins as it assumes all variance is common. The high communalities suggest that the factor model is suitable, and the variables are well-represented by the extracted factors.

Communalities

	Extraction
Protection	.972
Texture	.973
Safety	.988
Resistance	.939
Fragrance	.767
FastAbsorption	.986
PricePerception	.998

Extraction Method: Principal Component Analysis.

Table 4

5.3.6 Component Score Coefficient Matrix

Table 5 provides the coefficients used to create the component scores for each variable. These scores are a linear combination of the standardised original variables multiplied by these coefficients. Component 1 has relatively small coefficients for all variables, which suggests that it may not be strongly influenced by any single variable. However, "Price Perception" has a negative coefficient, which might indicate that this variable contributes inversely to this component when compared to the others. Component 2 shows a much higher coefficient for "Price Perception," indicating that the other variables have an inverse relationship with Component 2.

These coefficients are used to calculate the score for each observation in the dataset for each component, which will be used to create a perceptual map.

Component Score Coefficient Matrix

	Component 1	Component 2
Protection	.171	.255
Texture	.177	-.120
Safety	.180	.006
Resistance	.175	.081
Fragrance	.159	.025
FastAbsorption	.178	-.132
PricePerception	-.021	.891

Extraction Method: Principal Component Analysis.
Component Scores.

Table 5

5.3.7 Component Score Covariance Matrix

Table 6 displays the covariances between the component scores. In this analysis, since the extraction method is Principal Component Analysis, the components are uncorrelated with each other, which is why off-diagonal values are zero. Component 1 has a covariance of 1 with itself, which is expected as any variable will have a perfect covariance with itself. Component 2 also shows a covariance of 1 with itself, and no covariance with Component 1, confirming that the components are indeed orthogonal (statistically independent of each other). The covariances being zero between the components is a key

Component Score Covariance Matrix

Component	1	2
1	1.000	.000
2	.000	1.000

Extraction Method: Principal Component Analysis.
Component Scores.

Table 6

feature of principal component analysis, ensuring that each component adds unique information to the analysis.

5.3.8 Component Plot

The Figure 2 extracted from the factor analysis presents a visual representation of the relationship between various attributes of sunscreen products. The plot delineates two components: Component 1 vertically and Component 2 horizontally.

Attributes such as Protection, Resistance, Safety, Fragrance, Fast Absorption, and Texture are grouped and display vectors pointing in a similar direction along the horizontal axis, indicating a positive correlation with Component 2. This alignment suggests that these attributes may collectively contribute to a dimension reflecting the product's functional quality as perceived by the consumer. On the contrary, Price Perception stands alone, distinctly oriented along Component 1. Its perpendicular stance to the other attributes reveals a lack of correlation, signifying that consumers may not associate the price with the functional qualities. The attributes related to the product's protective features do not move together with price perception, indicating that price is a distinct consideration in the consumer's evaluation process.

The vector lengths in the plot also communicate the strength of each attribute's correlation with the components. Specifically, Protection and Safety have longer vectors, implying a stronger association with Component 2 and potentially a greater influence on this factor.

This analysis underscores the multidimensional nature of consumer perception, where the functional aspects of sunscreen products and their price are evaluated on separate axes by consumers.

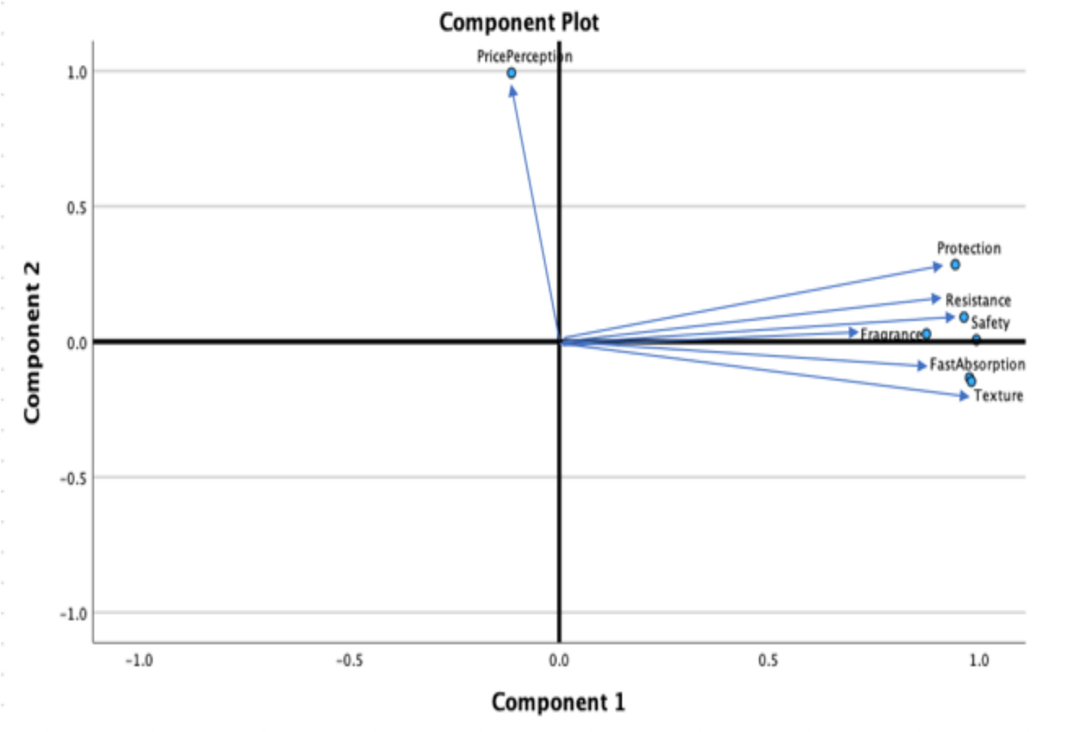


Figure 2: Attributes relative positioning

5.3.9 Perceptual Map

After this accurate analysis we have developed a Perceptual Map that effectively illustrates the market positioning of six prominent sunscreen brands. This map is structured along two key dimensions: Quality and Price Perception. Quality is plotted on the horizontal axis, with higher quality perceptions to the right, and Price Perception is delineated along the vertical axis, with higher price perceptions at the top. On closer examination, the positioning of these brands reveals significant insights. The positioning of Nivea and Garnier towards the left side of the chart suggests that these brands are associated with a lower perceived quality compared to others. Conversely, Avène and La Roche-Posay are allocated to the right side, implying a higher perceived quality. Australian Gold is found in the lower right quadrant, which denotes a medium-high quality perception that is tempered by a less favourable price perception. Piz Buin is perceived to have a high price perception point, which suggests that its cost is considered reasonable by consumers, although it is positioned above average when taking quality into account.

Overall, the analysis reveals that consumers have a positive view of sunscreen brands, with attributes like protection and texture rated highly. Safety perceptions are more varied, and price perception is the lowest rated attribute, suggesting cost is an area for improvement. A halo effect is present, where good ratings in one attribute tend to correlate with good ratings in others, but this does not extend to price, which is viewed independently from quality. The findings suggest brands should focus on product efficacy and consider how pricing strategies affect consumer perceptions of value and quality.

