



universität
wien

MASTERARBEIT / MASTER'S THESIS

Titel der Masterarbeit / Title of the Master's Thesis

Beauty of Green(washing): The Effect of Intrinsic and
Extrinsic Product Cues on Consumers' Attitudes and
Behavior

verfasst von / submitted by

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angestrebter akademischer Grad / in partial fulfilment of the requirements for the degree of

Master of Science (MSc)

Wien, 2023 / Vienna, 2023

Studienkennzahl lt. Studienblatt /
degree programme code as it appears on
the student record sheet:

UA 066 914

Studienrichtung lt. Studienblatt /
degree programme as it appears on
the student record sheet:

Masterstudium Internationale Betriebswirtschaft/
Master International Business Administration

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Acknowledgements

I would like to thank the University of Vienna and all the lecturers, for having the opportunity to study here, to attend lectures that broadened my horizons and knowledge, for helping me improve my skills and develop new ones, and for providing funding for my master's thesis research.

Next, I would like to thank my supervisor, professor Adamantios Diamantopoulos, for giving me the opportunity to write my thesis at the Chair of International Marketing and for sharing his knowledge during his lectures that woke up my curiosity for marketing research.

To my co-supervisor Dr. Ilona Szócs, I would like to express my deepest thank you for giving me the opportunity to explore the topic, for kind help, shared knowledge, patient guidance and constant support during the writing process.

I would also like to thank Dr. Maria Gabriela Montanari, for her great teaching, kind words and valuable inputs.

To my family, especially my mom and Jurino, thank you for supporting me during the whole process of my studies, for being there for me and for believing in me.

Last but not least, to my dearest friends – Emmi, Kačenka & Barborka, thank you for being my soulmates throughout the years, who are always there to cheer, laugh and support.

Thank you!

Abstract

Demand for green products continuously grows, as consumers search for more environmentally friendly options. This offers space for companies to prove their willingness to help beyond what they are required to do by law and pursue more steps towards sustainability. However, with the rise of corporate social responsibility (CSR) and its popularity, greenwashing appeared as an unethical way for companies to leverage positive effects of CSR on consumers. Research in this master's thesis examines green versus greenwashing behavior with a distinct focus on intrinsic versus extrinsic product cues, which in this case are products' ingredients and packaging. Both consumers' behavioral (willingness to pay, purchase intention) and attitudinal (brand attitude) components are measured in order to get a complex view and expand current knowledge on the problem. Furthermore, by choosing a product from the cosmetics industry, the study offers insights into a highly relevant market, as it belongs to those that are often involved in greenwashing causes. The study uses experimental between-subject design with framing scenarios and the analysis was conducted using data from respondents of Slovak nationality only. The results of this study are partially in line with previous research, where consumers' purchase intention and brand attitude are more positive for green rather than for greenwashed products. Moreover, consumers show higher willingness to pay, purchase intention and a more positive brand attitude for green intrinsic cues compared to green extrinsic cues. Simultaneously, in case of greenwashing, the difference was only shown in brand attitude, where greenwashing regarding intrinsic cues resulted in a less positive brand attitude than in case of extrinsic cues. This master's thesis offers various paths for future research, mainly showing interesting options for further exploring of greenwashing in cosmetics industry and effects of different product cues.

Keywords: sustainability, greenwashing, willingness to pay, purchase intention, brand attitude, intrinsic and extrinsic product cues

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List of Abbreviations

BA	Brand Attitude
CS	Corporate Sustainability
CSR	Corporate Social Responsibility
GI	Green Intrinsic
GE	Green Extrinsic
GS	Green Skepticism
GWI	Greenwashing Intrinsic
GWE	Greenwashing Extrinsic
PCI	Product Category Involvement
PI	Purchase Intentions
PS	Price Sensitivity
WTP	Willingness to Pay
e.g.	for example (Latin: <i>exempli gratia</i>)
et al.	and others (Latin: <i>et alii</i>)
i.e.	that is (Latin: <i>id est</i>)

1. Introduction

This chapter introduces the background for the chosen topic and presents proposed research gaps and question to be addressed by this master's thesis. Next, the purpose of the study and planned contributions are described. Finally, it includes the description of the structure of the whole thesis.

1.1. Background

The popularity and success of green products in many different product categories in recent years is undeniable. Terms such as sustainable, eco-friendly or environmentally conscious, have become the new carrier of luxury. Indeed, consumers truly perceive the choice of sustainable options as a sign of luxury and associate it with higher status (Ward & Dahl, 2014). While only 17% of consumers search for luxury in their personal care products, around 50% of them search for clean and natural ingredients (Shahbandeh, 2022). There are various reasons why people choose to buy sustainable products and it also varies across countries. In the U.S., the biggest reason for making sustainable choices while shopping is that people believe that these products are better for them and their families. However, for Germans, the most important factor is the protection of the environment (Wunsch, 2022).

Recent studies show that people are generally more aware of choices they make while shopping and that they try to consciously search for more sustainable options (Statista, 2021a). This trend was further accelerated by the Covid-19 pandemic, which led consumers to be more environmentally friendly (NielsenIQ Research, 2021). Although many consumers would like to adopt a more sustainable lifestyle, high prices remain the main reason which refrains them from doing so (Gleim, 2013).

With increasing demand for green products, companies are challenged to improve their offerings but also their activities in accordance with sustainability (Baumgartner, 2014). As a result, sustainability became a stable part of companies' corporate social responsibility (CSR) activities. One of the definitions of the CSR term describes it as a company's voluntary activities "demonstrating the inclusion of social and environmental concerns in business operations and in interactions with stakeholders" (Van Marrewijk, 2003, p. 102). CSR is usually included in companies' marketing communication, to properly inform their customers and general public about their

commitment to the right thing (Trudel & Cotte, 2009). Many companies, including Amazon or Apple, use sustainability in their marketing communication to differentiate themselves across the market (Newman, 2020).

Although being green offers new opportunities for companies to increase their sales and thus their profits (Schaltegger & Synnestvedt, 2002), striving towards sustainability can lead to unexpected cost increases (Delmas & Burbano, 2011). Because of this, a phenomenon called greenwashing has become an issue. By greenwashing, companies exploit the benefits of being perceived as green, while not bearing the costs of actually being sustainable or environmentally friendly. Greenwashing was adopted by numerous successful brands selling worldwide. In the past years, many famous brands including IKEA, Ryanair, Shell, or H&M (Akepa, 2021) were called out for greenwashing in their marketing campaigns. Cases of greenwashing were different, from illegally sourced wood, non-sustainable clothes production or false claims regarding the amounts of emissions. Greenwashing indeed has many faces. As the concern for the future of nature and subsequently the demand for green products rises further, the issue of greenwashing becomes more important than ever. Although regulations strive towards preventing such manipulation and help protecting buyers, cases of greenwashing appear regularly.

Current research about greenwashing offers insights into the reactions of consumers and also consequences shown in companies' financial performance. While the majority of research agrees that greenwashing has a generally negative impact on both consumer behavior and subsequently companies' performance, some studies found potentially positive consequences of greenwashing (De Jong et al., 2018; Held & Germelmann, 2018). This however remains true only if greenwashing remains unnoticed by consumers. Once consumers understand they have been misled, negative consequences will follow. Various consumer responses to greenwashing were previously examined, with main focus on purchase intention (PI), but also brand related constructs. As expected, consumers tend to support those companies which they perceive as green, while they avoid those, they perceive to be environmentally irresponsible (Lorenzen, 2014). In the past decade, the phenomenon of greenwashing has been researched in various industries, including fashion, detergents or food. However, the cosmetics and personal care industry which is highly relevant for

greenwashing research (Khandelwal et al., 2019), has not yet been inspected thoroughly.

It has been proven that people perceive and use intrinsic and extrinsic cues of product differently (Lee & Lou, 1995). On one hand, consumers who are environmentally responsible and well informed about sustainability in their everyday life tend to take time to read ingredients included in a product, understand whether they are potentially harmful and base their decisions accordingly. On the other hand, consumers with only basic knowledge about sustainability can rely on simpler cues, mainly packaging sustainability (Eberhart & Naderer, 2017). Sustainability of packaging versus sustainability of ingredients is also perceived differently. For certain product categories, packaging sustainability plays a bigger role than sustainability of ingredients, and for other product categories it is exactly the opposite, depending on the products' nature (Seo et al., 2016). It is thus possible that consumers will react differently to praise of truly green efforts and greenwashing with regard to intrinsic and extrinsic cues.

1.2. Identified Research Gaps

This thesis aims to contribute to filling the following research gaps. Firstly, studies on greenwashing and sustainability in general do not usually differentiate between intrinsic and extrinsic product cues. It has been proven that both sustainable packaging and ingredients are important factors consumers take into consideration (Kunst, 2022; Statista, 2021a). However, to the best of my knowledge, only one study so far investigated which one of these is of higher value to consumers when it comes to sustainability. Seo et al. (2016) found that for hedonic food products, consumers prefer sustainable packaging over sustainable ingredients. For utilitarian food products, the results were opposite and sustainable ingredients were valued more. However, it is yet unclear whether these findings would be confirmed in other product categories. Moreover, although the research by Seo and colleagues provides insights about consumer behavior with regard to sustainability, the study did not take greenwashing into consideration. Since the intrinsic and extrinsic cues appear to have different levels of importance to the consumer, it is possible that consumers might react differently if they were presented with a greenwashing accusation about packaging or ingredients.

Secondly, although previous research uses various product categories (e.g. food, mattresses, detergents, frying pans), there are relevant segments, which require further examination of greenwashing impacts. Fowler et al. (2015) found that only 18% of all claims (scientific, performance and subjective) made by companies selling cosmetics in popular fashion magazines were deemed as acceptable by authors and independent judges who participated in the study. Greenwashing is a widespread problem for everyday products including skin care (Seelig, 2021). Moreover, according to Khandelwal et al. (2019) and Tyagi (2021), the cosmetics industry belongs to the sectors which are highly engaged in greenwashing, based on perceptions of consumers. Generally, there is a lack of empirical research on sustainability in the beauty industry (Kolling et al., 2022). Thus, it proves to be highly relevant for further research on sustainability and greenwashing.

Thirdly, even though previous studies offer insights into impacts of greenwashing on consumer behavior, many studies focus on purchase intentions (Brouwer, 2016; De Jong et al., 2019; Chen et al., 2018; Nyilasy et al., 2014; Wang et al., 2020). However, the research does not give clear answers about the impacts of greenwashing on consumers' willingness to pay (WTP). WTP is a highly relevant construct, as it can provide insights into consumers' judgment of the product's perceived value (Le Gall-Ely, 2009). Moreover, the WTP construct offers a closer insight into consumer behavior compared to attitudes (Meyerhoff, 2006).

Finally, De Jong et al. (2019) in their review of literature on greenwashing distinguish four types of research: 1) studies which use macro-level data from different industries that focus on the relationship between greenwashing and companies' overall performance indicators, 2) studies which examine correlations between perceived greenwashing and consumer attitudes, 3) qualitative studies that capture reactions of consumers to greenwashing practices, 4) experimental studies that compare the effects of greenwashing and non-greenwashing practices. Authors suggest that more research should focus on experiments, as "causal inferences about the effects of greenwashing can be made only by using experimental research" (De Jong et al., 2018, p. 84).

1.3. Research Question

Based on previously described research gaps and drawing from the literature review presented in the next chapter, the following main research question is proposed:

How do greenwashing and truly green claims regarding intrinsic and extrinsic product cues impact consumer attitudes and behavior?

1.4. Purpose of the Master's Thesis

This thesis aims to further elaborate the topic of impacts of green and greenwashing claims, on consumers. In particular, by looking at both attitudes (measured by brand attitude) and behavioral components (measured by willingness to pay and purchase intention), this thesis will show a broader picture and offer comparability between the mentioned constructs.

Moreover, as explained by the research question, the purpose of this master's thesis is to go into detail with which aspects of a product (intrinsic or extrinsic) matter to the consumer more with regard to truly green claims and greenwashing. Their reactions, captured by their willingness to pay, brand attitudes and purchase intentions will offer a complex picture that will help researchers and managers understand which aspects are of higher importance for consumers. Based on previous research it is expected that there is a difference in how people perceive and react to intrinsic and extrinsic cues (Lee & Lou, 1995; Seo et al., 2016; Veale & Quester, 2009). However, it is yet unclear whether the notions found in previous research will be confirmed also in the context of greenwashing. Thus, this master's thesis aims to provide more insights into the reactions of consumers to intrinsic and extrinsic cues in connection with truly green versus greenwashing behavior. Moreover, by observing both attitudinal and behavioral aspects of consumers' responses, a more complex view will be offered. This will give space for comparisons between consumers' attitudes and actual behavior, as it is known that attitudes are not always reflected in actual behavior (McNeill & Moore, 2015).

1.5. Planned Contributions of the Master's Thesis

Further research of CSR and greenwashing has various potential implications, both for theory and for practice. This master's thesis aims to provide contributions in the following areas. From a theoretical point of view, it will broaden the literature on greenwashing and its impacts on consumers, especially bringing more insights into the cosmetics industry which is highly relevant. Literature on greenwashing is still developing and this thesis contributes to further filling of the gap presented in the subchapter above. Also, authors focusing their research on greenwashing call for more experimental research, so that causal inferences can be drawn (De Jong et al., 2018).

This thesis will also contribute to the research on the construct “willingness to pay”, which offers more insights into actual perceived value of a product (Le Gall-Ely, 2009). Previous research on sustainability shows that consumers are willing to pay more for sustainable products (Amberg & Fogarassy, 2020; Grimmer & Bingham, 2013). However, the impacts of greenwashing on consumers' willingness to pay are still not clear. Lee et al. (2017) suggest that willingness to pay for green products is significantly higher compared to greenwashed products. To support these findings further, this thesis aims to find more evidence for such behavior.

Additionally, this thesis will contribute to further expansion of theory on intrinsic and extrinsic cues, especially bringing more light into the topic of sustainability, as this area is still underdeveloped. This thesis will show whether different aspects of a product – the product itself and its packaging, impact consumers differently when they are presented with information regarding a company's truly green or greenwashing behavior regarding the product.

As the data for this thesis will be collected in Slovakia, it will offer more insights into this specific market and the behavior of consumers, as this research area is still developing (Kliestikova & Nadanyiova, 2017). Environmental responsibility of Slovak consumers is growing stronger and has further potential to grow with increasing awareness (Holotová et al., 2020). As a result, more research on this trend and with it connected issues such as greenwashing is needed.

Moreover, this thesis will also yield managerial implications, especially for companies operating in Slovakia. Understanding how consumers react to positive and negative

information with regard to sustainability is important for future decision making. More specifically, it will help understand the effects greenwashing has on various constructs of consumer attitudes and behavior. This can help managers in future brand positioning, communication and choices regarding green claims. Finally, this thesis aims to show that greenwashing truly is an issue with broad consequences and should be avoided.

1.6. Structure of the Thesis

The first chapter offers an introduction to the topic including the proposed research gaps, purpose of the thesis and elaborates further on the planned contributions. The second chapter presents literature review on the topic of corporate social responsibility (CSR), green consumption, greenwashing and its impact on consumers and intrinsic and extrinsic cues of a product. In the third chapter, the research frame is presented together with the proposed hypotheses, research model and description of variables included in the model. The fourth chapter describes research methods, including the description of sustainability behaviors of the Slovak population and an overview of the beauty and personal care industry and its relevance for the topic. This chapter also includes the procedures and results of pretests conducted for the purposes of this thesis and offers respondents' description and an overview on the measurement scales used in the main study. In the fifth chapter, results of the main study are described, while the sixth chapter includes discussion of findings provided by this master's thesis. Finally, the seventh chapter offers a conclusion together with theoretical and managerial contributions, and the summary of limitations and directions for future research. Also, an Appendix is included in order to provide additional information.

2. Literature Review

2.1. Corporate Sustainability and Corporate Social Responsibility

The terms “sustainable development” or “sustainability” are included in plans, strategies and targets of most companies nowadays. Whether these companies are large or small, they all strive towards sustainability and in recent years, it has become a stable issue discussed on different stages – both business and academic. Montiel and Delgado-Ceballos (2014) show the development of different definitions of corporate sustainability (CS), while also pointing out there is no single standardized interpretation of the concept, and it is often used interchangeably with the term corporate social responsibility (CSR). Although both terms share common ground and vision, they represent different constructs which need to be properly understood by managers (Montiel, 2008).

Sustainable development stems from Brundtland report (WCED, 1987, p. 16) and it can be defined as “development that meets the needs of the present without compromising the ability for future generations to meet their own needs”. Montiel (2008) suggests that CS can be conceptualized and defined in terms of the environmental dimension of business focusing on ecological sustainability or, alternatively, authors tend to follow the multidimensional WCED definition which also includes environmental, economic and social dimensions. This way of conceptualizing sustainability is also called the triple bottom line (Elkington, 1998). The concept suggests that companies should not only engage in activities supporting socially and environmentally responsible behavior but should also pay attention to long-term economic profitability in the process (Gimenez et al., 2012).

Companies need to take into consideration various aspects of the environment they are operating in, as it is constantly changing with new economic, environmental, political and social factors coming in. Thus, the three bottom lines are not stable but “are in constant flux”, which makes “the sustainability challenge tougher than any of the other challenges” (Elkington, 1998, p. 73). Due to this, firms need to adjust their behavior accordingly and the changes should be reflected in their CSR strategy. Currently, there is no single generally accepted definition of CSR, as the term can be approached from various points of view (Sarkar & Searcy, 2016). From a broader perspective, the term CSR covers social and environmental activities that companies voluntarily apply in

their business operations (Van Marrewijk, 2003). Specifically, CSR implies that firms must foremost assume their core economic responsibility and voluntarily go beyond legal minimums so that they are ethical in all of their activities and that they take into account the impact of their actions on stakeholders in society, while simultaneously contributing to global sustainability (Sarkar & Searcy, 2016). An important factor of the many views on CSR is voluntariness which is emphasized in many definitions of the concept. Kilcullen and Ohles Kooistra (1999; p. 158) state that CSR is the “degree of moral obligation that may be ascribed to corporations beyond simple obedience to the laws of the state”. Voluntariness is also included in CSR definition of the European Commission (2011; p.3) from 2001 where CSR is “a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis”. European Commission has updated their definition and redefined CSR in 2011 as “the responsibility of enterprises for their impacts on society”. (EC, 2011, p. 6). Dahlsrud (2008) concludes that the many definitions of CSR mostly share common ground and thus the confusions happen mostly because of different constructions of the CSR concept in specific situations. The author suggests it is important for companies to view CSR in their unique context of business operations and adjust their business strategy accordingly.

Some authors consider CS to be a way of conceptualizing CSR or vice versa and the research shows the two concepts seem to be converging in recent years (Montiel, 2008).

Integration of sustainability in a company's CSR activities is a strategic move, as it is believed to be an essential precondition for success (Baumgartner, 2014). There are various strategic reasons for a company to be viewed as environmentally responsible, such as enhancing reputation or meeting expectations of customers (Babiak & Trendafilova, 2011). Also, with rising awareness of environmental issues, the pressure on companies to include environment protection in their CSR strategies grows as well (Chen & Chang, 2012). As a result, a new concept called green CSR, also called environmental CSR, has emerged. Green CSR reflects firms' initiatives that are good for the environment rather than simply complying with the related laws and regulations (Lyon & Maxwell, 2008). A firm's high level of CSR does not necessarily imply the same level of green CSR and thus, green CSR is a distinct part of the broader CSR concept (Rahman & Post, 2012).

Literature suggests there are different views on the relationship between a company's environmental and economic performance. On one hand, it has been argued that it pays to be green (Porter & van der Linde, 1995, King & Lenox, 2001) and that a better environmental performance leads to increase in sales, and thus increase in profits (Schaltegger & Synnestvedt, 2002). On the other hand, better environmental performance is linked with higher costs and thus decrease in profits. Indeed, the costs connected with being green are undoubtedly high and because of this some companies may adopt practices that exaggerate their activities towards environmental protection, e.g. greenwash to avoid additional costs (Delmas & Burbano, 2011, Lyon & Montgomery, 2013) and simultaneously, improve their image.

To make consumers aware of a company's or product's greenness, proper communication needs to be ensured (Trudel & Cotte, 2009). However, overcommunication can potentially be harmful. CSR communication can be seen as a mere tool for symbolic action (Lyon & Montgomery, 2015), and extensive communication about few CSR activities can eventually have a negative impact on the perception of a company's social responsibility (Viererbl & Koch, 2022).

2.2. Green Consumption

In the past couple of years, marketing of green products has seen significant success and demand on the side of consumers. As of 2020, the value of the global green technology and sustainability market is estimated at \$10.32 billion and is expected to reach the value of \$74.64 billion by 2030 (Shadaab et al., 2021). Generally, green consumption can be defined as “purchasing and consumption behaviors by an individual which are related to environmental and resource problems and are motivated by not only a desire to satisfy an individual's needs but also a concern for the welfare of society in general” (H.V. Nguyen et al., 2019, p. 119). The term is used interchangeably with similar terms such as socially responsible consumption, environmentally friendly or responsible consumption but they share a common base which is the desirable consumption goal to minimize environmental consequences (Kim et al., 2012; H.V. Nguyen et al., 2019).

Study shows that more than 50% of consumers believe they can contribute to tackling environmental problems through their daily behavior (Statista, 2021a). Additionally, since the Covid-19 pandemic started, consumers increased their interest in making

more environmentally friendly, sustainable, or ethical choices (NielsenIQ Research, 2021). Also, a more recent research from McKinsey and NielsenIQ (2023) states that in the majority of examined categories, product with sustainability claims grew faster than those without such claims. Product with sustainability claims are usually bought by higher income households, though the growth is visible across all demographic groups.

Lorenzen (2014) suggests that green consumers avoid purchasing goods and services from companies that they perceive as environmentally irresponsible or unethical and support those companies which are perceived oppositely. Indeed, the preference is shown not only in higher purchase intentions, but it is also reflected in willingness to pay (WTP). Consumers are willing to pay more for a product from a company they perceive as environmentally responsible (Grimmer & Bingham, 2013).

There are various factors influencing the choice of a sustainable product over a non-sustainable option. One of the most important ones is the price. If the price of a sustainable product is similar to a product with different attributes, over a third of consumers would choose the sustainable version (Tighe, 2022a). It has also been proven that consumers are willing to spend more money on green products, and thus companies can price these products higher, as compared to a conventional product (Lee et al., 2017). Nonetheless, research has also found that price is one of the most significant barriers preventing consumers from buying sustainable versions of products (Gleim, 2013). More than 50% of consumers state that the main reason why they have not adopted a more sustainable lifestyle is that they consider it to be too expensive. Simultaneously, if the sustainable options would be more affordable, they would adapt to it (Deloitte, 2022). Additionally, the second most common reason why people do not buy sustainable products is the fact that they believe the environmental claims made by companies are false, e.g., they are afraid of greenwashing (Tighe, 2022b).

Different aspects of sustainability carry a different weight of importance for the consumer. Recent research shows that although consumers understand which characteristics make a product sustainable, when it comes to making a purchase, they value durability over recyclability (Deloitte, 2022).

2.3. Greenwashing

As a result of increased popularity of green claims in companies' CSR programs, an antipole to green CSR has been born – greenwashing (De Jong et al., 2018). Delmas and Burbano (2011, p. 66) define greenwashing as “the act of misleading consumers regarding the environmental practices of organizations (firm-level greenwashing) or the environmental benefits of a product or service (product-level greenwashing)” and “poor environmental performance and positive communication about environmental performance”. This phenomenon, however, cannot be described by a single definition due to its overarching nature. Terra Choice (2009) defined the so called “7 sins of greenwashing” which include: 1) sin of hidden trade-off, 2) sin of no proof, 3) sin of vagueness, 4) sin of worshiping false labels, 5) sin of irrelevance, 6) sin of lesser of two evils, 7) sin of fibbing. These refer to the most often used ways to mislead the consumer with false green marketing claims. Terra Choice (2009) research suggests that although companies do not often spread completely false information about their environmental performance (sin of fibbing), they still use other less obvious greenwashing practices. This includes using unauthorized green labels (sin of worshiping false labels), environmental claims without verification from a reliable third party (sin of no proof) or using poorly defined or broad claims which can easily be misunderstood by consumers (sin of vagueness). Generally, the main greenwashing practices used to mislead consumers are either related to a sustainable packaging or present the product itself as green, organic or ecologically correct (Braga et al., 2019).

Recent statement of the European Commission (2021) claims their analysis of all green online statements made by companies from various industries found 42% of these claims were exaggerated or false. It has been proven that if consumers feel they have been deceived, they respond negatively towards the marketer (Brouwer, 2016; Lim et al., 2013; Nyilasy et al., 2014). However, if the deception is not detected by the consumer, it can lead to a positive response (Held & Germelmann, 2018). Based on this, greenwashing can potentially have a positive effect on the consumer, if it is not noticed. Although most of the research shows that greenwashing eventually has a negative effect on companies, De Jong et al. (2018, p. 99) confirms that greenwashing “indeed has the potential to positively affect consumers' impressions of organizations' environmental claims and performance”. While making steps towards sustainability is connected with increased costs for companies, it is an important aspect of their image

in the eyes of consumers. For this reason, if a company cannot afford or chooses to avoid the cost increase and still wants to enjoy the positive effects of green image, they can resort to greenwashing (Lyon & Montgomery, 2013). Fernandes et al. (2020) examined how deceptive environmental claims in advertising influence consumers. Their results confirm the prevalent notion that consumers generally cannot distinguish between acceptable and deceptive green claims. Due to this, the ability to make informed green decisions is threatened. Authors indicate that proper education of consumers about how to read and understand green messages and sustainability claims, is needed in order to protect their interests.

2.4. Greenwashing and the Consumer

There are various studies that examine the impact of (perceived) greenwashing on consumers. Lim et al. (2013) conducted in-depth interviews that explored consumers' reactions to green claims and how their opinions changed after realizing these claims used greenwashing. According to their study, consumers often do not possess enough information about green products and rely on the manufacturer's claims. However, once they understand they have been misled with greenwashing, they can become distrustful and cautious about not only the particular product but green products in general. Moreover, after learning about greenwashing, consumers want to spread the word about these practices, to "warn other consumers to be more cautious when purchasing green product and service offerings" (Lim et al., 2013, p. 20).

Most commonly examined constructs with regard to greenwashing and consumers' responses are purchase intentions (Brouwer, 2016; Chen et al., 2018; De Jong et al., 2019; Wang et al., 2020), but also brand related constructs such as brand attitude (Nyilasy, 2014; Szabo & Webster, 2021) or brand image (Chen et al., 2018). Simultaneously, impacts of greenwashing on consumers' willingness to pay has not been so frequently researched.

