



Drivers and Barriers of Purchase Intention for Retinol-Based Facial Skincare Products

A Mixed-Methods Study of Women Aged 20–40 in
Germany

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Title: Drivers and Barriers of Purchase Intention for Retinol-Based Facial Skincare Products
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Abstract (English)

The skincare market is increasingly dominated by scientifically proven active ingredients, with retinol playing a central yet ambivalent role. On the one hand, retinol is considered a highly effective anti-aging ingredient, but on the other hand, it is associated with perceived risks such as skin irritation or intolerance. Despite its high market relevance, little is known about how consumers perceive this ambivalence and how it influences their purchasing decisions. The aim of this study is to analyze the key psychological drivers and perceived barriers to purchasing retinol-based facial care products. The focus is on women aged 20 to 40 in Germany. The study follows a mixed-methods approach and combines exploratory qualitative interviews with a quantitative online survey (n = 285). Based on ingredient branding, signaling theory, and consumer psychology approaches, trust, perceived effectiveness, credibility of the information source, as well as perceived risk, ambivalence, and fear of skin irritation are examined. The results show that trust, perceived effectiveness, and credible sources of information are key drivers of purchase intention, with perceived effectiveness having the strongest direct influence. Contrary to initial assumptions, perceived risks and ambivalence do not exclusively have an inhibiting effect but are associated with increased purchase consideration. This points to a reflective, conditional decision-making process and underscores the importance of transparent, scientifically sound brand communication.

Keywords: Skincare, Retinol, Barriers, Drivers, perceived risk, ambivalence, fear of skin irritation, trust, perceived effectiveness

Título: Fatores impulsionadores e barreiras à intenção de compra de produtos faciais para a pele à base de retinol

Um estudo de métodos mistos com mulheres entre 20 e 40 anos na Alemanha

Autora: Isabella Marilu Vachenauer

Abstract (Português)

O mercado de cuidados com a pele é cada vez mais influenciado por ingredientes ativos com validação científica, sendo o retinol um dos mais relevantes, porém marcado por uma certa ambivalência. Embora seja amplamente reconhecido como um ingrediente antienvelhecimento altamente eficaz, o retinol também está associado a riscos percebidos, como irritação cutânea ou intolerância, o que pode gerar incerteza entre consumidoras. Apesar da sua importância crescente, ainda se sabe pouco sobre como essas percepções contraditórias afetam as decisões de compra. Este estudo tem como objetivo analisar os principais fatores psicológicos e as barreiras percebidas que influenciam a intenção de compra de produtos faciais com retinol, focando-se em mulheres entre 20 e 40 anos na Alemanha. Para tal, foi utilizada uma abordagem de métodos mistos, combinando entrevistas qualitativas exploratórias com um inquérito quantitativo online ($n = 285$). Com base em conceitos de ingredient branding, teoria da sinalização e psicologia do consumo, foram examinados elementos como confiança, eficácia percebida, credibilidade das fontes de informação, risco percebido, ambivalência e receio de irritação cutânea. Os resultados revelam que a confiança, a eficácia percebida e fontes de informação credíveis são os principais impulsionadores da intenção de compra, sendo a eficácia percebida o fator com maior impacto direto. Surpreendentemente, os riscos percebidos e a ambivalência não atuam apenas como barreiras, mas relacionam-se também com uma maior ponderação da compra. Estes resultados sugerem um processo de decisão mais refletido e condicionado, destacando a necessidade de uma comunicação de marca transparente, fundamentada e cientificamente robusta.

Keywords: Cuidados com a pele, retinol, barreiras, fatores motivadores, risco percebido, ambivalência, medo de irritação da pele, confiança, eficácia percebida

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This document has been reviewed using AI tools for linguistic refinement and clarity.

1. Introduction

The skincare industry is undergoing profound change, characterized by growing consumer interest in scientifically proven ingredients, the increasing importance of dermatological expertise, and stricter regulatory requirements. Retinol plays a central role, particularly in the anti-aging segment: it is considered one of the most researched and effective active ingredients for improving skin texture and wrinkle depth (Mukherjee et al., 2006). Despite this high scientific recognition, retinol is also associated with risks such as irritation, dryness, or hypersensitivity (Zasada & Budzisz, 2019). This tension between effectiveness and potential side effects makes retinol an ambivalent active ingredient, whose perception among consumers has not yet been sufficiently researched. In addition, regulatory developments, such as the new EU restriction on vitamin A derivatives in skincare products, are changing both market dynamics and the requirements for brand communication and consumer education (European Commission, 2024). At the same time, leading brands are pursuing very different strategies to build trust and reduce retinol-related uncertainties. While some manufacturers rely on medical authority, others use transparency, community recommendations, or emotional communication. However, although communication has been shown to influence risk perception, it is still unclear which factors actually motivate consumers to buy a retinol product and which deter them.

This is where this work comes in. While previous research in the field of ingredient branding and signaling theory shows how ingredients can act as quality signals and reduce uncertainty (Desai & Keller, 2002), the literature focuses on ingredients with positive connotations. Ambivalent active ingredients, those that signal both opportunities and risks, have been largely ignored to date. This creates a significant research gap, especially in the German market, which is considered particularly science-oriented and safety-conscious.

Research Objectives:

This study aims to systematically examine the perception of retinol as an ambivalent active ingredient and to identify the psychological mechanisms that influence consumers' purchase intentions. Based on this objective, the study addresses two central research questions:

1. What are the main drivers of purchase intention among retinol users in facial skincare women aged 20–40 in Germany?

2. What are the main perceived barriers preventing women aged 20–40 in Germany from purchasing retinol-based facial skincare products?

The focus is on three central research objectives:

1. Identification of the most important drivers of purchase intent among retinol users, in particular trust, perceived effectiveness, and the role of credible sources of information.
2. Analysis of the central psychological barriers among non-users, including perceived risk, ambivalence, fear of irritation, and feeling overwhelmed by product diversity.
3. Examination of the role of brand communication, in particular how framing and source credibility can change perceptions of retinol and reduce or reinforce uncertainties.

These objectives are pursued using a mixed-methods approach that combines an exploratory qualitative phase with a hypothesis-testing quantitative online survey. The qualitative phase provides a deep understanding of individual perception patterns and serves to precisely operationalize the constructs. The quantitative phase then allows for statistical verification of the theoretically derived correlations. The analysis thus focuses both on understanding psychological mechanisms and on specific factors influencing purchasing decisions.

Theoretical and Practical Contribution:

With its focus on an ambivalent active ingredient, the work makes three significant contributions:

- Theoretical contribution: The study expands ingredient branding and signaling theory to include the perspective of ambivalent ingredients, whose effectiveness and perceived risk have simultaneous effects. It examines how trust, effectiveness assessment, and risk perception jointly shape purchasing decisions.
- Psychological contribution: For the first time, the study analyzes the specific role of ambivalence, fear of irritation, and cognitive overload in relation to retinol, factors that have been largely ignored in the literature to date but are highly relevant to consumer decision-making.
- Practical contribution: The results provide concrete recommendations for brands on how to communicate scientific content, safety aspects, and application instructions in a way that strengthens trust and reduces barriers to purchase. This is particularly relevant in the context of growing regulations and an increasingly knowledge-oriented consumer group.

Overall, the work aims to develop a deeper understanding of why women between the ages of 20 and 40 buy retinol, or consciously choose not to, and how brands can positively influence these decision-making processes through credible, understandable, and evidence-based communication.

2. Industry Analysis

2.1 Overview of the Industry

For several years now, the global skincare industry has been one of the fastest-growing sectors of the cosmetics market, characterized by increased self-care, higher quality standards, and a growing willingness among consumers to invest (McKinsey & Company, 2025). Facial care in particular plays a central role, as it is closely linked to skin health, anti-aging, and visible results. The market is increasingly moving toward scientifically based skincare. Consumers prefer products with clearly proven effectiveness, which has led to a sharp rise in the importance of active ingredients such as retinol, hyaluronic acid, niacinamide, and peptides (Data Bridge Market Research, 2024). These active ingredients stand for effectiveness, but at the same time present brands with communication challenges in terms of tolerability. At the same time, digitalization is changing consumer behavior: dermatological content and social media platforms such as TikTok and Instagram are promoting an informed, comparative, and transparency-oriented approach to products (Szeto et al., 2021). This is giving rise to new brand positioning that increasingly relies on scientific evidence. Germany is one of the leading markets for skincare products in Europe (Euromonitor, 2025). Two clear trends are shaping the market: growing demand for clinically effective products and increased sensitivity to possible irritation or intolerance. This is particularly relevant for retinol despite its recognition as the “gold standard” in anti-aging, it is often associated with potential skin irritation (Zasada & Budzisz, 2019).

2.2 The Anti-Aging and Facial Skincare Segment

Facial care has become one of the most influential segments within the skincare industry, as consumers increasingly invest in products that reduce visible signs of aging and support long-term skin health (Weaver et al., 2025). Anti-aging is no longer seen as a corrective measure, but increasingly as a preventive one, and is an integral part of modern skincare routines. A key feature of this segment is the growing importance of scientifically proven active ingredients. Consumers are increasingly evaluating products based on the effectiveness of their ingredients,

which has led to substances such as retinol, hyaluronic acid, peptides, and vitamin C becoming much more relevant (Euromonitor, 2025). Retinol is one of the most researched anti-aging ingredients: It stimulates cell renewal, promotes collagen, and reduces fine lines (Mukherjee et al., 2006). Dermatological studies confirm these effects (Kafi et al., 2007). At the same time, gentler alternatives such as bakuchiol are gaining importance, especially for sensitive skin (Zasada & Budzisz, 2019). In parallel, brand communication is increasingly moving towards “science-based skincare.” Scientific expertise is becoming a central component of brand identity (McKinsey & Company, 2025), while dermatologically trained experts and so-called “skincare influencers” are shaping communication. Retinol plays a key role in this environment. Although it is considered the “gold standard” (Mukherjee et al., 2006), it is often associated with irritation or hypersensitivity, especially in sensitive skin (Zasada & Budzisz, 2019). This tension between high efficacy and potential side effects highlights the ambivalence of active ingredients and forms the basis for further consideration of retinol in the current market and consumer context (Jang et al., 2022).

2.3 Retinol as an ambivalent active ingredient

2.3.1 Retinol as a Hero Ingredient

As previously stated, in modern skincare, Retinol is considered one of the best-known and most effective active molecules. Over decades, it has established itself as a so-called “hero ingredient” in anti-aging care and is represented in numerous product categories from drugstore brands to premium cosmetics. Dermatological studies confirm the effectiveness of retinol in reducing wrinkles, stimulating collagen production, and improving skin texture (Kafi et al., 2007). This scientific evidence has led to retinol becoming an integral part of modern facial care routines and enjoying high recognition among consumers.

2.3.2 Consumer Concerns and Innovation

Despite its proven effectiveness, retinol is used cautiously by many consumers because the active ingredient is considered potentially irritating and requires slow acclimatization (Zasada & Budzisz, 2019). This ambivalence means that users generally trust retinol but use it with caution. To improve tolerability, brands are investing in technological solutions such as microencapsulation, which releases retinol in a controlled manner, thereby reducing irritation and increasing stability (Narsa et al., 2024). In addition, formulations are increasingly being developed that combine retinol with soothing or barrier-strengthening ingredients to balance effectiveness and mildness (Zasada & Budzisz, 2019). These innovations underscore that

companies are increasingly positioning retinol as effective yet gentle on the skin in order to appeal to a broader target group.

2.4 Regulatory Context in the European market

Retinol and its derivatives are subject to strict safety requirements in the EU. The legal basis for this is the Cosmetics Regulation (Regulation (EC) No. 1223/2009), which aims to ensure that products are safe under normal conditions (European Parliament & Council, 2009).

With the addition of Regulation (EU) 2024/996, vitamin A derivatives such as retinol, retinyl acetate, and retinyl palmitate have been classified as restricted substances. For facial care products, a maximum content of 0.3% retinol equivalent now applies, supplemented by a mandatory warning label (“Contains vitamin A...”) (European Commission, 2024). For manufacturers, this means a mandatory adjustment of formulations, labeling, and packaging by 2025; non-compliant products may no longer be sold from 2027 onwards (Manzano, 2025). At the same time, the regulation promotes innovations such as encapsulated forms of retinol and alternative active ingredients, as brands must strike a better balance between efficacy and safety.

