The role of brand sustainability and self-brand image congruity in developing brand trust and brand loyalty

A study on luxury brands for Generation Z consumers

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Abstract

Generation Z consumers are forecasted to become the most influential generation in the next years for the purchase of luxury goods. Understanding their needs and behaviors is becoming more and more crucial for luxury companies, in order to be able to attract and retain them as customers. On one side, Gen Z seems to particularly search for meanings behind the purchase of luxury goods, looking at the brand image and symbolic interpretation of brands. On the other side, they are extremely concerned about the environment and for this reason they require brands to take serious actions in terms of sustainability. Therefore, this thesis is focused in understanding the impacts of a brand's sustainability attributes on the creation of self-image congruity between the customer and the brand, as well as on the creation of brand trust, and consequently in the building of brand loyalty.

In order to explore these themes, an online survey has been conducted directed to this target and focused on the fragrances sector. In the scope of this study, respondents were randomly exposed to one scenario about the brand Guerlain, leader in the luxury fragrances sector, in which a core or peripheral sustainability attribute was presented. Through the survey, it was possible to measure the self-image congruity perception of consumers, as well as their trust towards the brand and their propension to be loyal.

Findings showed that self-brand congruity impacts both brand trust and brand loyalty, and that also brand trust influences the loyalty towards the brand. Moreover, other factors have been found to influence the creation of brand loyalty, which are the consumer product involvement, the perceived functional quality, the brand attitude and the environmental consciousness of consumers. Lastly, it was possible to observe that Generation Z consumers are extremely environmental conscious.

This thesis provides insights and confirmation about Generation Z's attitudes and behaviors towards luxury brands. Therefore, managers of luxury companies should carefully focus on the symbolic meaning they are conveying, in order to transmit meaningful values to the consumers, also in terms of sustainability, to be able in the end to target and keep them as customers.

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Contents

1. Introduction

1.1 Background

In today's rapidly evolving world, in which trends, technologies and societies change fast, new challenges are presented to businesses every day. In this environment, companies that survive in the market are the ones able to quickly adapt to changes. Indeed, adaptability has become the new competitive advantage (Reeves and Deimler, 2011). Being able to adapt to changes also passes through the fact of being able to understand the needs of consumers. Specifically, understanding the needs of younger generations has become crucial, since new generations are becoming more and more influential (Hyken, 2020). In particular, we are looking at the growth of Generation Z has a new and distinct consumer target. Gen Z consumers are the first digital natives, born between 1997 and 2012 (Inside Marketing definition, 2023). Their needs and behaviours are peculiar, and for this reason it is important for brands to understand how to target them. Indeed, this generation is particularly key for luxury brands, since they are forecasted to become the most influential generation for what concerns luxury purchases (Francis et al., 2018; Jain et al., 2014). In 2022, together with Millennials, they accounted for 72% of the global luxury market (Lin, 2022).

One element that characterizes this generation is the need to be part of a community and feel represented, by being able to self-identify with brands. Therefore, Generation Z consumers want to experience brands rather than own their products, and they want to express themselves through what they wear (Mc Kinsey & Company, 2023). Furthermore, when they purchase fashion brands, they want to fully embrace them, and they want the brands' values to be aligned with theirs. In this sense, they also demonstrated to be extremely careful about sustainability, being a particularly sensitive topic for them. Forbes defined Generation Z as the "Sustainability Generation" for their interest towards the subject. In fact, sustainability is clearly a driver in their purchasing decisions (Petro, 2021).

Research has demonstrated that brand sustainability self-congruity, based on the brand's sustainability intentions, impacts the brand trust, and consequently the purchase intentions (Kumagai, 2022). For this reason, the self-identification on one side, and the effort towards sustainability on the other, can drive purchase decisions of Generation Z consumers. The decision to purchase and repurchase a brand are factors that determine the loyalty towards

that brand. Therefore, understanding how brand sustainability efforts impact the self-identification with brands and the building of brand trust in Gen Z consumers, is extremely important for companies that want to establish long relationships with customers and form a strong brand loyalty. In addition to that, being able to build brand loyalty with its own customers is crucial, since it's a competitive advantage as well as a driver for higher profitability (Little, 2022; Rioux, 2020). Indeed, loyal customers usually demonstrate a higher payment intention and a lower price sensitivity when compared to other consumers (Jorgensen et al., 2016).