Brouwer (2016) discusses that after learning about a company's greenwashing practices used in a specific product advertising, respondents started to link those practices not only with the specific product, but the whole brand. Nonetheless, the study also found that consumers would still purchase products from the brand, regardless of greenwashing, although they consider the information important in their decision making. These findings are supported by the results of another study that

found no effect of greenwashing on consumers' purchase intentions (De Jong et al., 2019). On the contrary, Nyilasy et al. (2014) suggest that if consumers perceive that a brand extensively communicates about their environmental commitment using misleading information, it can be perceived as greenwashing. As a result, consumers will not want to purchase products or services from such brands. Moreover, there is also evidence showing that greenwashing can have a wider effect, causing negative change in consumer purchase intentions not only regarding one brand but impacting the whole industry and thus having a spillover effect (Wang et al., 2020). Chen et al. (2018) found that firm's greenwashing has a negative effect on consumers' green purchase behavior in general.

Companies often use green messages to achieve positive brand attitudes (BA) in public. However, they should proceed carefully, because environmental claims, if not true, can potentially harm their image. According to Nyilasy et al. (2014), perceived greenwashing has a negative effect on consumers' brand attitudes. This finding is also supported by Szabo & Webster (2021), who found a negative relationship between perceived greenwashing and brand attitudes.

Lee et al. (2017) suggest there is a significant difference in willingness to pay for truly green products as compared to greenwashed products. WTP was observed to be higher for the green versions of all three products included in the study (mattress, frying pan, detergent).

With rising numbers of green products, consumers tend to have difficulties identifying whether green claims are true or false (Nyilasi et al., 2014) and as a result, green skepticism has become an issue for green marketing (Chen et al, 2014). Mohr et al. (1998) define green skepticism as the consumers' tendency to doubt the environmental benefits or the environmental performance of a green product. Consumers grow more skeptical about labels claiming sustainability of a product, as they see it as a marketing tactic to increase the profits (Statista, 2021a). A study carried out by Euroconsumers (2021) complies with these findings and states that 54% of consumers believe the claims to be a part of marketing to achieve higher sales. According to Leonidou & Skarmeas (2017), consumers' green skepticism is the driver of unfavorable consequences, such as negative word of mouth or decreased purchase intentions of environmentally friendly products. Previous research has found that there is a positive

relationship between greenwashing and green skepticism (Aji & Sutikno, 2015; T.T.H. Nguyen et al., 2019).

2.5. Intrinsic and Extrinsic Product Cues

Cues of a product can be classified as extrinsic or intrinsic, where extrinsic cues relate to attributes that are not part of the physical product, including price, brand name or packaging. Intrinsic cues are product related attributes such as ingredients (Richardson et al., 1994). To reduce the impact products have on the environment, both the intrinsic and extrinsic product cues can be altered. Extrinsic cues refer to more general product attributes, while intrinsic cues are specific to a particular product (Lee & Lou, 1995).

Green product sustainability can be defined as “the endeavor to reduce the environmental footprint through altering the intrinsic attributes and thus the composition of the product”, while the packaging sustainability refers to “the endeavor to reduce the product’s footprint through altering the product’s packaging, for example, by using more environmentally friendly materials” (Magnier et al., 2016, p. 132). A study on green cosmetics has shown that the majority of participants were willing to pay more for both sustainable packaging and natural ingredients in a product as compared to a non-sustainable product (Amberg & Fogarassy, 2020). Previous research also found that perceived quality of a product is more positive when it is packed sustainably as compared with conventional packaging (Magnier et al., 2016).

Today, green products are expected to possess the quality and efficacy of a non-sustainable option. As a result, consumers no longer accept an inferior product just for the sake of its sustainability (Sheehan, 2014). The study of Eberhart & Naderer (2017) presents insights into consumers' sustainable purchasing behavior. The authors found that responsible consumers actively search for information before the purchase and read ingredients lists on point of sale. Consumers with limited knowledge about sustainability, focus more on pursuing their personal motives and sustainability comes second.

According to Lee & Lou (1995), consumers who are more familiar with a particular product category, as opposed to those who are less familiar, tend to rely more on extrinsic cues, when evaluating a product. In this research, the authors focused on intangible cues, like price, brand name and country of origin. When it comes to quality

perceptions, intrinsic cues, in this case texture of the products, were proven to have a greater influence than extrinsic cues which were represented by price and store image (Szybillo & Jacoby, 1974). A more recent research presents a contradicting result. In their study, Veale & Quester (2009) show that consumers tend to rely more on extrinsic cues, even in case the intrinsic cues were made available for evaluation through sensory experience. Authors manipulated the product quality to three different levels and participants tasted the product themselves, yet still they could not interpret the different intrinsic cues accurately and thus chose to rely on extrinsic cues provided by the manufacturer. Thus, the literature on the topic of intrinsic and extrinsic cues presents different situations, in which one of the cues seems to have larger influence than the other.

Seo et al. (2016) examined the importance of intrinsic and extrinsic cues with regard to green food products. They found that for hedonic food products, there is a preference for eco-friendly packaging over eco-friendly ingredients. Respondents in the study showed significantly higher willingness to buy a hedonic food product in an eco-friendly packaging, compared to a product made of eco-friendly ingredients in a conventional packaging. Simultaneously, the same research found that for utilitarian food products, there was a higher preference for eco-friendly ingredients, rather than eco-friendly packaging. Thus, this research shows that depending on the product's nature, its environmental attributes can have a different value for the consumer.

2.6. Signaling Theory

Signaling theory is used to explain behavior when two parties have access to different information, e.g., it explains information asymmetry. The signaler (also called the sender) is responsible for the way information is communicated (signaled), while the receiver has to choose how the signal will be interpreted (Connelly et al., 2011). Signals are defined as “informational cues sent out by one party to another in order to influence desired outcomes” (Taj, 2016, p. 339). They are alterable, and thus offer space for manipulation (Spence, 1973). The signalers (companies), focus on communicating positive information in order to convey the positive attributes to the public (Connelly et al., 2011). Simultaneously, companies avoid deliberate sending of negative information in order to reduce information asymmetry (Taj, 2016).

Consumers usually do not have access to all information about products and they often have to rely on labels provided by the manufacturers. High uncertainty avoidance of consumers can result in higher risk aversion and thus lower tolerance of signals' ambiguity (Erdem, Swait & Valenzuela, 2006). Taj (2016) suggests that signalers and receivers have conflicting interests. Since receivers possess limited amounts of information about the company compared to insiders, signalers can benefit from deceiving them (Bird & Smith, 2005). As a result of such asymmetric information, companies can use the opportunity to greenwash (Garrido et al., 2020). Previous research suggests that companies may adopt a CSR strategy for both signaling and greenwashing purposes (Uyar et al., 2020). Companies with good environmental performance tend to make their CSR reports public in order to emphasize and raise awareness about their activities, e.g., to signal their efforts. Companies with poor environmental performance, by contrast, tend to adopt greenwashing practices, in order to change public perceptions about their actual CSR performance (Clarkson et al., 2008).

Additionally, there are other signals used to influence consumers. In connection with sustainability, companies can use eco-labels to achieve a positive reaction from the consumer. These were proven to be especially effective in low-involvement purchase situations including everyday products (Atkinson & Rosenthal, 2014). Surprisingly, the study of Sigurdsson et al. (2022) found that consumers show higher WTP for products with unauthorized sustainability tags than for products with verified eco-labels. Authors state that the reason for this was mainly that consumers felt more familiar with the fictional sustainability tag. Price of a product can also serve as a signal. Ki & Kim (2022) found that high prices can signal environmental affinity of a product.

Companies are not the only ones who use signaling. Consumers were proven to signal their trustworthiness and pro-sociality by purchasing green products. Moreover, they are willing to pay more for green products to achieve this. As a result, the desire for this signaling benefit, consumers are willing to look past the higher prices of green products, which is otherwise one of the biggest reasons why people avoid purchasing sustainable products (Berger, 2019). For the purpose of this master's thesis, signaling theory was chosen to support the relationship between the green or greenwashing cues and consumers' willingness to pay, purchase intentions and brand attitudes.

3. Research Frame

This chapter presents the research hypotheses developed for the purpose of this thesis. Further, it contains the research model to show relationships between variables. Finally, it includes descriptions of dependent, independent and control variables.

3.1. Research Hypotheses

According to signaling theory, consumers as receivers of a signal, have limited information about a product or service, which are deliberately regulated by the signaler (Taj, 2016). In the context of truly green behavior and greenwashing, companies will try to emphasize their truly green behavior and try to avoid communicating lacking thereof. It has been proven that consumers support those firms which they perceive as environmentally responsible (Lorenzen, 2014). On the contrary, learning about companies' greenwashing can lead to negative attitudes of consumers (Brouwer, 2016; Lim et al., 2013). Thus, if consumers are informed about truly green efforts or greenwashing through signals from a reliable third party, the information asymmetry between the company and consumer can be reduced (Brach, Walsh & Shaw, 2018). Because of this, consumers can make up their opinion based on reliable unbiased information.

Previous research shows that greenwashing can have a negative impact on consumers' WTP, BA and PI. Greenwashing can indeed influence consumers negatively (Nyilasy et al., 2014; Szabo & Webster, 2021), while companies' efforts towards sustainability have positive implications (Grimmer & Bingham, 2013). Additionally, consumers support companies which behave responsibly (Grimmer & Bingham, 2013). Thus, the first hypothesized relationship examines if truly green behavior shows a better consumer response in terms of WTP, BA and PI, as compared to greenwashing.

H1: Truly green behavior results in a higher a) WTP, b) BA, c) PI than greenwashing behavior.

Product packaging and ingredients, so the intrinsic and extrinsic cues, in the context of sustainability are both important to consumers (Kunst, 2022; Statista, 2021a) when making a purchase. Moreover, it has been proven that consumers are willing to pay more for sustainable cosmetics products, both in terms of packaging and ingredients (Amberg & Fogarassy, 2020). However, until now, the research is limited when it

comes to examining the differences in importance of these two factors. According to Eberhart & Naderer (2017), responsible consumers search for information and tend to rely on the ingredients lists, when purchasing sustainable products. The study of Szybillo & Jacoby (1974) also found that intrinsic cues have greater influence in terms of quality perceptions. Nonetheless, to the best of my knowledge, only one study focused on sustainability used the differentiation between intrinsic and extrinsic cues and found that consumers do prefer sustainable ingredients over sustainable packaging for utilitarian food products (Seo et al., 2016). Therefore, I further hypothesize that consumers are more sensitive towards greenwashing and green claims regarding intrinsic product cues as compared to extrinsic cues and because of this, their willingness to pay, brand attitude and purchase intention are expected to be lower for extrinsic cues for the green scenarios, while the opposite is hypothesized for the greenwashing conditions.

H2: Truly green behavior regarding intrinsic cues will result in a higher a) WTP, b) BA, c) PI than truly green behavior regarding extrinsic cues.

H3: Greenwashing behavior regarding intrinsic cues will result in a lower a) WTP, b) BA, c) PI than greenwashing behavior regarding extrinsic cues.

3.2. Research Model and Variables

Based on the proposed research gap and subsequent research question, this thesis investigates the impacts of truly green efforts and greenwashing on consumer behavior. More precisely, it studies the effects on consumers' willingness to pay, purchase intentions and brand attitude. These three variables will serve as dependent variables, while truly green claims about intrinsic and extrinsic cues vs. greenwashing about intrinsic and extrinsic cues will serve as independent variables. Thus, the independent variable includes four different groups. This master's thesis will extend the previously examined relationship between green or greenwashing behavior and willingness to pay, purchase intention and brand attitude. Figure 1 below shows the research model proposed for this research.

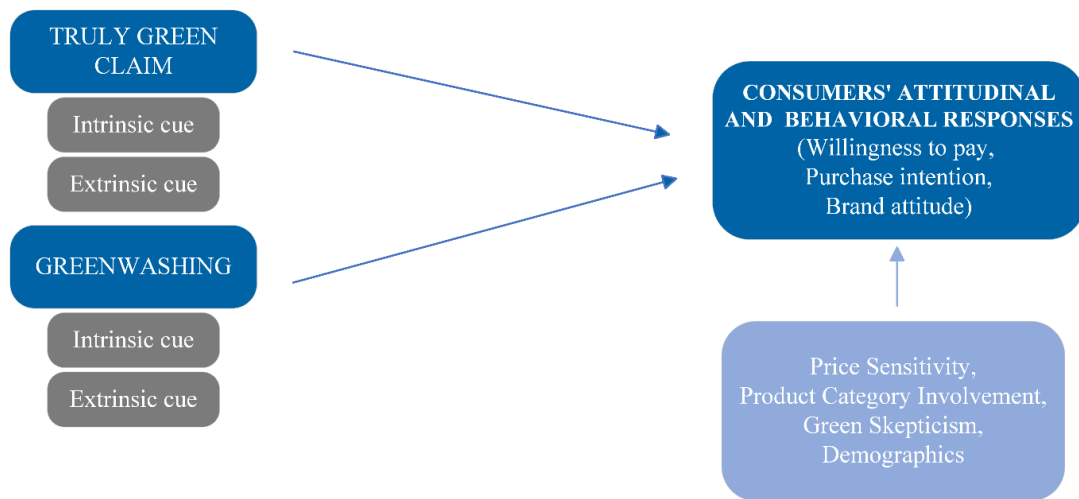


Figure 1: Research model

3.2.1. Independent Variables

This research includes two independent variables. The first independent variable is presented in the form of a truly green versus greenwashing condition, thus a binary categorical variable. The second independent variable are intrinsic versus extrinsic cues, another binary categorical variable.

3.2.2. Dependent Variables

Purchase intention (PI) is defined as consumers' tendency to buy from a brand or take actions related to a purchase. The construct is measured by the likelihood that a consumer will make a purchase (Belch & Belch, 2008). Purchase intentions are often used to predict actual purchase behavior (Newberry et al., 2003).

Willingness to pay (WTP) refers to the maximum sum of money a consumer is willing to spend on a product or a service (Homburg et al., 2005). Consumers are indifferent to buying or not buying the product at this price point, as the products' value is aligned with it (Schmidt & Bijmolt, 2020). Consumers' willingness to pay is an important construct for both marketers, who need the information for product development process, but also for researchers in marketing and economics (Steiner & Hendus, 2012).

Olson and Mitchell (1981, p. 323) define brand attitude (BA) as "consumer's overall evaluation of a brand". It is a result of consumer's beliefs and feelings towards a brand's attributes and benefits (Keller, 2003). Brand attitudes are influenced by a

brand's communication efforts (Langaro et al., 2015) which also includes promotion of CSR efforts.

By including three dependent variables and thus observing both attitudinal (brand attitude) and behavioral (purchase intention, willingness to pay) part, more complex responses can be captured. Moreover, it will help to capture the attitude-behavior gap, which suggests that although consumers express their interest in green product alternatives, it does not always match their willingness to buy or pay more for such product (Claudy et al., 2013). Therefore, differences in the three dependent variables can be expected.

3.2.3. Control Variables

To increase the internal validity of this research, various control variables were taken into consideration, namely price sensitivity, product category involvement, green skepticism and demographics such as gender, age, education or net income.

Price sensitivity (also called price consciousness) refers to “how individual consumers react to price levels and changes in price levels” (Goldsmith & Newell, 1997, p. 163). With increasing prices, consumers who are highly price sensitive will show a stronger decrease in demand, while those consumers who are less price sensitive will not be as significant (Goldsmith & Newell, 1997). Since price sensitivity is proven to be correlated with willingness to pay and consumers' overall purchase behaviors (Campbell et al., 2014), this variable needs to be controlled for. Price sensitive consumers tend to be more aversive towards losses (Bell & Latin, 2000), which in terms of prices refer to price increases. These findings are supported by the Prospect theory (Kahneman & Tversky, 1979) , which states that individuals react strongly to losses rather than gains, and thus are risk averse. Moreover Cakici & Tekeli (2022) found that price sensitivity affects consumers' purchase intentions. Also, price is one of the most important elements which prevents consumers from making sustainable choices when purchasing products (Gleim, 2013).

Another control variable included in this model is product category involvement. Involvement refers to “a person's perceived relevance of the object based on inherent needs, values, and interests” (Zaichkowsky, 1985, p. 342). Thus, consumers are involved with a certain product category because it is relevant to their needs and values

(Zaichkowsky, 1985). If a consumer is highly involved, they search for more information as compared to a consumer with lower involvement (Mathwick & Rigdon, 2004). Previous research suggests that product involvement has a direct positive relationship to consumers' willingness to pay (Campbell et al., 2014). Menidjel et al. (2020) found that product category involvement positively influences consumers' purchase intentions.

This model also controls for green skepticism. It has been proven that green skepticism can influence purchase intention (Leonidou & Skarmeas, 2017) and simultaneously is positively related to greenwashing (Aji & Sutikno, 2015; T.T.H. Nguyen et al., 2019). Negative impacts of green skepticism were observed on decreased willingness to pay for environmentally friendly products (Kreczmańska-Gigol & Gigol, 2022).

Finally, demographics including gender, age, highest achieved education and income were taken as control variables as well. Individuals perceive prices differently and their perceptions are influenced by previous experiences or events and socio-economic and demographic factors (Campbell et al., 2014).

4. Research Methods

This chapter describes the methods used for the empirical part of this master's thesis. It gives insights into behavior of Slovak consumers with regard to sustainability and an overview of the cosmetics industry. Next, the two pretests conducted for the purpose of this master's thesis and their results are described. The chapter further includes description of the main study, the measurement scales used, data collection and screening processes and respondents' description.

4.1. Slovak Consumers and Their Behavior Towards Sustainability

Growing number of consumers on the Slovak market strive towards consumption of environmentally friendly products and make conscious decisions for preservation of nature for future generations. Currently, the most common activities towards protection of nature is waste separation with focus on recycling and energy saving. Purchase of environmentally friendly products is also observed, however not as substantially compared to other activities (Musova et al., 2021). If we consider the whole European Union, Slovakia ranks in the middle in production of municipal waste per person. On average, Slovakia produced 433 kilograms of municipal waste per inhabitant in 2020, which compared to Denmark with 845 kilograms per inhabitant is considerably less (Statista, 2022). This shows Slovaks are conscious about how they dispose of things and truly show devotion to waste separation. Furthermore, a 2020 Statista study shows that 75% of Slovaks are willing to take fewer flights in the future, to fight climate change (Burgueño Salas, 2022).

Association of Consumer Organizations in Slovakia claims that according to their research, the majority of Slovak consumers understand their shopping behavior influences the environment. Also, more than a half of the respondents understand and know eco-labels and use them as a signifier when shopping for sustainable products. However, only 13% of Slovak consumers are willing to pay more for an environmentally friendly product. The research also found that 60% of consumers understand what greenwashing and its subsequent consequences are (Stašenková, 2021).

But while consumers tend to state they are willing to protect the environment in the future, the current reality still reflects tendencies towards comfortable and affordable

choices. The rise of fast fashion popularity in the world is also visible in Slovakia, where the sales of the popular fast fashion brand H&M continuously rise (Smith, 2022). Since price is one of the most significant barriers worldwide preventing consumers from purchasing sustainable products (Deloitte, 2022), this may also be the case of Slovakia, where people simply cannot afford to pay more for sustainability especially at times of growing inflation.

In the past years, many new local sustainable brands have started their business in Slovakia and their success is visible. From sustainable clothing brands, food products to cosmetics, these brands offer their products for higher prices to target groups well suited for their portfolio. Some of the most successful Slovak brands include Nehera (sustainable clothes), Nosene (premium secondhand store), or Malinna (vegan biodegradable cosmetics and food supplements).

4.2. The Cosmetics and Beauty Industry

The beauty industry is one of the fastest growing industries, with global revenue of 511 billion US dollars (2021). According to an analysis by marketing agency Common Thread Collective (2021), it is expected that by 2025, the market revenue will grow to 784.6 billion US dollars. The estimated value of the cosmetic market in Central Europe is greater than 5.2 billion € (Ridder, 2020). The beauty and personal care market includes various product categories, the largest being skincare, haircare, make-up, perfumes and hygiene products (Statista, 2022). Although women are considered to be the biggest consumers of beauty products, the men's personal care market is growing rapidly, increasing the global demand (Chouhan et al., 2021). The analysis from Statista (Ridder, 2021) shows the consumption value of cosmetics and personal care in Slovakia was worth 626 million euros in 2019. With their growing interest in skin care, consumers are more and more involved in products. As a result, a belief that natural ingredients are less harmful for skin than artificial chemical ingredients can be observed (Jog & Singhal, 2019). Large personal care companies have reacted to this trend by launching new brands with sustainable image, for example Unilever's Love Beauty and Planet or Lux Botanicals.

Consumers are growing more and more aware about ingredients and environmental impacts of packaging, but also extend their attention further to deforestation and animal testing (Sahota, 2013). To adapt to expectations of their consumers, cosmetics

companies engage in CSR activities, and focus the most of their actions on environmental, rather than social sustainability. Kolling et al. (2022) state that currently, cosmetics companies are advancing in their CSR activities, but still see space for improvement in integrating all dimensions of sustainability.

While there are advances towards more sustainability in the cosmetics industry, the dark side of green marketing still shows itself. Because of this, green companies who genuinely pursue activities towards sustainability find it hard to differentiate themselves from those companies who greenwash (Jog & Singhal, 2019). According to Seelig (2021), skin care is a frequently greenwashed product category. Moreover, Khandelwal et al. (2019) found that the cosmetics industry belongs to the sectors which are highly engaged in greenwashing, based on perceptions of consumers. Many established beauty and personal care brands have been accused of greenwashing in the past year. For example, Head & Shoulders and L’Oreal bottle recyclability claims, or Lilly Lashes’ use of “cruelty free mink fur” (Slater, 2022). This marks the importance of further investigation of the impacts of greenwashing on consumers in the cosmetics industry.

4.3. Research Design

The study uses 2x2 between-subject design executed in form of an experiment. The interaction between the two independent variables offers division of the sample into four different experimental groups. Green condition with regard to intrinsic cues, green condition with regard to extrinsic cues, greenwashing condition with regard to intrinsic cues and greenwashing condition with regard to extrinsic cues (see Table 1 below). Situations were framed using fictitious scenarios, which differed only in information about company’s green/greenwashing behavior about intrinsic/extrinsic product cue. Scenarios included a fictitious cosmetics brand together with a fictitious name of an organization for environment protection and were presented in form of an online web article.

	Intrinsic cue	Extrinsic cue
Green	Group 1	Group 2
Greenwashing	Group 3	Group 4

Table 1: Overview of experimental conditions

4.4. Pretests

Two pretests were run in order to test chosen fictitious brand names for previous associations and subsequently, to test the believability of scenarios for the main study. Both pretests were conducted in the form of an online questionnaire created on the SoSci Survey platform and distributed via social media Facebook and via email (surveys attached in Appendix A and Appendix B).

4.4.1. Brand Name Choice

In the first pretest, the three potential brand names to be chosen for the scenarios were tested. Two brand names (Bluea, Leeni) were made-up, and one brand name (Slitt) was previously used in research by Halkias, Micevski, Diamantopoulos & Milchram (2017) and later on by Montanari (2019). By using a fictitious brand name, the potential bias caused by previous knowledge of an established brand can be minimized.

A short survey was programmed via SoSci Survey platform and distributed via e-mail and social media. First, the respondents were asked about general associations of the brand name and if the brand reminded them of something specific. Second, they were asked, if the brand reminded them of a specific product category and if so, which one. This set of questions was repeated for all three pretested brand names (please see Appendix A for the full questionnaire).

The sample consisted of 27 respondents, where all the respondents were of Slovak nationality above the age of 18. The results of the brand name pretest are presented in Table 2.

Brand Name	General Associations		Product Category Associations	
	Yes	No	Yes	No
Bluea	2	25	6	21
Slitt	1	26	1	26
Leeni	2	25	2	25

Table 2: Results of brand name pretesting

Overall, all three fictitious brand names produced a minimal number of general brand associations. In the case of the Bluea brand, there were 6 respondents who stated association with cosmetics and hygiene products. The brand name “Slitt” was eventually chosen due to the overall smallest number of associations and successful use of the brand name in previous research (Halkias et al., 2017; Montanari, 2019).

4.4.2. Scenarios Assessment

The data for the second pretest was collected between 6th and 10th of November 2022. This pretest included testing of four scenarios presented to respondents in the form of a web article. Each of the scenarios represented one of the four manipulation conditions: truly green behavior regarding intrinsic cues (GI), truly green behavior regarding extrinsic cues (GE), greenwashing regarding intrinsic cues (GWI) and greenwashing regarding extrinsic cues (GWE). The scenarios presented the information about true or false green behavior in an objective way, with mention of an independent third party to increase reliability of the statement. A sample scenario can be found in Appendix B together with the questionnaire used for scenario pretest.

The respondents were randomly assigned to one of the four scenarios and after reading it, they answered a set of questions focused on understanding the presented manipulations and to assess understandability, credibility and possible reality of the situation presented in the article. The survey also included a question about whether the participants perceive the presented company as environmentally friendly or unfriendly, based on what they have read in the article. Afterwards they were also asked about basic demographics including gender, age, education, current occupation and nationality.

Overall, 120 respondents took part in this pretest. The final sample included 106 respondents ($N(GI) = 23$; $N(GE) = 25$; $N(GWI) = 29$; $N(GWE) = 29$), with an average age of 33.75 years. All respondents were of Slovak nationality. The survey was programmed in SoSci Survey platform and distributed through social media using snowballing method.

After reading the article, the respondents answered a set of questions focused on their understanding of the presented situation. First, they were asked if Slitt Cosmetics uses sustainable ingredients/packaging. The results presented in Table 3 showed

understanding of presented manipulations, as both of the truly green conditions scored above 5 (GI: M=5.50, SD=1.73; GE: M=5.84, SD=1.72) and the greenwashing conditions scored below 2 (GWI: M=1.97, SD=1.42; GWE: M=1.72, SD=1.67). Second, the respondents were asked whether the independent organization Earth4Future, used as a reference point in the article, stated that the ingredients/packaging of Slitt Cosmetics products are sustainable. In this case, the green conditions also scored higher above 6 (GI: M=6.25, SD=1.54; GE: M=6.48, SD=1.05) and the greenwashing conditions reached values around 2 (GWI: M=2.55, SD=2.32; GWE: M=1.59, SD=1.43). Finally, the respondents were asked to state whether they consider the cosmetics company presented in the article as environmentally friendly. For the truly green conditions, the values were above 5 (GI: M=5.29, SD=1.62; GE: M=5.56, SD=1.61), while for the greenwashing conditions scored below 3 (GWI: M=2.84, SD=2.13; GWE: M=2.97, SD=2.49). These results show that the manipulations presented in the articles were correctly understood by the respondents.