3. Competitor Analysis

3.1 Overview of the competitive landscape

The market for retinol-based facial care in Germany is one of the most dynamic segments of the skincare industry and is increasingly characterized by scientifically proven effectiveness. Women between the ages of 20 and 40 in particular show a strong interest in clinically tested, effectively communicated ingredients (McKinsey & Company, 2025). Leading brands such as La Roche-Posay, The Ordinary, Paula's Choice, and Eucerin have established themselves in the retinol segment. While some brands rely on dermatological expertise, others focus on transparent and community-based communication that appeals to informed consumers (Dingre et al., 2025). Since retinol is effective but potentially irritating, many brands use “starter retinols,” gentle formulations, or alternatives such as bakuchiol to build trust (Zasada & Budzisz, 2019), demonstrating that competition is increasingly defined by scientific evidence, tolerability, and trust-building communication.

3.2 Communication Strategy Analysis

Building on the market overview, this chapter examines how the four leading brands, La Roche-Posay, Eucerin, Paula's Choice, and The Ordinary, position retinol in their communications.

Since the active ingredient is considered both effective and potentially irritating, the brands pursue different strategies to strengthen scientific credibility, safety, and trust. The focus is on the central communication mechanisms, scientific authority, transparency, emotional safety, and channel selection, which reveal the differences between the brands.

3.2.1 Scientific credibility and medical foundation

La Roche-Posay and Eucerin, two of Germany's major retinol brands, lay a high focus on medical legitimacy. Their communications highlight dermatological testing, clinical evaluations, and collaboration with doctors, which strengthens trust and perceived safety. Statements such as “clinically proven” or “dermatologically tested” serve as key anchors of trust in a market that expects scientifically proven efficacy (McKinsey & Company, 2025). In contrast, Paula's Choice and The Ordinary generate scientific credibility primarily through radical transparency. This creates a form of knowledge-based trust based on transparency and scientific traceability (Mukherjee et al., 2006).

3.2.2 Transparency and ingredient communication

A key difference between the brands is evident in their approach to ingredient transparency. Paula's Choice and The Ordinary are considered pioneers of this approach: both provide detailed information about which ingredients are included in what concentrations, how they work, and how they should be used. Product names such as “Retinol 0.2% in Squalane” signal scientific precision at The Ordinary and promote trust among information-oriented consumers (The Ordinary, 2025). While this radical openness strengthens credibility and satisfies the information needs of knowledge-affine users, it can also lead to overwhelm, especially for consumers without prior knowledge who feel intimidated by complex concentrations or technical terms (McKinsey & Company, 2025). Overall, it is clear that transparency can both build trust and raise barriers to entry if the amount of information is too high.

3.2.3 Emotionalization and ‘soft-science’

La Roche-Posay combines scientific efficacy claims with empathetic “soft science” language such as “gentle efficacy” to reduce fears of irritation. Eucerin takes a similar but more reassuring approach: clear clinical imagery and a factual tone create stability and trust, especially for safety-oriented consumers (Eucerin, 2025). Paula's Choice emphasizes emotional aspects such as self-determination and knowledge: users are addressed as competent, informed consumers, which strengthens their self-confidence and control over their own skincare (Leander & Pamilde, 2025). The Ordinary, on the other hand, generates emotionality primarily

through community dynamics on platforms such as Reddit and Instagram. Trust is built here through peer experiences and social exchange, rather than through classic brand messages (Team, 2025).

3.2.4 Communication channels and media strategies

The choice of communication channels reflects the strategic brand logic in each case. La Roche-Posay and Eucerin rely primarily on dermatological authorities, pharmacies, and traditional media campaigns, which strengthens their medical credibility but allows for little dialogue (Montemayor, 2024). Paula's Choice primarily uses its own digital channels such as its website, blog, and YouTube to convey scientifically based content and explain active product use (Leander & Pamlden, 2025; McKinsey & Company, 2025). The Ordinary communicates primarily via community platforms such as Reddit and Instagram, where user-generated content, testimonials, and discussions generate a high level of peer-to-peer trust (Team, 2025).

3.2.5 Figure 1: Comparative summary

Brand	Trust Mechanism	Communication Style	Main Channels	Strategic Focus
La Roche-Posay	Medical Authority	Empathetic - Clinical	Pharmacies, YouTube	Effectiveness & Safety
Paula's Choice	Knowledge & Education	Rational-Didactic	Website, Blog, Social Media	Empowerment & transparency
The Ordinary	Community & Openness	Minimalistic-scientific	Instagram, Reddit	Accessible Science
Eucerin	Clinical Reliability	Calm, trust-inspiring	Pharmacies, TV	Tradition Safety

Source: Own

The analysis shows that scientific legitimacy forms the basis of all communication strategies in the retinol market, but that there are significant differences in how this is implemented. While La Roche-Posay and Eucerin rely heavily on medical authority and reassuring messages, Paula's Choice and The Ordinary pursue a more transparent, democratized approach to

knowledge. This illustrates that trust is not only created by facts, but also by their narrative and emotional embedding. Brands must therefore balance the ambivalence of retinol, effectiveness versus risk of irritation, in their communication.

4. Extended Problem Statement

In recent years, retinol has become one of the best-known and most polarizing active ingredients in facial care. Hardly any other ingredient is so strongly associated with scientifically proven effectiveness and visible results and at the same time with irritation, dryness or intolerance. This ambivalence between high efficacy and potential risk makes retinol a particularly exciting subject for consumer research. While dermatological research consistently verifies retinol's beneficial effects (Mukherjee et al., 2006; Kafi et al., 2007), little is known about how customers incorporate these contradicting impressions into their real purchasing decisions. Previous research on so-called ingredient branding has demonstrated that ingredients can serve as quality indicators and increase consumer trust in products (Desai & Keller 2002). However, previous research has focused primarily on clearly positive ingredients such as hyaluronic acid or vitamin C. How consumers deal with active ingredients that signal both opportunities and risks, i.e. ambivalent ingredients, has hardly been investigated to date. Particularly in the German market, which is considered to be highly regulated and science-oriented, there is a significant gap in research in this area. Women between the ages of 20 and 40 form a particularly dynamic target group: they are highly informed about active ingredients, increasingly trust scientific evidence, but are sensitive to risks and feel overwhelmed by complex information. They are therefore representative of a new consumer profile in the science-based skincare market, eager to learn, but also risk-aware. This ambivalence is evident not only on the consumer side, but also in brand communication. Leading competitors such as La Roche-Posay, Paula's Choice, The Ordinary and Eucerin pursue different strategies to build trust in retinol: from medical authority to radical transparency to emotionalizing 'soft science' communication. Despite this diversity, it remains unclear which mechanisms actually promote purchase intent and which barriers (e.g. fear of irritation, information overload or mistrust of brand messages) prevent purchase. Against this backdrop, this study examines the perception of retinol among women aged 20 to 40 in Germany. The aim is to identify key drivers of purchase intention (such as perceived effectiveness, trust in the brand or ingredient, perceived competence) and perceived barriers (such as fear of side effects or lack of knowledge) and to create a better understanding of decision-making processes in the context of ambivalent active ingredients.

5. Theoretical Framework

5.1 Introduction to the Theoretical Framework

The theoretical framework of this work combines approaches from brand research, consumer psychology, and communication science to explain how consumers perceive retinol-based facial care products and make purchasing decisions. Retinol is an ambivalent active ingredient: it is scientifically well-proven and highly effective, but at the same time it is associated with irritation and risks. To understand how consumers deal with this ambivalence, the framework integrates different perspectives that highlight both drivers and barriers as well as communicative mediation mechanisms.

The theoretical framework is divided into five interconnected clusters:

1. Ingredient branding and signaling theory: explains how retinol functions as a “branded ingredient” and acts as a quality signal for consumers.
2. Consumer drivers: trust, perceived effectiveness, and purchase intent which describe psychological mechanisms that positively influence willingness to buy.
3. Barriers: Perceived risk, ambivalence, and fear of irritation which examine negative perceptions that can lead to reluctance or avoidance of purchase.
4. Communication and framing effects: analyzes how the type of message communication (e.g., “with retinol,” “recommended by dermatologists”) and the credibility of the source shape perceptions of safety and trust.
5. Scientific and market-related context: situates the topic within the dermatological fundamentals and regulatory framework of the European cosmetics market.

Combining these theoretical perspectives creates a holistic understanding of how consumers form attitudes toward ambivalent active ingredients such as retinol. The framework serves as a conceptual foundation for the following development of hypotheses in chapter 6 and guides the empirical investigation of the most important drivers and barriers to purchase intention among women aged 20 to 40 in Germany.

5.2 Ingredient Branding and Signaling Theory

The theoretical foundation for this work is ingredient branding and signaling theory, which explains how some ingredients, such as retinol in this case, act as separate brand components and influence consumer perceptions of quality.

5.2.1 Ingredient Branding

The concept of ingredient branding describes the strategic brand management of ingredients that are positioned within an end product as a visible quality feature (Desai & Keller, 2002). Originally developed in industries such as technology and food (e.g., “Intel Inside”), the concept is increasingly being applied in the cosmetics sector, where active ingredients such as retinol, hyaluronic acid, and vitamin C act as “hero ingredients.” In this context, the ingredient itself becomes a co-branding partner of the manufacturer's product (Park et al., 1996). Ingredient branding not only strengthens differentiation within an oversaturated product category, but it also transfers the ingredient's positive associations, such as scientific efficacy or dermatological research, to the umbrella brand. Retinol thus serves as a “sub-brand” that communicates scientific expertise and visible efficacy.

5.2.2 Signaling Theory

Furthermore, signaling theory describes how brands and ingredients serve as indicators of difficult-to-observe product characteristics (Erdem & Swait, 1998, 2004). Because consumers cannot objectively check the efficacy of a skincare product before purchasing it, they rely on signals that allow them to draw conclusions about quality, safety, and competence. Such signals can take the form of scientific language, references to clinical studies, packaging designs, or certifications (“dermatologically tested”). In the field of dermocosmetic care, where uncertainty and information asymmetries are high, the signaling function of ingredients is an important method for developing trust (Erdem and Swait, 2004).

5.2.3 Retinol as a signal for scientific efficacy

Retinol fulfills a dual signaling function: as an efficacy signal, it stands for clinically proven anti-aging effects (Mukherjee et al., 2006) and is also considered the “gold standard” among active ingredients (Kafi et al., 2007). At the same time, it acts as an expertise signal, as brands convey scientific competence and depth of research through the use of retinol.

Due to its ambivalence, high efficacy with possible irritation, brands increasingly emphasize safety aspects such as “stabilized retinol” or “gentle formulation” to strengthen trust. The concept of ingredient branding is central to this work because it shows how retinol acts as a stimulus in the decision-making process. Signaling theory complements this perspective by explaining how consumers derive judgments of quality and trust from such efficacy and safety stimuli.

5.3 Consumer Drivers – Trust, Perceived Efficacy and Purchase Intention

While the previous section explained how retinol acts as a quality indicator through ingredient branding and signaling, this section looks at the key psychological drivers of purchase intent. The focus is on three closely related constructs, trust, perceived efficacy, and purchase intent, which explain why consumers are willing to purchase retinol-containing facial care products despite the potential risks.

5.3.1 Trust as a key prerequisite for purchasing decisions

Trust is one of the most important constructs in consumer research, especially in markets with high information asymmetries such as skincare (Chaudhuri & Holbrook, 2001). It serves as a psychological mechanism that reduces uncertainty and facilitates product evaluation (Delgado-Ballester & University of Murcia, 2004). In the context of active ingredients, trust refers to consumer's belief that a product will deliver its promised performance in a safe and reliable way. At the same time, it acts as a risk buffer for ingredients such as retinol, which require specialist knowledge and can potentially cause irritation (Zasada & Budzisz, 2019).

Chaudhuri and Holbrook (2001) define two dimensions of trust:

- reliability as the expectation of consistent product performance and
- intentionality as the perceived consumer orientation of the brand.

La Roche-Posay and Eucerin strengthen trust through medical legitimacy and dermatological expertise. Paula's Choice and The Ordinary, on the other hand, promote trust through transparency and educational communication. In both cases, trust serves as a central anchor that reduces uncertainty and increases the perception of competence.

5.3.2 Perceived efficacy as a cognitive driver

In addition to trust, perceived efficacy plays a central role in the evaluation of cosmetic products. It describes the subjective assessment of the extent to which a product can achieve the promised effect (Hansen et al., 2012). Research shows that consumers base their judgments of effectiveness not only on objective results, but also react strongly to communicative stimuli such as clinical studies, before-and-after comparisons, or information on the concentration of active ingredients (Erdem & Swait, 1998). Market analyzes also confirm the growing importance of such evidence signals (McKinsey & Company, 2025).