All these constructs are especially interesting for luxury companies, whose value is based on the symbolic meaning behind. In fact, "the very essence of luxury is based on the inflation of its symbolic value over the functional value of its goods and services. Luxury costs more simply because it means more" (Olbert, 2019). Since the purchase is driven by the brand meaning and image, to which Gen Z gives much importance as stated before, because of their need to express themselves and self-identify in brands, luxury brands have to carefully understand how to target these young consumers. Moreover, realizing which elements trigger their loyalty is decisive to retain them.

1.2 Purpose of this study

The purpose of this thesis is to understand how brand sustainability influences the build of self-brand image congruity and brand trust, and consequently brand loyalty, for Generation Z consumers of luxury products. Indeed, this generation seems to be extremely impacted by companies' sustainability efforts in their purchasing decision (Petro, 2021), and at the same time it is interesting to see if self-image congruity is determinant in the build of the other constructs, since an important part of the relationship with brands is given by the ability to share the same values for this generation (Clark, 2022). Moreover, since some of the reasons to purchase luxury goods are driven by intrinsic factors, linked to the experience, meaning, feelings (Amatulli and Guido, 2011), the brand image acquires even more significance in the creation of self-image congruity with the client.

There have been several research that have extensively investigated the relation between brand sustainability, self-image congruity, brand trust and brand loyalty. However, only few specifically target the luxury sector and Generation Z consumers. This target could be

interesting and present differences, since it has been noticed that their expectations and needs are different from the ones of previous generations (Danziger, 2019).

With this research, I would like to bring value and new insights about this generation in their behaviours regarding the purchase of luxury goods. In particular, I would like to contribute to the previous literature regarding sustainability brand attributes and how they can differently influence consumers' attitudes, but also how self-brand congruity and brand trust are impacted by those attributes in the creation of brand loyalty.

1.3 Structure

In order to be able to conduct the analysis regarding the constructs just highlighted, I have structured the research as follows: to start, I reviewed previous research and literature regarding the luxury sector and the target of this study, Generation Z consumers, in order to understand the main trends and needs. Then, I discussed relevant literature regarding brand sustainability, self-image congruity, brand trust and brand loyalty. At this point, I developed the hypothesis based on previous literature and described the model on which this analysis is focused. In the following chapters, I extensively explained the methodology and research design used, as well as data collection techniques and the variables involved, including how they have been measured and analysed. Afterwards, I proceeded in the analysis of results, through bivariate, mediation and moderation analysis. Therefore, I was able to test all the hypothesis, and also to conduct further analysis to better study the model and other possible influential variables. Subsequently, I presented a general discussion of results, followed by limitations of the analysis, theoretical and managerial implications and the conclusion of this study.

2. Overview on the sector

In this second chapter the background of the research will be presented, through an overview on the luxury market and its commitment to sustainability, and an analysis of the main insights regarding the Generation Z and its interest in luxury and sustainability.

2.1 The luxury market

Following the Cambridge Dictionary definition, the luxury market is "a market for expensive goods that are not necessary but are bought for pleasure". In addition to that, IGI Global defines the luxury industry as "a constantly growing market located at the upper part (near the top) of the scale, focusing on products which are not necessary, but pleasant and satisfying to possess. Often, a certain level of social status is associated with the possession of luxury products, focusing on a high level of exclusivity".