Scenarios	Shower gels have sustainable ingredients/ packaging.	Independent organization Earth4Future stated the ingredients/ packaging of Slitt Cosmetics shower gels as sustainable.	I think this article describes a company that is responsible towards the environment.
GI	M=5.50 SD=1.73	M=6.25 SD=1.54	M=5.29 SD=1.62
GE	M=5.84 SD=1.72	M=6.48 SD=1.05	M=5.56 SD=1.61
GWI	M=1.97 SD=1.42	M=2.55 SD=2.32	M=2.84 SD=2.13
GWE	M=1.72 SD=1.67	M=1.59 SD=1.43	M=2.97 SD=2.49

Table 3: Results of pretest manipulations assessment

The assessment of understandability of the presented articles showed positive results, all clearly above the scale's median of 4 (GI: M=6.08, SD=1.24; GE: M=5.56, SD=1.80; GWI: M=5.58, SD=1.99; GWE: M=5.76, SD=1.50) and thus the articles can be considered understandable. Next, the credibility assessment also showed values above 4 for all the scenarios (GI: M=4.17, SD=1.60; GE: M=4.68, SD=1.44; GWI: M=4.42, SD=1.99; GWE: M=4.34, SD=1.74). The values were however not as high as for the understandability criterion. This can be due to the fact that the manipulation

shows a fictional article without any existing organization, media or brand the respondents could rely on. Subsequently, the respondents stated if they could easily imagine a similar situation happening today. All of the four articles scored high above the median value of 4 (GI: M=5.42, SD=1.31; GE: M=5.48, SD=1.64; GWI: M=6.06, SD=1.48; GWE: M=6.03, SD=1.72). Resulting means are presented in Table 4 below.

Scenarios	Understandable	Credible	Easily imagine
GI	M=6.08 SD=1.24	M=4.17 SD=1.60	M=5.42 SD=1.31
GE	M=5.56 SD=1.80	M=4.68 SD=1.44	M=5.48 SD=1.64
GWI	M=5.58 SD=1.99	M=4.42 SD=1.99	M=6.06 SD=1.48
GWE	M=5.76 SD=1.50	M=4.34 SD=1.74	M=6.03 SD=1.72

Table 4: Results of pretest scenarios assessment

To understand the potential problems the respondents saw with the credibility of the scenario, some of the individuals were approached to further elaborate on their answers in the survey. Their feedback was used for further improvement of the scenarios used in the main study.

4.5. Main Study

The main study was conducted in form of a survey, where the respondents were randomly assigned to one of the four scenarios and subsequently answered related questions. First, an introduction text was offered to generally describe the reason for data collection and to ensure respondents that the data will be gathered anonymously. Next, respondents were presented with one of the four framing scenarios that represented the independent variables. The scenarios had a form of an online news article that described a brand's green or greenwashing behavior regarding products' ingredients or packaging, thus intrinsic and extrinsic cues. The article also included a statement of an independent organization for nature protection (with a fictional name Earth4Future), in order to increase credibility of the claims made in the article. Product category that was chosen for the research were shower gels, as the product is used by all genders and age groups and thus is relevant for all. Furthermore, this is a product of a more utilitarian nature, compared with other product categories in the cosmetics industry. After reading the scenarios, the respondents were asked control questions to check for their understanding of the presented manipulations and assessed the

scenarios (the same questions as in the pretest were used). Next, they answered questions about their WTP for the product presented in the scenario, their PI and BA. As part of assessment of control variables, one question was added as an attention check, where the respondents were supposed to click on explicitly asked answer. Finally, they were asked to fill in basic demographic information including gender, age, education, current occupation, nationality and net monthly income (full survey in Slovak and English can be found in the Appendix C). The survey was programmed via the SoSci Survey platform and distributed via a consumer panel (Talk Online Panel). Respondents were paid for finishing the questionnaire. The survey administration period lasted from the 5th of December 2022 to 27th of December 2022. During this period, the survey was filled out 486 times.

4.5.1. Data Screening Process

To ensure quality of answers included in the final sample, the data collected from the respondents needed to meet defined criteria. A total number of 486 respondents fully completed the survey.

Firstly, only adult respondents could participate, and thus 1 respondent below the age of 18 was excluded. Secondly, 110 respondents from the initial sample did not successfully pass the attention check question and because of this, they could not be considered reliable for further analysis. Next, transitivity of the willingness to pay questions was checked in order to see whether the respondents understood the connections in the questions. Transitivity in WTP refers to the order of prices stated by the respondents, where the sums should be in ascending order. Here 51 respondents were excluded. As a next step, 3 more respondents were excluded due to objective overestimation of their WTP, inconsistencies in their answers or skipping through answers. Finally, outliers for all dependent and control variables across the four experimental conditions were examined using boxplots. Based on this, 45 further respondents were removed from further analysis, to prevent bias in results. As a result, a final sample of 276 respondents was used for the analysis in the main study, where 70 respondents were in the green intrinsic group, 68 respondents in green extrinsic group, 70 respondents in greenwash intrinsic group and 68 respondents in greenwash extrinsic groups. Thus, the groups were fairly equal in their sizes.

4.5.2. Measurement Scales

The scales used for measurement of dependent and control variables were adapted from previously published research papers and they can be found listed in the Appendix D. The constructs for purchase intention, price sensitivity, product category involvement and green skepticism used 7-point Likert scales to evaluate respondent's answers, with 1 referring to strong disagreement and 7 to strong agreement. For brand attitude, a 7-point semantic differential scale was used.

To measure willingness to pay, Van Westendorp's (1976) Price Sensitivity Meter (PSM) was used. This method uses four open ended questions that eventually offer a price range consumers are willing to pay for a certain product or service. For purchase intention measurement, a four-item scale from Dodds et al. (1991) was adapted. Brand attitude was measured using four item semantic differential scales previously used in paper by Kim & Chan-Olmsted (2007).

Price sensitivity was captured using a three-item scale developed by Wakefield & Inman (2003). Next, to measure product category involvement, a five-item scale was adapted from (Mittal, 1989). Finally, the green skepticism scale developed by Mohr et al. (1998) was used.

Although this analysis used already established methods, a proper reliability analysis was executed in order to verify these presumptions. To check for reliability, Cronbach's Alpha was calculated for all constructs (Table 5) with the final sample of N=276 respondents. All six of the constructs have proven to be highly reliable, with Cronbach's Alpha over 0.8, suggesting a good reliability score (Field, 2013). The brand attitude scale has shown the highest reliability score, with Cronbach's Alpha of 0.97, while price sensitivity and green skepticism scales reached the lowest value of 0.82. Still, all the constructs can be considered highly reliable for further analysis.

Construct	Number of items	Cronbach's Alpha
Willingness to pay (Van Westendorp, 1976)	4	$\alpha = 0.83$
Brand attitude (Kim & Chan-Olmsted, 2007)	4	$\alpha = 0.97$
Purchase intention (Dodds et al., 1991)	4	$\alpha = 0.93$
Price sensitivity (Wakefield & Inman, 2003)	3	$\alpha = 0.82$
Product category involvement (Mittal, 1989)	5	$\alpha = 0.94$
Green skepticism (Mohr et al., 1998)	4	$\alpha = 0.82$

Table 5: Reliability statistics

For further analysis, aggregated measures were calculated. To calculate the willingness to pay, the following formula was used:

$$WTP = \frac{(expensive + too\ expensive)}{2}$$

Values for all other scales were calculated as the average of the items included in the respective measurement scales.

4.5.3. Respondents

To provide a description of the sample, descriptive statistics were used. The final sample consisted of 276 respondents, where all of these were of Slovak nationality. Out of these respondents, 52.5% (145) were female, 47.1% (130) were male and 1 stated other gender. This shows a similar distribution as the national census from 2021, where 51.52% of the population above 15 years of age are female and 48.48% are male.

The median age of the sample was 48, where the median age of the Slovak population is slightly above 40 (O'Neill, 2022). Figure 2 shows the overall age distribution in the sample. The youngest participant was 19, and the oldest was 80 years old. The largest age group were 56–65-year-olds (21.38%), followed by people between 26–35 years (19.20%) and an equally sized group of 46–55-year-olds (19.20%). The oldest age group of 66–80 years (15.94%) and the group of 36–45-year-olds (17.39%) were of similar size. The smallest age group consisted of 19–25-year-olds (6.88%).

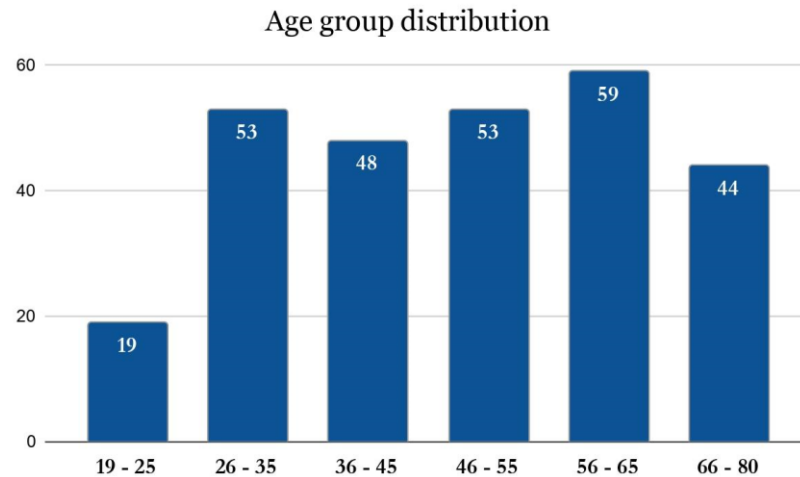


Figure 2: Age group distribution in the sample

The respondents were also asked about their highest achieved education level. In this sample, the largest group of people were those that finished high school (52.9%). Over 32% of respondents possess a master's degree, 8.3% a bachelor's degree and 5.1% have a doctorate. Only 3 respondents (1.1%) finished their education at elementary school. The education level distribution can be seen on Figure 3 below. The sample shows a different education distribution compared with the official census of the Slovak population published by the Statistical Office of the Slovak Republic from 2021, where the percentage of people with a finished university degree is 18.15%, while this sample shows over 40%. On the other hand, the census shows a higher percentage of people who finished their studies after elementary school (16.97%) Thus this study operated with a more educated sample, in comparison with the actual population.

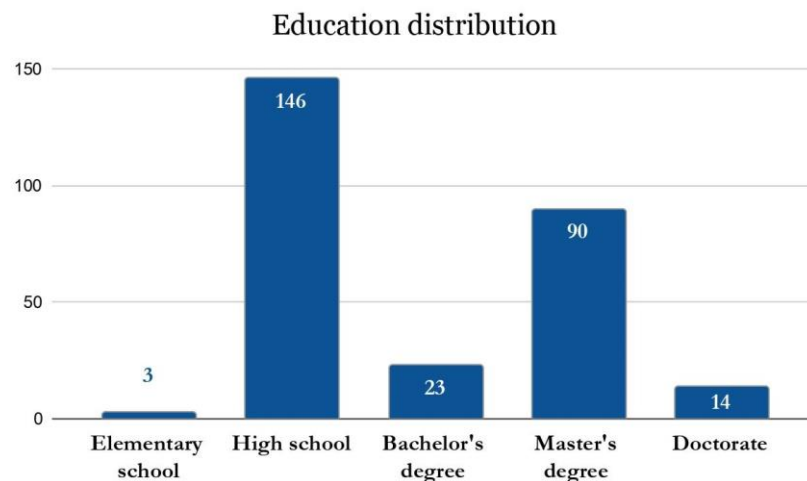


Figure 3: Education distribution in the sample

The occupation of the respondents was also assessed and is depicted in Figure 4. In this sample, the majority of respondents were employed for wages (56.5%), 25.4% were retired, 9.4% were unemployed, 4.3% were students and 4.3% were self-employed. In terms of occupation, this sample has a similar composition to the actual Slovak population. According to the national census (2021), 60% of people able to work are either employed for wages or are self-employed, 24.84% are retired, 12.64% are unemployed and 2.28% are students.

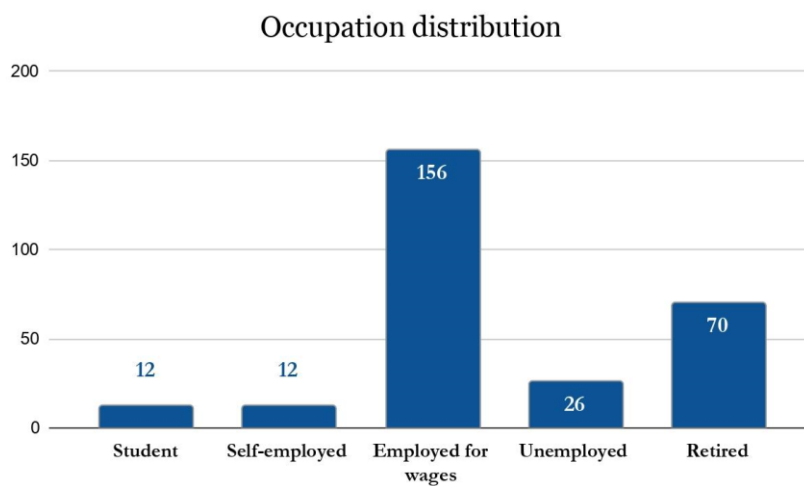


Figure 4: Occupation in the sample

The average net monthly income in the sample was 827.44 €, however because this question was not mandatory to be filled out, 9 respondents omitted answering it. The average net monthly income in Slovakia in 2021 was 732.5 € (Statistical Office of Slovak Republic, 2022), which is slightly below the sample average.

Since respondents were randomly assigned into the four scenarios, four subsamples of fairly equal sizes were created. To assess possible differences in the four groups in terms of gender, education and occupation, Pearson's Chi-square tests were conducted and showed non-significant results in all cases ($p > 0.05$). Also, one-way ANOVA showed no significant differences in age across the four experimental groups ($F(3, 272) = 0.64, p > 0.05$). This was also the case for net monthly income ($F(3, 272) = 0.45, p > 0.05$). Thus, it can be concluded that there were no significant differences across the four subsamples in terms of demographics.

5. Results

This chapter presents the process and the results of data analyses conducted for the purpose of testing the proposed hypotheses. First, understanding of presented manipulations is assessed, to check for their validity. Subsequently, scenario assessments are provided. The chapter also includes the description of control variables and the main analysis used to verify the proposed hypotheses.

5.1. Manipulations and Scenarios Assessment

Similarly, as in the pretest assessment, here the respondents were asked the same questions to see whether they understood the text they have read (Table 6). The first question was about the presented product's sustainability of ingredients or packaging. In the second question, the respondents were asked to answer if the product's sustainability was confirmed by the independent organization Earth4Future. The last question focused on respondents' overall thoughts on sustainability of the company presented in the scenario. For the green conditions, the values reached values above 5.5, signaling understanding of the presented scenarios. This means respondents saw the company as green. In case of the greenwashing conditions, the values were below 4, which again shows understanding. While for the green conditions, the results are similar to those of the pretest, the greenwashing conditions show slightly higher values. This suggests that some of the respondents, although being explicitly informed about greenwashing in the article, still considered the presented company as sustainable.

Scenarios	Shower gels have sustainable ingredients/ packaging.	Independent organization Earth4Future stated the ingredients/ packaging of Slitt Cosmetics shower gels as sustainable.	I think this article describes a company that is responsible towards the environment.
GI	M=5.69 SD=1.40	M=5.80 SD=1.19	M=5.86 SD=1.27
GE	M=5.71 SD=1.38	M=5.85 SD=1.33	M=5.63 SD=1.51
GWI	M=2.80 SD=1.79	M=2.63 SD=1.96	M=3.77 SD=2.10
GWE	M=3.24 SD=1.85	M=3.31 SD=2.08	M=3.75 SD=1.91

Table 6: Results of main study manipulations assessment

The scenario assessment provides insights into how the respondents perceived the article used as stimuli in this research. For understandability, all of the four scenarios scored around 6 (GI: M=5.83, SD=1.00; GE: M=5.78, SD=1.33; GWI: M=6.01, SD=1.12; GWE: M=5.68, SD=1.46), showing that the content of the articles was comprehensible for the respondents. Similarly, as in the pretest case, credibility is above 4 (GI: M=4.89, SD=1.46; GE: M=4.93, SD=1.47; GWI: M=4.51, SD=1.47; GWE: M=4.57, SD=1.21), however this item still shows lowest values of the three components measured. Though it is important to state, that credibility shows a slight improvement compared to the pretest. Finally, all four scenarios scored above 5 (GI: M=5.30, SD=1.26; GE: M=5.19, SD=1.40; GWI: M=5.84, SD=1.21; GWE: M=5.29, SD=1.43) for the question asking whether the respondents could easily imagine a similar situation happening, suggesting high authenticity of the articles.

Scenarios	Understandable	Credible	Easily imagine
GI	M=5.83 SD=1.00	M=4.89 SD=1.46	M=5.30 SD=1.26
GE	M=5.78 SD=1.33	M=4.93 SD=1.47	M=5.19 SD=1.40
GWI	M=6.01 SD=1.12	M=4.51 SD=1.47	M=5.84 SD=1.21
GWE	M=5.68 SD=1.46	M=4.57 SD=1.21	M=5.29 SD=1.43

Table 7: Results of main study scenarios assessment

A one-way ANOVA was performed in order to check for differences in scenarios assessments across the four experimental groups. The analysis showed a non-significant result for assessment of understandability ($F(3, 272) = 0.90, p > 0.05$) and assessment of credibility ($F(3, 272) = 1.55, p > 0.05$). In the case of the question whether the respondents can easily imagine a similar scenario happening, there was a significant result ($F(3, 272) = 3.45, p < 0.05$) signaling differences across the groups. A closer analysis using Games-Howell post hoc tests shows that there were significant differences between green extrinsic and greenwash intrinsic groups ($p < 0.05$) and also in case of green intrinsic and greenwash intrinsic ($p < 0.05$). Overall, the green intrinsic scenario scored the highest on this question, suggesting that although the scenarios were identical in their form, this particular situation seemed more realistic than the other.

5.2. Controls

The analysis of demographics showed no significant differences across the four groups, as presented in chapter 4.5.3. Respondents. Overall, for all three control variables, the mean values across the whole sample were above the median value of 4, suggesting medium price sensitivity, product category involvement and green skepticism (Price sensitivity: $M=4.78$, $SD=1.27$; Product category involvement: $M=4.77$, $SD=1.27$; Green skepticism: $M=4.84$, $SD=1.55$). Means for each of the experimental groups can be found in Table 8 below.

A one-way ANOVA was performed for each of the controls in order to check for differences in means across the four groups. Although the normality assumption was violated in some of the groups for some of the control variables, based on the central limit theorem, normality can be assumed nonetheless (Field, 2013). Homogeneity of variances was met for all three controls. In case of price sensitivity and green skepticism, there were no significant differences in mean values across the four experimental groups (PS: $F(3, 272) = 2.28$, $p > 0.05$; GS: $F(3, 272) = 0.21$, $p > 0.05$). However, the groups seemed to differ in the levels of product category involvement, where the test shows a significant result (PCI: $F(3, 272) = 3.84$, $p < 0.05$). The Games-Howell post hoc tests showed a significant ($p < 0.05$) mean difference only between the green intrinsic and greenwash extrinsic groups.

Nonetheless, all three control variables were included in the initial part of the main analysis and further excluded according to their significance level in the model.

Scenario	Price sensitivity	Product category involvement	Green skepticism
GI	$M=4.99$ $SD=1.28$	$M=5.15$ $SD=1.31$	$M=4.75$ $SD=1.22$
GE	$M=4.94$ $SD=1.15$	$M=4.88$ $SD=1.55$	$M=4.72$ $SD=1.20$
GWI	$M=4.49$ $SD=1.41$	$M=4.33$ $SD=1.44$	$M=4.82$ $SD=1.18$
GWE	$M=4.71$ $SD=1.19$	$M=4.78$ $SD=1.51$	$M=4.86$ $SD=1.10$

Table 8: Control variables across experimental groups

5.3. Main Analysis

To test the hypotheses, as a first step, a two-way ANCOVA (analysis of covariance) was performed for each of the three dependent variables separately. The statistical method is a two-way ANOVA performed with covariates, which are continuous variables that can potentially influence the dependent variable and by including these in the analysis, the confounding effects are eliminated. Analysis of covariance (ANCOVA) is usually robust to violations of normality (Field, 2014) and the method works well for experiments with random group assignment (Kline, 2009), and therefore is a good fit for the setting of this research. The two independent variables required for this analysis were binary categorical variables green/greenwashing condition and intrinsic/extrinsic cue of a product.

Depending on the results of the first two-way ANCOVA analysis that included all covariates, another analysis was run, until the final model included only significant covariates. Eventually, for WTP, a two-way ANCOVA with price sensitivity as a covariate was run, for BA a two-way ANOVA was used and for PI, a two-way ANCOVA with product category involvement covariate was used.

The overall mean willingness to pay for the whole sample was $M = 6.34 \text{ €}$ ($SD = 2.86 \text{ €}$), suggesting that on average respondents would pay around 6 euros for a shower gel. Furthermore, overall mean brand attitude was $M = 4.35$ ($SD = 1.46$) which is slightly above the median of 4 and thus were more inclined towards a positive attitude. Finally, mean purchase intention was $M = 3.79$ ($SD = 1.49$) which corresponds to a medium level.

5.3.1. Assumptions

The assumptions for ANCOVA are similar to those of ANOVA, however there are some additional factors to be considered. Aside from independence of observations, normality and homogeneity of variances across the groups, there is the assumption of a linear relationship between a covariate and the dependent variable across all experimental groups (Field, 2014). Additionally, there should be homogeneity of regression slopes. This means that the relationship between the dependent variable and each of the covariate should be similar in each of the experimental groups (Brace et al., 2012).

Normality was tested using Kolmogorov-Smirnov test (K-S test) and additionally, histograms and Q-Q plots for all dependent variables across the four experimental groups were observed. Although for WTP, the K-S tests were significant ($p < 0.05$) for all experimental conditions, the observed histograms and Q-Q plots suggest approximate normality. For PI, the K-S tests were significant ($p < 0.05$) except for the green intrinsic condition ($p > 0.05$). Nonetheless the observed Q-Q plots again show a distribution close to normal. In case of BA, the K-S tests were also significant, however, the histograms and Q-Q plots again show a fairly normal distribution. ANCOVA is a test robust to violation of normality and since all groups were large enough in terms of the number of subjects, normality can be assumed anyway because of the central limit theorem (Field, 2014).

Homogeneity of variances was examined using Levene's test for each of the dependent variables. For all three dependent variables WTP, BA and PI the Levene's tests were non-significant ($p > 0.05$), suggesting there is no violation of homoscedasticity.

Next, the linearity of the relationships between the dependent variables and the covariates for each of the four experimental groups was examined by using scatter plots. The scatter plots for WTP and price sensitivity showed that the relationship was approximately linear in case of green intrinsic and greenwash intrinsic conditions, while linearity was violated in the two extrinsic conditions. The relationship between WTP and product category involvement was not linear for all four conditions. This was also the case for WTP and green skepticism. In case of brand attitude, the relationship with price sensitivity was approximately linear for greenwash extrinsic condition, while for the other three conditions the relationship did not seem to be linear. The relationship between brand attitude and product category involvement as well as the relationship between brand attitude and green skepticism was non-linear. The final dependent variable, purchase intention, showed no linear relationship for price sensitivity. The graphs showed a linear relationship between purchase intention and product category involvement for two conditions, green intrinsic and green extrinsic. In case of green skepticism, the relationship with purchase intention looked approximately linear for green intrinsic and green extrinsic conditions. Thus, the observed graphs suggest that the assumption of linearity was not always met and there are potential limitations as a result of these.

The assumption of homogeneity of regression slopes was examined by running a two-way ANCOVA with a customized model to observe the interaction between the two independent variables and the covariate for each of the dependent variables. In case of willingness to pay (WTP), the assumption was met for both green skepticism and product category involvement, as all of the interactions were non-significant ($p > 0.05$). In case of price sensitivity, the assumption was violated for the independent variable intrinsic/extrinsic cue as this interaction was significant ($p < 0.05$). For brand attitude (BA), the assumption was met for the covariate price sensitivity, as the interactions were non-significant ($p > 0.05$). However, the assumption was violated for product category involvement (PCI), as the interaction between green/greenwashing condition and PCI and also the three-way interaction between green/greenwashing condition, intrinsic/extrinsic cue and PCI were significant ($p < 0.05$). In case of green skepticism and BA, there was a significant interaction between green/greenwashing condition and green skepticism. Finally, the purchase intention met the assumption for homogeneity of regression slopes for both price sensitivity and green skepticism, where all the interactions were non-significant ($p > 0.05$). Nonetheless, there was a significant ($p < 0.05$) interaction between green/greenwashing condition and product category involvement for this dependent variable.

Overall, for WTP the assumptions for the final model (a two-way ANCOVA, with price sensitivity as covariate) were not completely met, as the linearity assumption was violated for some of the groups, while other assumptions were met. In case of BA, the final model was a two-way ANOVA and so all assumptions for this model were met. Finally for PI, there are some limitations for the two-way ANCOVA with product category involvement that was conducted, due to violation of linearity assumption. Because of this, for WTP and PI, additional tests (two-way ANOVAs) without covariates were executed, to support the results of the model.

5.3.2. Willingness to Pay

The first dependent variable that the analysis ran for was willingness to pay. As a first step, a two-way ANCOVA was conducted with green/greenwashing condition and intrinsic/extrinsic cue as independent variables and all three control variables (price

sensitivity, product category involvement, green skepticism) as covariates. The analysis was executed with 1000 bootstrap samples using a 95% confidence interval.

The first two-way ANCOVA showed a non-significant result for two of the covariates - product category involvement and green skepticism ($p > 0.05$). Thus, there were no confounding effects that would be relevant for further analysis. However, price sensitivity showed a significant effect ($p = 0.05$) on the willingness to pay and was kept in the second model as a covariate. The results of the second two-way ANCOVA are presented below.

The table of descriptives yielded from the second two-way ANCOVA (Table 9) shows that the mean WTP for the green condition ($M = 6.35 \text{ €}$, $SD = 2.98 \text{ €}$) was just slightly higher than the mean WTP for the greenwashing condition ($M = 6.32 \text{ €}$, $SD = 2.74 \text{ €}$). The overall mean WTP for the intrinsic cue conditions ($M = 6.49 \text{ €}$, $SD = 2.88 \text{ €}$) was higher than for the extrinsic cue conditions ($M = 6.18 \text{ €}$, $SD = 2.84 \text{ €}$). The highest was the mean WTP for the green intrinsic condition ($M = 6.88 \text{ €}$, $SD = 3.17 \text{ €}$), while the lowest mean WTP was for the green extrinsic condition ($M = 5.81 \text{ €}$, $SD = 2.70 \text{ €}$).