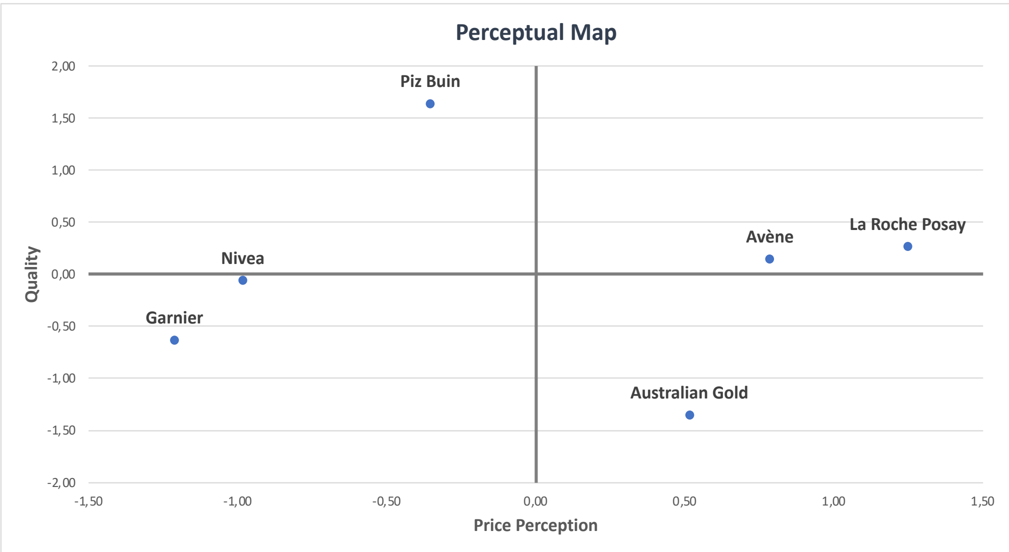


Figure 3: Sunscreen brands relative positioning based on attributes.

6 Conjoint Analysis: Results

6.1 Sample characteristics

As indicated by the data provided in Table 1 within Appendix 6, the survey sample includes 67 females (63%) and 40 males (37%). Among these, a significant majority falls within the age range of 19–25 years (46%), followed by 35% between the ages of 26 and 35. A smaller percentage represents respondents over 46 (14%), and only 6% fall within the age bracket of

36 to 45 (see Table 2 in Appendix 6). Moreover, as expected, considering the nationality and residence of the thesis group members, the majority of respondents originated from Italy (38%), followed by Belgium (21%), and Portugal (14%) (see Table 3, Appendix 6). Additional responses were received from individuals in Germany (8%), Spain (7%), and a mix of 'other' nationalities, including Austria, France, Switzerland, Turkey, and Ireland, constituting 12% of the respondents (see Table 3, Appendix 6). In terms of income, a noteworthy portion of respondents indicate either a low income (under €20,000) at 36% or a lower-middle income (between €21,000 and €50,000) at 33% (see Table 4, Appendix 6). This distribution aligns with the high percentage of young respondents (19–25 years old), who make up around 46% of survey participants. Moreover, 12% of respondents reported an upper-middle income (between €51,000 and €80,000), while only 6% claimed to have a high income (€81,000 or higher). Additionally, a notable 13% of respondents preferred not to disclose their income level (see Table 4, Appendix 6).

6.2 Screening Questions

Concerning the additional screening questions, the results highlight that the majority of respondents (57%) typically purchase between 1-2 sunscreen products annually, with 35% opting for 3-5 products and only 8% purchasing 5 or more (see Table 5, Appendix 6). Furthermore, the primary usage occasions for sunscreen, as indicated by respondents, include beach or pool days (46%), followed by outdoor sports activities (26%), daily use for every occasion (19%), and a minimal 9% for indoor sport activities. Interestingly, despite the option for multiple choices, more than half of the respondents (52%) selected only one usage occasion, while 27% chose two, 14% selected three, and a mere 7% indicated all options (see Table 6, Appendix 6). Turning to the question regarding willingness to pay for eco-friendly products, a substantial 68% of respondents responded affirmatively (see Table 7, Appendix 6). Within this group, 34% expressed a willingness to pay between €1-4, another 34% between €5-7, and an interesting 20% indicated a readiness to pay €10 or higher, while 12% fell between the €8-10 range (see Table 8 in Appendix 6). Furthermore, concerning brand loyalty, 35% strongly agreed with the statement, 'Brand loyalty influences my purchase decision,' 34% agreed, 19% were neutral, 8% disagreed, and only 4% strongly disagreed (see Table 9, Appendix 6). Lastly, in response to the query about the region's climate, 57% of participants specified living in an area characterised by a sunny climate throughout the year (see Table 10, Appendix 6).

6.3 Relationship among variables

After outlining the results from the survey's demographic and screening questions, pivot tables were used to analyse the data and identify trends and patterns more effectively. The pivot table feature in Conjointly was indeed utilised in our study due to its adaptability in summarising big datasets, providing a detailed comparison of diverse variables, and enabling the detection of key patterns and trends among survey respondents.

6.3.1 Age and sunscreen daily usage

In light of Mr. Santini's observation that younger generations exhibit a notably higher awareness of sun-related risks, a pivot table analysis was conducted, correlating 'Age' and 'Sunscreen usage everyday'. Our findings suggest that, while individuals aged 36–45 demonstrate the highest inclination to use sunscreen daily (67%), it's imperative to note the limited representation of this age group in our survey (6 out of 107 respondents). Despite this, an insightful pattern still emerged from the analysis, as nearly 30% of respondents between the ages of 19 and 25 and 35% between the ages of 26 and 35 still indicate regular daily sunscreen use (see Table 11, Appendix 6).

6.3.2 Gender and sunscreen daily usage

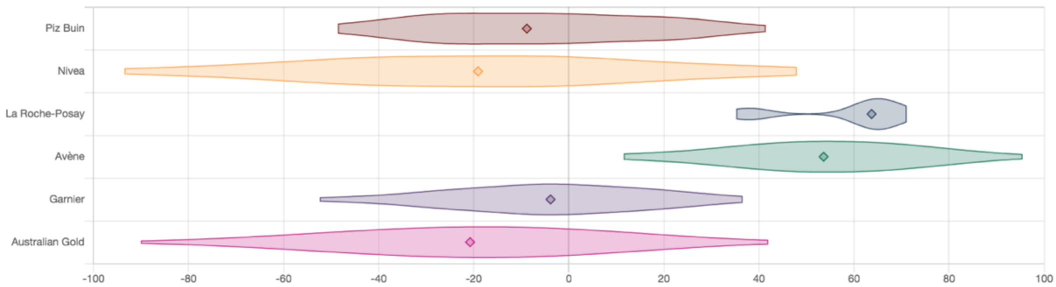
Moving forward, a second pivot table analysis was conducted, this time examining the relationship between 'Sunscreen usage everyday' and 'Gender'. This research was developed in response to Mr. Santini's observation that women between the ages of 35 and 65 comprise the majority of Clarins' sunscreen product consumers. Unlike the age analysis, the results for male and female respondents were more evenly distributed, allowing for more credible pattern identification. The findings reveal that 45% of female participants indicated using sunscreen every day, while only 15% of male participants reported the same behaviour. Henceforth, a clear pattern emerges, indicating that females are more likely to use sunscreen daily compared to their male counterparts. These findings underscore the importance of considering demographic factors, like gender, in understanding and promoting consistent sunscreen use (see Table 12, Appendix 6).

6.3.3 Climate and sunscreen purchase per year

Additionally, a third pivot table was created using the variables "Climate" and "Sunscreen purchase per year" to look into whether the regional climate (whether sunny or not) has an impact on the amount of sunscreen products purchased. The results indicate a general trend where both individuals in sunny and non-sunny climates typically purchase between 1-2 sunscreen products annually. However, an interesting observation arises: individuals from regions with less sunshine tend to purchase a greater amount of sunscreen (see Table 13, Appendix 2). The observed trend of individuals from non-sunny regions purchasing more sunscreens could be attributed to various factors. One possible explanation is that individuals living in consistently sunny areas may have developed a tolerance to frequent sun exposure, resulting in a reduced need for sunscreen to protect themselves. Furthermore, individuals residing in regions with less sunlight may be less accustomed to prolonged sun exposure. As a result, they may place a higher priority on sun protection, which could lead to an increase in the purchase of sunscreen products. These considerations emphasise the complex relationship between adaptation, cultural practices, and health consciousness in influencing the purchasing behaviour of sunscreen in various climates. It is important to conduct additional research in order to assess and validate these considerations. This will help us gain a more comprehensive understanding of sunscreen purchase patterns.