The range of products that are included are several, among which we can find: fashion, accessories, watches, jewellery, beauty, fragrances, automobiles, yachts, and travel. Overall, these product categories are also common in mass markets, apart from yachts, but we can define some characteristics that distinguish luxury products from mass products. For example, luxury products usually are marked with a high craftmanship, a high brand value, exclusivity and an exceptional design. Moreover, other elements that characterize luxury products are high price, excellent quality, aesthetics, rarity, prestige and symbolism (Heine and Phan, 2011; Seo and Buchanan-Oliver, 2015; Ko et al., 2019). Despite the unique characteristics which can make people think only few companies are able to propose such offer, this market is highly competitive, and brands try to differentiate themselves through innovative marketing strategies, product differentiation and excellent customer experiences. According to Bain & Company, the global luxury market has been valued at €1.2 trillion in 2021, with a projected growth rate of 9% to 11% in 2022.

From the definitions just mentioned, it clearly emerges that the luxury industry is characterized by non-essential consumer goods, and for this reason it is logical to think that the motives behind the purchase of such goods does not reside in the basic primary needs. In fact, "Luxury consumers buy products and brands that they perceive as possessing a symbolic power similar or complementary to their self-image, which creates congruence

between brand and image." (Royo-Vela and Pérez Sánchez, 2022). Moreover, as also the IGI Global definition highlighted, consumers buy and use specific products in order to associate themselves to a certain social status, and at the same time to reinforce their social and inner self, but also to express themselves and communicate their own identity (Ericksen and Sirgy, 1992).

2.2 Generation Z: the new luxury consumers

First of all, generations refer to "the assembly of individuals influenced by a given time and whose characteristics were identical over a specified period" (Lavuri et al., 2021). Researchers have identified mainly five generations: silent generation, Baby Boomers, gen-X, gen-Y (Millennials), and gen-Z (Urbain, Gonzalez and Gall-Ely, 2013; Baycan, 2017).

With the term "Generation Z" we refer to those people born between 1997 and 2012 (Inside Marketing definition, 2023). This generation was the first one born after the creation of the internet and grew up in a hyperconnected world (Williams and Page, 2011). They are heavy users of technology and usually technically savvy (Van den Bergh and Behrer, 2016; Priporas et al., 2017).

After having defined and specified the meaning of Generation Z in terms of age, the reader may ask himself why it is so important and different from other generations. To start, research says that Generation Z is forecasted to become the most influential age group of luxury brand consumers in the next future (Francis et al., 2018; Jain et al., 2014). Moreover, together with Generation Y, they represent 45% of luxury consumers and 35% of luxury purchases (D'Arpizio et al., 2020; Wang et al., 2021). These data highlight the fact that brands have to keep an eye on the needs and preferences of this generation, since they are the new luxury consumers.

To deep dive in the elements that characterize Generation Z, this generation presents some important differences with the previous ones in the way they experience luxury brands. For example, they usually expect more from brands, but they are less loyal and care a lot about the experience they get (Williams and Page, 2011). Moreover, the way they engage with brands is different; in fact, for this generation it is really important to communicate with the brand through online platforms such as social media (Bernstein, 2015).

2.3 Sustainability in the luxury market

Talking about sustainability, the fashion and luxury industry is known to have unethical production processes and negative social and environmental consequences (de Lenne and Vandenbosch, 2017), being the sixth most polluting industry (Halliday, 2022). In latest years, the industry has faced more and more pressures, due to the increasing concerns over climate change, waste management and social responsibility.

Making a step back, the sustainability development has been defined as the "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development's, 1987). In the luxury sector, this theme can be faced through several topics, starting from the use of resources and production methods and practices, environmental protection, but also social and human responsibility.

On the other hand, consumers are getting more and more aware and are changing their purchase behaviours. From research from McKinsey & Company (2019), about 66% of shoppers globally are enthusiastic about spending more on eco-friendly clothing. Moreover, from a study made by Nupur and Parul in 2022, green perceived value has been found to significantly impact the intentions to purchase sustainable apparel for Generation Z, and more generally, they are willing to buy sustainable clothing even if they are high priced. For this reason, the study explains that it is important to reassure customers about the quality and the materials. Other research also demonstrated that Generation Z is willing to pay a premium price for sustainable product attributes (Yamane and Kaneko, 2021; Tait et al., 2020; Chaney et al., 2017; Dabjia et al., 2020). Generally speaking, even though they are young, they are informed and aware about retailers and their sustainability actions.