Experimental Group	Descriptives
Green Intrinsic	$M = 6.88 \text{ €}$ $SD = 3.17 \text{ €}$
Green Extrinsic	$M = 5.81 \text{ €}$ $SD = 2.70 \text{ €}$
Greenwash Intrinsic	$M = 6.10 \text{ €}$ $SD = 2.52 \text{ €}$
Greenwash Extrinsic	$M = 6.55 \text{ €}$ $SD = 2.95 \text{ €}$
Green Overall	$M = 6.35 \text{ €}$ $SD = 2.98 \text{ €}$
Greenwash Overall	$M = 6.32 \text{ €}$ $SD = 2.74 \text{ €}$

Table 9: Descriptives output from two-way ANCOVA for WTP

The second two-way ANCOVA showed a clearly significant effect of price sensitivity on WTP ($F(1, 271) = 5.25$, $p < 0.05$, partial $\eta^2 = 0.02$), as seen in Table 10.

DV: Willingness to pay			
Statistical test	F-Statistic	Sig.	Partial Eta Squared
Price sensitivity	5.25	0.02	0.02
Green/Greenwash	0.14	0.71	0.00
Intrinsic/Extrinsic	0.71	0.40	0.00
Interaction G/GW*I/E	5.50	0.02	0.20

Table 10: Two-way ANCOVA for WTP

Main effects of green/greenwashing conditions were observed in order to verify hypothesis *H1a*). The results show that the main effect of the green/greenwashing condition on the WTP was non-significant, while controlling for price sensitivity ($F(1, 271) = 0.14, p > 0.05$). A closer inspection of pairwise comparisons showed that the estimated mean WTP adjusted for the covariate was higher for the green condition ($M = 6.40 \text{ €}, n = 138$) than for the greenwashing condition ($M = 6.27 \text{ €}, n = 138$), however the mean difference of $|- 0.13|$ was not significant. Based on the results presented above, *H1a*) was not supported. A similar result was observed for the main effect of intrinsic/extrinsic cue on the WTP, where the result was also non-significant ($F(1, 271) = 0.71, p > 0.05$), while adjusted for price sensitivity. The pairwise comparisons show a higher mean WTP for intrinsic cue condition ($M = 6.48 \text{ €}, n = 140$) than for the extrinsic cue condition ($M = 6.19 \text{ €}, n = 136$) but also in case of this main effect, the mean difference of $|- 0.29|$ was not of a significant value.

The interaction effect between the two independent variables green/greenwashing condition and intrinsic/extrinsic cue has shown a significant effect on the dependent variable willingness to pay while controlled for price sensitivity ($F(1, 271) = 5.50, p < 0.05$, partial $\eta^2 = 0.20$). Table 11 shows that the estimated mean WTP adjusted for the covariate was observed to be the highest for the green intrinsic condition ($M = 6.94 \text{ €}$), while being the lowest for the green extrinsic condition ($M = 5.86 \text{ €}$).

Experimental Group	Estimates
Green Intrinsic	M = 6.94 €
Green Extrinsic	M = 5.86 €
Greenwash Intrinsic	M = 6.01 €
Greenwash Extrinsic	M = 6.53 €
Green Overall	M = 6.40 €
Greenwash Overall	M = 6.28 €

Table 11: Mean estimates WTP, adjusted for the covariate

Bonferroni's post-hoc tests were used in order to gain insights into the pairwise comparisons for the interaction effect. The results show that while for the greenwashing condition, the mean difference in WTP between intrinsic and extrinsic condition did not significantly matter ($p > 0.05$), the difference between green intrinsic and green extrinsic condition was significant ($p < 0.05$). The mean WTP adjusted for the covariate was significantly higher for the green intrinsic condition (M = 6.94 €), compared with green extrinsic condition (M = 5.86 €). As a result, *H2a*) was supported and *H3a*) was not supported.

Because of the potential bias caused by the violations of assumptions (see Chapter 5.3.1. Assumptions), an additional analysis without the covariate was executed - a two-way ANOVA. The results of this analysis were in line with the previous analysis, showing non-significant main effects of green/greenwashing condition on WTP ($F(1, 272) = 0.02$, $p > 0.05$) and intrinsic/extrinsic condition on WTP ($F(1, 272) = 0.84$, $p > 0.05$). The interaction effect of green/greenwashing condition and intrinsic/extrinsic cues was significant ($F(1, 272) = 4.88$, $p < 0.05$). The mean difference in WTP was significantly different for the green intrinsic and green extrinsic condition ($p < 0.05$), while in the greenwashing setting this difference was not significant.

5.3.3. Brand Attitude

A similar process for verification of hypotheses regarding brand attitude was followed. The first two-way ANCOVA included all three control variables as covariates. The results showed that all covariates were non-significant ($p > 0.05$) and thus were excluded from further analysis. Because of this, the main statistical method for hypothesis verification was changed to a two-way ANOVA, as there were no

covariates to be considered. All assumptions for a two-way ANOVA were met (see chapter 5.3.1 Assumptions and Appendix H).

The table of descriptive statistics (Table 12) shows that the mean BA for the green conditions ($M = 5.10$, $SD = 1.29$) was higher than for greenwashing conditions ($M = 3.60$, $SD = 1.21$). The overall means for intrinsic ($M = 4.33$, $SD = 1.59$) and extrinsic ($M = 4.37$, $SD = 1.32$) conditions were almost identical. Overall, the mean brand attitude (BA) was highest for the green intrinsic condition ($M = 5.31$, $SD = 1.27$), while it was lowest for the greenwash intrinsic condition ($M = 3.35$, $SD = 1.24$).

Experimental Group	Descriptives
Green Intrinsic	$M = 5.31$ $SD = 1.27$
Green Extrinsic	$M = 4.88$ $SD = 1.29$
Greenwash Intrinsic	$M = 3.35$ $SD = 1.24$
Greenwash Extrinsic	$M = 3.86$ $SD = 1.14$
Green Overall	$M = 5.10$ $SD = 1.29$
Greenwash Overall	$M = 3.60$ $SD = 1.21$

Table 12: Descriptives output from two-way ANOVA for BA

DV: Brand attitude			
Statistical test	F-Statistic	Sig.	Partial Eta Squared
Green/Greenwash	100.71	< 0.00	0.27
Intrinsic/Extrinsic	0.07	0.79	0.00
Interaction G/GW*I/E	9.87	0.00	0.04

Table 13: Two-way ANOVA for BA

Table 13 presents the results of the main ANOVA analysis. The main effect of green/greenwashing condition was significant ($F(1, 272) = 100.71$, $p < 0.05$, partial $\eta^2 = 0.27$), where the mean score for BA for the green conditions ($M = 5.10$) was considerably higher than for the greenwashing conditions ($M = 3.60$). Thus, the mean difference of $|-1.50|$ was of significant value. These results speak in support of hypothesis *H1b*). The second main effect, that of intrinsic/extrinsic cues, was observed to be non-significant ($F(1, 272) = 0.07$, $p > 0.05$), which proves the results shown by

the table of descriptives. The pairwise comparisons show that the two means were of very similar values, where for the intrinsic cue ($M = 4.33$) the mean was slightly lower than for the extrinsic cue ($M = 4.36$), and thus the mean difference of $|0.03|$ was not of substantial value.

The interaction effect of green/greenwashing condition and intrinsic/extrinsic cues of a product show to have a significant impact on the brand attitude ($F(1, 272) = 9.87, p < 0.05$, partial $\eta^2 = 0.04$). The pairwise comparisons suggest that there were significant differences between all of the groups. Firstly, the mean BA for the green intrinsic condition ($M = 5.31$) was significantly higher ($p < 0.05$) than for the green extrinsic condition ($M = 4.88$), these results were further reasserted by the results of ANOVA table showing a significant result for the green condition ($F(1, 272) = 4.14, p < 0.05$). These results speak in support of *H2b*). Similarly, the analysis showed that for the greenwashing conditions there was also a significant difference between intrinsic and extrinsic cues ($p < 0.05$), where the mean BA for greenwash intrinsic condition ($M = 3.35$) was significantly lower than greenwash extrinsic condition ($M = 3.86$). The resulting ANOVA table showed a significant result for the contrasts ($F(1, 272) = 5.80, p < 0.05$). As a result, hypothesis *H3b*) was supported. Additionally, the mean BA was highest for the green intrinsic group and lowest for the greenwash intrinsic group.

5.3.4. Purchase Intention

The final dependent variable to be explored was purchase intention. Similar procedure was pursued in order to verify the proposed hypotheses. Firstly, a two-way ANCOVA was run in order to find out the significance of included covariates. The results of the first test showed a non-significant result for the covariate green skepticism ($F(1, 269) = 1.35, p > 0.05$), where the other two covariates remained significant in this model (price sensitivity: $F(1, 269) = 4.50, p < 0.05$; product category involvement: $F(1, 269) = 12.81, p < 0.05$). Thus, for the second model, green skepticism was excluded as a covariate, while price sensitivity and product category involvement were kept in. The second two-way ANCOVA showed another non-significant covariate, which was price sensitivity ($F(1, 270) = 3.56, p > 0.05$), while the product category involvement remained significant also in this case ($F(1, 270) = 23.36, p < 0.05$), resulting in a third final model.

The final test used was a two-way ANCOVA with product category involvement used as a covariate. The resulting table with the descriptives (Table 14) shows that overall, the mean PI for green conditions ($M = 4.39$, $SD = 1.45$) was higher than the mean PI for greenwashing conditions ($M = 3.19$, $SD = 1.29$). Furthermore, the mean PI for intrinsic condition ($M = 3.84$, $SD = 1.58$) was slightly higher than the mean PI for the extrinsic condition ($M = 3.74$, $SD = 1.40$). The overall highest mean purchase intention was for the green intrinsic condition ($M = 4.69$, $SD = 1.35$), while it was the lowest for the greenwash intrinsic group ($M = 2.99$, $SD = 1.32$).

Experimental Group	Descriptives
Green Intrinsic	$M = 4.69$ $SD = 1.35$
Green Extrinsic	$M = 4.08$ $SD = 1.49$
Greenwash Intrinsic	$M = 2.99$ $SD = 1.32$
Greenwash Extrinsic	$M = 3.40$ $SD = 1.23$
Green Overall	$M = 4.39$ $SD = 1.45$
Greenwash Overall	$M = 3.19$ $SD = 1.29$

Table 14: Descriptives output from two-way ANCOVA for PI

The final two-way ANCOVA showed a significant effect of product category involvement on the dependent variable, in this case purchase intention ($F(1,271) = 17.43$, $p < 0.05$, partial $\eta^2 = 0.06$).

DV: Purchase intention			
Statistical test	F-Statistic	Sig.	Partial Eta Squared
Product category involvement	17.43	< 0.00	0.06
Green/Greenwash	45.70	< 0.00	0.14
Intrinsic/Extrinsic	0.60	0.44	0.00
Interaction G/GW*I/E	7.06	0.01	0.03

Table 15: Two-way ANCOVA for PI

The results of the final two-way ANCOVA are presented in Table 15. In case of purchase intention, the main effect of green/greenwashing condition was proven to be significant ($F(1,271) = 45.70$, $p < 0.05$, partial $\eta^2 = 0.14$), while controlling for product

category involvement. The estimated mean PI adjusted for the covariate for the green condition ($M = 4.33$) was significantly higher than for the greenwashing condition ($M = 3.25$), with mean difference of $|-1.08|$. These results provide supporting evidence for hypothesis *H1c*). The main effect of intrinsic/extrinsic cues was non-significant ($F(1, 271) = 0.60, p > 0.05$). Although the pairwise comparisons show a higher mean PI for the intrinsic conditions ($M = 3.85$) than for the extrinsic condition ($M = 3.73$), the difference of $|-0.12|$ was not large enough to show a significant result.

Nonetheless the interaction effect between green/greenwashing condition and intrinsic/extrinsic cues was shown to have a significant effect in terms of purchase intention, while controlled for product category involvement ($F(1, 271) = 7.06, p < 0.05$, partial $\eta^2 = 0.03$). Table 16 shows estimates of PI means adjusted for the covariate. A closer inspection of the pairwise comparisons shows that for the green condition, there was a significant difference of $|-0.55|$ between the intrinsic cue ($M = 4.60$) and extrinsic cue ($M = 4.06$) and thus showing a significantly higher estimated mean for the green intrinsic condition. This provides support for *H2c*). In the case of the greenwashing condition, the mean for the intrinsic condition ($M = 3.10$) was lower than for the extrinsic condition ($M = 3.40$). However, this difference of $|0.30|$ was not of a significant value. Thus, hypothesis *H3c*) was not supported. As the table of descriptives, as well as the following ANCOVA tables show, the green intrinsic condition showed the highest mean purchase intention and simultaneously, the greenwashing intrinsic condition showed the lowest mean purchase intention.

Experimental Group	Estimates
Green Intrinsic	$M = 4.60$
Green Extrinsic	$M = 4.06$
Greenwash Intrinsic	$M = 3.10$
Greenwash Extrinsic	$M = 3.40$
Green Overall	$M = 4.33$
Greenwash Overall	$M = 3.25$

Table 16: Mean estimates PI, adjusted for the covariate

Since the assumption of linearity was partially violated, an additional analysis was conducted without the covariate, a two-way ANOVA. This analysis supported the

results of the two-way ANCOVA, where the PI for the green condition was significantly higher than for greenwashing condition ($F(1, 272) = 53.12, p < 0.05$). Moreover, the interaction effect between green/greenwash condition and intrinsic/extrinsic condition was also significant ($F(1, 272) = 9.68, p < 0.05$). Also, in the case of green condition, intrinsic cues reached significantly higher purchase intention than extrinsic cues ($p < 0.05$), while this difference was not observed to be significant in greenwashing case.

The following table provides an overview of the results of hypotheses verification.

Hypothesis	Status
H1a) Truly green behavior results in a higher WTP than greenwashing behavior.	not supported
H1b) Truly green behavior results in a higher BA than greenwashing behavior.	supported
H1c) Truly green behavior results in a higher PI than greenwashing behavior.	supported
H2a) Truly green behavior regarding intrinsic cues will result in a higher WTP than truly green behavior regarding extrinsic cues.	supported
H2b) Truly green behavior regarding intrinsic cues will result in a higher BA than truly green behavior regarding extrinsic cues.	supported
H2c) Truly green behavior regarding intrinsic cues will result in a higher PI than truly green behavior regarding extrinsic cues.	supported
H3a) Greenwashing behavior regarding intrinsic cues will result in a lower WTP than greenwashing behavior regarding extrinsic cues.	not supported
H3b) Greenwashing behavior regarding intrinsic cues will result in a lower BA than greenwashing behavior regarding extrinsic cues.	supported
H3c) Greenwashing behavior regarding intrinsic cues will result in a lower PI than greenwashing behavior regarding extrinsic cues.	not supported

Table 17: Hypotheses verification results overview

6. Discussion

This section synthesizes previously published literature on the topic and connects it with findings provided by the performed analysis and hypotheses verification process of this master's thesis.

The analysis has shown that truly green behavior has indeed a more positive impact on the consumer, compared to greenwashing. Theory on signaling suggests that CSR can be used by both, companies who want to communicate their honest CSR efforts and those who greenwash (Uyar et al., 2020). All scenarios used to frame the situation for respondents in this study mentioned that the company proudly states they only use sustainable ingredients or packaging, which was used as a signal. Thus, respondents were presented with a company's sustainability signal, together with a statement whether it is true or false. The results of the analysis show an interesting discrepancy between attitude and behavior, as the difference between WTP means was shown to be non-significant. In line with previous research, purchase intention and brand attitude are significantly more positive for the green conditions, as opposed to the greenwashing ones (*H1b* and *H1c* were supported). As Lorenzen (2014) suggests, consumers tend to support companies they perceive as environmentally responsible, which can be the reason behind higher purchase intention and brand attitude for the green conditions. Simultaneously, consumers do not wish to support those companies they perceive as environmentally irresponsible, thus it is possible that because of this, the greenwashing conditions scored significantly lower on both purchase intention and brand attitude. By showing higher brand attitude and purchase intention for truly green products, consumers send a signal to the company and to society in general, that they do care about sustainability.

In case of purchase intention, Brouwer (2016) and De Jong et al. (2019) found that although greenwashing can potentially cause negative consumer responses, both of these researches state they found no effect on purchase intention. Results of this research are in line with findings of Nyilasy et al. (2014) and Chen et al. (2018), who found significant negative implications of greenwashing for consumers' purchase intention. This master's thesis shows that greenwashing results in a lower purchase intention, compared to truly green claims. Furthermore, this study found decreased brand attitude for greenwashing conditions as compared with the green condition,

which corresponds to the findings provided by Nyilasy et al. (2014) and Szabo & Webster (2021).

Although the study of Lee et al. (2017) found increased willingness to pay for green products as compared to the greenwashed products, these results were not replicated by this thesis. The results showed no significant difference between the green and greenwashing conditions in terms of willingness to pay (*H1a* was not supported). Previous research has shown that price is indeed one of the most important factors that keeps consumers from purchasing sustainable versions of products (Deloitte, 2022; Gleim, 2013). Also, sustainable products can be perceived as luxury (Ward & Dahl, 2014) and thus can be seen as more expensive, which in many cases is true. This can potentially be the reason why the respondents included in this study have not shown increased WTP for the truly green products. Moreover, the study included Slovak respondents only and it has been proven that less than 15% of Slovaks are willing to pay more for a sustainable product (Stašenková, 2021). An important factor to consider is also the instability of the current political situation and continuously rising inflation in 2022. Because of these, it is possible that people try to save money by choosing the cheaper option, which is usually the less sustainable one.

Although the main effect of intrinsic/extrinsic cues has shown to be non-significant for all three dependent variables, when put into the context of green or greenwashing scenario, the effects were shown. Seo et al. (2016) state that in case of utilitarian food products, the sustainability of ingredients resulted in higher willingness to buy compared to sustainable packaging. This study used shower gel as a product presented in the scenario and although this is a cosmetic product, it is one of the most essential and basic ones and thus its nature is more utilitarian than hedonic. The results of this master's thesis show that when consumers read about truly green behavior of a company, they show a higher WTP, BA and PI for products with sustainable intrinsic cue (ingredients), compared to a product with a sustainable extrinsic cue (packaging) (*H2a*, *H2b*, *H2c* supported). The study of Seo et al. (2016) focused only on the effects of truly sustainable behavior, while this thesis extended the research to the greenwashing effects and its impact.

The hypothesized effect on WTP was not found in case of greenwashing, as no significant differences between intrinsic and extrinsic cues were found (*H3a*) not

supported). Moreover, although the difference was non-significant, WTP was lower for the extrinsic cue than for the intrinsic cue in case of greenwashing. However, since this difference was not of a significant value, no further conclusions can be drawn. Overall, willingness to pay was shown to be the highest for the green intrinsic group, suggesting that sustainability of ingredients is of greater importance to consumers compared to sustainability of packaging and thus they are willing to pay more for it.

The effect of different experimental conditions was further explored in terms of brand attitude. To the best of my knowledge, there were no previous studies that explored the effect of intrinsic/extrinsic cues in the sustainability setting on brand attitude. This study found that in the case of truly green behavior, intrinsic cues are valued more than extrinsic cues, resulting in a higher BA score (*H2b* supported). It has been shown by this study but also by previous research that consumers respond to truly green claims with a more positive brand attitude as compared to greenwashing claims (Nyilasy et al., 2014; Szabo & Webster, 2021). Also, as Brouwer (2016) stated, companies' greenwashing about one product can potentially lead to consumers linking greenwashing behavior to the whole brand and thus result in a lower brand attitude. Results of this master's thesis provide a more granular insight, showing that not only do green claims result in a better brand attitude but more specifically, green behavior regarding intrinsic cues can result in a better brand attitude than it would be in case of extrinsic cues. Furthermore, it has been shown that greenwashing claims regarding intrinsic cues result in a lower brand attitude, compared to greenwashing regarding extrinsic cues (*H3b* supported). This means that companies' dishonesty regarding sustainability is more negatively perceived in terms of brand attitude if greenwashing activities relate to the ingredients (intrinsic cues) than packaging (extrinsic cues).

Similar to the other two dependent variables, purchase intention was shown to be higher for the green intrinsic condition, compared to the green extrinsic condition (*H2c* supported), which corresponds to results of Seo et al. (2016). However, there was no difference in purchase intention between intrinsic and extrinsic cues in the greenwashing setting (*H3c* not supported). This suggests that although consumers will react more negatively in terms of their purchase intention compared to company's truly green efforts, their behavior will not differ, if the company is greenwashing about products' ingredients (intrinsic cues) or packaging (extrinsic cues). Therefore, consumers value intrinsic cues more than extrinsic ones when it comes to green

behavior, where they show higher PI, but their behavior is not the same in the greenwashing case. Brouwer (2016) found that although consumers' take a brand's greenwashing behavior into consideration in their decision making, their purchase intention can remain unimpacted. Although this research found a contradicting effect, showing a decreased PI for greenwashing cases compared with truly green behavior, it is possible that consumers do not care which product cues were greenwashed.

7. Conclusion

This chapter summarizes the results and offers an overview of theoretical and managerial contributions of this master's thesis. It also shows limitations and directions for future research.

Overall, it seems that it truly pays to be green, as compared to leveraging the unethical option of greenwashing. Consumers respond to truly green behavior with higher purchase intention and a more positive brand attitude, compared to the greenwashing situation. Interestingly, this notion was not confirmed for the willingness to pay. This study also found that consumers do respond to intrinsic and extrinsic cues differently in terms of truly green behavior, resulting in higher WTP, BA and PI for truly sustainable intrinsic cues, i.e., ingredients. However, when it comes to greenwashing, consumers' WTP and PI was not affected by the information about intrinsic or extrinsic cues. Nonetheless, their BA is more negative, if greenwashing concerns intrinsic cues, compared to extrinsic. It has also been observed that green intrinsic cues in most cases resulted in highest values in terms of measured dependent variables, while greenwashing intrinsic cues resulted in the lowest values, suggesting that consumers are more sensitive towards intrinsic cues, when it comes to this specific product category.

7.1. Theoretical Implications

This master's thesis contributes to various fields of theory, especially those on the topic of green CSR, sustainability and the gray side of these - greenwashing, and broadens the research on the topic of intrinsic and extrinsic product cues.

Firstly, this thesis offers a comparative view on the topic of truly responsible green behavior versus greenwashing. A similar approach was used by Lee et al. (2017), who found higher WTP for green products, compared to greenwashed products. However, this result was not replicated in this master's thesis. Nonetheless, this research gives further evidence for the notion that companies which pursue honest green actions evoke more positive consumer behavior in terms of brand attitude and purchase intention. While there are previous studies that found no effect of greenwashing on purchase intention (Brouwer, 2016; De Jong et al., 2019), this research proves the negative effect of such behavior and thus supports the results of Chen et al. (2018) and

Wang et al. (2020). Additionally, this research contributes to the theory on the impacts of greenwashing on consumers by using an experimental approach, while much of the previous research relied on literature summaries (De Jong et al., 2018).

Secondly, by examining multiple dependent variables at once, this research offers more insights into differences between the constructs, and thus different faces of consumer behavior. By including an attitudinal construct (brand attitude) and purchase intention, together with a construct focused on actual buyer behavior (willingness to pay), this research offers a complex insight into consumers' responses to green and greenwashing behavior.

Thirdly, much of the previous research on greenwashing focused on purchase intention or brand related constructs (Brouwer, 2016; De Jong et al., 2019; Chen et al., 2018; Nyilasy, 2014; Szabo & Webster, 2021; Wang et al., 2020). This study examined the willingness to pay responses to green and greenwashing behavior and thus belongs to the few studies that explored this construct in terms of greenwashing. This study did not replicate the results of Lee et al. (2017) and found no difference between green and greenwashing behavior in terms of consumers' willingness to pay.

Another important contribution of this study is that it brings more evidence and insights into the research on intrinsic versus extrinsic cues. While there are studies that examined the different effects of these on consumers (Lee & Lou, 1995; Szybillo & Jacoby, 1974; Veale & Quester, 2009), the research in the sustainability setting is still limited (Seo et al., 2016). Therefore, this research contributes to the literature on intrinsic and extrinsic cues in terms of green and greenwashing behavior, and its impact on the consumer. Seo et al. (2016) found higher willingness to buy for truly green intrinsic cues as opposed to truly green extrinsic cues for utilitarian food products. This research is in line with their findings, as it showed higher willingness to pay, purchase intention and more positive brand attitude for truly green intrinsic cues compared to extrinsic cues. Nonetheless, in case of greenwashing, intrinsic cues were proven to result in a lower brand attitude, but no effect was found on willingness to pay or purchase intention.

Finally, this thesis contributes to literature on sustainability and greenwashing in the cosmetics industry, which is highly relevant for these topics, but still developing (Kolling et al., 2022). Khandelwal et al. (2019) and Tyagi (2021) state that

greenwashing can often be observed in the beauty and personal care industry, but still research in this area is limited. Results of this thesis prove that this industry is indeed relevant and thus contributes to further literature development.

7.2. Managerial Implications

Aside from the numerous theoretical implications, this master's thesis has various managerial implications for practice.

First, although greenwashing offers potential benefits in form of lower costs (Delmas & Burbano, 2011; Lyon & Montgomery, 2013) or positive effects on consumers under the assumption that it remains unnoticed (De Jong et al., 2018; Held & Germelmann, 2018), this research does not speak in support of such a notion. It has previously been stated that it pays to be green (Porter & van der Linde, 1995, King & Lenox, 2001) and the results of this thesis align with this. Being truly green and socially responsible conveys a powerful message consumers recognize and thus show in their responses. Consumers stand up for truly sustainable behavior of brands and want to purchase from brands who behave that way. Moreover, with increasing demands from regulatory organs, managers should indeed align with sustainable practices, rather than searching for shortcuts, as eventually they will need to adapt to it anyway. By making sure CSR and honest green practices are already a part of their strategy, brand and communication, these companies will be able to react to new situations in a more agile way. However, it is also important to understand that until global restrictions respected by countries worldwide will be applied, there will be companies who will choose to pursue unethical practices in order to gain profit. For now, it is often up to managers and their ethical boundaries, to consciously decide responsibly.

Second, it has been proven by this research that intrinsic and extrinsic cues are valued differently by consumers. In terms of sustainability, consumers are willing to pay more for green ingredients, as opposed to green packaging. Simultaneously they also show higher purchase intention and better brand attitude for truly green intrinsic cues. Therefore, managers could consider this, in the product development process. This means that in case of utilitarian products, they should invest more money in sustainability of ingredients rather than that of packaging. This is also reflected in real life situations in shops, where sustainably sources coffee or chocolate are often packed in plastic wraps with many unnecessary layers of packaging used for design purposes.

Nonetheless, in terms of greenwashing, there were no differences between intrinsic and extrinsic cues in terms of purchase intention and willingness to pay. Managers should therefore be careful about both types of greenwashing and to protect their brand, they should be especially cautious about greenwashing about products' intrinsic cues, e.g., ingredients.