6.4 Preferences on Brands

Initially, the conjoint survey conducted through Conjointly offered valuable insights into the performance of each brand, considering their possible variants and the consumer preferences among them. Graph 1 visually illustrates the estimates generated by Conjointly, depicting the strength of customer preferences for various brands. This analysis takes into account the diverse combinations of features and prices that were presented to the participants during the survey. The violin chart shown below serves as a tool to compare brand preferences and identify the level of variation for each brand based on constituent concepts. Each violin-shaped plot represents the scores of different combinations of features within each brand or product variant. The diamond shapes in the middle of the violin indicate the median values and can be interpreted as a relative index. Henceforth, the higher the value, the more preferred the brand is. The width of each violin illustrates instead the spread of scores for different concepts. A wider violin plot indicates more variability among concepts and preferences. Henceforth, considering average choices and median values from Graph 1, it can be concluded that La Roche Posay emerges as the most preferred brand with a median of 63.7, closely followed by Avène with a median of 53.6. These findings distinctly indicate a pronounced preference for premium brands in the sunscreen market. Additionally, it is noteworthy that Australian Gold ranks as the least preferred brand, with Nivea in 5th place, Piz Buin in 4th, and Garnier in 3rd.



Graph 1- *Distribution of preferences for brands*

6.5 Attribute and Levels Importance

After examining the results concerning attributes and levels' importance for each brand, significant trends and patterns have emerged. Among all six brands, the attribute that frequently appears as most important is the 'Protection Level (SPF)', whereas 'Price' often stands out as the least important one (see Table 7).

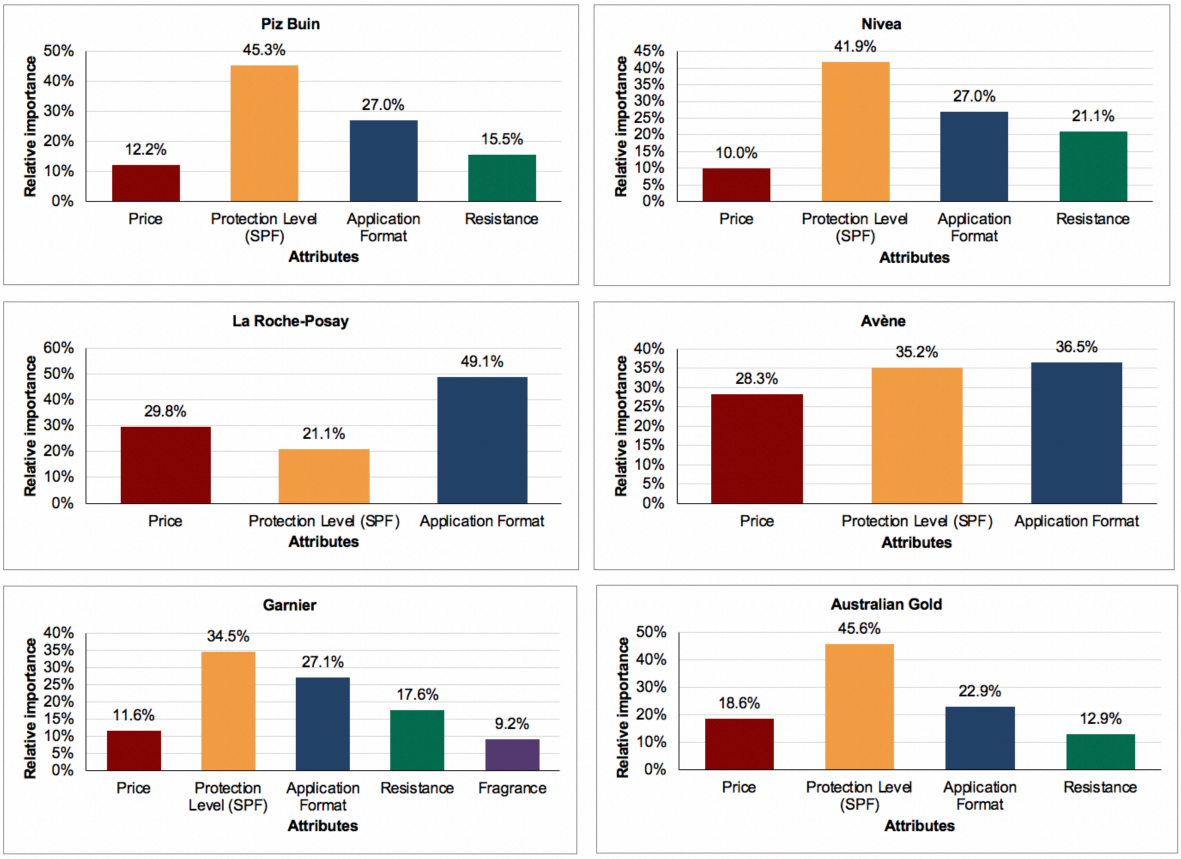


Table 7 – *Attribute importance for each brand*

Furthermore, the findings revealed a strong inclination among participants towards level '50+' in the 'Protection Level (SPF)' attribute and the 'Spray' level in the 'Application Format' attribute. As it can be seen from Table 7, the brands that diverged from the general trend were indeed Nivea, with a slightly higher preference for level '30', and Garnier, where the 'lotion' level was slightly favoured (See Table 1-6 in Appendix 7). A more in detailed examination and explanation of attributes and levels importance will follow.

6.5.1 Price

For what concerns price, the platform 'Conjointly' presented respondents' price preferences for each brand. Participants indicated a preference for a price of €20.00 for Piz Buin (37.2%), €10.00 for Nivea (77.6%), €20.00 for La Roche-Posay (28.9%), €20.00 for Avène (64.5%), €15.00 for Garnier (46.7%), and €10.00 for Australian Gold (51.2%) (see Table 1-6 in Appendix 7). These results indeed highlight a general consumer's preference to spend no more than €20,00 for sunscreen products, even when it comes to premium products. Indeed, the choice of €30,00 was preferred only by 13.1% for Avène and 25% for La Roche Posay. However, it is important to highlight that, differently from what was indicated by Hydock and Wathieu (2023) reported in the literature, review section 'price' does not play a significant role in shaping customers decisions, especially in the context of sunscreen. The survey results indeed showed that, for Piz Buin, Nivea, Garnier, and Australian Gold, the attribute importance was minimal, respectively 12.2%, 10%, 11.6%, and 18.6%. However, a higher, but still not extremely relevant importance for 'price' can be detected for the two premium brands, La Roche Posay (29.8%) and Avene (28.3%). Therefore, what can be outlined is that although people are slightly more price sensitive when it comes to premium sunscreen products that have a price higher than general sunscreen, 'price' is not a crucial attribute for consumers when it comes to sunscreen products (see Tables 1–6 in Appendix 7).

6.5.2 Protection Level (SPF)

As previously mentioned, when it comes to purchasing sunscreen products, consumers often prioritise protection level (SPF) over any other attribute. The survey results clearly indicate that, especially for brands specialising exclusively in suncare like Piz Buin and Nivea, the SPF level is the attribute that holds the most significance, accounting f respectively for 45.3% and 45.6%. Furthermore, all other brands also prioritise the 'Protection Level' as the most important attribute. The only exceptions are La Roche-Posay, where Protection Level and Application

Format weigh in at 21.1% and 49.1%, respectively, and Avène, where Application Format takes a slight lead with a 1.3% difference. Moreover, what is interesting to note is that, among all levels of protection, the '50+' was the most chosen one by participants among almost all brands; only for the brand Nivea they indicate a slightly higher preference for SPF 30 (see Tables 1–6, Appendix 7).