Retinol is a particularly relevant example, as it is scientifically considered one of the most effective anti-aging ingredients (Mukherjee et al., 2006). Its established performance shapes consumer expectations and requires communication that supports these expectations with clear, evidence-based information (Kafi et al., 2007). There is also a reciprocal relationship between perceived effectiveness and trust: scientific competence increases the subjective assessment of effectiveness, while high perceived effectiveness strengthens trust in the brand (Delgado-Ballester & University of Murcia, 2004). Both factors thus act as amplifiers and promote the conversion of a positive attitude into actual purchase intent.

5.3.3 Purchase intention within the framework of the Theory of Planned Behavior

Purchase intention describes a consumer's willingness to purchase a product and is considered an immediate predictor of behavior (Ajzen & University of Massachusetts at Amherst, 1991). According to the Theory of Planned Behavior, purchase intention consists of three components: attitude toward the behavior, subjective norms, and perceived behavioral control. In the context of retinol, these factors include, for example, a positive assessment of the active ingredient, recommendations from dermatologists or social references, and knowledge about proper use and skin compatibility. Trust and perceived effectiveness have a particularly strong influence on the attitude component. Empirical findings show that both factors are key indicators of purchase intention in the beauty and health sector (Hossain et al., 2025). Previous research also confirms the connection between trust, perceived competence, and purchase intention (Erdem & Swait, 1998; Delgado-Ballester & University of Murcia, 2004). The higher the trust in a brand and the belief in the product's effectiveness, the more likely a repeat purchase will be considered.

In this study, trust, perceived effectiveness, and purchase intention are the positive counterparts to the barriers described in section 5.4. They explain how consumers cope with the complexity of active ingredients and which factors lead to a decision for or against retinol-containing products.

5.4 Barriers- Perceived Risks, Ambivalence and Irritation Concerns

While trust and perceived effectiveness are key drivers of purchase intent, various psychological barriers can inhibit this decision-making process. In the case of retinol products, three essential features stand out: perceived risk, ambivalence, and fears of irritation. These aspects represent customers' uncertainty toward highly effective but potentially problematic ingredients.

5.4.1 Perceived risk

The concept of perceived risk dates back to classical consumer research (Mitchell et al., 2008) and describes the subjective feeling that a purchase decision could have negative consequences. In the cosmetic context, this risk might be functional (e.g., potential skin irritation), psychological (e.g., fear of skin damage), or social (e.g., selecting the incorrect product that is not appropriate for one's skin type). There is a high degree of information asymmetry, especially with active ingredient cosmetics: consumers can only assess the actual skin reaction after use. This increases perceived uncertainty, particularly with "strong" or "irritating" ingredients (Mukherjee et al., 2006; Zasada and Budzisz, 2019). In practice, brands address this danger by confidence-boosting communication cues such as "clinically tested," "recommended by dermatologists," or "gentle formula." Nevertheless, studies show that perceived risk is a significant barrier to first-time purchases, even with high brand competence (V.-W. Mitchell, 1999). This means that even consumers who believe retinol is useful may avoid purchasing it because to uncertainty or a lack of experience.

5.4.2 Ambivalence toward active ingredient cosmetics

Ambivalence, or the presence of both favorable and negative product evaluations, is a second major barrier (Hamby & Russel, 2022).

Ambivalence occurs when consumers are both confident in the efficacy and concerned about possible side effects, which is particularly common with retinol. Theoretically, ambivalence can be understood as an affective-cognitive conflict: on the one hand, scientific promises of effectiveness activate positive, rational beliefs ("retinol works"), while on the other hand, reports of skin redness or irritation trigger negative emotions ("retinol irritates"). These opposing reactions can cause cognitive dissonance, which slows decision-making or contributes to procrastination (Hamby & Russel, 2022). In practice, ambivalence is also evident in search behavior ("Is retinol dangerous?") or in the preference for "milder alternatives" such as bakuchiol or retinal. As a result, brands must not only inform, but also actively minimize ambivalence, for example, through educational communication, step-by-step product introductions, or retinol combined with soothing ingredients like niacinamide or ceramides.

5.4.3 Fear of irritation and skin sensitivity

A third key barrier concerns the fear of skin irritation. Retinol is scientifically considered one of the most effective but also most sensitive anti-aging ingredients (Mukherjee et al., 2006;

Kafi et al., 2007). Even in clinical studies, side effects such as redness, dryness, or flaking have been reported (Zasada & Budzisz, 2019). These experiences are often amplified by social media, skin forums, or influencers, leading to collective caution toward retinol. Younger consumers (aged 20–40) in particular show a high demand for controllable skincare, they want visible results without “overloading” their skin. This tension between efficacy and tolerance generates a psychological barrier: the fear that one's skin type is too sensitive or may react negatively to retinol. Studies show that perceived skin sensitivity is a significant predictor of product avoidance (Cassalia et al., 2024). From a marketing standpoint, it is critical how businesses handle these fears, whether through gentle entry-level treatments, microencapsulated formulations, or narrative storytelling conveying confidence and safety ("for sensitive skin," "gentle retinol").

5.5 Communication and Framing Effects

The perception of active ingredient cosmetics, especially retinol, is determined not only by objective product characteristics, but also to a considerable extent by communication and message design. How brands communicate scientific information, efficacy claims, and risks has a significant influence on whether consumers develop trust, feel ambivalence, or turn away from a purchase. The focus is on two theoretical perspectives: framing theory (Tversky et al., 1981; Rothman & Salovey, 1997) and the concept of source credibility (Hovland & Weiss, 1951; Eisend, 2006). Both approaches describe how the nature and source of communication affect perceptions of efficacy, safety, and risk.

5.5.1 Framing theory: How messages influence perceptions

Framing theory describes how identical information is perceived differently depending on how it is presented linguistically and contextually (Tversky et al., 1981). In health and cosmetics communication, a distinction is often made between gain frames and loss frames (Rothman & Salovey, 1997). Gain frames emphasize the positive results of a behavior, while loss frames highlight the negative consequences of not applying it. Research shows that gain frames are particularly effective for prevention-oriented consumers, whereas loss frames have a stronger effect on correction-oriented target groups (Rothman & Salovey, 1997). With retinol, the chosen wording can be crucial: Describing it as “effective but potentially irritating” reinforces uncertainty. Communicating it as a “scientifically proven, skin-renewing active ingredient,” on the other hand, promotes trust and perceived competence. Framing thus serves as a

psychological lever to reduce ambivalence and reinterpret risks in a positive light, a process known as reframing.

5.5.2 Source Credibility – The Importance of the Source of Information

In addition to the content of the message, the credibility of the source also plays a decisive role. According to the classic communication model created by Hovland and Weiss (1951), a message's persuasiveness is heavily influenced by the source's competence and trustworthiness. There are three primary sources of cosmetics communication (Eisend, 2006).

Expert sources (e.g., dermatologists, pharmaceutical representatives, scientists), brand sources (e.g., official corporate communications, product packaging), social sources (e.g., influencers, user reviews, communities).

Each of these sources activates different dimensions of trust:

Competence-based trust arises from expert or brand authority (“dermatologically tested,” “clinically proven”).

Relational trust is based on social proximity and authenticity (“proven application,” “real testimonials”).

Recent research indicates that mixed sources of information, i.e., the simultaneous use of scientific and social evidence, are especially successful in increasing trust and decreasing skepticism (Eisend, 2006).

Brands like La Roche-Posay and Eucerin leverage experts as trustworthy communicators, while The Ordinary and Paula's Choice rely on user-generated content to build proximity and credibility.

5.5.3 Communication as a link between drivers and barriers

Communication acts as a moderating factor between the positive and negative perceptions of retinol. Scientifically sound, transparent framing strengthens trust and beliefs about effectiveness, while empathetic, risk-balancing messages reduce ambivalence and fears of irritation. Communication is therefore not just a means of conveying information, but a strategic tool that brands can use to actively shape attitudes. Especially with ambivalent ingredients such as retinol, the combination of message framing and source determines whether trust is built or skepticism is reinforced. In this sense, communication mediates between ingredient branding (Chapter 5.2), psychological drivers (Chapter 5.3), and barriers (Chapter 5.4). How consumers perceive retinol therefore depends on both the content and the nature and origin of the

communication. Strategically designed messages can thus bridge the gap between scientific credibility and emotional trust.

5.6 Scientific and Market Context

The theoretical considerations of this paper must be viewed in the context of scientific evidence and the regulatory framework of the European skincare market. Retinol is not only one of the most thoroughly researched anti-aging ingredients, but also an example of the growing importance of scientifically based and regulated cosmetics in Europe.

5.6.1 Scientific and regulatory context of retinol as an ambivalent active ingredient

Retinol, a vitamin A derivative, is considered one of the most effective anti-aging ingredients based on extensive clinical evidence. Studies have demonstrated improvements in skin structure, a reduction in wrinkles, and a promotion of epidermal cell renewal, which are primarily attributable to increased collagen synthesis (Mukherjee et al., 2006; Kafi et al., 2007). As a result, retinol has established itself as a scientific reference ingredient in both research and practice. At the same time, retinol is associated with potential skin irritation, with tolerability depending heavily on concentration, formulation, and individual skin sensitivity (Zasada & Budzisz, 2019). This ambivalence between high efficacy and perceived risk is further exacerbated by regulatory requirements in the European cosmetics market. The EU Cosmetics Regulation (EC No. 1223/2009), supplemented by Regulation (EU) 2024/996, limits the permissible retinol content in facial care products to 0.3% retinol equivalent and requires corresponding warnings (European Commission, 2024). While retinol is considered safe within these limits, regulatory authorities also point to the potential risks of cumulative exposure (Scientific Committee on Consumer Safety, 2022). This presents brands with the challenge of complying with regulatory requirements while communicating efficacy and safety in a transparent manner. The combination of scientifically proven effectiveness, regulatory control, and sensitive perception makes retinol a particularly suitable subject for analyzing consumer evaluations of ambivalent active ingredients.

5.6.2 Market development: Science as a differentiating factor

The European skincare market is increasingly moving toward scientifically proven efficacy. Consumers prefer clearly communicated, clinically tested active ingredients (Euromonitor, 2024) and are also paying more attention to tolerability and responsible product standards (Intelligence, 2024). Brands are responding to this by specifically using scientific evidence as

a differentiating factor. Dermatological expertise, clinical data, and precise information about active ingredients strengthen trust and create opportunities for differentiation in a competitive environment. In Germany, brands such as La Roche-Posay, Eucerin, The Ordinary, and Paula's Choice use this form of evidence-based communication in various strategies to build credibility. This makes science-based communication a key competitive advantage: it promotes trust, underscores brand competence, and forms the basis for the hypotheses developed in the next chapter on the relationships between trust, perceived effectiveness, risk, ambivalence, and communication.

6 Hypotheses Development

Based on the theoretical framework presented in Chapter 5, the central hypotheses that empirically test the relationships between the identified constructs are formulated below. The hypotheses consider both positive influencing factors (trust, perceived efficacy, and credibility of the information source) and inhibiting factors (perceived risk, ambivalence, fear of irritation). The aim is to investigate which of these variables promote or reduce the purchase intention of retinol-containing facial care products among women between the ages of 20 and 40 in Germany.

6.1 Definition of Constructs and Variables

The dependent variable in this study is purchase intention, understood as the subjective willingness of a consumer to purchase a product containing retinol (Ajzen & University of Massachusetts, at Amherst, 1991). In the context of retinol-based skincare, however, purchasing decisions are characterized by high involvement and perceived risk.

For non-users in particular, the decision process reflects an early-stage, conditional evaluation rather than an immediate purchase intention. Therefore, purchase consideration is conceptualized as an early-stage proxy of purchase intention, capturing respondents' openness toward a potential purchase under specific conditions (e.g., safety information or expert recommendations). This distinction allows for a more nuanced analysis of perceived barriers in the pre-decisional phase.

The following independent variables have an effect on this:

Trust: The expectation that a brand or product is reliable, safe, and scientifically sound (Chaudhuri & Holbrook, 2001; Delgado-Ballester & University of Murcia, 2004).

Perceived Efficacy: A consumer's belief that the product actually achieves its promised effect (Polman et al., 2020)

Perceived risk: The subjective fear of potential negative consequences, especially skin irritation or intolerance (Gieler et al., 2020).

Ambivalence: The simultaneous presence of positive and negative attitudes toward the product (Puteri et al., 2022).

Fear of Irritation: The specific concern that the product could irritate or damage the skin (Zasada & Budzisz, 2019).