Last but not least, this research offers insights to the Slovak market and consumer behavior regarding sustainability. This country is not frequently thoroughly researched on this topic, and thus these results are especially valuable for those managers and companies that operate on the Slovak market.

7.3. Limitations and Future Research

Like any research, this one also possesses certain limitations that simultaneously offer directions for future research.

First, the study was run using a sample limited to one country, Slovakia, and thus the results may be partially limited in terms of their application to other countries. Some behavior patterns of consumers may be specific to this country due to cultural differences, and thus to get more general outcomes, an international sample could be used in future research.

Second, this research focused on tangible intrinsic and extrinsic cues, namely ingredients and packaging. However, there are other sustainability cues, such as labels, country of origin (COO) information, or even brand reputation, that could yield different results in a similar setting. COO is an important factor, as legal, environmental and cultural characteristics differ across countries, and with it the approach to sustainability. Companies operating in emerging markets can choose not to focus on sustainable production, compared to those companies operating in developed markets (Haleem et al., 2021). Offshoring production to emerging markets offers various benefits for companies, such as lower production and labor costs. However, in connection with better profits, the ethical and existential problems grow, such as bad working conditions, unfair wages and weak environmental protection. COO is an important sustainability cue and therefore it might be of interest to expand this research to further intrinsic and extrinsic product cues, to see whether the results would be replicated in that case as well.

Third, this study presented the respondents with a product of predominantly utilitarian nature (shower gel). Cosmetics industry offers a broad variety of hedonic products, main categories being skincare and makeup. Seo et al. (2016) stated that for hedonic food products, the sustainable packaging resulted in a higher willingness to buy, than sustainable ingredients. This being the exact opposite of what the utilitarian products have shown, leads to a question, whether such a notion would be replicated with hedonic cosmetics products as well.

Next, this research used a fake brand in order to avoid any bias caused by previous knowledge or attitudes towards the brand. Although the brand name was pretested to avoid any bias, the fact that this brand does not exist in real life might seem artificial for the respondents. Pursuing a similar study with real cosmetics brands might offer more insights into actual real-life behavior of consumers.

Additionally, since the research included a sensitive topic - sustainability, it might have been the case that the respondents adjusted their answers, due to social desirability. This bias is caused by the respondents' efforts to present a more favorable image and thus result in them presenting themselves as more sensitive towards environmental issues (Babin & Zikmund, 2016). This could have potentially led to the respondents overstating their willingness to pay, purchase intention or brand attitude, to appear more eco-friendly than they actually are. This bias was partially solved by a thorough outlier analysis and exclusions but still needs to be taken into consideration.

Finally, due to using real life data, there were some assumptions violations that should be taken into consideration. Although ANOVA and ANCOVA are robust to certain violations (Field, 2014) and the performed statistical analysis is valid, the model used cannot be considered as optimal.

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Appendix A: Pretest 1 - Brand Names in Slovak and English

Dotazník Tento dotazník je súčasťou pilotného testu pre diplomovú prácu. Je vedený Katedrou Medzinárodného Marketingu Viedenskej Univerzity a je koordinovaný študentkou magisterského štúdia, Viktóriou Júliou Zornickovou pre účely jej diplomovej práce. Táto štúdia slúži iba na akademické účely a nebude použitá na žiadne komerčné účely. Vaša účasť v štúdiu je úplne dobrovoľná, pričom vyplnenie dotazníka Vám zaberie zhruba 3 minúty. Prosím, prečítajte si otázky dôkladne a postupujte podľa relevantných inštrukcií. Všetky informácie, ktoré nám poskytnete budú použité a spravované anonymne, pričom Vás na základe odpovedí nebude možné identifikovať. Pre ďalšie informácie ohľadom tejto štúdie ma prosím kontaktujte e-mailom na: a01605631@unet.univie.ac.at Ďakujeme za Vašu účasť v tejto štúdiu!	Questionnaire This questionnaire is part of a pretest for a master thesis. It is conducted by the Chair of International Marketing at the University of Vienna and it is being coordinated by master student Viktória Júlia Zornicková, for the purposes of her master thesis. This study serves for academic purposes only and will not be used for any commercial purposes. Your participation in this study is completely voluntary and the completion will take you around 3 minutes. Please read the questions carefully and follow relevant instructions. All information you share with us will be handled anonymously and it will not be possible to identify you based on your answers. For more information about this study, please contact me via e-mail on: a01605631@unet.univie.ac.at Thank you for your participation in this study!
Strana 2	Page 2

Pripomína Vám niečo značka Bluea? [áno/nie] Ak áno, čo konkrétne? <i>(Prosím vyplňte iba v prípade, že ste na predošlú otázku odpovedali áno.)</i> Pripomína Vám značka Bluea niektorú produktovú kategóriu? [áno/nie] Ak áno, ktorú? <i>(Prosím vyplňte iba v prípade, že ste na predošlú otázku odpovedali áno.)</i>	Does the brand name Bluea remind you of something? [yes/no] If yes, of what? <i>(Please only answer this question, if your answer to the previous question was yes.)</i> Does the brand name Bluea remind you of any product category? [yes/no] If yes, of which one? <i>(Please only answer this question, if your answer to the previous question was yes.)</i>
Strana 3 Pripomína Vám niečo značka Slitt? [áno/nie] Ak áno, čo konkrétne? <i>(Prosím vyplňte iba v prípade, že ste na predošlú otázku odpovedali áno.)</i> Pripomína Vám značka Slitt niektorú produktovú kategóriu? [áno/nie] Ak áno, ktorú? <i>(Prosím vyplňte iba v prípade, že ste na predošlú otázku odpovedali áno.)</i>	Page 3 Does the brand name Slitt remind you of something? [yes/no] If yes, of what? <i>(Please only answer this question, if your answer to the previous question was yes.)</i> Does the brand name Slitt remind you of any product category? [yes/no] If yes, of which one? <i>(Please only answer this question, if your answer to the previous question was yes.)</i>

Strana 4 Pripomína Vám niečo značka Leeni? [áno/nie] Ak áno, čo konkrétne? <i>(Prosím vyplňte iba v prípade, že ste na predošlú otázku odpovedali áno.)</i> Pripomína Vám značka Leeni niektorú produktovú kategóriu? [áno/nie] Ak áno, ktorú? <i>(Prosím vyplňte iba v prípade, že ste na predošlú otázku odpovedali áno.)</i>	Page 4 Does the brand name Leeni remind you of something? [yes/no] If yes, of what? <i>(Please only answer this question, if your answer to the previous question was yes.)</i> Does the brand name Leeni remind you of any product category? [yes/no] If yes, of which one? <i>(Please only answer this question, if your answer to the previous question was yes.)</i>
Strana 5 - Demografické údaje Pohlavie: ☐ muž ☐ žena ☐ non-binary ☐ iné Vek (v rokoch): Najvyššie dosiahnuté vzdelanie: ☐ základná škola ☐ stredná škola/gymnázium ☐ vysokoškolské vzdelanie 1. stupňa (bakalárske) ☐ vysokoškolské vzdelanie 2. stupňa (magisterské/inžinierske) ☐ vysokoškolské vzdelanie 3. stupňa (doktrandské) Status: ☐ študent/ka ☐ živnostník ☐ zamestnaný/á ☐ nezamestnaný/á ☐ na dôchodku	Page 5 - Demographics Gender: ☐ male ☐ female ☐ non-binary ☐ other Age (in years): Highest achieved education: ☐ elementary school ☐ high school ☐ bachelor's degree ☐ master's degree ☐ doctorate's degree Status: ☐ student ☐ self-employed ☐ employed ☐ unemployed ☐ retired

Appendix B: Pretest 2 - Scenarios in Slovak and English

1. Pretest Questionnaire in Slovak

Strana 1

Tento dotazník je súčasťou pilotného testu pre diplomovú prácu. Je vedený Katedrou Medzinárodného Marketingu Viedenskej Univerzity a je koordinovaný študentkou magisterského štúdia, Viktoriou Júliou Zorničkovou, pre účely jej diplomovej práce. Táto štúdia slúži iba na akademické účely a nebude použitá na žiadne komerčné účely.

Vaša účasť v štúdiu je úplne dobrovoľná, pričom vyplnenie dotazníka Vám zaberie zhruba 5-8 minút. Prosím, prečítajte si otázky dôkladne a postupujte podľa relevantných inštrukcií. Štúdia obsahuje fiktívny článok a akákoľvek súvislosť s existujúcimi značkami je úplne náhodná.

Všetky informácie, ktoré nám poskytnete budú použité a spravované anonymne, pričom Vás na základe odpovedí nebude možné identifikovať.

Pre ďalšie informácie ohľadom tejto štúdie ma prosím kontaktujte e-mailom na:

a01605631@unet.univie.ac.at

Ďakujeme za Vašu účasť!

Strana 2

Prosím pozorne si prečítajte článok uvedený nižšie. (Článok obsahuje fiktívnu značku.)

[SCENARIO]

Strana 3

Prosím odpovedzte na otázky týkajúce sa článku, ktorý ste čítali.

Extrinsic: Sprchové gély od Slitt Cosmetics majú udržateľné balenie. [7-bodová Likertova škála, 1 - úplne nesúhlasím, 7 - úplne súhlasím]

Intrinsic: Sprchové gély od Slitt Cosmetics majú udržateľné zloženie. [7-bodová Likertova škála, 1 - úplne nesúhlasím, 7 - úplne súhlasím]

Extrinsic: Nezávislá organizácia Earth4Future označila balenie sprchových gélov Slitt Cosmetics za udržateľné. [7-bodová Likertova škála, 1 - úplne nesúhlasím, 7 - úplne súhlasím]

Intrinsic: Nezávislá organizácia Earth4Future označila zloženie sprchových gélov Slitt Cosmetics za udržateľné. [7-bodová Likertova škála, 1 - úplne nesúhlasím, 7 - úplne súhlasím]

Myslím si, že tento článok popisuje spoločnosť (Slitt Cosmetics), ktorá je zodpovedná voči životnému prostrediu. [7-bodová Likertova škála, 1 - úplne

nesúhlasím, 7 - úplne súhlasím]

Strana 4

Teraz prosím odpovedzte na nasledujúce otázky týkajúce sa Vašich dojmov z článku:

Popis v článku je pre mňa pochopiteľný. [7-bodová Likertova škála, 1 - úplne nesúhlasím, 7 - úplne súhlasím]

Popis v článku je pre mňa vierohodný. [7-bodová Likertova škála, 1 - úplne nesúhlasím, 7 - úplne súhlasím]

Viem si jednoznačne predstaviť, že by sa niečo podobné naozaj stalo. [7-bodová Likertova škála, 1 - úplne nesúhlasím, 7 - úplne súhlasím]

Strana 5

Prosím uveďte svoje nasledovné demografické údaje:

Pohlavie:

- ☐ muž
- ☐ žena
- ☐ nebinárna osoba
- ☐ iné

Vek (v rokoch):

Najvyššie dosiahnuté vzdelanie:

- ☐ základná škola
- ☐ stredná škola/gymnázium
- ☐ vysokoškolské vzdelanie 1. stupňa (bakalárske)
- ☐ vysokoškolské vzdelanie 2. stupňa (magisterské/inžinierske)
- ☐ vysokoškolské vzdelanie 3. stupňa (doktrandské)

Status:

- ☐ študent/ka
- ☐ živnostník
- ☐ zamestnaný/á
- ☐ nezamestnaný/á
- ☐ na dôchodku

Národnosť:

- ☐ slovenská
- ☐ iná

Ďakujeme za Vašu účasť!

Sample Scenario - Green Extrinsic (SK)

DNES 365

NOVINKY EKONOMIKA **UDRŽATEĽNOSŤ** POLITIKA ZAHRANIČNÉ KULTÚRA ŠPORT

Bratislava, 10/10/2022 11:42

Slitt Cosmetics je green – Ich sprchové gély majú udržateľné balenie

Spoločnosť sa zaradila medzi značky spojené s udržateľnosťou.



Slitt Cosmetics berie otázku udržateľnosti naozaj vážne. Ukázal to aj nedávny výskum známej medzinárodnej nezávislej organizácie Earth4Future, ktorej cieľom je chrániť spotrebiteľov pred falošnými tvrdeniami o udržateľnosti („greenwashing“).

Spoločnosť, ktorá hrdlo hlási, že ich sprchové gély sú balené udržateľne a obaly sú recyklovateľné, patrí k jedným z najvýraznejších zástancov udržateľnosti.

Výsledky rozsiahleho testovania a výskumu produktov viacerých známych kozmetických značiek ukázali, že tieto tvrdenia sú naozaj pravdivé. Vyhlásenie Earth4Future uvádza, že balenie sprchových gélov Slitt Cosmetics je skutočne udržateľné. Zákazníci teda môžu ich tvrdeniam o udržateľnosti sprchových gélov dôverovať.

Sample Scenario – Greenwash Intrinsic (SK)

DNES 365

NOVINKY EKONOMIKA **UDRŽATEĽNOSŤ** POLITIKA ZAHRANIČNÉ KULTÚRA ŠPORT

Bratislava, 10/10/2022 11:42

Slitt Cosmetics nie je green – Ich sprchové gély nemajú udržateľné zloženie

Spoločnosť sa zaradila medzi značky spojené s greenwashingom.



Slitt Cosmetics neberie otázku udržateľnosti vôbec vážne. Ukázal to aj nedávny výskum známej medzinárodnej nezávislej organizácie Earth4Future, ktorej cieľom je chrániť spotrebiteľov pred falošnými tvrdeniami o udržateľnosti („greenwashing“).

Spoločnosť, ktorá hrdlo hlási, že ich sprchové gély sú vyrábané iba z udržateľných a ekologických ingrediencií, patrí k jedným z najvýraznejších zástancov udržateľnosti.

Výsledky rozsiahleho testovania a výskumu produktov viacerých známych kozmetických značiek ukázali, že tieto tvrdenia sú v skutočnosti nepravdivé. Vyhlásenie Earth4Future uvádza, že zloženie sprchových gélov Slitt Cosmetics nie je udržateľné. Zákazníci by teda nemali ich tvrdeniam o udržateľnosti sprchových gélov dôverovať.

2. Pretest Questionnaire in English

Page 1

This questionnaire is part of a pretest for a master thesis. It is conducted by the Chair of International Marketing at the University of Vienna and it is being coordinated by master student Viktória Júlia Zornicková, for the purposes of her master thesis. This study serves for academic purposes only and will not be used for any commercial purposes.

Your participation in this study is completely voluntary and the completion will take you around 5-8 minutes. Please read the questions carefully and follow relevant instructions. This study includes a fictitious scenario and any connections with existing brands are completely random.

All information you share with us will be handled anonymously and it will not be possible to identify you based on your answers.

For more information about this study, please contact me via e-mail on: a01605631@unet.univie.ac.at

Thank you for your participation in this study!

Page 2

Please read the article below. (The article includes a fictitious brand)

[SCENARIO]

Page 3

Please answer these questions about the article that you have read.

Slitt Cosmetics shower gels have sustainable packaging. [7-point Likert scale, 1-totally disagree, 7-totally agree]

Independent organization Earth4Future stated the packaging of Slitt Cosmetics shower gels as sustainable. [7-point Likert scale, 1-totally disagree, 7-totally agree]

I think this article describes a company (Slitt Cosmetics) that is responsible towards the environment. [7-point Likert scale, 1-totally disagree, 7-totally agree]

Page 4

Now please answer the following questions regarding your opinions about the article:

For me, the description of this article is understandable. [7-point Likert scale, 1-totally disagree, 7-totally agree]

For me, the description of this article is credible. [7-point Likert scale, 1-totally disagree, 7-totally agree]

I can easily imagine something like this happening nowadays. [7-point Likert scale, 1-totally disagree, 7-totally agree]

Strana 5

Please state your demographics:

Gender:

- ☐ male
- ☐ female
- ☐ non-binary
- ☐ other

Age (in years):

Highest achieved education:

- ☐ elementary school
- ☐ high school
- ☐ bachelor's degree
- ☐ master's degree
- ☐ doctorate's degree

Status:

- ☐ student
- ☐ self-employed
- ☐ employed
- ☐ unemployed
- ☐ retired

Nationality:

- ☐ slovak
- ☐ other

Thank you for your participation!

Sample Scenario Pretest - Green Extrinsic (EN)

DNES 365

NEWS ECONOMICS **SUSTAINABILITY** POLITICS INTERNATIONAL CULTURE SPORT

Bratislava, 10/10/2022 11:42

Slitt Cosmetics is green – Their shower gels have sustainable packaging

The company belongs to brands connected with sustainability.



Slitt Cosmetics takes sustainability really seriously. This was also shown by recent research of famous international independent organization Earth4Future that aims to protect consumers from false sustainability claims („greenwashing“).

The company, which proudly claims their shower gels are packed sustainably and the packaging is recyclable, belongs to one of the most vocal green advocates.

Results of thorough testing and research of numerous popular cosmetic brands have shown that these claims are indeed true. The statement of Earth4Future says that the Slitt Cosmetics shower gel packaging is truly sustainable. Thus, the consumers can trust their green claims about the shower gels' sustainability.

Sample Scenario Pretest – Greenwash Intrinsic (EN)

DNES 365

NEWS ECONOMICS **SUSTAINABILITY** POLITICS INTERNATIONAL CULTURE SPORT

Bratislava, 10/10/2022 11:42

Slitt Cosmetics is not green – Their shower gels don't have sustainable ingredients

The company belongs to brands connected with greenwashing.



Slitt Cosmetics doesn't take sustainability seriously. This was also shown by recent research of famous international independent organization Earth4Future that aims to protect consumers from false sustainability claims (“greenwashing“).

The company, which proudly claims their shower gels are made of purely sustainable and ecological ingredients, belongs to one of the most vocal green advocates.

Results of thorough testing and research of numerous popular cosmetic brands have shown that these claims are not true. The statement of Earth4Future says that the Slitt Cosmetics shower gel ingredients are not sustainable. Thus, the consumers should not trust their green claims about the shower gels' sustainability.

Appendix C: Main Study – Questionnaire

1. Main Study Questionnaire in Slovak (Sample) – Greenwash extrinsic

Strana 1

Tento dotazník je vedený Katedrou Medzinárodného Marketingu Viedenskej Univerzity a je koordinovaný študentkou magisterského štúdia, Viktoriou Júliou Zorníkovou pre účely jej diplomovej práce. Táto štúdia slúži iba na akademické účely a nebude použitá na komerčné účely.

Vaša účasť v štúdiu je úplne dobrovoľná, pričom vyplnenie dotazníka Vám zaberie zhruba 10 minút. Prosím, prečítajte si otázky dôkladne a postupujte podľa relevantných inštrukcií. Štúdia obsahuje fiktívny článok a akákoľvek súvislosť s existujúcimi značkami je úplne náhodná.

Pri vyplňaní tohto dotazníku nie sú žiadne správne alebo nesprávne odpovede, zaujíma nás iba Váš osobný pohľad na konkrétne témy, preto Vás prosíme o úprimné odpovede. Na vyplnenie dotazníka nie je žiadne časové obmedzenie. Všetky informácie, ktoré nám poskytnete budú použité a spravované anonymne, pričom Vás na základe odpovedí nebude možné identifikovať.

Pre ďalšie informácie ma prosím kontaktujte e-mailom na:

a01605631@unet.univie.ac.at

Ďakujeme za Vašu účasť!

Strana 2

Prosím pozorne si prečítajte článok uvedený nižšie a následne odpovedzte na otázky.

DNES 365

NOVINKY EKONOMIKA UDRŽATEĽNOSŤ POLITIKA ZAHRANIČNÉ KULTÚRA ŠPORT

Bratislava, 10/11/2022 11:42

Slitt Cosmetics nie je green – Ich sprchové gély nemajú udržateľné balenie

Spoločnosť sa zaradila medzi značky spojené s greenwashingom.



Slitt Cosmetics neberie otázku udržateľnosti vôbec vážne. Ukázal to aj nedávny výskum medzinárodnej nezávislej organizácie Earth4Future, ktorej cieľom je chrániť spotrebiteľov pred falošnými tvrdeniami o udržateľnosti („greenwashing“).

Spoločnosť, ktorá hrdlo hlási, že ich sprchové gély sú balené udržateľne a obaly sú recyklovateľné, patrí k jedným z najvýraznejších zástancov ochrany životného prostredia.

Výsledky rozsiahleho testovania a výskumu produktov viacerých známych kozmetických značiek ukázali, že tieto tvrdenia sú v skutočnosti nepravdivé. Vyhlásenie Earth4Future okrem iného uvádza, že balenie sprchových gélov Slitt Cosmetics nie je udržateľné. Zákazníci by teda nemali ich tvrdeniam dôverovať.

Strana 3

1. Teraz prosím odpovedzte na nasledujúce otázky týkajúce sa Vašich dojmov z článku:

Popis v článku je pre mňa pochopiteľný.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Popis v článku je pre mňa vierohodný.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Viem si jednoznačne predstaviť, že by sa niečo podobné naozaj stalo.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Strana 4

2. Prosím odpovedzte na otázky týkajúce sa článku, ktorý ste čítali.

Sprchové gély od Slitt Cosmetics majú udržateľné balenie.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Nezávislá organizácia Earth4Future označila balenie sprchových gélov Slitt Cosmetics za udržateľné.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Myslím si, že tento článok popisuje spoločnosť (Slitt Cosmetics), ktorá je zodpovedná voči životnému prostrediu.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Strana 5

3. Prosím odpovedzte na nasledujúce otázky:

Pri akej cene by vám sprchový gél pripadal tak lacný, že by ste pochybovali o jeho kvalite?

Pri akej cene by vám sprchový gél pripadal ako výhodná kúpa?

Pri akej cene by vám sprchový gél pripadal drahý - jeho kúpu nevylučujete, ale museli by ste si to premyslieť?

Pri akej cene by vám sprchový gél pripadal tak drahý, že by ste si ho určite nekúpili?

Strana 6

4. Prosím odpovedzte na nasledujúce otázky:

Pokiaľ by som si išiel/išla kúpiť sprchový gél, zvažil/a by som kúpu značky Slitt Cosmetics.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Pokiaľ by som si chcel/a kúpiť nejakú značku sprchového gélu, pravdepodobnosť, že by som si vybral/a značku Slitt Cosmetics je vysoká.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Moja ochota kúpiť si produkt od značky Slitt Cosmetics by bola vysoká, pokiaľ by som si chcel/a kúpiť sprchový gél.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Pravdepodobnosť, že by som zvažil/a kúpu produktu od značky Slitt Cosmetics je vysoká.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Strana 7

5. Prosím uveďte, ako vnímate značku Slitt Cosmetics:

	1	2	3	4	5	6	7	
nepriaznivo	☐	☐	☐	☐	☐	☐	☐	priaznivo
zle	☐	☐	☐	☐	☐	☐	☐	dobre
nepáči sa mi	☐	☐	☐	☐	☐	☐	☐	páči sa mi
negatívne	☐	☐	☐	☐	☐	☐	☐	pozitívne

Strana 8

6. Uveďte, ako veľmi súhlasíte alebo nesúhlasíte s nasledovnými tvrdeniami:

Som ochotný/á vynaložiť väčšie úsilie aby som našiel/našla sprchový gél za nižšiu cenu.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Rozmyslel/a by som si, čo som plánoval/a kúpiť, aby som využil/a nižšiu cenu za sprchový gél.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Som citlivý/á na rozdiely cien sprchových gélov.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Prí tejto otázke prosím zvolte "úplne súhlasím" a prejdite na ďalšiu otázku.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Strana 9

7. Uveďte, ako veľmi súhlasíte alebo nesúhlasíte s nasledovnými tvrdeniami:

Zaujímam sa o sprchové gély.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Sprchový gél je pre mňa veľmi dôležitý.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Sprchový gél si vyberám veľmi starostlivo.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Výber sprchového gélu je pre mňa veľmi dôležité rozhodnutie.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Je pre mňa veľmi dôležité, ktorý sprchový gél si kúpim.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Strana 10

8. Uveďte, ako veľmi súhlasíte alebo nesúhlasíte s nasledovnými tvrdeniami:

Väčšina tvrdení o udržateľnosti na obaloch produktov a v reklamách nie je pravdivá.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Kvôli tomu, že väčšina tvrdení o udržateľnosti je zveličená, by bolo pre zákazníkov lepšie, keby tieto tvrdenia boli eliminované z obalov a reklám.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Väčšina tvrdení o udržateľnosti na obaloch produktov a v reklamách je tvorená s účelom zavádzať a nie informovať.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Väčšine tvrdení o udržateľnosti na obaloch produktov a v reklamách neverím.

úplne nesúhlasím	1	2	3	4	5	6	úplne súhlasím
	☐	☐	☐	☐	☐	☐	☐

Strana 11

Demografické údaje

Prosím uveďte svoje nasledovné demografické údaje:

9. Pohlavie:

- ☐ žena
- ☐ muž
- ☐ nebinárna osoba
- ☐ iné

10. Vek (v rokoch)

11. Najvyššie dosiahnuté vzdelanie

- ☐ základná škola
- ☐ stredná škola/gymnázium
- ☐ vysokoškolské vzdelanie 1. stupňa (bakalarske)
- ☐ vysokoškolské vzdelanie 2. stupňa (magisterské/inžinierske)
- ☐ vysokoškolské vzdelanie 3. stupňa (doktorandské)

12. Aktuálny status

- ☐ študent/ka
- ☐ živnostník
- ☐ zamestnaný/á
- ☐ nezamestnaný/á
- ☐ na dôchodku

13. Čistý mesačný príjem:

14. Štátne občianstvo:

- ☐ slovenské
- ☐ iné

Ďakujeme za Vašu účasť!

2. Main Study Questionnaire in English (Sample) – Greenwash extrinsic

Page 1

This questionnaire is conducted by the Chair of International Marketing at the University of Vienna and it is being coordinated by master student Viktória Júlia Zornicková, for the purposes of her master thesis. This study serves for academic purposes only and will not be used for any commercial purposes.

Your participation in this study is completely voluntary and the completion will take you around 10 minutes. Please read the questions carefully and follow relevant instructions. This study includes a fictitious scenario and any connections with existing brands are completely random.

There are no right or wrong answers, we solely care about your personal opinion on the topic, therefore we ask for your honest answers. There is no limit for the completion of this survey. All information you share with us will be handled anonymously and it will not be possible to identify you based on your answers.

For more information about this study, please contact me via e-mail on: a01605631@unet.univie.ac.at

Thank you for your participation in this study!

Page 2

Please read the article below.

DNES 365

NEWS ECONOMICS **SUSTAINABILITY** POLITICS INTERNATIONAL CULTURE SPORT

Bratislava, 10/10/2022 11:42

Slitt Cosmetics is not green – Their shower gels don't have sustainable packaging

The company belongs to brands connected with greenwashing.