These results, which show a higher preference for protection level and especially SPF 50+, could indeed reflect the rising awareness regarding health-related issues correlated with sun exposure, like skin cancer. As discussed in the literature review, consumers are becoming more conscious of the potential consequences linked to specific behaviours and lifestyle choices (Sampet et al., 2017). Furthermore, these findings align with the market analysis findings concerning the suncare market, indicating a growing trend towards sunscreen products that provide broad-spectrum protection (EWG, 2021). Additionally, Mr. Santini, the first interviewed expert, emphasised that individuals, especially the younger generation, are making more informed decisions regarding sun protection. This aligns with the positive shift in consumer behaviour towards adopting healthier skincare practices.

Moreover, a further consideration that has been made is that the heightened interest in higher SPF levels (30 and 50+) might be correlated with the climate conditions where the respondents reside. As indicated in Table 10, Appendix 6, the majority of the survey's participants indicated that they lived in a region characterised by a sunny climate all year long (57%). This constant and direct exposure to UV rays might indeed increase the necessity for stronger SPF protection. However, after segmenting respondents into those residing in sunny and non-sunny climates, no correlation between the variable 'sunny climate' and the preference for higher SPF levels could be identified. This suggests that other factors, such as personal preferences, skin type, and awareness of sun exposure risks, may play a more significant role in determining consumer preferences for higher SPF levels in sunscreen products. Further research is needed to identify the specific factors that influence consumer preferences for higher SPF levels.

6.5.3 Application Format

Another important attribute for respondents is 'Application Format', particularly evident in the distribution of preferences for premium brands. As highlighted in the above section, respondents place significant importance on the sunscreen format for premium brands, considering it the most crucial attribute among all presented. This attribute indeed holds a relative importance of 49.1% for La Roche Posay and 36.5% for Avène. (see Tables 1–6, Appendix 7). In the case of the other four brands, the application format remains a relevant attribute, securing its position in second place for importance. Regarding the attribute levels, the survey results clearly demonstrate consistent preferences. For all six brands, respondents indicated the 'spray' format as the preferred one and the 'oil' one as the least favoured option (see Tables 1–6, Appendix 7). Henceforth, we can deduce that not only 'application format' is one, if not the most, preferred attribute across multiple brands, but also that there is a universal preference for the levels of this attribute. 'Spray' format is indeed consistently ranked the highest and 'Oil' the least preferred among all six brands. These preferences could be correlated with the user-friendliness of the product. Spray sunscreens are indeed easy to apply and have a lightweight texture, whilst oil ones tend to be more difficult to apply to hard-to-reach areas and have a greasier texture, which may be uncomfortable, especially in hot and humid weather.

6.7.4. Resistance

Another interesting trend that could be outlined from the survey results concerns the attribute 'Resistance'. A pronounced inclination towards water and sweat-resistant sunscreen is evident. Except for La Roche Posay and Avène, which exclusively offer 'water and sweat-resistant' sunscreen, the other brands—Piz Buin, Nivea, Garnier, and Australian Gold—presenting a choice between 'water and sweat resistance' and 'no resistance' indicate a strong preference among participants for the first level, consistently exceeding 80% (see Tables 1–6, Appendix 7). These preferences may be linked to the substantial number of respondents who, in response to the question about sunscreen usage occasions, stated using sunscreen for ‘outdoor sport activities’ (26%) and 'outdoor work activities' (9%) (see Table 6 in Appendix 6). Such activities involve sweating, which can diminish the effectiveness of sunscreen, potentially resulting in inadequate protection against UV rays.

6.7.5. Fragrance

Regarding the 'fragrance' attribute, sunscreens with 'light fragrances' seem to be the most preferred by consumers. Piz Buin, Garnier, La Roche-Posay, and Avène offer only light fragrance products, while Australian Gold exclusively provides 'intense fragrance' options. For Garnier, which offers both light and more intense fragrance sunscreens, the majority of respondents favoured light fragrance options (62.1%) (refer to Table 5 in Appendix 7). Many people might find intense fragrances overwhelming, especially when applied to the skin, and may prefer a more subtle scent for a more pleasant and comfortable experience. Additionally, light fragrances also tend to be less intrusive and may be preferred in various settings, such as workplaces or outdoor activities, where strong scents might be less desirable. Last but not least, it is interesting to note is that Australian Gold, the only brand featuring exclusively intense fragrance products, is also the least favoured among all brands. Future research could perhaps explore the potential correlation between these two variables.

6.6 Product preference

As evident from Table 8, which displays the 20th most preferred sunscreen combinations among respondents, it is noteworthy that despite La Roche Posay being identified as the most preferred brand in the 'brand preference' results, the top-ranking sunscreen combination among survey participants is Avène. This particular combination features a spray format, 50+ SPF level, water and sweat resistance, a light fragrance, and is priced at €20.00.

Brand	Price	Protection Level (SPF)	Application Format	Resistance	Fragrance	Rank
Avène	20,00€	50+	Spray	Water and Sweat Resistant	Light Fragrance	1
Avène	20,00€	50+	Lotion	Water and Sweat Resistant	Light Fragrance	2
Avène	15,00€	50+	Spray	Water and Sweat Resistant	Light Fragrance	3
Avène	20,00€	50+	Mist Invisible spray	Water and Sweat Resistant	Light Fragrance	4
Avène	20,00€	30	Spray	Water and Sweat Resistant	Light Fragrance	5
Avène	30,00€	50+	Spray	Water and Sweat Resistant	Light Fragrance	6
Avène	25,00€	50+	Spray	Water and Sweat Resistant	Light Fragrance	7
La Roche-Posay	30,00€	50+	Spray	Water and Sweat Resistant	Light Fragrance	8
Avène	15,00€	50+	Lotion	Water and Sweat Resistant	Light Fragrance	9
La Roche-Posay	20,00€	50+	Spray	Water and Sweat Resistant	Light Fragrance	10
Avène	20,00€	30	Lotion	Water and Sweat Resistant	Light Fragrance	11
Avène	30,00€	50+	Lotion	Water and Sweat Resistant	Light Fragrance	12
La Roche-Posay	30,00€	30	Spray	Water and Sweat Resistant	Light Fragrance	13
La Roche-Posay	15,00€	50+	Spray	Water and Sweat Resistant	Light Fragrance	14
La Roche-Posay	25,00€	50+	Spray	Water and Sweat Resistant	Light Fragrance	15
La Roche-Posay	20,00€	30	Spray	Water and Sweat Resistant	Light Fragrance	16
Avène	15,00€	50+	Mist Invisible spray	Water and Sweat Resistant	Light Fragrance	17
Avène	15,00€	30	Spray	Water and Sweat Resistant	Light Fragrance	18
Avène	20,00€	20	Spray	Water and Sweat Resistant	Light Fragrance	19
La Roche-Posay	30,00€	50+	Lotion	Water and Sweat Resistant	Light Fragrance	20

Table 8 – *Ranking the 20th most preferred product combinations by consumers*

Moreover, considering that a significant portion of survey participants emphasised the influence of brand loyalty on their purchase decisions (69.1%, as seen in Table 9, Appendix 6), the 'segmentation' feature was utilised in Conjointly to explore whether distinguishing between consumers with high brand loyalty and those with lower loyalty would reveal variations in sunscreen preferences. We categorised respondents as having 'low brand loyalty' if they rated between 'strongly disagree' (1) to 'neutral' (3) and 'high brand loyalty' if they rated between 'agree' (4) and 'strongly agree' (5). The results indicate that, while Avene and La Roche-Posay remained the two most preferred brands overall, the segment of respondents exhibiting extreme brand loyalty consistently preferred products exclusively from Avène. All the top 15-ranked products belonged to this brand (see Table 7, Appendix 7). In contrast, those with lower brand loyalty demonstrated a more diverse distribution, still including premium brands, but with both La Roche-Posay and Avène equally represented among the top 20 (see Table 8, Appendix 7).

7 Discussion

In this part of the research, a summary of our findings related to our initial research topic will be provided. Additionally, the limitations of our work will be examined, and a variety of managerial implications will be presented as a recommendation outlook for sunscreen brands in Europe over the matter of consumers' perception and preferences.