Source credibility: Perceived competence and trustworthiness of the person or institution from which a product message originates (Hovland & Weiss, 1951; Eisend, 2006).

Together, these variables form the theoretical foundation for the subsequent empirical analysis.

6.2 Overview of Proposed Hypotheses

6.2.1 Drivers of purchase intention

Based on the theoretical framework, it can be expected that trust and perceived efficacy are decisive positive factors influencing purchase intention.

H1: Greater trust in the brand or product increases purchase intention.

→ Trust reduces uncertainty and facilitates decisions about potentially risky products.

H2: Higher perceived efficacy increases purchase intention.

→ Consumers are more likely to choose products whose effectiveness they perceive as convincing and scientifically proven.

H3: Higher trust leads to greater perceived effectiveness.

→ Brands that are perceived as competent and honest are considered more effective.

H4: High credibility of the information source (e.g., through experts, scientific studies, or dermatological recommendations) strengthens trust in the product.

→ Source credibility theory shows that the perception of competence and trustworthiness of a source increases trust in the message conveyed.

H5: A positively perceived, science-based communication style is positively associated with trust and perceived effectiveness.

→ Positively worded messages are more likely to be accepted and strengthen the assessment of effectiveness.

6.2.2 Barriers to purchase intention

In addition to promoting factors, there are psychological barriers that weaken or prevent purchasing decisions.

H6: A higher perceived risk reduces purchase intention.

→ Even low perceptions of risk can lead to avoidance of purchase, especially in the case of active ingredients with potential side effects.

H7: Greater ambivalence toward retinol reduces purchase intention.

→ Conflicting evaluations (effective vs. irritating) create decision uncertainty and increase the likelihood of postponement or rejection.

H8: Greater fear of skin irritation reduces purchase intention.

→ Retinol is often associated with irritation, which is why fear of intolerance is a key barrier

6.3 Summary of hypotheses

The hypotheses formulated form an integrated model that shows:

Drivers such as trust, perceived effectiveness, and credible sources increase purchase intention. Barriers such as risk, ambivalence, and fear of irritation reduce it. Trust and source credibility serve as important factors for mitigating negative perceptions while reinforcing good ones.

This model serves as the basis for the empirical research design and subsequent statistical testing in the methodology and analysis chapter.

7 Methodology

7.1 Research Design and Approach

This study uses a mixed-methods design that combines qualitative and quantitative approaches to examine the factors that influence the purchase intention of retinol-containing facial care products among women between the ages of 20 and 40 in Germany. By combining both methods, individual perceptions can be captured as well as statistically reliable correlations.

The research design consists of two phases. In the qualitative phase, short, semi-structured interviews are used to better understand key constructs such as perceived risk, ambivalence,

fear of irritation, or trust from the consumer's perspective and to subsequently formulate the questionnaire items more precisely.

Building on this, the quantitative phase takes the form of an online survey that empirically tests the hypotheses developed in Chapter 6. The questionnaire is based on validated scales and operationalizes all relevant variables, including trust, perceived effectiveness, risk, ambivalence, fear of irritation, credibility of the source, and purchase intention.

The combination of both approaches takes into account both individual insights and generalizable patterns. While the interviews provide an in-depth understanding of the psychological mechanisms surrounding retinol, the quantitative analysis allows for a systematic examination of the theoretical relationships. Overall, the mixed-methods design helps to ensure both depth of content and statistical robustness.

7.2 Qualitative Study

7.2.1 Sampling and Interview Procedure

For the qualitative preliminary study, short, guided interviews were conducted to explore the two research questions in greater depth. The focus was exclusively on the topics derived from the research questions, in particular, drivers of purchase intention and perceived barriers to using retinol. Content outside this scope was deliberately excluded to ensure thematic clarity. Purposive sampling was used, with women from the defined target group (aged 20–40, Germany) being specifically selected. The decisive factors were not the personal characteristics of the interviewees, but their suitability in terms of relevant criteria such as skincare routine and previous experience with retinol. Recruitment took place via personal networks, social media, and recommendations. A total of ten interviews were conducted, which is in line with the exploratory nature of the study.

The interviews took the form of semi-structured short interviews (10–15 minutes) via video or telephone call. The guide was strictly based on the research questions; additional topics were not included. At the beginning, the purpose and procedure were explained, and voluntary, anonymous participation was ensured. Instead of complete transcripts, bullet-point notes and short summaries were created, which are documented in the appendix.

The evaluation was carried out using structured content analysis along the categories “drivers” and “barriers.” The answers were grouped within these categories and condensed according to recurring patterns. The qualitative findings were then used to refine the questionnaire wording for the quantitative phase. (Appendix, 1)

7.2.2 Key Insights

The qualitative preliminary study provides valuable insights into the perception of retinol products among women aged 20 to 40 in Germany. Overall, the interviews confirm the key drivers and barriers to purchase intent identified in the theory and hypothesis development. The following key findings can be derived from the statements of the ten participants:

1. Trust as a key driver of purchase intent

All interviewees emphasized that trust in a brand or source of information is a key factor in their decision to purchase a retinol product. The following factors were particularly effective in building trust:

- dermatological recommendations
- scientifically based brands (e.g., pharmacy brands)
- transparent brand communication
- clearly explained mechanisms of action

Trust not only acts as a direct driver, but also reinforces the perceived effectiveness of a product. Brands that are considered competent are automatically rated as “more effective.” (Appendix, 1.2)

2. Perceived effectiveness as a key purchasing incentive

The interviews show that visible results and the scientifically proven effectiveness of retinol are strong motivating factors. Many participants cited

- clinical studies
- before-and-after pictures
- personal or social testimonials

as particularly influential in their purchasing decisions. Even women with no previous experience showed a high degree of openness, provided they were convinced of its effectiveness. (Appendix, 1.2)

3. Influence of the information source on trust building

Credible sources of information played a significant role in assessing trust and effectiveness. The following were particularly effective:

- Dermatologists
- Medically trained influencers
- Professional brand websites
- Pharmacies

In contrast, social media advertising without any professional reference was perceived as untrustworthy. Overall, the interviews clearly show that competent sources reduce the perception of risk and strengthen purchase intent. (Appendix, 1.2)

4. Fear of risk and irritation as key barriers

By far the most frequently cited barrier was fear of skin irritation. Many of the respondents reported that:

- their own previous irritation
- experiences reported by others
- negative social media posts

lead to a high level of uncertainty. Women with sensitive skin in particular expressed a clear fear of flaking, redness, or “skin purging.” This fear reduces the willingness to buy, even when the effectiveness of the product is recognized. (Appendix, 1.2)

5. Ambivalence between effectiveness and risk

A recurring pattern is the ambivalent attitude toward retinol:

Many participants strongly believe in the effectiveness of the active ingredient, but at the same time feel inhibited by the possible side effects.

This ambivalence manifests itself in the form of:

- Hesitation before the first purchase
- Uncertainty when choosing the right concentration
- Need for guidance and reassurance

The combination of high expectations and high uncertainty makes retinol a “high-involvement” product that requires guidance. (Appendix, 1.2)

6. Overwhelmed by product variety and lack of confidence in use

Almost all participants expressed difficulties with:

- choosing the right retinol strength
- distinguishing between retinol, retinal, and retinoids
- dosage, frequency, and combination with other products

This cognitive overload reinforces barriers and increases perceived risk. At the same time, many expressed a desire for:

- clear step-by-step instructions
- low-dose starter products
- simple, understandable explanations

These measures would significantly reduce the perceived risk and increase the intention to purchase. (Appendix, 1.2)

7.3 Quantitative Study

Building on the findings of the qualitative preliminary study, a quantitative online survey was conducted in the second research step. The aim of the quantitative phase was to empirically test the hypotheses formulated in Chapter 6 and to statistically examine the causal relationships between the central constructs, trust, perceived effectiveness, source credibility, perceived risk, ambivalence, fear of irritation, and purchase intention. The quantitative study follows a hypothesis-testing research design based on standardized measurement instruments, which increases the generalizability of the results within the defined target group. The use of validated scales ensured that the constructs were reliably operationalized and that the results showed a high degree of internal consistency.

The survey was programmed and distributed via the Qualtrics platform. Participation was anonymous, voluntary, and without financial incentives. The average completion time was approximately 3-4 minutes, which corresponds to the complexity of the scales and the limited attention span of the target group. A filter logic ensured that only women between the ages of 20 and 40 from Germany were included in the analysis. In addition, participants were divided

into retinol users and non-users based on a screening question in order to precisely align the research with the two research questions.

The quantitative survey therefore forms the empirical basis for the subsequent statistical analysis (Chapter 8) and allows for systematic examination of which psychological factors promote or inhibit purchase intentions. (Appendix, 2)

7.3.1 Sampling and Data Collection

Non-probabilistic convenience sampling was used for the quantitative study, which has proven particularly effective in online research designs with a clearly defined target group. Participants were recruited via social networks (Instagram, WhatsApp groups, personal contacts) and forwarded directly to the Qualtrics survey. This recruitment strategy made it possible to achieve a sufficiently large and heterogeneous sample within the target group within a short period of time.

Inclusion criteria

Only individuals who met the following conditions were eligible to participate:

- Gender: female
- Age: 20–40 years
- Place of residence: Germany
- Willingness to participate anonymously in the study

A screening logic ensured that individuals who did not meet the target group criteria (e.g., men, <20 years of age, >40 years of age, residing outside Germany) were automatically excluded.

Sample Size

A total of 285 fully completed data sets were available for quantitative analysis. This sample size is within the recommended range for empirical master's thesis in marketing and is sufficient to reliably perform the planned statistical procedures. In particular, the database enables:

- Reliability analyses (e.g., Cronbach's alpha)

- Correlation analyses
- Linear regression models for testing the hypotheses

The sample thus provides a solid basis for robust and meaningful statistical results.

Data collection method

Data was collected entirely online via Qualtrics. After agreeing to the consent form, participants were guided through several logically linked question blocks:

1. Screening questions
2. Block for retinol users *or* block for non-users
3. Cross-block on risk perception/ambivalence (depending on usage status)
4. Demographic information (Skin type)
5. Final question

Separating the user and non-user paths ensured that each group only received the items relevant to them, optimizing both precision and response quality.

7.3.2 Questionnaire and Measurement Scales

The questionnaire is based on established and empirically validated scales from consumer and communication research and has been adapted to the context of retinol-containing facial care products. All constructs were measured using five-point Likert scales (*1 = strongly disagree, 5 = strongly agree*).

For retinol users, the constructs of trust, perceived effectiveness, and purchase intention were each operationalized across several items. Trust captures the perceived safety, scientific credibility, and competence of retinol-containing products, including dermatological recommendations and transparent, evidence-based communication. Perceived efficacy measures the subjective assessment of effectiveness, for example in terms of visible results or scientific evidence. Purchase intention reflects the willingness to buy or continue using retinol products (Appendix, 2.4).

Furthermore, users answered a separate experience block that recorded the duration and frequency of retinol use as well as previous experiences with skin irritation. This allowed differences between beginners and experienced users to be taken into account and the results to be interpreted in a more differentiated manner (Appendix, 2.5).

For non-users, key psychological barriers were surveyed separately. Perceived risk covers safety concerns and possible side effects (H6), ambivalence describes conflicting assessments of benefits and risks (H7), and fear of skin irritation represents a specific form of perceived risk (H8) (Appendix, 2.6).

In addition, conditional willingness to purchase was recorded for non-users. These items do not measure immediate purchase intent, but rather conditional openness to retinol, for example in clinical testing, dermatological recommendation, or clear scientific explanation. This allows us to analyze the extent to which perceived risks and barriers can be mitigated by trust and safety-related communication signals (Appendix, 2.7).

8 Data Analysis

The quantitative analysis is based on a total of $n = 285$ valid cases that meet the defined inclusion criteria (women aged 20–40, residing in Germany, complete questionnaire responses). The aim of the evaluation is to empirically test the previously developed hypotheses and to reveal key correlations between the constructs examined, including trust, perceived risk, ambivalence, and purchase intention.

In the first step, the internal reliability of the multi-item scales is tested and then composite scores (e.g., Trust_Score) are formed. Based on this, the descriptive statistics of the central variables are reported in order to enable an initial understanding of the data structure and distribution within the sample.

The second step involves inferential analyses, including correlation analyses and regression models, which are used to test the hypotheses empirically.

8.1 Descriptive Statistics

As already mentioned, at the beginning of the quantitative analysis the descriptive statistics of the central research constructs are presented. This initial evaluation provides an overview of the characteristics of the variables surveyed and a basic understanding of how participants perceive and evaluate retinol products.