Slitt Cosmetics doesn't take sustainability seriously. This was also shown by recent research of famous international independent organization Earth4Future that aims to protect consumers from false sustainability claims ("greenwashing").

The company, which proudly claims their shower gels are packed sustainably and the packaging is recyclable, belongs to one of the most vocal green advocates.

Results of thorough testing and research of numerous popular cosmetic brands have shown that these claims are not true. The statement of Earth4Future says that the Slitt Cosmetics shower gel packaging is not sustainable. Thus, the consumers should not trust their green claims about the shower gels' sustainability.

Page 3

1. Now please answer the following questions regarding your opinions about the article:

For me, the description of this article is understandable. [7-point Likert scale, 1-totally disagree, 7-totally agree]

For me, the description of this article is credible. [7-point Likert scale, 1-totally disagree, 7-totally agree]

I can easily imagine something like this happening nowadays. [7-point Likert scale, 1-totally disagree, 7-totally agree]

Page 4

2. Please answer these questions about the article that you have read.

Slitt Cosmetics shower gels have sustainable packaging. [7-point Likert scale, 1-totally disagree, 7-totally agree]

Independent organization Earth4Future stated the packaging of Slitt Cosmetics shower gels as sustainable. [7-point Likert scale, 1-totally disagree, 7-totally agree]

I think this article describes a company (Slitt Cosmetics) that is responsible towards the environment. [7-point Likert scale, 1-totally disagree, 7-totally agree]

Page 5

3. Please answer the following questions. [open questions – to write sum]

At what price would you consider the price of shampoo so low that you'd question its quality?

At what price would you consider a shampoo to be a bargain – a great buy for the money?

At what price would you consider a shampoo starting to get expensive – not out of the question, but you'd need to give some thought to buying it?

At what price would you consider a shampoo so expensive that you would not consider buying it?

Page 6

4. Please answer the following questions.

If I were going to purchase a shampoo, I would consider buying the Slitt Cosmetics brand. [7-point Likert scale, 1-totally disagree, 7-totally agree]

If I were shopping for a shampoo, the likelihood I would purchase from Slitt Cosmetics is high. [7-point Likert scale, 1-totally disagree, 7-totally agree]

My willingness to buy a shampoo from Slitt Cosmetics would be high, if I were shopping for a shampoo. [7-point Likert scale, 1-totally disagree, 7-totally agree]

The probability I would consider buying this shampoo from Slitt Cosmetics is high. [7-point Likert scale, 1-totally disagree, 7-totally agree]

Page 7

5. Please state your opinion on the Slitt Cosmetics brand.

[1] unfavorable – [7] favorable [7-point scale]

[1] bad – [7] good [7-point scale]

[1] dislike – [7] like [7-point scale]

[1] negative – [7] positive [7-point scale]

Page 8

6. Please state to what extent you agree or disagree with presented statements.

I am willing to make an extra effort to find a low price for a shampoo. [7-point Likert scale, 1-totally disagree, 7-totally agree]

I will change what I had planned to buy in order to take advantage of a lower price for a shampoo. [7-point Likert scale, 1-totally disagree, 7-totally agree]

I am sensitive to differences in prices of shampoos. [7-point Likert scale, 1-totally disagree, 7-totally agree]

On this question, choose “totally agree” and go to next page. [7-point Likert scale, 1-totally disagree, 7-totally agree]

Page 9

7. Please state to what extent you agree or disagree with presented statements.

I have a strong interest in shampoos. [7-point Likert scale, 1-totally disagree, 7-totally agree]

Shampoo is very important to me. [7-point Likert scale, 1-totally disagree, 7-totally agree]

I would choose my shampoo very carefully. [7-point Likert scale, 1-totally disagree, 7-totally agree]

Choosing a shampoo is an important decision for me. [7-point Likert scale, 1-totally disagree, 7-totally agree]

Which shampoo I buy matters to me a lot. [7-point Likert scale, 1-totally disagree, 7-totally agree]

Page 10

8. Please state to what extent you agree or disagree with presented statements.

Most sustainability claims made on products’ packaging or in advertising are not true. [7-point Likert scale, 1-totally disagree, 7-totally agree]

Because sustainability claims are exaggerated, consumers would be better off if such claims on products’ packaging or in advertising were eliminated. [7-point Likert scale, 1-totally disagree, 7-totally agree]

Most sustainability claims on products’ packaging or in advertising are intended to

mislead rather than to inform consumers. [7-point Likert scale, 1-totally disagree, 7-totally agree]

I do not believe most environmental sustainability claims made on products' packaging or in advertising. [7-point Likert scale, 1-totally disagree, 7-totally agree]

Page 11

Demographics

Please state your demographics:

Gender:

- ☐ female
- ☐ male
- ☐ non-binary
- ☐ other

Age (in years):

Highest achieved education:

- ☐ elementary school
- ☐ high school
- ☐ bachelor's degree
- ☐ master's degree
- ☐ doctorate's degree

Status:

- ☐ student
- ☐ self-employed
- ☐ employed
- ☐ unemployed
- ☐ retired

Net monthly income: _____

Nationality:

- ☐ Slovak
- ☐ other

Thank you for your participation!

Appendix D: Measurement Scales

Willingness to pay - *Price Sensitivity Meter adapted from Van Westendorp (1976)*

2. At what price would you consider the price of shampoo so low that you'd question its quality?
3. At what price would you consider a shampoo to be a bargain – a great buy for the money?
4. At what price would you consider a shampoo starting to get expensive – not out of the question, but you'd need to give some thought to buying it?
5. At what price would you consider a shampoo so expensive that you would not consider buying it?

Brand attitude - *scales adapted from Kim & Chan-Olmsted (2007)*

1. unfavorable – favorable
2. bad – good
3. dislike – like
4. negative – positive

Purchase intention - *scales adapted from Dodds et al. (1991)*

1. If I were going to purchase a shampoo, I would consider buying the Slitt Cosmetics brand.
2. If I were shopping for a shampoo, the likelihood I would purchase from Slitt Cosmetics is high.
3. My willingness to buy a shampoo from Slitt Cosmetics would be high, if I were shopping for a shampoo.
4. The probability I would consider buying this shampoo from Slitt Cosmetics is high.

Price sensitivity – *scales adapted from Wakefield & Inman (2003)*

1. I am willing to make an extra effort to find a low price for a shampoo.
2. I will change what I had planned to buy in order to take advantage of a lower price for a shampoo.
3. I am sensitive to differences in prices of shampoos.

Green skepticism – *scales adapted from Mohr et al. (1998)*

1. Most sustainability claims made on products' packaging or in advertising are not true.
2. Because sustainability claims are exaggerated, consumers would be better off if such claims on products' packaging or in advertising were eliminated.
3. Most sustainability claims on products' packaging or in advertising are intended to mislead rather than to inform consumers.
4. I do not believe most environmental sustainability claims made on products' packaging or in advertising.

Product category involvement – *scales adapted from Mittal (1989)*

1. I have a strong interest in shampoos.
2. Shampoo is very important to me.
3. I would choose my shampoo very carefully.
4. Choosing a shampoo is an important decision for me.
5. Which shampoo I buy matters to me a lot.

Appendix E: Descriptive Statistics

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	130	47,1	47,1	47,1
	female	145	52,5	52,5	99,6
	other	1	,4	,4	100,0
	Total	276	100,0	100,0	

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	zakladna	3	1,1	1,1	1,1
	stredna/gymnazium	146	52,9	52,9	5,4
	1.stupenVS	23	8,3	8,3	13,7
	2.stupenVS	90	32,6	32,6	46,3
	3.stupenVS	14	5,1	5,1	51,4
	Total	276	100,0	100,0	

Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	student	12	4,3	4,3	4,3
	self-employed	12	4,3	4,3	8,7
	employed	156	56,5	56,5	65,2
	unemployed	26	9,4	9,4	74,6
	retired	70	25,4	25,4	100,0
	Total	276	100,0	100,0	

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Dev.
Age	276	19	80	48,01	15,15
Net monthly income	267	,00	3600,00	827,4448	489,15
Valid N (listwise)	267				

Gender across Samples

Gender * Experimental Condition Crosstabulation

		Experimental Condition			
		V1 - Green Extrinsic	V2 - Green Intrinsic	V3 - Greenwash Extrinsic	V4 - Greenwash Intrinsic
Gender	male	31	35	25	39
	female	37	35	42	31
	other	0	0	1	0
	Total	68	70	68	70

Chi-Square Tests

	Value	df	Asymptotic Significance (sided)
Pearson Chi-Square	8,002 ^a	6	,238
Likelihood Ratio	7,802	6	,253
Linear-by-Linear Association	,275	1	,600
N of Valid Cases	276		

^a. 4 cells (33,3%) have expected count less than 5. The minimum expected count is ,25.

Education across Samples

Education * Experimental Condition Crosstabulation

		Experimental Condition			
		V1 - Green Extrinsic	V2 - Green Intrinsic	V3 - Greenwash Extrinsic	V4 - Greenwash Intrinsic
Education	zakladna	1	0	0	2
	stredna/gymnazium	34	39	38	35
	1.stupenVS	8	6	4	5
	2.stupenVS	20	23	22	25
	3.stupenVS	5	2	4	3
	Total	68	70	68	70

Chi-Square Tests

	Value	df	Asymptotic Significance (sided)
Pearson Chi-Square	7,594 ^a	12	,816
Likelihood Ratio	8,451	12	,749
Linear-by-Linear Association	,002	1	,969
N of Valid Cases	276		

^a. 8 cells (40,0%) have expected count less than 5. The minimum expected count is ,74.

Occupation across Samples

Status * Experimental Condition Crosstabulation

		Experimental Condition			
		V1 - Green Extrinsic	V2 - Green Intrinsic	V3 - Greenwash Extrinsic	V4 - Greenwash Intrinsic
Status	student	3	3	2	4
	self-employed	1	3	4	4
	employed	43	34	40	39
	unemployed	7	10	4	5
	retired	14	20	18	18
	Total	68	70	68	70

Chi-Square Tests

	Value	df	Asymptotic Significance (sided)
Pearson Chi-Square	8,007 ^a	12	,785
Likelihood Ratio	8,387	12	,754
Linear-by-Linear Association	,041	1	,840
N of Valid Cases	276		

^a. 8 cells (40,0%) have expected count less than 5. The minimum expected count is 2,96.

Age across Samples

Descriptives

Age

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
V1 - Green Extrinsic	68	46,51	15,232	1,847	42,83	50,20	19	79
V2 - Green Intrinsic	70	48,76	16,319	1,950	44,87	52,65	21	74
V3 - Greenwash Extrinsic	68	49,71	14,758	1,790	46,13	53,28	20	80
V4 - Greenwash Intrinsic	70	47,07	14,790	1,768	43,54	50,60	19	74
Total	276	48,01	15,262	,919	46,20	49,82	19	80

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Age	Based on Mean	1,044	3	272	,373
	Based on Median	,996	3	272	,395
	Based on Median and with adjusted df	,996	3	269,402	,395
	Based on trimmed mean	1,041	3	272	,375

ANOVA

Age

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	448,350	3	149,450	,639	,590
Within Groups	63604,617	272	233,841		
Total	64052,967	275			

Net Monthly Income across Samples

Descriptives

Net monthly income

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
V1 - Green Extrinsic	68	867,9706	459,14138	55,67907	756,8347	979,1065	,00	2100,00
V2 - Green Intrinsic	67	773,4478	538,58024	65,79805	642,0777	904,8178	,00	3600,00
V3 - Greenwash Extrinsic	65	843,0923	488,99954	60,65293	721,9242	964,2605	,00	2500,00
V4 - Greenwash Intrinsic	67	825,1306	475,89728	58,14011	709,0501	941,2111	,00	2000,00
Total	267	827,4448	489,91114	29,98207	768,4124	886,4771	,00	3600,00

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Net monthly income	Based on Mean	,062	3	263	,980
	Based on Median	,044	3	263	,988
	Based on Median and with adjusted df	,044	3	241,726	,988
	Based on trimmed mean	,047	3	263	,986

ANOVA

Net monthly income

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	323303,373	3	107767,791	,446	,720
Within Groups	63520134,244	263	241521,423		
Total	63843437,618	266			

Appendix F: Scenarios Assessments

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean			
						Lower Bound	Upper Bound	Minimum	Maximum
Understandable	V1 - Green Extrinsic	68	5,78	1,325	,161	5,46	6,10	1	7
	V2 - Green Intrinsic	70	5,83	1,007	,120	5,59	6,07	3	7
	V3 - Greenwash Extrinsic	68	5,68	1,460	,177	5,32	6,03	1	7
	V4 - Greenwash Intrinsic	70	6,01	1,123	,134	5,75	6,28	2	7
	Total	276	5,83	1,238	,075	5,68	5,97	1	7
Credible	V1 - Green Extrinsic	68	4,93	1,469	,178	4,57	5,28	1	7
	V2 - Green Intrinsic	70	4,89	1,460	,175	4,54	5,23	1	7
	V3 - Greenwash Extrinsic	68	4,57	1,213	,147	4,28	4,87	2	7
	V4 - Greenwash Intrinsic	70	4,51	1,472	,176	4,16	4,87	1	7
	Total	276	4,72	1,413	,085	4,56	4,89	1	7
Imagine	V1 - Green Extrinsic	68	5,19	1,396	,169	4,85	5,53	1	7
	V2 - Green Intrinsic	70	5,30	1,255	,150	5,00	5,60	2	7
	V3 - Greenwash Extrinsic	68	5,29	1,425	,173	4,95	5,64	1	7
	V4 - Greenwash Intrinsic	70	5,84	1,211	,145	5,55	6,13	2	7
	Total	276	5,41	1,341	,081	5,25	5,57	1	7

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Understandable	Between Groups	4,150	3	1,383	,901	,441
	Within Groups	417,502	272	1,535		
	Total	421,652	275			
Credible	Between Groups	9,236	3	3,079	1,551	,202
	Within Groups	539,836	272	1,985		
	Total	549,072	275			
Imagine	Between Groups	18,132	3	6,044	3,449	,017
	Within Groups	476,604	272	1,752		
	Total	494,736	275			

Appendix G: Control Variables Assessment

Price sensitivity

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean			
					Lower Bound	Upper Bound	Minimum	Maximum
V1 - Green Extrinsic	68	4,9412	1,14886	,13932	4,6631	5,2193	2,33	7,00
V2 - Green Intrinsic	70	4,9857	1,28215	,15325	4,6800	5,2914	1,00	7,00
V3 - Greenwash Extrinsic	68	4,7108	1,18993	,14430	4,4228	4,9988	2,33	7,00
V4 - Greenwash Intrinsic	70	4,4905	1,41162	,16872	4,1539	4,8271	1,00	7,00
Total	276	4,7814	1,27228	,07658	4,6306	4,9322	1,00	7,00

ANOVA

Price sensitivity

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10,922	3	3,641	2,280	,080
Within Groups	434,223	272	1,596		
Total	445,145	275			

PC_Overall

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean			
					Lower Bound	Upper Bound	Minimum	Maximum
V1 - Green Extrinsic	68	4,8765	1,54535	,18740	4,5024	5,2505	1,00	7,00
V2 - Green Intrinsic	70	5,1514	1,30925	,15648	4,8392	5,4636	1,80	7,00
V3 - Greenwash Extrinsic	68	4,7824	1,51440	,18365	4,4158	5,1489	1,60	7,00
V4 - Greenwash Intrinsic	70	4,3314	1,43936	,17204	3,9882	4,6746	1,20	7,00
Total	276	4,7848	1,47618	,08886	4,6099	4,9597	1,00	7,00

ANOVA

PC_Overall

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	24,369	3	8,123	3,843	,010
Within Groups	574,887	272	2,114		
Total	599,256	275			

Green Skip

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
V1 - Green Extrinsic	68	4,7206	1,22439	,14848	4,4242	5,0170	1,75	7,00
V2 - Green Intrinsic	70	4,7536	1,20423	,14393	4,4664	5,0407	2,00	7,00
V3 - Greenwash Extrinsic	68	4,8640	1,10074	,13348	4,5975	5,1304	1,75	7,00
V4 - Greenwash Intrinsic	70	4,8214	1,18041	,14109	4,5400	5,1029	1,75	7,00
Total	276	4,7899	1,17347	,07063	4,6508	4,9289	1,75	7,00

ANOVA

Green Skip

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,862	3	,287	,207	,892
Within Groups	377,825	272	1,389		
Total	378,687	275			

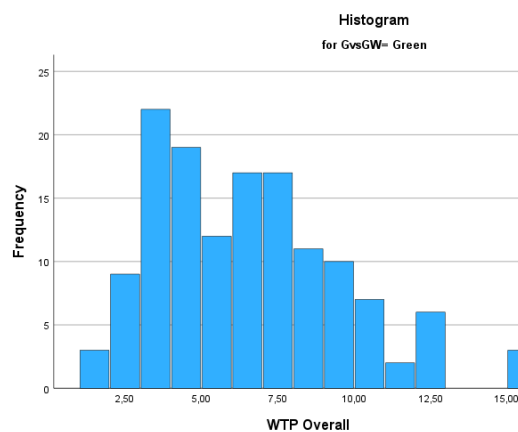
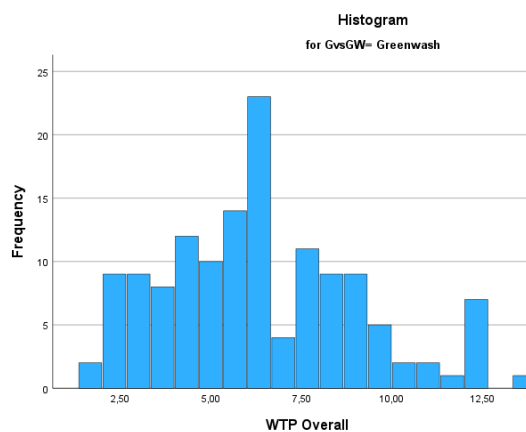
Appendix H: Assumptions SPSS Outputs

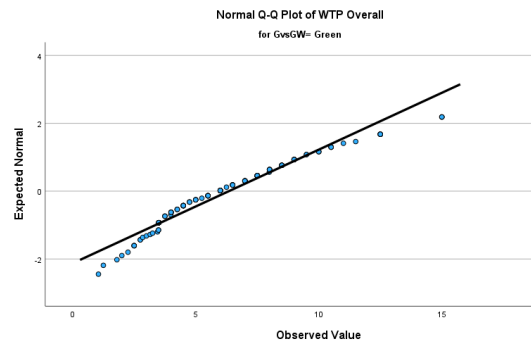
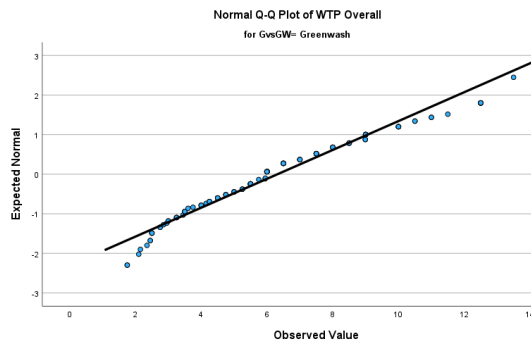
Willingness to Pay – Normality

Tests of Normality

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
WTP Overall	Greenwash	,134	138	<,001	,958	138	<,001
	Green	,095	138	,004	,950	138	<,001

^a. Lilliefors Significance Correction

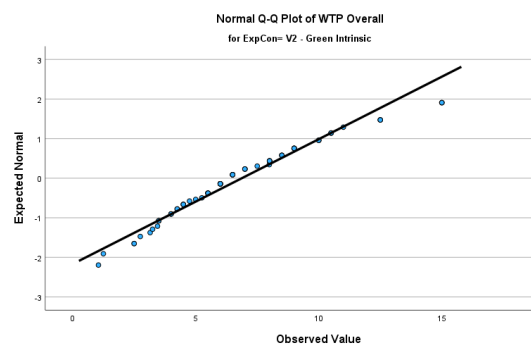
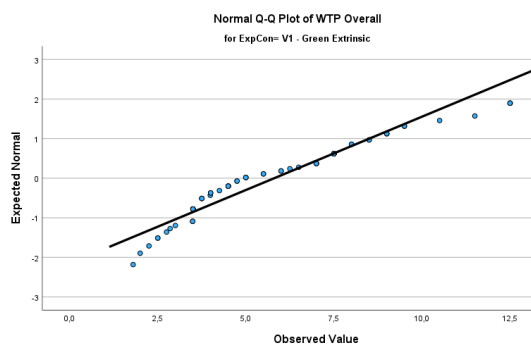
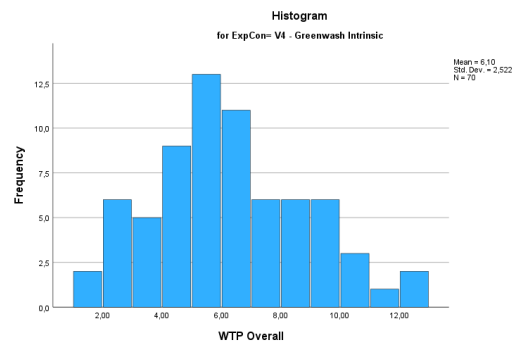
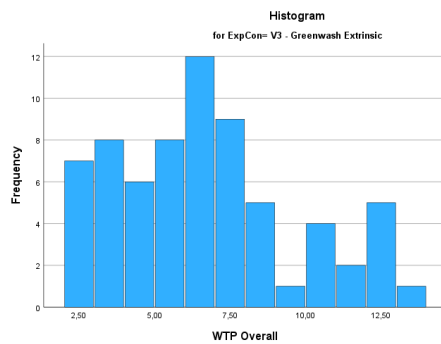
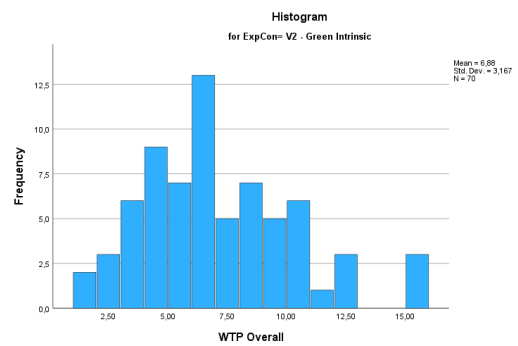
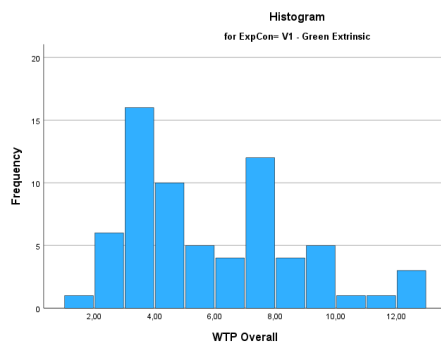


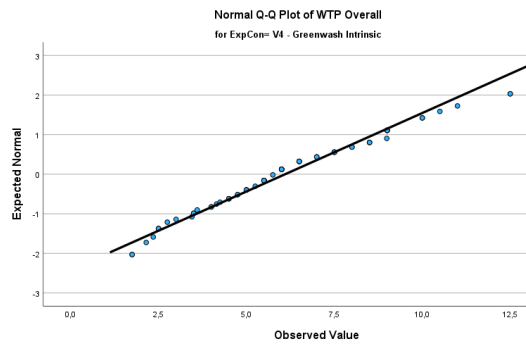
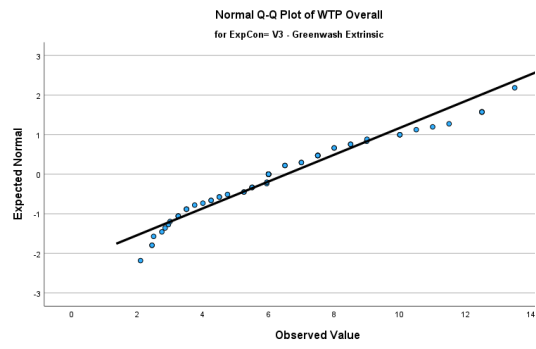


Tests of Normality

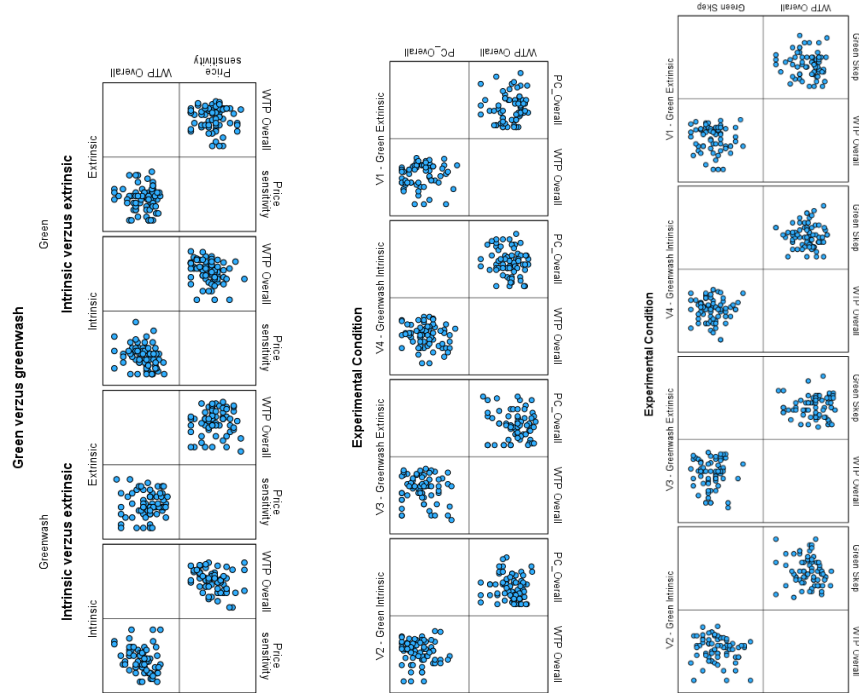
	Experimental Condition	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
WTP Overall	V1 - Green Extrinsic	,147	68	<,001	,925	68	<,001
	V2 - Green Intrinsic	,119	70	,016	,958	70	,020
	V3 - Greenwash Extrinsic	,147	68	<,001	,938	68	,002
	V4 - Greenwash Intrinsic	,116	70	,020	,972	70	,114

^a. Lilliefors Significance Correction





Willingness to Pay – Linearity



Willingness to Pay – Homogeneity of Regression Slopes

Dependent Variable: WTP Overall

								Observed Power ^b
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	
Corrected Model	137,417 ^a	7	19,631	2,492	,017	,061	17,444	,873
Intercept	992,683	1	992,683	126,010	<,001	,320	126,010	1,000
GvsGW * INvsEX	53,493	3	17,831	2,263	,081	,025	6,790	,568
GvsGW * PS_Overall	5,534	1	5,534	,703	,403	,003	,703	,133
INvsEX * PS_Overall	42,950	1	42,950	5,452	,020	,020	5,452	,643
GvsGW * INvsEX * PS_Overall	1,181	1	1,181	,150	,699	,001	,150	,067
Error	2111,262	268	7,878					
Total	13327,391	276						
Corrected Total	2248,680	275						