Our research began by conducting three preliminary interviews with industry experts. These interviews helped us identify six distinct sunscreen brands that are currently operating in the European market, each with its own unique market positioning. Moving forward, an analysis using perceptual mapping was performed to determine consumer preferences for the six chosen brands, using eight established attributes that were confirmed by the experts interviewed. Generally, consumers hold a positive perception of sunscreen products regarding the inquired brands, as the mean score for each attribute suggests a positive perception of all attributes. On one hand, the investigation revealed that the Sun Protection Level (SPF) is the most well-performing factor among the six brands, followed by the ingredient's safety for the skin and the product fragrance, which is considered an effective factor as well. On the other hand, the perception of price is shown to be a distinct factor with a relatively lower value and weak correlation with the quality attributes, suggesting that it might be an area for potential improvements or used as a means of differentiation in the market. Moreover, the insights resulting from the perceptual mapping suggest brand positioning in the market according to their quality and price perception.

Keeping these results in mind, this thesis moved on to the conjoint analysis, where five crucial attributes of the aforementioned ones were selected — *Protection Level, Price, Application Format, Resistance and Fragrance* – and created a choice-based survey. An interesting finding is the substantial influence that brand loyalty has on the purchasing behaviour of European customers when it comes to sunscreen products. This influence is most evident when customers actively prioritise and select sunscreen products from their preferred brands, even when other options are available on the market. Furthermore, for what concerns attribute importance, the product's level of protection (SPF) emerged as the primary feature that influences customers' choice. This indicates that customers prioritise the product's ability to provide adequate protection against harmful UV rays over any other product feature indicated in the survey. Indeed, what appears that customers value the most is the effectiveness of the product in safeguarding their skin from sun damage and potential health risks. Differently, the conjoint analysis revealed that respondents consider price to be the least important factor when purchasing sunscreen. This finding contradicts the patterns identified in our first literature assessment, which highlighted the imperative importance of price on consumer purchase decisions. Overall, these findings on attribute importance indicate that customers value the effectiveness and safety of the product more than its cost.

Moreover, the survey results also highlighted gender disparities in the use of sunscreen, with female consumers demonstrating a greater inclination for everyday consumption in comparison to their male counterparts. This gender disparity in sunscreen use could be attributed to various factors, such as cultural norms, societal expectations, and differing attitudes towards skincare.

Furthermore, another interesting finding is that consumers have a distinct preference for premium brands, namely La Roche Posay and Avène, which are known for their high-quality and effective skincare products. This preference for premium brands suggests that consumers prioritise the effectiveness and reputation of the products they use on their skin, indicating a desire for visible results and a willingness to invest in trusted brands. A significant finding was the predilection for La Roche Posay, which distinguished itself among the six examined brands. This choice highlights the brand's effective positioning in the European market, firmly aligning with customer demands for high-quality and effective SPF protection. These findings not only enhance our comprehension of the present consumer environment in the sunscreen business but also provide the foundation for future studies.

7.1 Limitations

Moreover, the implementation of the perceptual map and conjoint analysis encountered several limitations. Regarding the Conjoint Analysis survey, the feedback received from several participants indicated confusion in the presentation of product choices, particularly when accessed via smartphones. Although in the first section of the survey participants were encouraged to use laptops for a more user-friendly experience, it appears that the majority opted for smartphones, leading to difficulties in comprehending the available choices. As a matter of fact, out of the 284 individuals who initiated the conjoint analysis survey, most of them did not complete it; some abandoned the survey before finishing it, and others faced a hurdle during the conjoint analysis stage, likely due to quickly navigating through the responses. Consequently, while the survey reached a substantial audience, only 29% of the participants completed the survey. This low completion rate highlights the importance of considering the usability and accessibility of the survey platform. It may be beneficial to explore alternative methods or formats that cater to the preferences and limitations of smartphone users in order to improve participation and completion rates.

In the process of analysing our survey data for the creation of a perceptual map, this thesis's team encountered significant challenges, especially due to our lack of prior experience with SPSS. One notable limitation was the respondents' difficulty in understanding the concept of price perception. This may have led to ambiguities in their responses, which could affect the reliability of the data. This limitation must be considered when interpreting the findings, as it may have introduced a degree of response bias, potentially altered the results, and impacted the accuracy of the perceptual map generated from this data.

The surveys conducted for both the conjoint analysis and perceptual map had limitations in terms of sample characteristics. Additionally, there was a gender bias in the responses, as a majority of them were supplied by women.

Ultimately, a key limitation encountered in both surveys relates to the sample characteristics. In both instances, most of the respondents were young females from either Italy or Belgium. The main reason for this is that the survey was mostly distributed among the team's friends and families, resulting in respondents who were predominantly from their social circles. Therefore, future surveys should aim to reach a wider range of participants to ensure a more comprehensive understanding of the topic at hand.

7.2 Implications for Managerial decision

This marketing research enhances the existing body of knowledge on consumer behaviour and preferences about sunscreen goods in the European market. This concluding part will provide a concise overview of how managers may effectively implement the study results.

Specifically, this analysis will provide managerial recommendations for product design and marketing strategies regarding sunscreen products.

Based on the findings of the conjoint analysis, which showed a strong brand loyalty among respondents, it is recommended that producers and marketers of sunscreen products prioritise the development and maintenance of a strong brand loyalty. This may involve executing effective branding strategies, marketing campaigns, and techniques designed to enhance consumer confidence and loyalty. Additionally, as consumers prioritise the level of protection (SPF) over the price, it is important for sunscreen manufacturers to focus on promoting the quality and benefits of their products rather than solely relying on competitive pricing strategies.

Furthermore, as the results also indicated a significant inclination towards premium brands, particularly La Roche Posay, future research should investigate the factors contributing to La

Roche Posay's successful positioning and analyse strategies for replicating this success in other brands. Moreover, based on the findings of conjoint analysis, it is evident that females are the primary consumers of sunscreen. By gaining insights into the preferences of different demographic groups, organisations may develop tailored marketing campaigns that effectively connect with their desired target audience. This not only enhances the likelihood of attracting and retaining clients but also enables the development of unique products that cater to their particular needs, ultimately stimulating growth and profitability in the market.

Based on the findings of perceptual map, the results indicate a generally positive perception of sunscreen brands among consumers, highlighting protection and texture as well-rated attributes. However, there is a notable disparity when it comes to price perception, which received the lowest scores. This suggests that consumers may not perceive the cost of the products as reflective of their value. Additionally, while a halo effect—where high ratings in one attribute tend to boost perceptions of other attributes—is observed, this effect does not extend to the perception of price, indicating that consumers consider price separately from the overall quality of the product. From these insights, we deduced that capitalising on the halo effect by promoting highly rated attributes could positively influence the perception of other product features. Furthermore, independent pricing strategies, such as promotions and loyalty programs, may mitigate the isolated view of price from quality. Segmenting the market according to consumer priorities could lead to more targeted approaches, catering to both quality-driven and price-sensitive customers. Lastly, ongoing quality assurance efforts are crucial to uphold the strong ratings in protection and texture.

8 Bonus Part

8.1 Introduction

In the course of our research, several compelling themes emerged, each meriting attention in its own right. These included:

- The influence of social media on health awareness;
- The growing preference for eco-friendly products;
- The heightened health consciousness resulting from the COVID-19 pandemic;
- The escalating concern over skin cancers linked to UV exposure.