The sample comprises $n = 285$ respondents. All participants are female and come from Germany. The age distribution is mainly concentrated in the 25–29 age group (49.1%), 20–24 age group (21.1%), and 30–34 age group (23.2%). The sample therefore predominantly

represents a young adult target group. With regard to the use of retinol products, 38.9% (n = 111) stated that they currently use retinol, while 61.1% (n = 174) stated that they do not use it. Among users, the duration of use is between 1 and 6 months, with the majority using retinol 2–3 times a week. Only a very small proportion reported daily use. The self-assessment of skin type shows that 46.5% of respondents did not specify a clearly identifiable skin type (“not sure”), while 33.8% described their skin as sensitive. Other skin types such as dry, oily, or combination skin are comparatively less common. (Appendix, 3.1)

8.2 Hypotheses Testing

To test Hypothesis 1 (*Greater trust in the brand or product increases purchase intention*), a linear regression analysis was performed. The aim was to examine whether higher perceived trust in retinol products is associated with higher purchase intention. First, the internal consistency of the trust scale was checked. The four trust items (Trust_1 to Trust_4) showed good reliability (Cronbach's $\alpha = .779$), so that the scale could be assessed as reliable and used for further analysis. Based on these items, a composite trust score was then formed (mean variable Trust_Mean). Purchase intention was also operationalized as a mean variable (PI_Mean). In the next step, PI_Mean was included as the dependent variable and Trust_Mean as the independent variable in a linear regression (method: enter). The results show that trust has a significant positive influence on purchase intention. The regression model was highly significant overall, $F(1,110) = 72.542$, $p < .001$, and explained around 39.7% of the variance in purchase intention ($R^2 = .397$; adj. $R^2 = .392$). The effect of trust on purchase intention was clearly positive and statistically significant (standardized beta $\beta = .630$, $t = 8.517$, $p < .001$). Thus, purchase intention increases with increasing trust in retinol products. Hypothesis 1 is therefore clearly supported. (Appendix, 4.1)

A linear regression analysis was also performed to test hypothesis 2 (*Higher perceived efficacy increases purchase intention*). The aim of this analysis was to investigate whether a higher perceived efficacy of retinol products is associated with a higher purchase intention. Perceived efficacy was measured using three items (Perceived_efficacy_1 to Perceived_efficacy_3) relating to the effectiveness of retinol and its scientific basis. Based on these items, a composite mean score (Efficacy_Mean) was formed. Purchase intention was operationalized using the mean variable PI_Mean, analogous to Hypothesis 1. Following this, PI_Mean was included as the dependent variable and Efficacy_Mean as the independent variable in a linear regression analysis (method: Enter). The results show that perceived efficacy has a very strong and

significant positive influence on purchase intention. The regression model proved to be highly significant, $F(1,110) = 165.923$, $p < .001$, and explained around 60.1% of the variance in purchase intention ($R^2 = .601$; adj. $R^2 = .598$). The standardized regression coefficient indicates a very strong effect of perceived efficacy ($\beta = .775$, $t = 12.881$, $p < .001$). Thus, purchase intention increases significantly with increasing perceived efficacy of retinol products. Hypothesis 2 is therefore very clearly supported. (Appendix, 4.2)

The next step was to examine the extent to which trust in retinol products influences perceived efficacy. To test hypothesis 3 (*Higher trust leads to greater perceived effectiveness*), a linear regression analysis was performed, in which perceived effectiveness was included in the model as the dependent variable (Efficacy_Mean) and trust as the independent variable (Trust_Mean). The results show that trust has a strong and statistically significant positive influence on perceived effectiveness. The regression model was highly significant overall ($F(1,110) = 103.947$, $p < .001$) and explained around 48.6% of the variance in perceived efficacy ($R^2 = .486$; adj. $R^2 = .481$). The standardized regression coefficient confirms this relationship and indicates a strong positive effect of trust on perceived effectiveness ($\beta = .697$, $t = 10.195$, $p < .001$). Thus, greater trust in retinol products is associated with higher perceived effectiveness, clearly confirming Hypothesis 3. (Appendix, 4.3)

Expanding on the previous results, which identified trust as a key driver of purchase intention (H1) and as a factor influencing perceived effectiveness (H3), the next step was to examine the role of the credibility of the information source in the development of trust. Hypothesis 4 postulates that a high level of credibility of the information source strengthens trust in the product. To test this assumption, a linear regression analysis was performed, in which trust in retinol products (Trust_Mean) was included in the model as the dependent variable and the perceived credibility of the information source (SourceCred_Mean) as the independent variable. The source credibility variable included aspects such as dermatological recommendations, science-based communication, and transparent explanations of possible side effects. The results show a very strong and statistically significant positive correlation between source credibility and trust. The regression model was highly significant ($F(1,110) = 1405.690$, $p < .001$) and explained a large proportion of the variance in trust ($R^2 = .927$). The standardized regression coefficient also indicates a very strong positive correlation ($\beta = .963$, $p < .001$). Thus, credible sources of information are closely associated with higher trust in retinol products, which supports the assumptions of source credibility theory and supports hypothesis 4 overall. (Appendix, 4.4)

Building on the previous analyses, the next step was to examine whether a positively perceived, science-based communication style is positively associated with trust and perceived effectiveness. To test hypothesis 5, a linear regression analysis was performed, in which perceived efficacy (Efficacy_Mean) was included in the model as the dependent variable and perceived credibility or science-based communication (SourceCred_Mean) as the independent variable. The results show a significant positive correlation between the perceived communication style and the perceived efficacy. The regression model was highly significant ($F(1,110) = 79.946, p < .001$) and explained a relevant proportion of the variance in perceived efficacy ($R^2 = .421$; adj. $R^2 = .416$). The standardized regression coefficient also indicates a clear positive correlation ($\beta = .649, p < .001$). Hypothesis 5 is thus supported. (Appendix, 4.5)

The analysis then focused on whether a higher perceived risk reduces the intention to purchase retinol products. Hypothesis 6 postulates that a higher perceived risk acts as a central perceived barrier and is therefore associated with a lower intention to purchase. To test this assumption, a linear regression analysis was performed in which perceived risk was included in the model as an independent variable. This was measured using the item “I avoid retinol because I worry about possible side effects,” while purchase consideration (Purchase_Consideration_Mean) served as the dependent variable. The analysis was conducted among non-users. The results show a significant relationship between perceived risk and purchase consideration. The regression model was statistically significant ($F(1,173) = 40.70, p < .001$) and explained a substantial proportion of the variance in purchase consideration ($R^2 = .190$; adj. $R^2 = .186$). Contrary to the original assumption, however, the standardized regression coefficient indicates a positive correlation between perceived risk and purchase consideration ($\beta = .436, p < .001$). The results thus suggest that higher perceived risk is associated with higher purchase consideration and not with lower purchase intention. Consequently, hypothesis 6 is not confirmed. (Appendix, 4.6)

To test Hypothesis 7, the relationship between ambivalence toward retinol and purchase consideration was examined. Hypothesis 7 postulates that conflicting assessments of the advantages and disadvantages of retinol have a negative influence on purchase consideration. A Pearson correlation analysis was performed to test this assumption. Ambivalence was measured using the item “I feel torn between the benefits and drawbacks of retinol,” while purchase consideration was operationalized by the mean value of the corresponding scale (Purchase_Consideration_Mean). The analysis was conducted among non-users. The results show a statistically significant but weak positive correlation between ambivalence and purchase

consideration ($r = .167, p = .027$). Thus, higher perceived ambivalence is associated with higher purchase consideration. Contrary to the original assumption, hypothesis 7 is therefore not supported. (Appendix, 4.7)

Hypothesis 8 postulates that a higher fear of irritation acts as a central perceived barrier and is therefore associated with a lower intention to purchase (*Greater fear of skin irritation reduces purchase intention*). To test this assumption, a linear regression analysis was performed, in which the perceived fear of skin irritation (FearIrr_Mean) was included in the model as an independent variable and purchase consideration (Purchase_Consideration_Mean) as a dependent variable. The analysis was limited to non-users of retinol products, as this group is particularly relevant for the investigation of perceived risks. The results show a significant correlation between fear of irritation and purchase consideration. The regression model was highly significant ($F(1,173) = 119.431, p < .001$) and explained a substantial proportion of the variance in purchase consideration ($R^2 = .408$; adj. $R^2 = .405$). Contrary to the original assumption, however, the standardized regression coefficient indicates a positive correlation ($\beta = .639, p < .001$). The result thus suggests that a higher fear of skin irritation is associated with higher conditional purchase consideration rather than lower purchase consideration. Hypothesis 8 is therefore not supported. (Appendix, 4.8)

9 Discussion

The linear regression analyses conducted in Chapter 8 provide a solid empirical basis for evaluating the hypotheses put forward. While hypotheses 1 to 5 identify key drivers of purchase intent for retinol products, hypotheses 6 to 8 refer to inhibiting factors and perceived barriers in the decision-making process. Generally, the results paint a clear and consistent picture that must be classified in terms of content beyond a mere consideration of statistical significance.

The following chapter takes up these results and classifies them in the context of the underlying theoretical approaches. The identified drivers and barriers to purchase intention are considered separately and, where appropriate, supplemented by findings from the previous qualitative interviews. In this way, both promoting and limiting mechanisms in consumer behavior can be identified in a comprehensible manner. Based on this interpretation, key implications for theory and practice are then derived and the limitations of the present study are discussed.

9.1 Interpretation of Results

9.1.1 Drivers of Purchase Intention

The results of hypotheses 1 to 5 indicate that the intention to purchase retinol products is primarily influenced by positive psychological factors. Trust, perceived effectiveness, and the credibility of the information source play a central role and are closely intertwined. This interaction is not only confirmed by the quantitative analyses but is also clearly reflected in the preceding qualitative interviews.

First, the results for hypothesis 1 underscore the importance of trust as a fundamental prerequisite for a purchase decision. The more consumers trust retinol products, the more likely they are to buy them. In the interviews, trust was repeatedly cited as a decisive factor, as retinol is perceived as effective but also potentially risky. Medically oriented brands, dermatological recommendations, and transparent communication in particular convey safety and help to reduce existing uncertainties. (Appendix, 1.2; Appendix, 4.1)

Furthermore, the results of hypothesis 2 show that perceived effectiveness has a particularly strong influence on purchase intent. The expectation of visible results is a key incentive. The qualitative statements also make it clear that clinical studies, verifiable evidence of effectiveness, or credible testimonials significantly increase willingness to use the product even among people with no previous experience with retinol. This confirms the importance of perceived effectiveness as a key motivator for purchase in the skincare context. (Appendix, 1.2; Appendix, 4.2)

Hypothesis 3 also makes it clear that trust and perceived effectiveness are closely linked. Products from brands perceived as competent are automatically rated as more effective. Trust thus acts as a kind of evaluation framework within which performance promises are interpreted as credible and convincing. (Appendix, 1.2; Appendix, 4.3)

A particularly strong correlation can be observed in hypothesis 4. The credibility of the information source proves to be central to building trust. Both the quantitative results and the interviews show that dermatological recommendations, scientifically sound explanations, and transparent instructions for use contribute significantly to building trust. Pure advertising messages without expert classification, on the other hand, were often viewed critically. The very high variance explained by source credibility in trust (H4) should be interpreted with caution. Source credibility and trust are conceptually closely related constructs, as credibility

perceptions often constitute a core antecedent of trust formation. Consequently, the strong relationship observed in this study does not imply a causal effect of source credibility, but rather reflects conceptual proximity and partial overlap between both constructs. The result therefore highlights the central role of credible information sources in trust formation, while underscoring the need for careful construct differentiation in future research. (Appendix, 1.2; Appendix, 4.4)

Additionally, the results of hypothesis 5 confirm that credible, scientifically sound communication not only strengthens trust but also directly increases perceived effectiveness. Comprehensible explanations, clear instructions for use, and factual language help consumers perceive retinol as controllable and effective. (Appendix, 1.2; Appendix, 4.5)

In sum, a consistent picture emerges: credible communication creates trust, trust increases perceived effectiveness, and this expectation of effectiveness in particular proves to be a key driver of purchase intent. The combination of quantitative and qualitative results illustrates that purchasing decisions for retinol products are based on a close interplay between trust, beliefs about effectiveness, and the credibility of information.

9.1.2 Barriers to Purchase Intention

The results of hypotheses 6 to 8 show that perceived barriers play a more complex role in the decision-making process for retinol products than originally assumed. Contrary to the hypotheses, perceived risk, ambivalence, and fear of skin irritation do not lead to lower purchase consideration, but rather are associated with higher purchase consideration. These findings suggest that barriers in the context of retinol are less of a clear obstacle to purchase and more an expression of a more intensive engagement with the product.