^a. R Squared = ,061 (Adjusted R Squared = ,037)

^b. Computed using alpha = ,05

Dependent Variable: WTP Overall

								Observed Power ^b
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	
Corrected Model	73,950 ^a	7	10,564	1,302	,249	,033	9,113	,553
Intercept	1062,986	1	1062,986	130,996	<,001	,328	130,996	1,000
GvsGW * INvsEX	32,228	3	10,743	1,324	,267	,015	3,972	,351
INvsEX * PC_Overall	6,892	1	6,892	,849	,358	,003	,849	,151
GvsGW * PC_Overall	9,281	1	9,281	1,144	,286	,004	1,144	,187
GvsGW * INvsEX * PC_Overall	3,048	1	3,048	,376	,540	,001	,376	,094
Error	2174,730	268	8,115					
Total	13327,391	276						
Corrected Total	2248,680	275						

^a. R Squared = ,033 (Adjusted R Squared = ,008)

^b. Computed using alpha = ,05

Dependent Variable: WTP Overall

								Observed Power ^b
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	
Corrected Model	66,179 ^a	7	9,454	1,161	,326	,029	8,126	,497
Intercept	734,164	1	734,164	90,152	<,001	,252	90,152	1,000
GvsGW * INvsEX	21,201	3	7,067	,868	,458	,010	2,603	,238
INvsEX * GS_Overall	3,849	1	3,849	,473	,492	,002	,473	,105
GvsGW * GS_Overall	8,426	1	8,426	1,035	,310	,004	1,035	,173
GvsGW * INvsEX * GS_Overall	,944	1	,944	,116	,734	,000	,116	,063
Error	2182,501	268	8,144					
Total	13327,391	276						
Corrected Total	2248,680	275						

^a R Squared = ,029 (Adjusted R Squared = ,004)

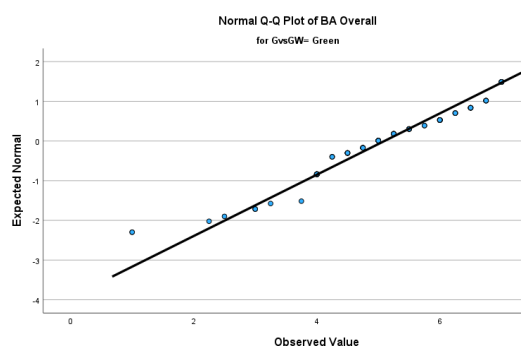
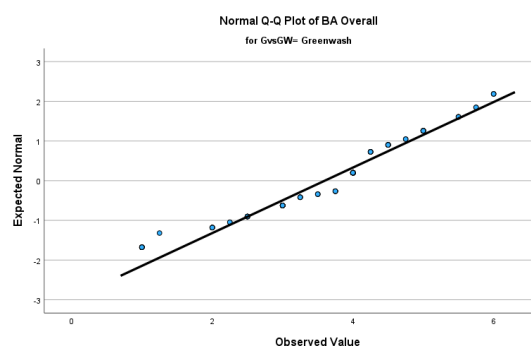
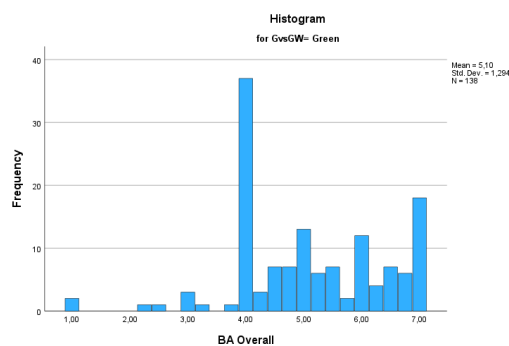
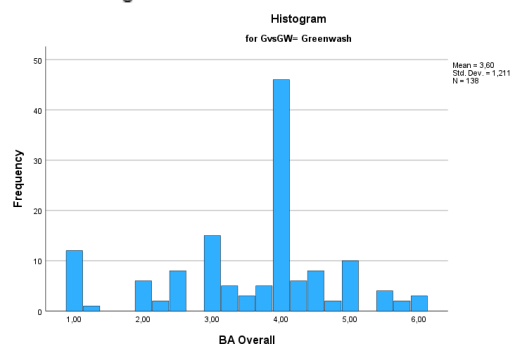
^b Computed using alpha = ,05

Brand Attitude – Normality

Tests of Normality

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Green verus greenwash	Statistic	df	Sig.	Statistic	df	Sig.
BA Overall	Greenwash	,216	138	<,001	,924	138	<,001
	Green	,136	138	<,001	,926	138	<,001

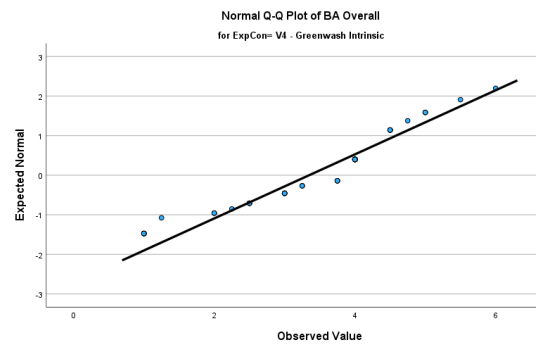
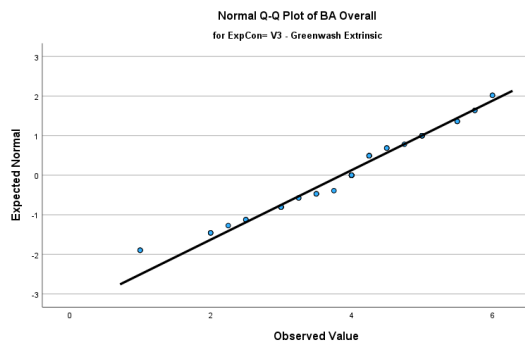
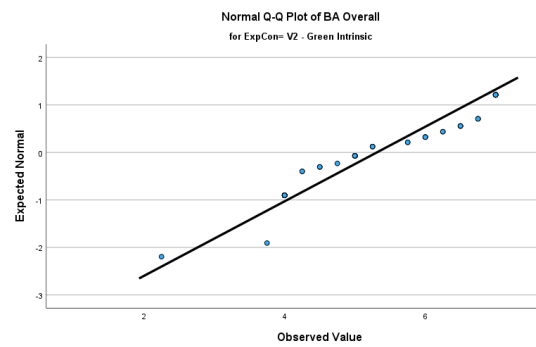
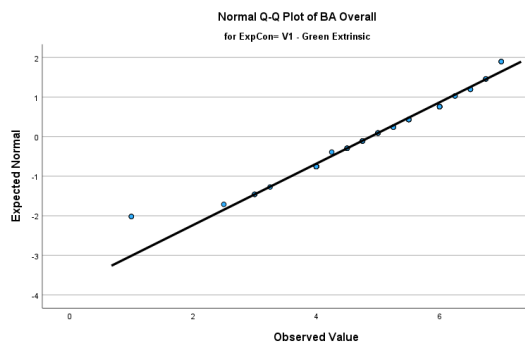
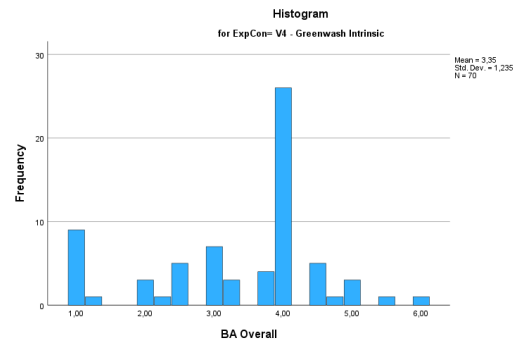
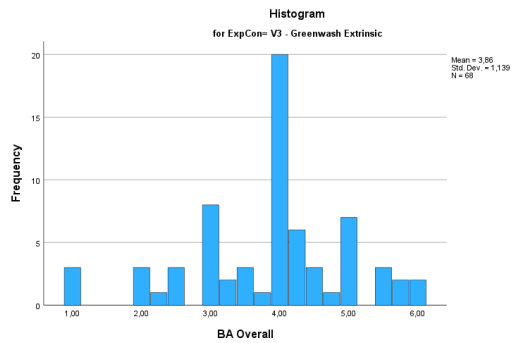
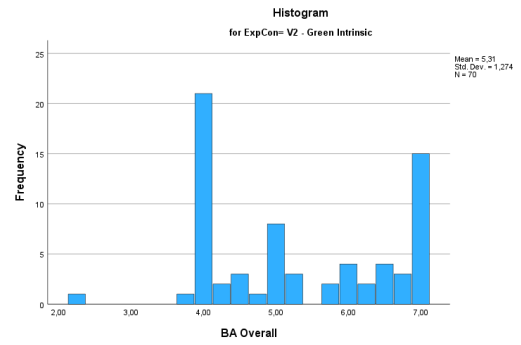
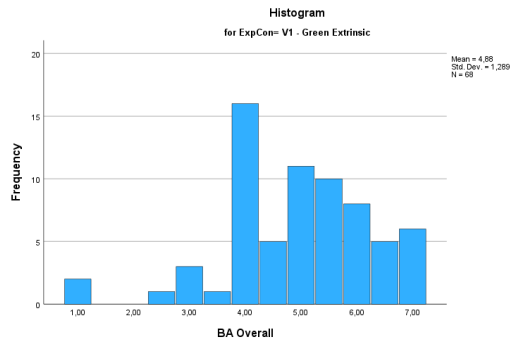
^a. Lilliefors Significance Correction



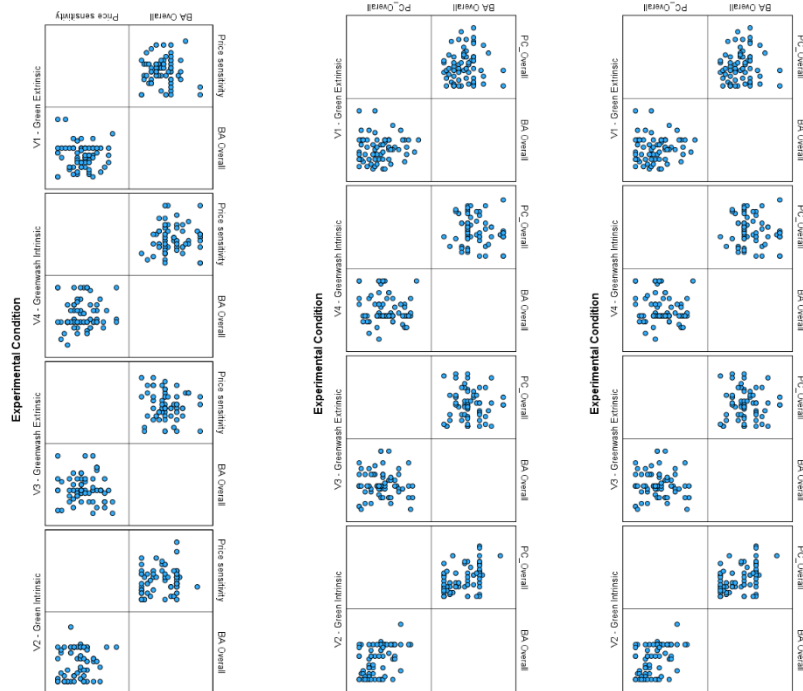
Tests of Normality

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Experimental Condition	Statistic	df	Sig.	Statistic	df	Sig.
BA Overall	V1 - Green Extrinsic	,144	68	,001	,946	68	,005
	V2 - Green Intrinsic	,177	70	<,001	,865	70	<,001
	V3 - Greenwash Extrinsic	,197	68	<,001	,951	68	,009
	V4 - Greenwash Intrinsic	,229	70	<,001	,892	70	<,001

^a. Lilliefors Significance Correction



Brand Attitude – Linearity



Brand Attitude – Homogeneity of Regression Slopes

Dependent Variable: BA Overall

								Observed Power ^b
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	
Corrected Model	176,252 ^a	7	25,179	16,473	<.,001	,301	115,312	1,000
Intercept	296,048	1	296,048	193,687	<.,001	,420	193,687	1,000
GvsGW * INvsEX	10,207	3	3,402	2,226	,085	,024	6,678	,560
INvsEX * PS_Overall	3,806	1	3,806	2,490	,116	,009	2,490	,349
GvsGW * PS_Overall	,837	1	,837	,548	,460	,002	,548	,114
GvsGW * INvsEX * PS_Overall	,133	1	,133	,087	,768	,000	,087	,060
Error	409,633	268	1,528					
Total	5807,625	276						
Corrected Total	585,885	275						

^a R Squared = ,301 (Adjusted R Squared = ,283)

^b Computed using alpha = ,05

Dependent Variable: BA Overall

								Observed Power ^b
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	
Corrected Model	197,613 ^a	7	28,230	19,486	<.,001	,337	136,400	1,000
Intercept	329,906	1	329,906	227,714	<.,001	,459	227,714	1,000
GvsGW * INvsEX	6,245	3	2,082	1,437	,232	,016	4,311	,379
INvsEX * PC_Overall	2,708	1	2,708	1,869	,173	,007	1,869	,275
GvsGW * PC_Overall	15,102	1	15,102	10,424	,001	,037	10,424	,896
GvsGW * INvsEX * PC_Overall	8,780	1	8,780	6,060	,014	,022	6,060	,689
Error	388,272	268	1,449					
Total	5807,625	276						
Corrected Total	585,885	275						

^a R Squared = ,337 (Adjusted R Squared = ,320)

^b Computed using alpha = ,05

Dependent Variable: BA Overall

								Observed Power ^b
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	
Corrected Model	187,920 ^a	7	26,846	18,079	<,001	,321	126,550	1,000
Intercept	330,557	1	330,557	222,605	<,001	,454	222,605	1,000
GvsGW * INvsEX	37,007	3	12,336	8,307	<,001	,085	24,922	,992
INvsEX * GS_Overall	1,961	1	1,961	1,321	,251	,005	1,321	,209
GvsGW * GS_Overall	8,491	1	8,491	5,718	,017	,021	5,718	,664
GvsGW * INvsEX * GS_Overall	4,781	1	4,781	3,219	,074	,012	3,219	,432
Error	397,965	268	1,485					
Total	5807,625	276						
Corrected Total	585,885	275						

^a. R Squared = ,321 (Adjusted R Squared = ,303)

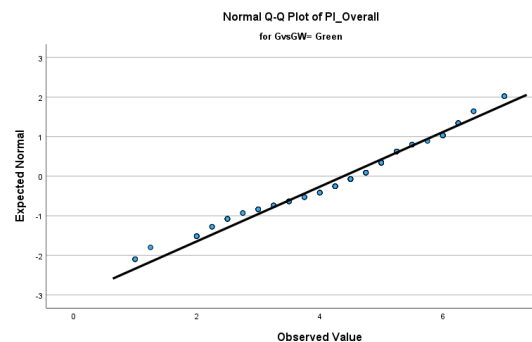
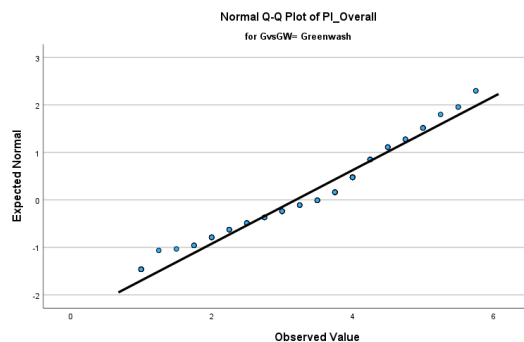
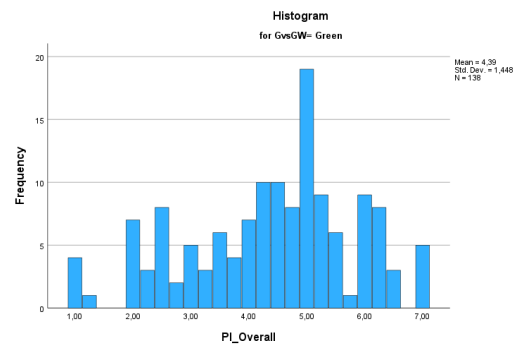
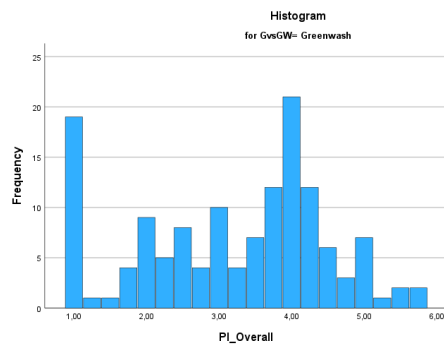
^b. Computed using alpha = ,05

Purchase Intention – Normality

Tests of Normality

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Green verzuus greenwash	Statistic	df	Sig.	Statistic	df	Sig.
PI_Overall	Greenwash	,145	138	<,001	,941	138	<,001
	Green	,100	138	,002	,967	138	,002

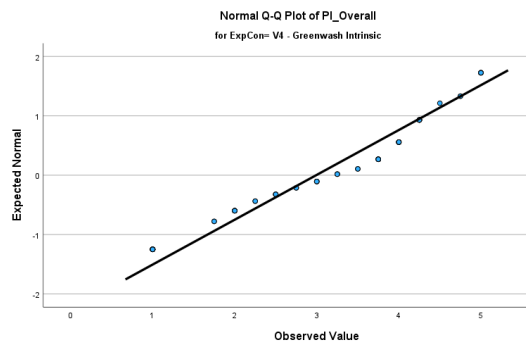
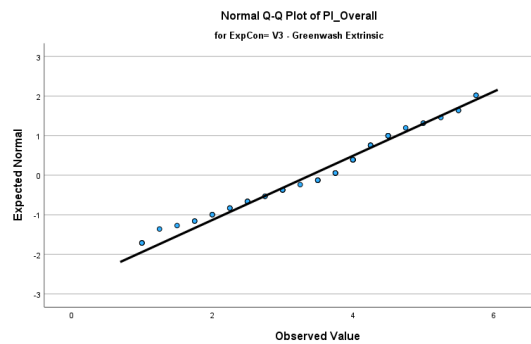
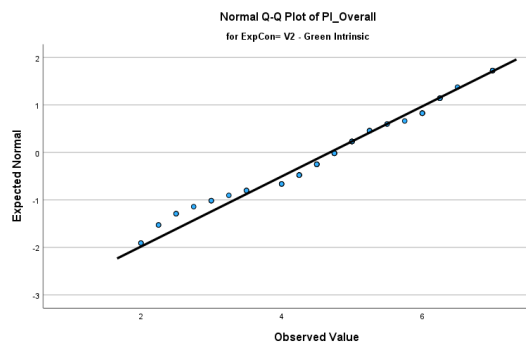
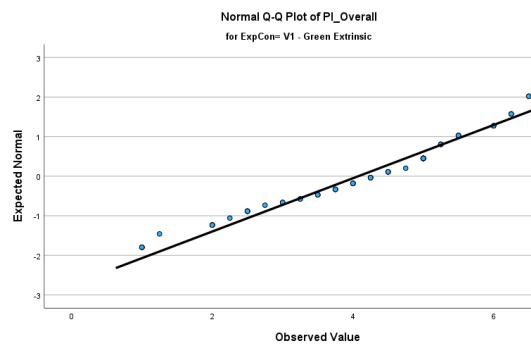
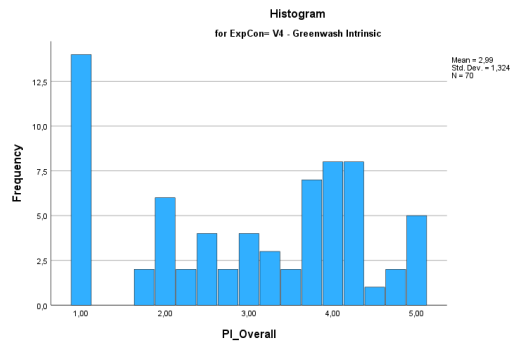
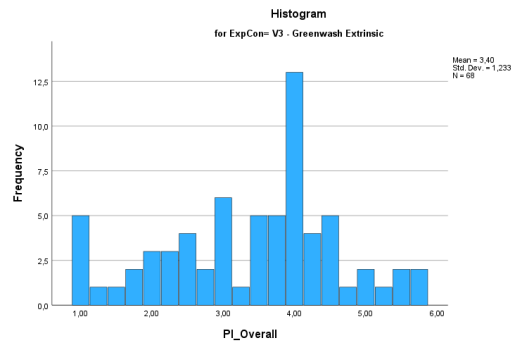
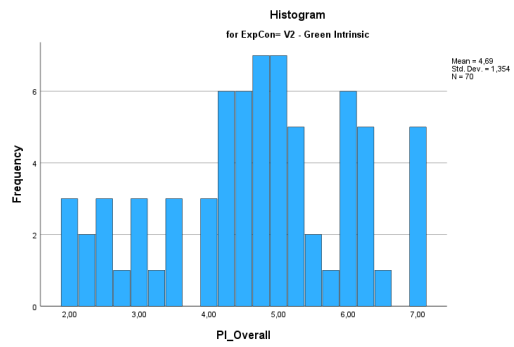
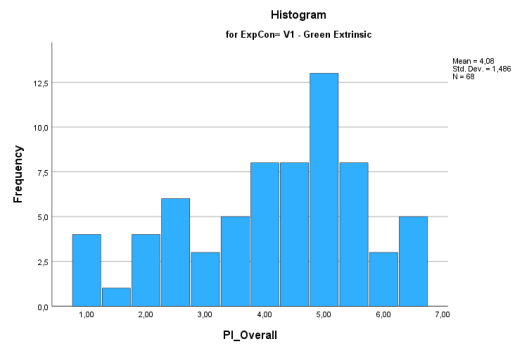
^a. Lilliefors Significance Correction



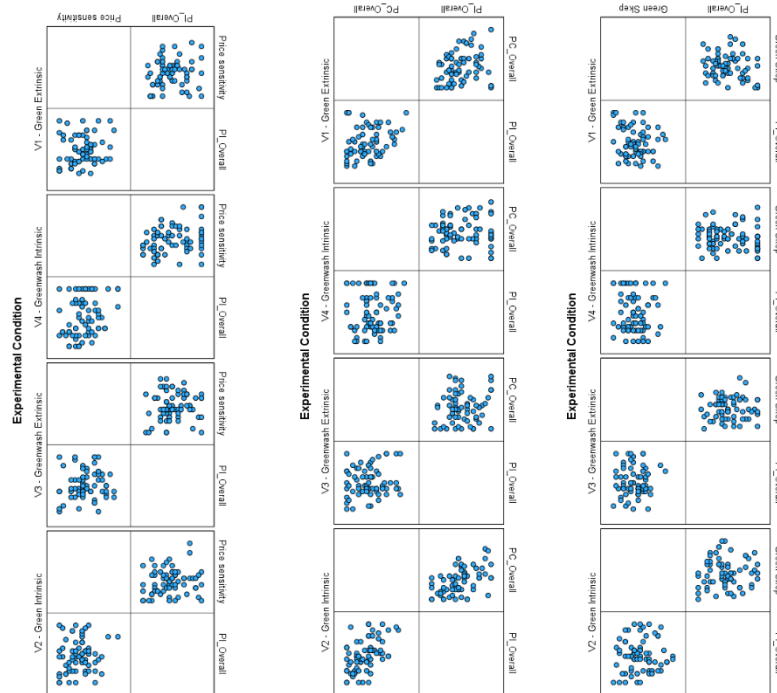
Tests of Normality

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Experimental Condition	Statistic	df	Sig.	Statistic	df	Sig.
PI_Overall	V1 - Green Extrinsic	,144	68	,001	,951	68	,010
	V2 - Green Intrinsic	,102	70	,066	,961	70	,030
	V3 - Greenwash Extrinsic	,129	68	,007	,960	68	,029
	V4 - Greenwash Intrinsic	,159	70	<,001	,909	70	<,001

^a. Lilliefors Significance Correction



Purchase Intention – Linearity



Purchase Intention - Homogeneity of Regression Slopes

Dependent Variable: PI_Overall

								Observed Power ^b
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	
Corrected Model	131,482 ^a	7	18,783	10,432	<.,001	,214	73,025	1,000
Intercept	156,441	1	156,441	86,887	<.,001	,245	86,887	1,000
GvsGW * INvsEX	13,279	3	4,426	2,458	,063	,027	7,375	,608
INvsEX * PS_Overall	,719	1	,719	,399	,528	,001	,399	,096
GvsGW * PS_Overall	,135	1	,135	,075	,784	,000	,075	,059
GvsGW * INvsEX * PS_Overall	,849	1	,849	,472	,493	,002	,472	,105
Error	482,537	268	1,801					
Total	4576,313	276						
Corrected Total	614,019	275						

^a. R Squared = ,214 (Adjusted R Squared = ,194)

^b. Computed using alpha = .05

Dependent Variable: PI_Overall

								Observed Power ^b
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	
Corrected Model	164,031 ^a	7	23,433	13,956	<.,001	,267	97,692	1,000
Intercept	149,446	1	149,446	89,006	<.,001	,249	89,006	1,000
GvsGW * INvsEX	2,590	3	,863	,514	,673	,006	1,542	,154
INvsEX * PC_Overall	1,591	1	1,591	,948	,331	,004	,948	,163
GvsGW * PC_Overall	13,365	1	13,365	7,960	,005	,029	7,960	,803
GvsGW * INvsEX * PC_Overall	4,197	1	4,197	2,500	,115	,009	2,500	,350
Error	449,987	268	1,679					
Total	4576,313	276						
Corrected Total	614,019	275						

^a. R Squared = ,267 (Adjusted R Squared = ,248)

^b. Computed using alpha = ,05

Dependent Variable: PI_Overall

								Observed Power ^b
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	
Corrected Model	123,631 ^a	7	17,662	9,652	<,001	,201	67,565	1,000
Intercept	248,657	1	248,657	135,893	<,001	,336	135,893	1,000
GvsGW * INvsEX	10,044	3	3,348	1,830	,142	,020	5,489	,473
INvsEX * GS_Overall	,834	1	,834	,456	,500	,002	,456	,103
GvsGW * GS_Overall	,371	1	,371	,203	,653	,001	,203	,073
GvsGW * INvsEX * GS_Overall	4,387	1	4,387	2,397	,123	,009	2,397	,339
Error	490,387	268	1,830					
Total	4576,313	276						
Corrected Total	614,019	275						

^a. R Squared = ,201 (Adjusted R Squared = ,180)

^b. Computed using alpha = ,05

Appendix I: Main Analysis SPSS Outputs

Willingness to Pay – Two-way ANCOVA

Descriptive Statistics

Dependent Variable: WTP Overall

				Bootstrap ^a			
				95% Confidence Interval			
Green veruzus greenwash	Intrinsic veruzus extrinsic		Statistic	Bias	Std. Error	Lower	Upper
Greenwash	Extrinsic	Mean	6,5468	-,0144	,3568	5,8492	7,2538
		Std. Deviation	2,95141	-,03686	,22127	2,47544	3,34330
		N	68	0	7	55	82
	Intrinsic	Mean	6,1027	,0012	,3093	5,5326	6,7413
		Std. Deviation	2,52174	-,02747	,19431	2,09737	2,85048
		N	70	0	7	55	84
	Total	Mean	6,3216	-,0061	,2274	5,8761	6,7869
		Std. Deviation	2,74089	-,01762	,14844	2,42988	3,01961
		N	138	0	8	122	153
Green	Extrinsic	Mean	5,8069	-,0026	,3289	5,1647	6,4391
		Std. Deviation	2,69806	-,02000	,23145	2,22966	3,10569
		N	68	0	7	54	83
	Intrinsic	Mean	6,8770	-,0144	,3595	6,1329	7,5746
		Std. Deviation	3,16728	-,04476	,28202	2,56208	3,67312
		N	70	0	7	56	85
	Total	Mean	6,3497	-,0089	,2490	5,8008	6,8512
		Std. Deviation	2,98343	-,01969	,19123	2,58567	3,34305
		N	138	0	8	123	154
Total	Extrinsic	Mean	6,1769	-,0078	,2489	5,6677	6,6646
		Std. Deviation	2,84145	-,01470	,16482	2,48787	3,13817
		N	136	0	8	119	152
	Intrinsic	Mean	6,4899	-,0061	,2380	5,9894	6,9615
		Std. Deviation	2,87879	-,02295	,18485	2,48155	3,24269
		N	140	0	8	124	157
	Total	Mean	6,3356	-,0075	,1669	5,9614	6,6656
		Std. Deviation	2,85955	-,01087	,12292	2,60721	3,08175
		N	276	0	0	276	276

^a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Levene's Test of Equality of Error Variances^a

Dependent Variable: WTP Overall

F	df1	df2	Sig.
1,247	3	272	,293

Tests the null hypothesis that the error variance of

the dependent variable is equal across groups.