Upon careful consideration, an additional investigation of the impact of social media on enhancing the level of interest in skin health and overall health awareness was conducted. The emphasis was determined based on the knowledge acquired from expert interviews performed in the initial phases of our study. Each of the three experts contacted agreed that social networks had greatly enhanced public health awareness, specifically emphasising the risks of sun exposure and its capacity to induce skin cancer. The broad popularity of these subjects on social media platforms has significantly increased knowledge about the advantages of sunscreen usage, particularly among younger age groups, which sharply contrasts with the prevailing attitudes and ideas among older generations. Mr. Santini, the marketing manager of Clarins, offered significant perspectives on this generational transition. Generation Z, which Goldring and Azab (2020) define as people born between 1997 and 2012, is very aware of the risks associated with sun exposure. The current generation has a proactive attitude towards safeguarding their skin from UV radiation, in contrast to the preceding Generation X (born from 1965 to 1980) (Goldring and Azab, 2020), who revealed a rather disinterested attitude towards sun protection and associated information. During the discussion, Cedric Moulron, another specialist, highlighted that past sun care trends mostly emphasised attaining a dark, consistent tan, frequently employing oils that hastened tanning rather than safeguarding the skin. The past's history clarifies the reason behind the relatively limited knowledge of sun protection among older generations.

8.2 Literature review

The influence of social media on individuals' daily lives has surpassed expectations. In 2021, the global number of social media users reached 4.20 billion, exceeding 53% of the total global population (De La Garza et al., 2021). Social media platforms are swiftly becoming the primary channels, supplanting traditional marketing methods, to fulfil diverse marketing objectives such as raising awareness and prompting consumer purchases (Villarroel Ordenes et al., 2018). In today's marketing landscape, the rise of social media has not just transformed interpersonal connections but also redefined the dynamics between consumers and brands. A key element of this transformation is the evolution of word-of-mouth (WOM) through social media, emerging as a powerful influencer of brand recommendations. This shift has led an increasing number of businesses to strategically employ social media platforms for promoting their products and services. The use of social media as a word-of-mouth platform has become a crucial factor in influencing consumers' brand recommendations, prompting companies to stimulate conversations, cultivate loyalty, and attract new customers. This trend has significantly altered the dynamics of marketing communication, shifting from the traditional unidirectional model (from firms to consumers) to a bidirectional model (among consumers) in various markets. A successful social media campaign not only amplifies brand exposure and awareness but also sparks more discussions on social media platforms, heightening the chances of consumers choosing the promoted product (Liu & Lopez, 2014).

Furthermore, the rise of social media influencers has played a pivotal role in shaping consumer behaviour. Influencers have the ability to influence buying decisions with customers more inclined to consider a product or service suggested by an influencer whom they follow and trust. Influencers are indeed content creators who incorporate marketing messaging into their social media material in a way that appeals to their audience. (Mardon et al., 2023). As a matter of fact, businesses are progressively reallocating a considerable amount of their marketing resources to influencer marketing, with brands investing 10% to 25% of their total expenditures in influencer-led campaigns. This trend is expected to drive influencer marketing to a $15 billion business by the end of 2022. The significant growth in sponsored posts on Instagram from 1.26 million in 2016 to a considerable 6.12 million in 2020 reflects the explosion in influencer marketing (Chung et al., 2023).

Lastly, recent dies have indicated an increase in the prevalence of healthcare messaging and preventative information on social media platforms, conveyed by both influencers and healthcare professionals. A recent study published by De La Gaza et al., (2021) analysed the role of social media in skin cancer and sun damage awareness and identified the uses, benefits, and limitations of different social media platforms on skin cancer prevention. The article highlights that social media interventions have shown promise in skin cancer prevention and continue to escalate by the day, with dermatologists encouraged to keep pace with the latest dermatological content on social media and examine its evolution to target the right audience with the proper messages. The research suggests that social media serves as a relatively unexplored avenue for skin cancer prevention and is proving to be an effective tool for disseminating awareness on the subject. However, it is important to understand the best form of communication and the accuracy, relevance, and quality of the health information shared by influencers (De la Gaza et al, 2023)

8.3 Methodology

In order to go further into the shift in consciousness, specifically regarding sun protection, a survey utilising Google Forms was conducted. The study specifically aimed at gathering participants who voluntarily chose to participate, with a particular emphasis on those from Generation Z. This aligns with the research focus on understanding the sunscreen-related behaviours and attitudes of this specific demographic. Data is been collected from a sample of fifty participants, ranging in age from 21 to 28, over a span of fifteen days, namely from November 12th to 27th. The participants originated from six distinct nations, predominantly Italy (48%), followed by Belgium (30%), Portugal (10%), and the remainder came from France, Spain, and Germany.The first section of the survey aimed to investigate the respondent's online behaviour, inquiring about their preferred social media platforms and if they owned a social media, three specific questions were posed. These questions aimed to determine whether respondents had encountered such information, whether it had heightened their awareness about sunscreen, and whether it had ever influenced their decision to purchase a sunscreen product. The two following questions sought to understand whether consumers would place greater trust in the recommendations of influencers or professionals when it comes to sunscreen goods. Ultimately, the final set of three questions pertained to demographic information in order to facilitate the identification of our survey participants.

8.4 Findings

The survey findings indicate an obvious gender imbalance among participants, with females accounting for 70% of the replies and males for 30%. The findings from the survey revealed that Instagram is the most widely used social media platform among respondents, exceeding TikTok in popularity. The preference for Instagram (Appendix 8; Table 1) is consistent with the findings in Appendix 8; Table n°2, which clarifies that Instagram is not only the favoured medium for social interaction but also the main source of health-related information among the participants in our survey. The prominence of Instagram in spreading health awareness, especially when compared to other new platforms like TikTok, highlights its crucial importance. As anticipated, there is a limited amount of information specifically dedicated to sunscreen on social networks. This observation is supported by the replies in our study, where only a minority indicated coming across sunscreen-related information in their social media feeds (Appendix 8; Table n°3). This pattern indicates that unless a user's algorithm is specifically tailored to skincare and healthcare issues, conversations or content related to sunscreen are not very common. This highlights the specialised nature of this topic within the wider sphere of social media. Our talk with Mr. Santini focused significantly on the function of social media influencers. Initially, influencers were seen as more trustworthy than regular commercial advertising when they first emerged. The establishment of trust was a result of influencers sharing their personal experiences with products or services, as emphasised by De Veirman et al. (2017) and Fransen et al. (2015). Their major goal was to safeguard their objectivity and provide authentic guidance to their community of followers (Sánchez-Fernández and Castillo, 2021). Influencers are recognised for their major impact on their audience, mostly attributed to their capacity to establish powerful emotional bonds. The perceived proximity and availability of an influencer and their followers establish a distinctive relationship. In contrast to conventional superstars employed in advertising, influencers frequently live lifestyles that closely mirror those of their audience, cultivating a sense of closeness and relatability within their group (Sánchez-Fernández and Castillo, 2021).

Nevertheless, our conversation with Mr. Santini provided insight into the intense competition that businesses currently encounter in the social media influencer world. He emphasised that influencer marketing, which is both influential and engaging, continues to be essential for companies, but it has undergone changes in the current environment. In the present day, influencers frequently demand substantial amounts for recommending products, usually favouring the highest bidder rather than firms they truly enjoy or have had favourable experiences with. As a reaction to this pattern, several brands, such as Clarins, have chosen to reduce their dependence on this marketing strategy as explained by Mr. Santini. Rather than engaging in direct influencer marketing, many firms opt to supply items or organise marketing events where influencers are allowed to personally experience their services. The option to promote the products is then left to the discretion of the influencers. The change in the influencer marketing technique has had an apparent effect on the perceived credibility and reliability of influencers. The shift in viewpoint is noticeable when evaluating the replies obtained from our survey, as recorded in Appendix 8; Table n°4 and Table n°5. The study data indicates a notable disparity in the degree of trust attributed to influencers compared to professionals, especially when it comes to sunscreen products. Based on the chart with regard to influencers recommendations on social media regarding sunscreen products (Appendix 8; Table n°4), a mere 20% of participants indicated having a tendency to believe influencer endorsements for sunscreen products. In contrast to the results in the second chart (Appendix 8; Table n°5), a significant 70% of participants expressed their confidence in advice provided by specialists, such as dermatologists, for sunscreen products. The difference underscores an increasing doubt towards influencer endorsements, particularly when contrasted with the trustworthiness associated with professional experience in the skincare and sunscreen industry. These findings can also be confirmed with the chart in Appendix 8; Table n°6 where 60% of our survey respondents answered that they had ever been influenced by social media content or influencer content to purchase a sunscreen product. Regardless of these obstacles, influencers persist in playing a crucial role in augmenting their followers' understanding of many subjects by providing guidance and unique encounters. Storytelling continues to be an effective tool in digital word-of-mouth and e-marketing, fostering a feeling of proximity and intimacy between influencers and their communities. This strategy successfully captivates listeners and enhances the transmission of information, making it more relevant and influential. Appendix 8; Table n°7 demonstrates that a notable 42% of survey participants recognised that social media platforms had greatly enhanced their understanding of the dangers linked to sun exposure on the skin. This figure highlights the significant impact of social networks in teaching and alerting the public about crucial health matters, such as the significance of safeguarding the skin from UV radiation. To summarise, the bonus aspect of this research highlights the complex but impactful function of social media in altering consumer behaviour and understanding in the sunscreen industry. Although influencer trustworthiness poses ongoing issues, digital platforms, like Instagram, have become important channels for health-related information, notably raising awareness about the risks of sun exposure among younger demographics. Th survey that has been conducted indicate that consumers exhibit a discriminating attitude by placing greater faith in experts compared to influencers. This demonstrates their ability to balance the appeal of influencer marketing with the legitimacy of professional experience.