With regard to hypothesis 6, it appears that concern about possible side effects is not associated with a rejection of retinol, but rather increases purchase consideration. Perceived risk does not necessarily seem to have a deterrent effect, but rather triggers a conscious search for information and careful consideration, especially in the case of active ingredients such as retinol that require explanation. This interpretation is supported by the qualitative interviews, in which risk was often described not as an exclusion criterion, but as a reason for conditional interest (Appendix 1.2; Appendix, 4.6).

A comparable pattern can be seen in hypothesis 7. Although ambivalence was theoretically assumed to be inhibiting, empirically it has a weakly positive correlation with purchase

consideration. Ambivalence thus seems to reflect increased cognitive involvement rather than decision avoidance. Respondents who feel torn between advantages and potential disadvantages engage more intensively with the product and are more likely to consider a purchase, albeit under certain conditions. These results are consistent with the qualitative statements, in which ambivalence was often associated with active weighing and the desire for additional reassurance (Appendix 1.2; Appendix, 4.7).

The results for hypothesis 8 also fit into this overall picture. The fear of skin irritation among non-users of retinol explains a significant portion of the variance in purchase consideration and also shows a positive correlation. This suggests that, especially among inexperienced consumers, the fear of irritation does not automatically lead to a fundamental rejection, but rather promotes a conditional willingness to buy. In the interviews, retinol was often perceived as fundamentally interesting, but the purchase was linked to clear signals of safety and trust, such as dermatological recommendations or transparent information on use (Appendix 1.2; Appendix 4.8).

In general, the results of hypotheses 6 to 8 illustrate that barriers in the context of retinol should not be understood in isolation as inhibiting factors. Rather, perceived risk, ambivalence, and fear of side effects reinforce the need for trust, credibility, and reassurance, thus becoming central components of a reflective decision-making process. Purchasing considerations for active ingredients such as retinol are therefore not linear but are characterized by a sensitive interplay between promised benefits and perceived risks.

9.2 Main Implications

9.2.1 Theoretical Implications related to Drivers

The results of hypotheses 1 to 5 confirm key assumptions of existing research on purchasing decisions in the context of active ingredients that require explanation. In particular, it becomes clear that trust is a fundamental prerequisite for purchase intentions. Trust acts not only as a direct driver, but also as an overarching evaluation framework within which other product characteristics are classified. This supports theoretical approaches that understand trust as a heuristic decision-making criterion in complex and risky purchasing processes. Furthermore, the results underscore the central role of perceived effectiveness. Consumers base their purchasing decisions largely on the expectation of visible and scientifically proven effects. The close connection between trust and perceived effectiveness shows that assessments of

effectiveness depend heavily on the credibility of the brand and the source of information. Finally, the findings highlight the importance of the credibility of the information source. This influences both trust in the product and the perception of its effectiveness, making it clear that purchasing decisions for retinol products are based not only on product characteristics, but also significantly on the type and origin of the information provided. In General, the results fit conclusively into the theoretical framework model presented in Chapter 5.

9.2.2 Managerial Implications related to Drivers

From a practical perspective, the results provide clear recommendations for brands and companies in the skincare sector. Trust should be understood as the strategic foundation of the entire brand and communication strategy. Especially for products with active ingredients such as retinol, it is crucial to reduce uncertainty through transparent, consistent, and technically sound communication. Measures such as dermatological recommendations, scientific studies, or comprehensible explanations of how the product works can strengthen trust in the long term. The strong importance of perceived effectiveness suggests that marketing communication should not be primarily emotional or promotional, but should focus on evidence, results, and functionality. Visible results, clinical tests, and understandable explanations of how and why a product works increase willingness to buy even among consumers with no previous experience with retinol. Furthermore, the results highlight the key role of credible sources of information. Companies benefit from basing their communication on scientifically sound content, expert opinions, and transparent instructions for use. Pure advertising messages without technical context, on the other hand, are viewed critically and can undermine trust. Overall, the results show that successful retinol communication relies less on persuasion and more on education, credibility, and scientific foundation.

9.2.3 Theoretical Implications related to Barriers

The results for hypotheses 6 to 8 suggest that perceived barriers in the context of retinol must be viewed in a more nuanced way than classic assumptions often suggest. Perceived risk, ambivalence, and fear of skin irritation do not act exclusively as deterrent factors here, but rather seem to be an expression of a more intensive mental engagement with the product. Especially with active ingredients such as retinol, which are both effective and potentially irritating, uncertainty and interest often go hand in hand.

In line with the theoretical framework presented above, it is clear that barriers are closely linked to trust, credibility, and the need for control. Consumers do not automatically withdraw when

they perceive risks, but actively seek reassurance, for example, through credible sources of information, dermatological recommendations, or transparent explanations of use. In this context, ambivalence reflects less an avoidance of decision-making and more a conscious weighing of benefits and possible disadvantages. As a whole, these findings expand the theoretical understanding of barriers by showing that in high-involvement categories, they are not only inhibitory but also part of a reflective and conditional decision-making process.

9.2.4 Managerial Implications to Barriers

The results of hypotheses 6 to 8 have important implications for understanding purchasing decisions for active ingredients that require explanation, such as retinol. Contrary to initial assumptions, perceived risk, ambivalence, and fear of skin irritation do not act as clear barriers to purchase, but rather as triggers for a more intensive decision-making process.

In practice, this means that barriers should not primarily be addressed through avoidance or downplaying. Instead, brands and suppliers should actively address these perceived risks and communicate them transparently. Concerns about side effects or skin irritation do not signal a fundamental lack of interest, but rather an increased need for information and a cautious, conditional willingness to buy. Clear instructions for use, scientific explanations, and dermatological recommendations can help to reduce uncertainty and positively influence purchasing decisions.

The findings on ambivalence also emphasize that conflicting feelings about retinol do not necessarily lead to decision avoidance. Especially in the case of active, effective ingredients such as retinol, which are perceived as high-involvement ingredients, consumers seem to consciously weigh up the benefits and potential risks and thus engage more intensively with the product. In this context, ambivalence reflects increased cognitive involvement rather than uncertainty. This suggests that marketing communications, especially for active ingredients, should leave room for differentiated and explanatory information rather than exclusively highlighting positive effects. A transparent presentation of both benefits and potential risks can strengthen trust and promote a reflective, conditional purchase decision.

For non-users in particular, it is clear that fear of skin irritation plays a key role in the decision-making process. This fear acts less as a deterrent and more as a structuring factor: willingness to buy arises above all when clear safety conditions are met. For market entry or addressing new target groups, this implies that educational content, low-threshold entry options, and credible safety promises are crucial.

All in all, the results indicate that perceived barriers in the context of retinol should not be understood simply as obstacles to purchase. Instead, they are closely connected to trust, credibility, and a sense of control, and thus form an integral part of the decision-making process. Successful brand communication should therefore not seek to deny or conceal risks, but rather help consumers navigate them and feel secure in their choices. These findings align with and extend the theoretical arguments presented in Chapter 5, highlighting the importance of trust, perceived effectiveness, and source credibility in high-involvement purchasing decisions involving perceived risk.

9.3 Limitations and Future Research

Firstly, the study is subject to sampling limitations. The quantitative survey focused exclusively on female consumers aged 20 to 40 in Germany, as this group is a particularly relevant target group for retinol-containing skincare products. While this focus increases the relevance of the results, it limits their transferability to other age groups, male consumers, or other cultural contexts. In addition, participants were recruited using convenience sampling, partly from the author's extended social circle, which may lead to self-selection bias and limit the representativeness of the sample.

Second, the study is based on a cross-sectional research design, which means that no causal conclusions can be drawn. Although statistically significant correlations were identified for the drivers (H1–H5) and barriers (H6–H8), the direction in which these correlations work remains unclear. It cannot be clearly determined whether certain perceptions influence the purchase decision or whether people who are already considering a possible purchase reflect more strongly on these factors. Longitudinal or experimental designs would be necessary to investigate causal mechanisms.

Third, limitations arise from the operationalization of central constructs. While the drivers of purchase consideration (e.g., trust, perceived efficacy, source credibility) could be measured using reliable multi-item scales, the quantitative measurement of some barriers proved more difficult. In particular, perceived risk (H6) and fear of skin irritation (H8) were measured using single items due to the insufficient reliability of the originally planned scales. These items were closely based on the qualitative interview results and reflect the risk dimensions perceived as central by the participants, but do not allow for a comprehensive measurement of the multidimensional nature of these constructs.

Ambivalence (H7) also could not be reliably measured as an independent construct. The low internal consistency of the items used suggests that ambivalence in the survey partially

overlapped with general uncertainty or an increased need for information, rather than clearly reflecting the simultaneous presence of positive and negative evaluations. For this reason, hypothesis 7 was only tested using a bivariate correlation and not regression analysis, which limits the significance of the results and does not allow for a causal interpretation.

Fourth, a key conceptual limitation concerns the dependent variable. Purchase consideration does not measure immediate purchase intent or actual purchase behavior, but rather a conditional and reflective evaluation process. The results thus reflect an early stage of decision-making, which is characterized by information seeking, risk assessment, and conditions for a possible purchase. This explains why perceived barriers may be associated with increased purchase consideration rather than rejection, but it limits the transferability of the results to actual purchase decisions.

Fifth, the study is potentially affected by response bias due to the survey format. As a self-administered online survey, it may favor social desirability effects, especially on topics such as skincare awareness, scientific orientation, or sense of responsibility toward one's own skin. In addition, predetermined response options may influence participants' assessments and limit the articulation of nuanced or ambivalent personal opinions.

Finally, the analysis of fear of skin irritation (H8) was deliberately limited to non-users of retinol products in order to identify potential barriers to entry. This focus increases the relevance of the results in terms of content but reduces their generalizability to experienced retinol users.

These limitations restrict the generalizability and causality of the results without devaluing their fundamental significance. Rather, the combination of quantitative and qualitative data allows for a differentiated classification of the results, especially with regard to the barrier hypotheses. Future research should use validated multi-item scales, more diverse samples, and experimental or longitudinal designs to more clearly distinguish between avoidance behavior and conditional purchase consideration in high-involvement decisions in the skincare context.

10 Conclusion

This master's thesis examined the key drivers and perceived barriers in the decision to purchase retinol products and shows that these decisions are significantly more complex than simple assumptions about effectiveness would suggest. The results for hypotheses 1 to 5 clearly show that trust, perceived effectiveness, and the credibility of the information source play a decisive role. Consumers are more willing to consider retinol products if they feel well informed and can trust the communicated efficacy claims.

The analysis of hypotheses 6 to 8 adds an important nuance to this picture. Perceived risk, ambivalence, and fear of skin irritation do not exclusively have a deterrent effect. Rather, the results show that these factors trigger a more intensive thought and consideration process, especially in the case of active ingredients such as retinol, which require explanation. Consumers engage more consciously with the product and often link their purchase considerations to certain conditions, such as transparent information, medical recommendations, or clear instructions for use.

The qualitative interviews confirm these results and illustrate that retinol is perceived by many respondents as effective and fundamentally interesting, but at the same time viewed with caution. However, this caution does not necessarily lead to rejection, but rather to a reflective, conditional purchase decision. Overall, the results of this study show that purchasing decisions for retinol products are not linear, but are characterized by a sensitive interplay of trust, benefit assessment, and perceived risks.

11 Appendices

Appendix 1: Interviews

Appendix 1.1: Interview guide for qualitative preliminary study on drivers and barriers to purchasing retinol products (Qualitative study)

Note to participants:

This interview is for scientific purposes only. There are no right or wrong answers—we are interested in your personal experiences and opinions. All information will be treated anonymously.

1. Introduction and warm-up

1. Can you briefly describe your current skincare routine?
2. Have you ever used retinol products? If so, which ones? If not, why not?

2. Questions about Research Question 1

“What are the main drivers of purchase intention among retinol users in facial skincare women aged 20–40 in Germany?”

3. What fundamentally motivates you to buy or consider buying a product containing retinol?
4. What factors give you confidence in a retinol product or a particular brand?
5. How important is perceived effectiveness (e.g., visible results, scientific evidence) to you?
6. What type of communication (e.g., experts, social media, brand information) most influences your willingness to buy?
7. Are there any brands you particularly trust? Why?

8. What role do studies, ingredient lists, or dermatological recommendations play in your purchasing decision?

3. Questions about Research Question 2

“What are the main perceived barriers preventing women aged 20–40 in Germany from purchasing retinol-based facial skincare products?”