Tests of Between-Subjects Effects

Dependent Variable: WTP Overall

								Observed Power ^b
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	
Corrected Model	88,193 ^a	4	22,048	2,766	,028	,039	11,062	,757
Intercept	1085,790	1	1085,790	136,196	<,001	,334	136,196	1,000
PS_Overall	41,837	1	41,837	5,248	,023	,019	5,248	,627
GvsGW	1,138	1	1,138	,143	,706	,001	,143	,066
INvsEX	5,624	1	5,624	,705	,402	,003	,705	,133
GvsGW * INvsEX	43,831	1	43,831	5,498	,020	,020	5,498	,647
Error	2160,487	271	7,972					
Total	13327,391	276						
Corrected Total	2248,680	275						

^a. R Squared = ,039 (Adjusted R Squared = ,025)

^b. Computed using alpha = ,05

Pairwise Comparisons

Dependent Variable: WTP Overall

95% Confidence Interval for Difference ^a							
(I) Green verizus greenwash	(J) Green verizus greenwash	Mean Difference (I-J)	Std. Error	Sig. ^a	Lower Bound	Upper Bound	
Greenwash	Green	-,130	,343	,706	-,806	,546	
Green	Greenwash	,130	,343	,706	-,546	,806	

Based on estimated marginal means

^a. Adjustment for multiple comparisons: Bonferroni.

Estimates

Dependent Variable: WTP Overall

95% Confidence Interval					Bootstrap for Mean ^{act}			
Green verizus greenwash	Mean	Std. Error	Lower Bound	Upper Bound	Bias	Std. Error	95% Confidence Interval	
Greenwash	6,269 ^a	,242	5,793	6,744	-,006	,227	5,838	6,727
Green	6,398 ^a	,242	5,923	6,874	-,009	,244	5,892	6,867

^a. Covariates appearing in the model are evaluated at the following values: Price sensitivity = 4,7814.

^{act}. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Bootstrap for Pairwise Comparisons

Dependent Variable: WTP Overall

					Bootstrap ^a			
(I) Green verizus greenwash	(J) Green verizus greenwash	Mean Difference (I-J)	Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval	Lower	Upper
Greenwash	Green	-,130	,004	,335	,709	-,749	-,542	,749
Green	Greenwash	,130	-,004	,335	,709	-,542	-,749	,749

^a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Univariate Tests

Dependent Variable: WTP Overall

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Contrast	1,138	1	1,138	,143	,706	,001	,143	,066
Error	2160,487	271	7,972					

The F tests the effect of Green verus greenwash. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

^a. Computed using alpha = ,05

Estimates

Dependent Variable: WTP Overall

	Mean	Std. Error	95% Confidence Interval		Bias	Std. Error	Bootstrap for Mean ^{act} 95% Confidence Interval	
			Lower Bound	Upper Bound			Lower	Upper
Intrinsic verus extrinsic								
Extrinsic	6,191 ^a	,242	5,714	6,668	-,010	,249	5,674	6,678
Intrinsic	6,476 ^a	,239	6,006	6,946	-,005	,231	5,996	6,933

^a. Covariates appearing in the model are evaluated at the following values: Price sensitivity = 4,7814.

^{act}. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Pairwise Comparisons

Dependent Variable: WTP Overall

		Mean Difference		Sig. ^a	95% Confidence Interval for Difference ^a	
(I) Intrinsic verus extrinsic	(J) Intrinsic verus extrinsic	(I-J)	Std. Error		Lower Bound	Upper Bound
Extrinsic	Intrinsic	-,286	,340	,402	-,955	,384
Intrinsic	Extrinsic	,286	,340	,402	-,384	,955

Based on estimated marginal means

^a. Adjustment for multiple comparisons: Bonferroni

Bootstrap for Pairwise Comparisons

Dependent Variable: WTP Overall

		Mean Difference (I-J)	Bootstrap ^a				95% Confidence Interval	
(I) Intrinsic verus extrinsic	(J) Intrinsic verus extrinsic		Bias	Std. Error	Sig. (2-tailed)		Lower	Upper
Extrinsic	Intrinsic	-,286	-,005	,349	,413		-1,027	,370
Intrinsic	Extrinsic	,286	,005	,349	,413		-,370	1,027

^a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Univariate Tests

Dependent Variable: WTP Overall

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Contrast	5,624	1	5,624	,705	,402	,003	,705	,133
Error	2160,487	271	7,972					

The F tests the effect of Intrinsic verus extrinsic. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Estimates

Dependent Variable: WTP Overall

		95% Confidence Interval				Bootstrap for Mean ^{act}			
		Mean	Std. Error	Lower Bound	Upper Bound	Bias	Std. Error	95% Confidence Interval	
								Lower	Upper
Green veruzus greenwash	Intrinsic veruzus extrinsic								
	Extrinsic	6,525 ^a	,343	5,851	7,199	-,018	,362	5,829	7,243
Greenwash	Intrinsic	6,012 ^a	,340	5,343	6,681	,007	,298	5,469	6,618
Green	Extrinsic	5,857 ^a	,343	5,181	6,532	-,002	,332	5,230	6,498
	Intrinsic	6,940 ^a	,339	6,274	7,607	-,016	,354	6,206	7,634

^a Covariates appearing in the model are evaluated at the following values: Price sensitivity = 4,7814.

^{act}. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Pairwise Comparisons

Dependent Variable: WTP Overall

95% Confidence Interval for Difference ^b						
			Mean Difference			
Green veruzus greenwash	(I) Intrinsic veruzus extrinsic	(J) Intrinsic veruzus extrinsic	(I-J)	Std. Error	Sig. ^b	Lower Bound Upper Bound
Greenwash	Extrinsic	Intrinsic	,513	,482	,288	-,436 1,461
	Intrinsic	Extrinsic	-,513	,482	,288	-1,461 ,436
Green	Extrinsic	Intrinsic	-1,084 ^a	,481	,025	-2,030 -,137
	Intrinsic	Extrinsic	1,084 ^a	,481	,025	,137 2,030

Based on estimated marginal means

^a. The mean difference is significant at the ,05 level.

^b. Adjustment for multiple comparisons: Bonferroni.

Bootstrap for Pairwise Comparisons

Dependent Variable: WTP Overall

		Bootstrap ^a				95% Confidence Interval	
		Mean Difference (I-J)	Bias	Std. Error	Sig. (2-tailed)	Lower	Upper
Green veruzus greenwash	(I) Intrinsic veruzus extrinsic	(J) Intrinsic veruzus extrinsic					
	Extrinsic	Intrinsic	,513	-,025	,484	,288	-,483 1,438
Greenwash	Intrinsic	Extrinsic	-,513	,025	,484	,288	-1,438 ,483
Green	Extrinsic	Intrinsic	-1,084	,014	,484	,028	-2,032 -,080
	Intrinsic	Extrinsic	1,084	-,014	,484	,028	,080 2,032

^a Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Univariate Tests

Dependent Variable: WTP Overall

								Observed Power ^a
		Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter
Green veruzus greenwash	Contrast	9,025	1	9,025	1,132	,288	,004	1,132
	Error	2160,487	271	7,972				,185
Green	Contrast	40,518	1	40,518	5,082	,025	,018	5,082
	Error	2160,487	271	7,972				,613

Each F tests the simple effects of Intrinsic veruzus extrinsic within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

Brand Attitude – Two-way ANOVA

Descriptive Statistics

Dependent Variable: BA Overall

				Bootstrap ^a			
				95% Confidence Interval			
Green verzuus greenwash	Intrinsic verzuus extrinsic		Statistic	Bias	Std. Error	Lower	Upper
Greenwash	Extrinsic	Mean	3,8566	-,0005	,1362	3,5952	4,1250
		Std. Deviation	1,13896	-,01399	,10474	,91302	1,32800
		N	68	0	7	54	84
	Intrinsic	Mean	3,3500	,0029	,1479	3,0617	3,6367
		Std. Deviation	1,23535	-,01315	,09666	1,03271	1,40860
		N	70	0	7	56	86
	Total	Mean	3,5996	,0021	,0969	3,4082	3,7875
		Std. Deviation	1,21146	-,00738	,07558	1,05177	1,35574
		N	138	0	8	122	156
Green	Extrinsic	Mean	4,8824	-,0050	,1614	4,5525	5,1990
		Std. Deviation	1,28892	-,01493	,12565	1,02958	1,53763
		N	68	0	7	53	82
	Intrinsic	Mean	5,3107	,0014	,1542	5,0167	5,6046
		Std. Deviation	1,27364	-,00767	,06453	1,14672	1,39702
		N	70	0	7	56	86
	Total	Mean	5,0996	-,0015	,1125	4,8661	5,3124
		Std. Deviation	1,29448	-,00441	,07704	1,14592	1,45156
		N	138	0	8	120	154
Total	Extrinsic	Mean	4,3695	-,0042	,1161	4,1235	4,5833
		Std. Deviation	1,31655	-,00810	,08077	1,15260	1,47600
		N	136	0	8	120	152
	Intrinsic	Mean	4,3304	,0031	,1360	4,0515	4,5821
		Std. Deviation	1,59085	-,00761	,08770	1,40925	1,74712
		N	140	0	8	124	156
	Total	Mean	4,3496	-,0003	,0882	4,1704	4,5153
		Std. Deviation	1,45962	-,00388	,06002	1,33460	1,56930
		N	276	0	0	276	276

^a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Levene's Test of Equality of Error Variances^{a, b}

		Levene Statistic	df1	df2	Sig.
BA Overall	Based on Mean	1,933	3	272	,125
	Based on Median	1,653	3	272	,177
	Based on Median and with adjusted df	1,653	3	244,760	,178
	Based on trimmed mean	2,088	3	272	,102

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

Dependent Variable: BA Overall

Observed Power ^b							
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter
Corrected Model	170,432 ^a	3	56,811	37,194	<,001	,291	111,583
Intercept	5221,324	1	5221,324	3418,439	<,001	,926	3418,439
GvsGW	153,818	1	153,818	100,706	<,001	,270	100,706
INvsEX	,106	1	,106	,069	,793	,000	,069
GvsGW * INvsEX	15,077	1	15,077	9,871	,002	,035	9,871
Error	415,453	272	1,527				
Total	5807,625	276					
Corrected Total	585,885	275					

^a. R Squared = ,291 (Adjusted R Squared = ,283)

^b. Computed using alpha = ,05

Estimates

Dependent Variable: BA Overall

	Mean	Std. Error	95% Confidence Interval		Bias	Std. Error	Bootstrap for Mean ^a	
			Lower Bound	Upper Bound			95% Confidence Interval	
							Lower	Upper
Green veruzus greenwash	3,603	,105	3,396	3,810	,001	,096	3,415	3,787
Greenwash	5,097	,105	4,889	5,304	-,002	,112	4,871	5,307

^a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Pairwise Comparisons

Dependent Variable: BA Overall

						95% Confidence Interval for Difference ^b	
(I) Green veruzus greenwash	(J) Green veruzus greenwash	Mean Difference (I-J)	Std. Error	Sig. ^b		Lower Bound	Upper Bound
Greenwash	Green	-1,493 ^{**}	,149	<,001		-1,786	-1,200
Green	Greenwash	1,493 ^{**}	,149	<,001		1,200	1,786

Based on estimated marginal means

^{**}. The mean difference is significant at the ,05 level.

Bootstrap for Pairwise Comparisons

Dependent Variable: BA Overall

						Bootstrap ^a	
(I) Green veruzus greenwash	(J) Green veruzus greenwash	Mean Difference (I-J)	Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval	
						Lower	Upper
Greenwash	Green	-1,493	,003	,146	<,001	-1,770	-1,201
Green	Greenwash	1,493	-,003	,146	<,001	1,201	1,770

^a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Dependent Variable: BA Overall

							Observed Power ^a
	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter
Contrast	153,818	1	153,818	100,706	<,001	,270	100,706
Error	415,453	272	1,527				1,000

The F tests the effect of Green veruzus greenwash. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Estimates

Dependent Variable: BA Overall

	Mean	Std. Error	95% Confidence Interval		Bias	Std. Error	Bootstrap for Mean ^a	
			Lower Bound	Upper Bound			95% Confidence Interval	
							Lower	Upper
Green veruzus greenwash	3,857	,150	3,562	4,152	,000	,136	3,595	4,125
Greenwash	3,350	,148	3,059	3,641	,003	,148	3,062	3,637
Green	4,882	,150	4,587	5,177	-,005	,161	4,552	5,199
	5,311	,148	5,020	5,602	,001	,154	5,017	5,605

^a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Pairwise Comparisons

Dependent Variable: BA Overall

							95% Confidence Interval for Difference ^b	
		Mean Difference (I-J)		Std. Error	Sig. ^b		Lower Bound	Upper Bound
Green verzuus greenwash	(I) Intrinsic verzuus extrinsic	(J) Intrinsic verzuus extrinsic	(I-J)					
Greenwash	Extrinsic	Intrinsic	,507 [*]	,210	,017		,092	,921
	Intrinsic	Extrinsic	-,507 [*]	,210	,017		-,921	-,092
Green	Extrinsic	Intrinsic	-,428 [*]	,210	,043		-,843	-,014
	Intrinsic	Extrinsic	,428 [*]	,210	,043		,014	,843

Based on estimated marginal means

*. The mean difference is significant at the ,05 level.

Bootstrap for Pairwise Comparisons

Dependent Variable: BA Overall

							Bootstrap ^a	
		Mean Difference (I-J)		Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval	
		(I) Intrinsic verzuus extrinsic	(J) Intrinsic verzuus extrinsic				Lower	Upper
Green verzuus greenwash	(I) Intrinsic verzuus extrinsic	(J) Intrinsic verzuus extrinsic	(I-J)					
Greenwash	Extrinsic	Intrinsic	,507	-,003	,210	,024	,088	,923
	Intrinsic	Extrinsic	-,507	,003	,210	,024	-,923	-,088
Green	Extrinsic	Intrinsic	-,428	-,006	,223	,050	-,867	,009
	Intrinsic	Extrinsic	,428	,006	,223	,050	-,009	,867

^a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Univariate Tests

Dependent Variable: BA Overall

								Observed Power ^a
		Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter
Green verzuus greenwash	Contrast	8,853	1	8,853	5,796	,017	,021	5,796
Greenwash	Error	415,453	272	1,527				,670
Green	Contrast	6,329	1	6,329	4,144	,043	,015	4,144
	Error	415,453	272	1,527				,527

Each F tests the simple effects of Intrinsic verzuus extrinsic within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

Purchase Intention – Two-Way ANCOVA

Descriptive Statistics

Dependent Variable: PI_Overall

			Bootstrap ^a				
					95% Confidence Interval		
Green verzuus greenwash	Intrinsic verzuus extrinsic	Statistic	Bias	Std. Error	Lower	Upper	
Greenwash	Extrinsic	Mean	3,3971	-,0104	,1463	3,0886	3,6779
		Std. Deviation	1,23327	-,00812	,08875	1,05385	1,39741
		N	68	0	7	54	82
	Intrinsic	Mean	2,9929	-,0039	,1510	2,6802	3,2763
		Std. Deviation	1,32354	-,00724	,06697	1,18218	1,44367
		N	70	0	7	56	84
	Total	Mean	3,1920	-,0070	,1063	2,9840	3,3913
		Std. Deviation	1,29121	-,00274	,05627	1,18579	1,39883
		N	138	0	8	121	155
Green	Extrinsic	Mean	4,0772	,0071	,1815	3,7178	4,4380
		Std. Deviation	1,48579	-,01552	,10724	1,26224	1,68271
		N	68	0	7	53	82
	Intrinsic	Mean	4,6857	-,0011	,1602	4,3697	4,9788
		Std. Deviation	1,35447	-,01477	,09515	1,14756	1,51585
		N	70	0	7	56	85
	Total	Mean	4,3859	,0044	,1211	4,1693	4,6223
		Std. Deviation	1,44804	-,00927	,07686	1,28993	1,58577
		N	138	0	8	121	155
Total	Extrinsic	Mean	3,7371	-,0013	,1221	3,4965	3,9817
		Std. Deviation	1,40248	-,00372	,07060	1,25773	1,53625
		N	136	0	8	119	151
	Intrinsic	Mean	3,8393	,0002	,1290	3,5621	4,0879
		Std. Deviation	1,58173	-,00608	,07583	1,42761	1,72517
		N	140	0	8	125	157
	Total	Mean	3,7889	-,0002	,0876	3,6060	3,9547
		Std. Deviation	1,49425	-,00090	,05392	1,38539	1,60328
		N	276	0	0	276	276

^a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Levene's Test of Equality of Error Variances^a

Dependent Variable: PI_Overall

F	df1	df2	Sig.
,895	3	272	,444

Tests the null hypothesis that the error variance of

the dependent variable is equal across groups.

Dependent Variable: PI_Overall

								Observed Power ^b
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	
Corrected Model	146,794 ^a	4	36,698	21,286	<,001	,239	85,143	1,000
Intercept	167,032	1	167,032	96,882	<,001	,263	96,882	1,000
PC_Overall	30,044	1	30,044	17,426	<,001	,060	17,426	,986
GvsGW	78,790	1	78,790	45,700	<,001	,144	45,700	1,000
INvsEX	1,030	1	1,030	,598	,440	,002	,598	,120
GvsGW * INvsEX	12,174	1	12,174	7,061	,008	,025	7,061	,754
Error	467,225	271	1,724					
Total	4576,313	276						
Corrected Total	614,019	275						

^a. R Squared = ,239 (Adjusted R Squared = ,228)

^b. Computed using alpha = ,05

Estimates

Dependent Variable: PI_Overall

			95% Confidence Interval		Bootstrap for Mean ^a			
					95% Confidence Interval			
Green verzus greenwash	Mean	Std. Error	Lower Bound	Upper Bound	Bias	Std. Error	Lower	Upper
Greenwash	3,247 ^a	,112	3,026	3,469	-,007	,106	3,036	3,445
Green	4,329 ^a	,112	4,108	4,551	,004	,115	4,109	4,551

^a. Covariates appearing in the model are evaluated at the following values: PC_Overall = 4,7848.

^ag1. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Pairwise Comparisons

Dependent Variable: PI_Overall

						95% Confidence Interval for Difference ^b	
		Mean Difference (I-J)	Std. Error	Sig. ^b		Lower Bound	Upper Bound
(I) Green verzus greenwash	(J) Green verzus greenwash						
Greenwash	Green	-1,082 ^{**}	,160	<,001		-1,397	-,767
Green	Greenwash	1,082 ^{**}	,160	<,001		,767	1,397

Based on estimated marginal means

^{*}. The mean difference is significant at the ,05 level.

Bootstrap for Pairwise Comparisons

Dependent Variable: PI_Overall

						Bootstrap ^a	
		Mean Difference (I-J)	Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval	
(I) Green verzus greenwash	(J) Green verzus greenwash					Lower	Upper
Greenwash	Green	-1,082	-,010	,157	<,001	-1,398	-,777
Green	Greenwash	1,082	,010	,157	<,001	,777	1,398

^a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Univariate Tests

Dependent Variable: PI_Overall

								Observed Power ^a
	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	
Contrast	78,790	1	78,790	45,700	<,001	,144	45,700	1,000
Error	467,225	271	1,724					

The F tests the effect of Green verzus greenwash. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Estimates

Dependent Variable: PI_Overall

		95% Confidence Interval				Bootstrap for Mean ^a			
		Mean	Std. Error	Lower Bound	Upper Bound	Bias	Std. Error	Lower	Upper
Green verzus greenwash	Intrinsic verzus extrinsic	3,398 ^a	,159	3,084	3,711	-,009	,146	3,101	3,680
	Extrinsic	3,096 ^a	,159	2,784	3,409	-,005	,156	2,778	3,389
Green	Extrinsic	4,056 ^a	,159	3,743	4,370	,008	,175	3,708	4,389
	Intrinsic	4,602 ^a	,158	4,290	4,913	-,001	,150	4,297	4,894

^a Covariates appearing in the model are evaluated at the following values: PC_Overall = 4,7848.

^a Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Pairwise Comparisons

Dependent Variable: PI_Overall

		95% Confidence Interval for Difference ^b					
		Mean Difference (I-J)	Std. Error	Sig. ^b	Lower Bound	Upper Bound	
Green verzus greenwash	(I) Intrinsic verzus extrinsic	(J) Intrinsic verzus extrinsic					
	Extrinsic	Intrinsic	,301	,225	,182	-,142	,744
Green	Intrinsic	Extrinsic	-,301	,225	,182	-,744	,142
	Extrinsic	Intrinsic	-,546 ^{**}	,224	,016	-,987	-,104
	Intrinsic	Extrinsic	,546 ^{**}	,224	,016	,104	,987

Based on estimated marginal means

^{**} The mean difference is significant at the ,05 level.

Bootstrap for Pairwise Comparisons

Dependent Variable: PI_Overall

		Bootstrap ^a				95% Confidence Interval	
		Mean Difference (I-J)	Bias	Std. Error	Sig. (2-tailed)	Lower	Upper
Green verzus greenwash	(I) Intrinsic verzus extrinsic	(J) Intrinsic verzus extrinsic					
	Extrinsic	Intrinsic	,301	-,005	,215	,171	-,119
Green	Intrinsic	Extrinsic	-,301	,005	,215	,171	-,735
	Extrinsic	Intrinsic	-,546	,008	,232	,011	-,084
	Intrinsic	Extrinsic	,546	-,008	,232	,011	,084

^a Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Univariate Tests

Dependent Variable: PI_Overall

						Observed Power ^a		
		Sum of Squares	df	Mean Square	F	Partial Eta Squared	Noncent. Parameter	
Greenwash	Contrast	3,090	1	3,090	1,792	,182	1,792	,266
	Error	467,225	271	1,724				
Green	Contrast	10,223	1	10,223	5,930	,016	5,930	,680
	Error	467,225	271	1,724				

Each F tests the simple effects of Intrinsic verzus extrinsic within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

Appendix J: Abstract in German

Die Nachfrage nach umweltfreundlichen Produkten steigt ständig, da die Verbraucher nach umweltfreundlicheren Optionen suchen. Dies bietet Unternehmen die Möglichkeit, ihre Bereitschaft unter Beweis zu stellen, über das gesetzlich vorgeschriebene Maß hinaus zu helfen und weitere Schritte in Richtung Nachhaltigkeit zu unternehmen. Mit dem Aufkommen der Corporate Social Responsibility (CSR) und ihrer Popularität, erschien Greenwashing jedoch als eine unethische Methode für Unternehmen, die positiven Auswirkungen von CSR auf die Verbraucher zu nutzen. Die Forschung in dieser Masterarbeit untersucht grünes bzw. Greenwashing-Verhalten mit einem deutlichen Schwerpunkt auf intrinsischen und extrinsischen Produktmerkmalen, die in diesem Fall die Inhaltsstoffe und die Verpackung der Produkte sind. Es werden sowohl die Verhaltenskomponenten (Zahlungsbereitschaft, Kaufabsicht) als auch die Einstellungskomponenten (Markeneinstellung) der Verbraucher gemessen, um ein komplexes Bild zu erhalten und das aktuelle Wissen über das Problem zu erweitern. Darüber hinaus bietet die Studie durch die Wahl eines Produkts aus der Kosmetikindustrie Einblicke in einen hochrelevanten Markt, da dieser zu denjenigen gehört, die häufig in Greenwashing-Fälle verwickelt sind. Die Studie verwendet ein experimentelles Design mit Framing-Szenarien, und die Analyse wurde ausschließlich mit Daten von Befragten slowakischer Nationalität durchgeführt. Die Ergebnisse dieser Studie stimmen teilweise mit früheren Untersuchungen überein, wonach die Kaufabsicht und die Markeneinstellung der Verbraucher bei grünen Produkten positiver sind als bei Produkten mit Greenwashing. Außerdem zeigen die Verbraucher eine höhere Zahlungsbereitschaft, Kaufabsicht und eine positivere Markeneinstellung für grüne intrinsische Merkmale im Vergleich zu grünen extrinsischen Merkmalen. Im Falle von Greenwashing zeigte sich der Unterschied nur bei der Markeneinstellung, wobei Greenwashing bei intrinsischen Merkmalen zu einer negativeren Markeneinstellung führte als bei extrinsischen Merkmalen. Diese Masterarbeit bietet verschiedene Wege für die zukünftige Forschung und zeigt vor allem interessante Optionen für die weitere Erforschung von Greenwashing in der Kosmetikindustrie und von den Auswirkungen verschiedener Produktmerkmalen auf.