8.5 Conclusion

This final section, which examines the role of social media on raising awareness about health and skincare, was prompted by the discovery of interesting findings throughout the research. The bonus research revealed that, as anticipated, a minimum of 42% of participants have acquired knowledge about the risks of sun exposure on the skin from social media content. Moreover, although 60% of respondents acknowledge having been influenced in their sunscreen goods purchases by social media or influencer material, just 20% express faith in influencers when it comes to sunscreen goods. In contrast, 70% place their trust in recommendations from specialists in this field.

Overall, these findings affirm the beneficial impact of social media on promoting health and skincare awareness and facilitating access to information. Nevertheless, as Mr. Santini mentioned in the preliminary interviews, influencers have diminished their trustworthiness among consumers and are consequently no longer considered as reliable sources.

9 Conclusion

This marketing research about consumer preferences and behaviour towards sunscreen products in the European market revealed a growing segment that is increasingly inclined towards using sunscreen products. This trend is particularly prominent among younger generations, whose awareness of health and skincare concerns has increased in recent years. The increase in awareness can be attributed to various factors. Primarily, the advent of technological innovations has facilitated the expansion of significant social networks and influential personalities. These platforms have shaped consumer preferences and behaviours towards specific businesses while also granting widespread access to information. Furthermore, the significant rise in the incidence of skin cancers caused by UV damage has further heightened concerns over skincare. Nevertheless, despite this heightened knowledge about health and skincare, a significant portion of the population remains uninformed about sunscreens, sometimes depending on deceptive guidance from personal circles, as the analysis performed demonstrates. The first part of the study focused on preliminary interviews conducted with three industry specialists. These interviews played a crucial role in confirming consumer insights, providing guidance for the next steps, and ultimately ensuring that the research was aligned with the realities of the European market. Following that, a perceptual map was generated to analyse how consumers perceive different sunscreen products in the European market, with a specific emphasis on eight important attributes. Subsequently, a conjoint analysis was conducted to enhance our comprehension, focusing specifically on five essential features from the previously identified set of eight.

Nonetheless, the analysis is subject to some limitations, including gender bias among the respondents, small sample sizes, and a lack of diversity in the origin countries of the respondents. Moreover, the choice to do further research on the influence of social media on sunscreen purchases was made due to its perceived importance as a valuable insight for the study. This aspect of the research presents a promising avenue for more exploration in order to comprehend the influence of social media on consumer behaviour and the increasing awareness around sunscreen goods. The research also offers valuable insights into the implications for managerial decisions and identifying potential areas of improvement in product design or marketing strategies. This information will assist marketers and sunscreen producers in making informed choices for their future endeavours.

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Appendix

Appendix 1

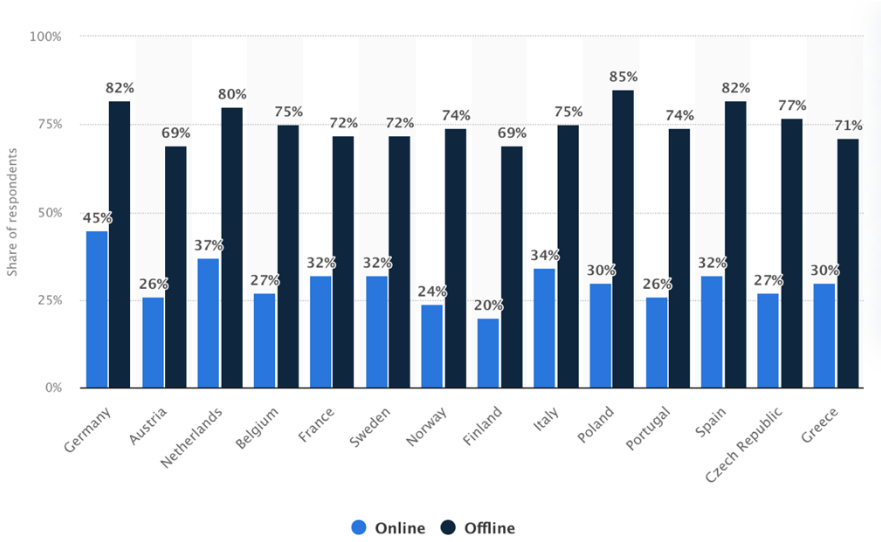

Table 1: "Percentage of consumers that shop online and offline on a weekly basis in selected countries in Europe in 2023"

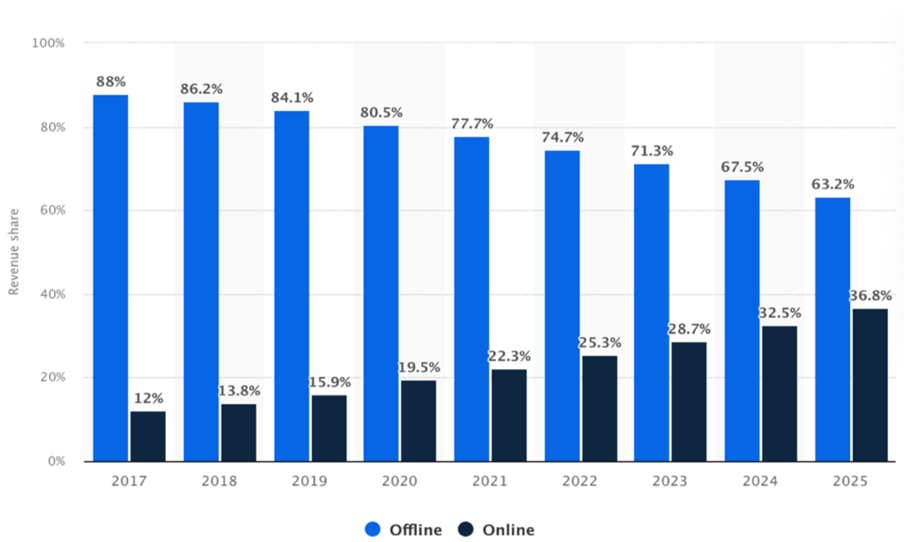

Table 2: "Revenue of share of the sun protection skin care market in Europe from 2017 to 2025, by sales channel"