9. What concerns or uncertainties do you have about retinol?
10. Are you afraid of possible side effects such as irritation or dry skin?
11. Do you find the use of retinol complicated or confusing? If so, what exactly?
12. Do you feel overwhelmed by the variety of products, concentrations, or recommendations?
13. Have you ever refrained from buying a retinol product due to negative experiences?
14. What information or explanations are you currently lacking to feel more confident?

4. Final questions

15. What would a brand need to communicate or offer to make you feel more confident about buying a retinol product?
16. Is there anything that brands should improve in general?

Appendix: 1.2 Interview Resumés

Interview 1

Participant 1 – Characterization

- **Age:** 27
- **Gender:** Female
- **Occupation:** Marketing Manager
- **Skin type:** Combination skin, slightly sensitive
- **Retinol experience:** Already used, but cautiously

The participant describes retinol as generally effective and trusts brands that communicate scientifically or use dermatological recommendations. It is particularly important to her that a product is clinically tested and provides clear instructions for use. She states that visible results (more radiant skin, smoother texture) greatly increase her intention to purchase, which emphasizes the importance of perceived effectiveness. At the same time, she emphasizes that trustworthy sources such as dermatologists and high-quality brands reduce her uncertainty. On the barrier side, she describes significant concerns about irritation, as her skin is sensitive. Previous negative experiences (redness) have led to ambivalent feelings, she believes in the effectiveness but is wary of using the products. She also finds the variety of concentrations confusing. Clear communication and low-dose entry-level products would reduce her perception of risk.

Interview 2

Participant 2 – Characterization

- **Age:** 34
- **Gender:** Female
- **Occupation:** Elementary school teacher
- **Skin type:** Dry, sensitive skin
- **Retinol experience:** No previous use

The participant has not used retinol before but is generally interested in active ingredient cosmetics. Trust in the brand and recommendations from trustworthy sources – ideally dermatologists or high-quality pharmacy brands – would be decisive factors in her purchase decision. She emphasizes that scientific explanations and understandable instructions for use would give her confidence. Positive reviews from people she knows or from “real users” would also have a strong influence on her decision. She cites fear of irritation and dryness as major barriers, as her skin is already sensitive. In addition, she feels overwhelmed by the multitude of retinol products (“0.2%, 0.3%, retinal, retinoid – I don't know what all that means”). This flood

of information leads to significant ambivalence: she believes that retinol can be effective but does not dare to use it without clear instructions. Low-dose starter products and confidence-building communication would be particularly helpful for her.

Interview 3

Participant 3 – Characterization

- **Age:** 22
- **Gender:** Female
- **Occupation:** Student (media studies)
- **Skin type:** Normal skin, occasional blemishes
- **Retinol experience:** Tried it once, not currently using it

The participant shows a high level of interest in active ingredient cosmetics and considers retinol to be “scientifically well-proven.” She says that products with studies, clear claims of effectiveness, and understandable explanations are particularly convincing to her, which increases her intention to purchase. Recommendations from dermatologists or skincare influencers with a medical background further strengthen her confidence. She emphasizes that brands such as La Roche-Posay or Paula's Choice are automatically perceived as “more effective” because she considers them to be competent and honest. In terms of barriers, she describes uncertainty about the correct application in particular. The first time she tried it, she experienced slight redness, which made her feel uncertain. This leads to an ambivalent attitude: she believes in its effectiveness, but at the same time is afraid of “doing something wrong.” She found the multitude of percentages and different forms of retinoids confusing. A clear beginner's guide or low-dose products would reduce her concerns.

Interview 4

Participant 4 – Characterization

- **Age:** 38
- **Gender:** Female
- **Occupation:** Project manager in the IT sector
- **Skin type:** Slightly oily, age-related fine lines
- **Retinol experience:** Uses retinol regularly (~1 year)

The participant actively uses retinol because she describes its effectiveness as “clearly visible.” For her, clinical studies and clear anti-aging effects are key drivers of her purchase intention. She repeatedly emphasizes that she prefers products whose brands appear scientific and are backed by dermatologists. This increases her confidence, which in turn reinforces her perception of the product's effectiveness. Social media advertising plays a minor role for her, technical explanations and clear recommendations for use are more important to her. On the barriers side, she reports that she was initially wary of possible irritation and started very cautiously. Although she herself had hardly any problems, she knows of many reports of red or flaky patches – which explains why many women hesitate. She finds the variety of products confusing and believes that low-dose, well-explained “starter products” would make it easier for many to get started. Overall, she views retinol positively, but with a clear learning curve.

Interview 5

Participant 5 – Characterization

- **Age:** 30
- **Gender:** Female
- **Occupation:** Graphic designer
- **Skin type:** Sensitive skin prone to redness
- **Retinol experience:** Has not used it before, but is interested

The participant is generally interested in retinol but emphasizes that trust plays a key role for her. She would be most likely to purchase a product if it came from a brand she perceives as “honest and scientifically reliable.” She is particularly convinced by recommendations from dermatologists or friends who have had good experiences. She says that a clear, understandable explanation of how retinol works and why it is safe would greatly increase her willingness to purchase. Perceived effectiveness, i.e., visible results and clinical data, are also important drivers. She cites her fear of irritation as the primary barrier. Since her skin reacts easily, she fears severe redness or flaky skin, which has prevented her from buying retinol so far. In addition, she finds the variety of products and concentrations confusing. This uncertainty leads to ambivalent feelings: she believes in its effectiveness but is unsure whether retinol is “too strong” for her skin. A clear beginner's approach would significantly reduce her perception of risk.

Interview 6

Participant 6 – Characterization

- **Age:** 25
- **Gender:** Female
- **Occupation:** Master's student in business administration
- **Skin type:** Normal skin, occasionally sensitive
- **Retinol experience:** Has been using retinol for a few months

The participant reports that she tried retinol based on recommendations from a dermatologist. This professional source was the most important driver for her, credible experts give her a strong sense of security and trust. In addition, she did a lot of research online and found scientific explanations of how it works very convincing. She says that she tends to trust a brand and consider its products more effective when the communication is clear, scientific, and transparent. Visible improvements in skin texture further strengthened her intention to purchase.

She describes as barriers that she was very afraid of side effects before the first application. She was unsure about how often and how much to apply and felt overwhelmed by conflicting online advice. This uncertainty initially led to ambivalence: she wanted results but was afraid of irritation. In fact, she did experience slight redness, which made her feel insecure. Simple step-by-step instructions would have reduced her perception of risk.

Interview 7

Participant 7 – Characterization

- **Age:** 32
- **Gender:** Female
- **Occupation:** HR manager
- **Skin type:** Combination skin
- **Retinol experience:** Does not use retinol, deliberately cautious

The participant is generally interested in anti-aging products but is rather skeptical about retinol. She says she would only buy a retinol product if it came from a very trustworthy brand and was clearly explained scientifically. Recommendations from dermatologists or official medical

sources would be particularly important to her, as she does not always completely trust brand communication alone. At the same time, she believes that retinol can be very effective when used correctly, her perceived effectiveness increases her openness in principle. However, the biggest barriers for her are clearly related to her perception of risk. She is afraid of severe irritation, as many acquaintances have reported that their skin “burned or peeled.” The wide variety of products and concentrations confuses her and leads to a clear ambivalence: she wants results but is wary of the possible side effects. As long as she feels uncertain, she will not buy retinol. A simple, credible beginner's guide and dermatological confirmation would be decisive for her.

Interview 8

Participant 8 – Characterization

- **Age:** 29
- **Gender:** Female
- **Occupation:** Social media manager
- **Skin type:** Normal to dry
- **Retinol experience:** Uses retinol occasionally, not regularly

The participant describes retinol as “the active ingredient that is recommended everywhere.” She trusts brands that provide scientific studies, clear ingredient information, and understandable explanations. Visible results and credible before-and-after examples play a major role in her purchasing decisions. She also says that competent sources such as dermatologists or skincare experts on social media greatly increase her trust and are a decisive factor in whether she considers a product to be effective.

On the barrier side, she primarily cites her uncertainty about the correct dosage and application. She has already experienced slight dryness and tightness, which has made her cautious. As a result, she is ambivalent about retinol: she knows it can be effective, but fears damage from incorrect application. She also finds the product world overwhelming and quickly feels “overwhelmed.” Simple step-by-step instructions or low-dose starter products would significantly reduce her perception of risk.

Interview 9

Participant 9 – Characterization

- **Age:** 40
- **Gender:** Female
- **Occupation:** Event manager
- **Skin type:** Mature combination skin, first wrinkles
- **Retinol experience:** Has been using retinol regularly for about 2 years

The participant describes retinol as one of the few active ingredients that has actually given her “clear, visible results.” Scientific evidence of its effectiveness, dermatological recommendations, and trust in established pharmacy brands were the main factors that influenced her decision to purchase. She says that she considers products to be more effective when the brand communicates transparently, includes studies, and explains the application in an understandable way. This created a high level of trust for her, which in turn strengthened her willingness to use retinol regularly. Regarding barriers, she reports that she was initially very afraid of irritation and was therefore very hesitant. The many different retinol strengths confused her at first, leading to a feeling of ambivalence, a mixture of high expectations for effectiveness and uncertainty about possible risks. She experienced slight irritation in the initial phase, but this improved as she slowly got used to the product. In her view, simple entry-level products and clear dosage recommendations would be important for many women in order to reduce their fear of side effects.

Interview 10

Participant 10 – Characterization

- **Age:** 26
- **Gender:** Female
- **Occupation:** Fashion sales assistant in retail
- **Skin type:** Oily skin, occasional blemishes
- **Retinol experience:** Has not used retinol before

The participant says that she has not used retinol before but would be open to it if she trusted the brand and the application was explained clearly. Clear information from experts, dermatologists, skin doctors, or medically effective brands, would be particularly important to her. She believes that retinol is actually effective because “everyone says it works,” but she would only buy it if she felt confident and well-informed. Transparent communication and comprehensible scientific evidence would significantly increase her intention to buy.

She cites fear of skin irritation as the primary barrier. She has heard several times from people around her that retinol “makes the skin look worse at first,” which makes her feel uncertain. She also finds it difficult to choose the right strength, 0.2%, 0.3%, retinal, retinoid, which she finds confusing. This uncertainty leads to an ambivalent attitude: interest in the results, but strong caution. An easy-to-understand starter product would reduce her perception of risk.

Appendix 2: Survey

Appendix 2.1: Introduction

Introduction and Consent

Introduction

Welcome to the survey!
Thank you for participating in this study.
This survey takes approximately 3–4 minutes and examines how consumers perceive facial skincare products containing retinol, an active anti-aging ingredient. I am a Master's student at Católica Lisbon School of Business & Economics, and this survey is part of my Master's thesis. The aim of the research is to understand which factors increase or decrease women's intention to purchase retinol-based facial skincare products, including trust, perceived effectiveness, perceived risks, and concerns about irritation. Your responses will help identify the key drivers and barriers that influence decision-making in this product category. Participation is voluntary, anonymous, and used solely for academic purposes. There are no right or wrong answers – please answer based on your personal opinion.

If you have any questions about this study, please contact Isabella Vachenauer (s-ivachenauer@ucp.pt). By continuing you agree to participate. Thank you!

By clicking "Next", you confirm that you voluntarily agree to participate.

☐ Next

Appendix 2.2: Screening Questions (3 Questions)

Block 1 - Screening Questions

☐ Please indicate your gender?

☐ Male

☐ Female

☐ Prefer not to say / Diverse

☐ Please select your age range?

☐ Under 20

☐ 20-24

☐ 25-29

☐ 30-34

☐ 35-40

☐ Over 40

☐ Please indicate in which country do you currently live in?

☐ Germany

☐ Other

Appendix 2.3: Block 2: Retinol Usage (1 Question)

▼ Block 2 - Retinol Usage

★

Have you ever used a skincare product containing retinol?

☐ Yes

☐ No

Appendix 2.4: Block 3: Retinol User (Trust, Perceived efficacy, Purchase intention) (3 Matrix Tables)

Trust

💡 ★

Please indicate how strongly you agree with the following statements.

	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree
I trust retinol products more when they are recommended by dermatologists.	☐	☐	☐	☐	☐
Honest, science-based communication increases my trust in retinol products.	☐	☐	☐	☐	☐
I trust retinol products that come from well-known, reputable skincare brands.	☐	☐	☐	☐	☐
Clear explanations of side effects increase my trust in retinol products.	☐	☐	☐	☐	☐

Perceived efficacy

💡 ★

Please indicate how strongly you agree with the following statements.

	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree
Retinol is one of the most effective anti-aging ingredients in my opinion.	☐	☐	☐	☐	☐
Retinol improves skin texture and appearance noticeably.	☐	☐	☐	☐	☐
I believe retinol delivers results supported by scientific evidence.	☐	☐	☐	☐	☐

Purchase Intention

💡 ★ ...

Please indicate how strongly you agree with the following statements.

	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree
I would choose a retinol product over a similar non-retinol product.	☐	☐	☐	☐	☐
I am likely to buy a retinol product if I need an anti-aging treatment.	☐	☐	☐	☐	☐
I will continue using retinol products in the future.	☐	☐	☐	☐	☐

Appendix 2.5: Block 7: Retinol Experience (User) (4 Questions)

Block 7 - Retinol Experience (Users)

Retinol Experience

★

How long have you been using retinol-containing skincare products?

☐ Less than 1 month

☐ 1-3 months

☐ 4-6 months

☐ Once a week7-12 months

☐ more than 1 year

How frequently do you use retinol products?

☐ Daily

☐ 4-6 times a week

☐ 2-3 times a week

☐ Once a week

☐ Less than once a week

Retinol Experience

★

I have experienced irritation or redness when using retinol.

☐ Yes

☐ No

Retinol Experience

★

If you stopped using retinol in the future, what would be the most likely reason?

☐ Skin irritation

☐ No visible results

☐ I don't trust the product anymore

☐ Safety concerns

☐ I would not stop using retinol

Appendix 2.6: Block 4: Non-User ((Perceived risk, Ambivalence, Fear of Irritation) (3 Matrix Tables)

Perceived Risk

💡

★

Please indicate how strongly you agree with the following statements.

	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree
I avoid retinol because I worry about possible side effects.	☐	☐	☐	☐	☐
I am uncertain whether retinol products are safe for my skin.	☐	☐	☐	☐	☐
I worry that I might not use retinol correctly and could harm my skin.	☐	☐	☐	☐	☐

Ambivalence



Please indicate how strongly you agree with the following statements.

	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree
I find it difficult to decide whether retinol is right for me.	☐	☐	☐	☐	☐
I feel torn between the benefits and drawbacks of retinol.	☐	☐	☐	☐	☐
I do not have a clear opinion about retinol.	☐	☐	☐	☐	☐

Fear of Irritation



Please indicate how strongly you agree with the following statements.

	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree
I am worried that retinol might irritate my skin.	☐	☐	☐	☐	☐
Fear of redness or dryness keeps me from using retinol.	☐	☐	☐	☐	☐
I avoid retinol because I worry it may disrupt my skin barrier.	☐	☐	☐	☐	☐

Appendix 2.7: Block 5: Purchase Consideration despite Barriers (Non-User) (1 Matrix Table)

Purchase Consid.



Please indicate how strongly you agree with the following statements.

	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree
I might consider trying retinol if the product was clinically tested.	☐	☐	☐	☐	☐
I would try retinol if a dermatologist recommended it.	☐	☐	☐	☐	☐
Clear scientific explanations about how retinol works would reduce my concerns about using it.	☐	☐	☐	☐	☐
When retinol benefits (e.g., smoother skin, reduced wrinkles) are communicated in a positive, solution-focused way, I am more open to trying it.	☐	☐	☐	☐	☐

Appendix 2.9: Block 6: Skin Type (1 Question)

Q56

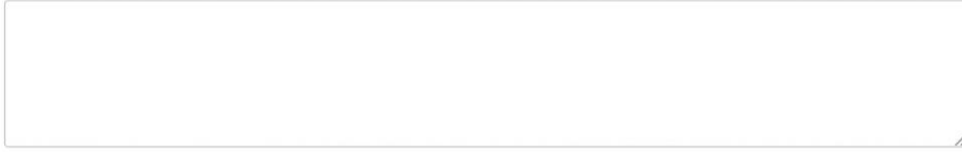


How would you describe your skin type?

- ☐ Dry
- ☐ Oily
- ☐ Combination
- ☐ Sensitive
- ☐ Not sure

Appendix 2.10: Final Question

Is there anything else you would like to share about your experience or perception of retinol?



Appendix 3: Descriptives

Appendix 3.1: Descriptives

Frequency Table

		Gender			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	285	100.0	100.0	100.0

		Age range			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-24	60	21.1	21.1	21.1
	25-29	140	49.1	49.1	70.2
	30-34	66	23.2	23.2	93.3
	35-40	19	6.7	6.7	100.0
	Total	285	100.0	100.0	

		Country			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Germany	285	100.0	100.0	100.0

		Retinol_Usage			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	111	38.9	38.9	38.9
	No	174	61.1	61.1	100.0
	Total	285	100.0	100.0	

		How would you describe your skin type?			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Dry	3	1.1	1.1	1.1
	Oily	15	5.3	5.3	6.3
	Combination	38	13.3	13.4	19.7
	Sensitive	96	33.7	33.8	53.5
	Not sure	132	46.3	46.5	100.0
	Total	284	99.6	100.0	
Missing	System	1	.4		
	Total	285	100.0		

		How long have you been using retinol-containing skincare products?			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 month	3	1.1	2.7	2.7
	1-3 months	37	13.0	33.3	36.0
	4-6 months	50	17.5	45.0	81.1
	7-12 months	11	3.9	9.9	91.0
	more than 1 year	10	3.5	9.0	100.0
	Total	111	38.9	100.0	
Missing	System	174	61.1		
	Total	285	100.0		

		How frequently do you use retinol products?			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Daily	2	.7	1.8	1.8
	4-6 times a week	35	12.3	31.8	33.6
	2-3 times a week	46	16.1	41.8	75.5
	Once a week	21	7.4	19.1	94.5
	Less than once a week	6	2.1	5.5	100.0
	Total	110	38.6	100.0	
Missing	System	175	61.4		
	Total	285	100.0		

Appendix 4: Hypothesis Testing

Appendix 4.1: H1

Reliability Statistics

Cronbach's Alpha	N of Items
.779	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I trust retinol products more when they are recommended by dermatologists.	13.66	2.536	.664	.680
Honest, science-based communication increases my trust in retinol products.	13.69	2.869	.562	.736
I trust retinol products that come from well-known, reputable skincare brands.	13.56	2.867	.567	.733
Clear explanations of side effects increase my trust in retinol products.	13.52	3.143	.547	.744

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Trust_Mean ^b	.	Enter

a. Dependent Variable: PI_Mean

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.630 ^a	.397	.392	.62170

a. Predictors: (Constant), Trust_Mean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.038	1	28.038	72.542	<.001 ^b
	Residual	42.516	110	.387		
	Total	70.555	111			

a. Dependent Variable: PI_Mean

b. Predictors: (Constant), Trust_Mean

Coefficients^a

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B Lower Bound	Upper Bound
1	(Constant)	.116	.498		.233	.816	-.871	1.104
	Trust_Mean	.929	.109	.630	8.517	<.001	.713	1.145

a. Dependent Variable: PI_Mean

Appendix 4.2: H2

Reliability Statistics

Cronbach's Alpha	N of Items
.795	3

Item Statistics

	Mean	Std. Deviation	N
Retinol is one of the most effective anti-aging ingredients in my opinion.	4.29	.936	112
Retinol improves skin texture and appearance noticeably.	4.38	.797	112
I believe retinol delivers results supported by scientific evidence.	4.48	.747	112

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Retinol is one of the most effective anti-aging ingredients in my opinion.	8.87	1.829	.672	.695
Retinol improves skin texture and appearance noticeably.	8.78	2.157	.690	.670
I believe retinol delivers results supported by scientific evidence.	8.68	2.490	.576	.786

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Efficacy_Mean ^b	.	Enter

a. Dependent Variable: PI_Mean

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.775 ^a	.601	.598	.50567

a. Predictors: (Constant), Efficacy_Mean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.427	1	42.427	165.923	<.001 ^b
	Residual	28.127	110	.256		
	Total	70.555	111			

a. Dependent Variable: PI_Mean

b. Predictors: (Constant), Efficacy_Mean

Coefficients^a

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B	
1	(Constant)	.454	.305		1.491	.139	-.150	1.058
	Efficacy_Mean	.884	.069	.775	12.881	<.001	.748	1.020

a. Dependent Variable: PI_Mean

Appendix 4.3: H3

Case Processing Summary

		N	%
Cases	Valid	111	38.9
	Excluded ^a	174	61.1
	Total	285	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.779	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I trust retinol products more when they are recommended by dermatologists.	13.66	2.536	.664	.680
Honest, science-based communication increases my trust in retinol products.	13.69	2.869	.562	.736
I trust retinol products that come from well-known, reputable skincare brands.	13.56	2.867	.567	.733
Clear explanations of side effects increase my trust in retinol products.	13.52	3.143	.547	.744

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Trust_Mean ^b	.	Enter

a. Dependent Variable: Efficacy_Mean

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.697 ^a	.486	.481	.50400

a. Predictors: (Constant), Trust_Mean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26.404	1	26.404	103.947	<.001 ^b
	Residual	27.941	110	.254		
	Total	54.345	111			

a. Dependent Variable: Efficacy_Mean

b. Predictors: (Constant), Trust_Mean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error				Lower Bound	Upper Bound
1	(Constant)	.298	.404		.737	.463	-.503	1.098
	Trust_Mean	.902	.088	.697	10.195	<.001	.726	1.077

a. Dependent Variable: Efficacy_Mean

Appendix 4.4: H4

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	SourceCred_Mean ^b	.	Enter

a. Dependent Variable: Trust_Mean

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.963 ^a	.927	.927	.14639

a. Predictors: (Constant), SourceCred_Mean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.125	1	30.125	1405.690	<.001 ^b
	Residual	2.357	110	.021		
	Total	32.482	111			

a. Dependent Variable: Trust_Mean

b. Predictors: (Constant), SourceCred_Mean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.345	.113		3.066	.003	.122	.568
	SourceCred_Mean	.927	.025	.963	37.493	<.001	.878	.976

a. Dependent Variable: Trust_Mean

Appendix 4.5: H5

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	SourceCred_Mean ^b	.	Enter

a. Dependent Variable: Efficacy_Mean

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.649 ^a	.421	.416	.53489

a. Predictors: (Constant), SourceCred_Mean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.873	1	22.873	79.946	<.001 ^b
	Residual	31.472	110	.286		
	Total	54.345	111			

a. Dependent Variable: Efficacy_Mean

b. Predictors: (Constant), SourceCred_Mean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.735	.411		1.787	.077	-.080	1.551
	SourceCred_Mean	.808	.090	.649	8.941	<.001	.629	.987

a. Dependent Variable: Efficacy_Mean

Appendix 4.6: H6

➔ Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	I avoid retinol because I worry about possible side effects. ^b	.	Enter

a. Dependent Variable: Purchase_Consideration_Mean

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.436 ^a	.190	.186	.47157

a. Predictors: (Constant), I avoid retinol because I worry about possible side effects.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.051	1	9.051	40.702	<.001 ^b
	Residual	38.472	173	.222		
	Total	47.524	174			

a. Dependent Variable: Purchase_Consideration_Mean

b. Predictors: (Constant), I avoid retinol because I worry about possible side effects.

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	3.179	.194		16.370	<.001	2.796	3.562
	I avoid retinol because I worry about possible side effects.	.288	.045	.436	6.380	<.001	.199	.377

a. Dependent Variable: Purchase_Consideration_Mean

Appendix 4.7: H7

Correlations

Correlations			
		Purchase_Consideration_Mean	I feel torn between the benefits and drawbacks of retinol.
Purchase_Consideration_Mean	Pearson Correlation	1	.167*
	Sig. (2-tailed)		.027
	N	175	175
I feel torn between the benefits and drawbacks of retinol.	Pearson Correlation	.167*	1
	Sig. (2-tailed)	.027	
	N	175	175

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix 4.8: H8

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Fearlrr_Mean ^b	.	Enter

a. Dependent Variable: Purchase_Consideration_Mean

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.639 ^a	.408	.405	.40313

a. Predictors: (Constant), Fearlrr_Mean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.409	1	19.409	119.431	<.001 ^b
	Residual	28.115	173	.163		
	Total	47.524	174			

a. Dependent Variable: Purchase_Consideration_Mean

b. Predictors: (Constant), Fearlrr_Mean

Coefficients^a

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B	
1	(Constant)	1.981	.223		8.879	<.001	1.541	2.422
	Fearlrr_Mean	.552	.051	.639	10.928	<.001	.453	.652

a. Dependent Variable: Purchase_Consideration_Mean

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