Appendix 2

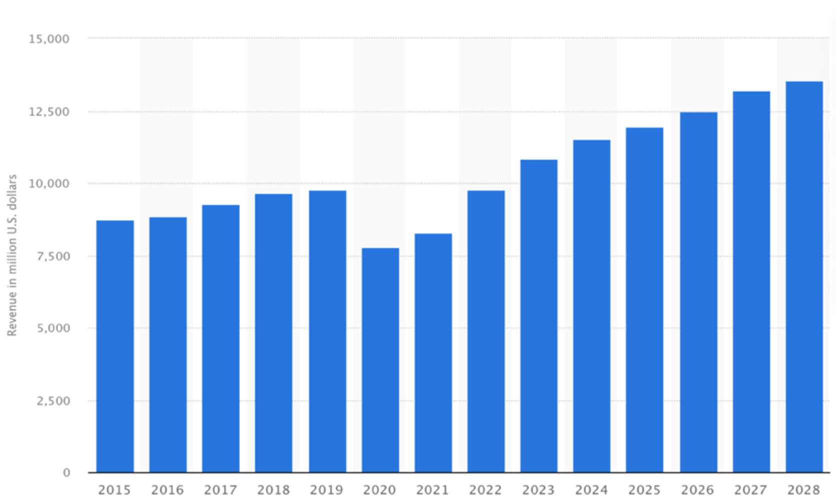

Table 1: "Revenue of the sun protection skin care market worldwide from 2015 to 2028"

Appendix 3

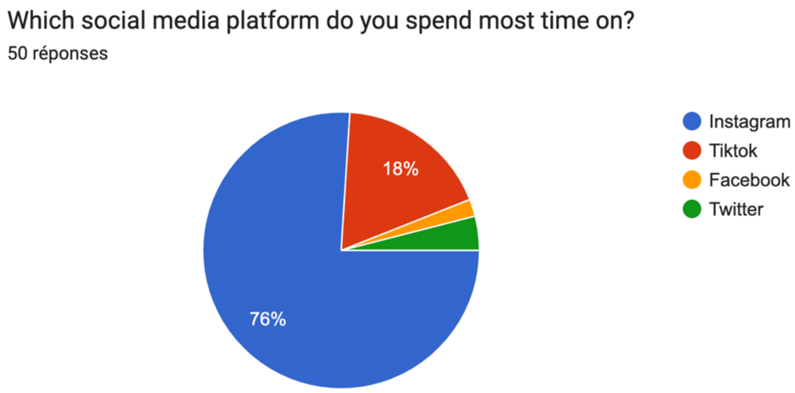

Table 1

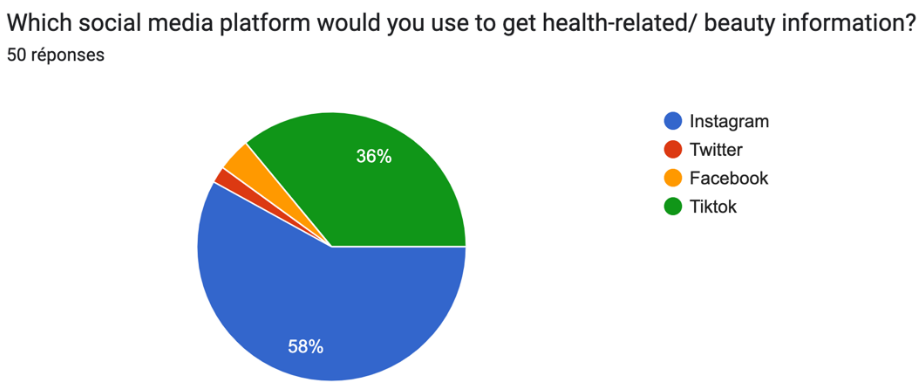

Table 2

How often do you come across sunscreen-related content on social media platforms?
50 réponses

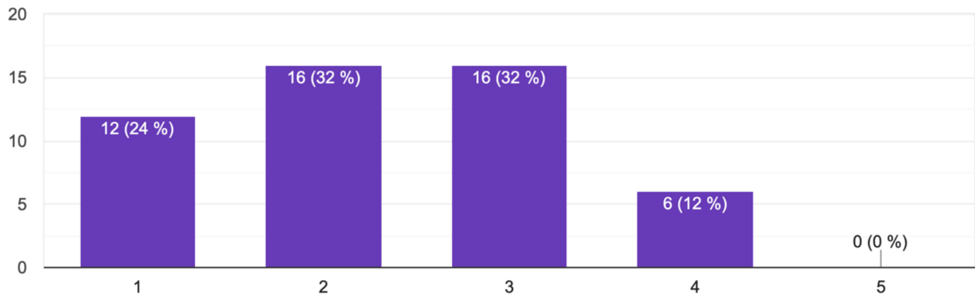

Table 3

How likely are you to trust recommendations from influencers on social media regarding sunscreen products?
50 réponses

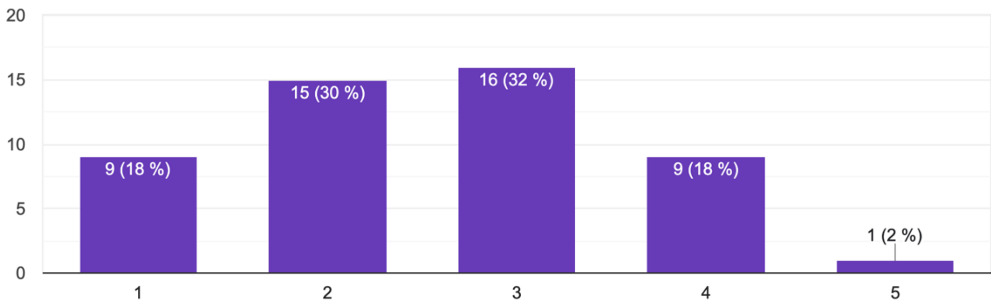

Table 4

How likely are you to trust recommendations from professionals on social media (i.e. dermatologists) regarding sunscreen products?
50 réponses

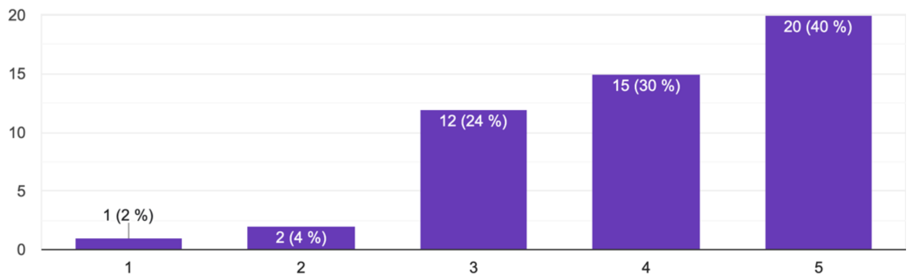

Table 5

Has social media and/ or influencer content ever influenced you to purchase a sunscreen product?

50 réponses

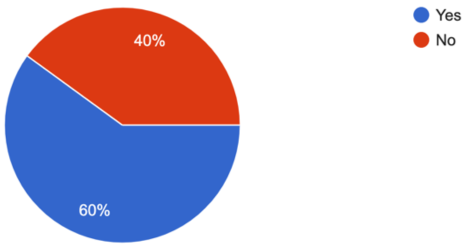

Table 6

On a scale of 1-5, how likely would you say social media content raised your awareness regarding danger of the sun on the skin?

50 réponses

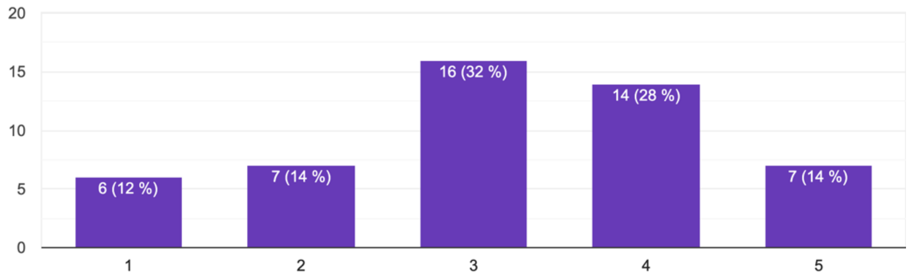

Table 7