With the objective to answer to these new customers' needs, some luxury companies are taking actions to become more sustainable. To do so, a company can work on several factors: firstly, some companies have started to work on materials, such as Stella McCartney and Bottega Veneta. Apart from the materials, a company can also try to measure and improve its carbon footprint and transport emissions, as it was done by Chanel, Louis Vuitton and Gucci. Finally, other brands have made partnerships and agreements with organizations focused on safeguarding the environment, such as Loewe and once again, Louis Vuitton.

2.4 Sustainability in the fragrances sector

In line with the luxury industry, also the fragrances sector is becoming more and more focused on sustainability. Indeed, the demand for sustainable fragrances is expected to grow, and consequently the global market for those products. Overall, this industry is showing a boom in the latest years, with the global perfume market valued at $30.6 billion in 2021 by Fortune Business Insights (2022), with a forecasted grow to $43.2 billion in 2028. Moreover, as stated by The New York Times (2022), the demand for sustainable fragrances is especially guided by Generation Z and Millennials consumers, who prefer nontoxic products that don't harm the environment.

The key challenges that this sector faces are connected to the sourcing of raw materials, as well as the packaging and the usage of animal-derived ingredients. For the first one, one of the problems is that most of the perfumes are made with natural ingredients, but this does not mean that the fragrance is sustainable (Mignot, 2022). However, most of the companies don't own the entire supply chain and for this reason rely on existing crops to source their ingredients. To solve this issue, many companies have referred to certifications in order to guarantee their sustainability, such as the B-Corp certification, the Ecocert or the COSMOS.

For what regards the packaging, fragrances brands usually use the classic glass bottle which may be difficult to recycle. To tackle this point, some companies have chosen to provide refillable containers and options, such as Le Labo and Jo Malone. Others have tried new recyclable packaging, to reduce waste and pollution, but at the same time studying the way to preserve the fragrance. Two brands are Aesop, that created an easy recyclable packaging made of glass and aluminium, and Maison Francis Kurkdjian, which uses a packaging made of sustainable sourced paper and vegetable-based inks. Finally, Jo Malone and other brands also proposed a solid perfume, overcoming the problem of packing a liquid perfume.

Moving to the consumers' point of view, overall research demonstrated that people support green cosmetics, but usually the price, performance and brand awareness predominate in the final decision (Lin et al., 2018; Schuitema and de Groot, 2015). More specifically, research studied that the aromatic ingredients influence the purchase decision (Amberg and Fogarassy, 2019), as well as the design of the packaging, which is an element that can influence the willingness to pay too, meaning that consumers are willing to pay a higher price for scents that present an appealing packaging (Reimann et al., 2010). Moreover, as

important factors for the purchase decision, research also found social norms and recommendations from family and friends (Lin et al., 2018).

Among all the sustainability attributes, one study conducted about cosmetic products showed that when referring to green products, people think about the absence of chemicals and of animal extracts, like simple formulas with natural and organic ingredients (Cervellon and Carey, 2011). In the study, they clearly identified that people usually lack information about green products and about when a product can be considered sustainable, and for this reason they are often deceived by labels and certifications. Moreover, in the same study they also demonstrated that consumers evaluate better a recycled packaging and that this is key for them to consider the product sustainable. Furthermore, other studies demonstrated that if the packaging is biodegradable, reduces the carbon footprint or is made with waste materials, consumers are usually willing to pay a higher price (Onozaka and McFadden, 2011; Yue et al., 2010).

In Cervellon and Carey's study (2011), they have analysed also the motivations to purchase green cosmetic products. First of all, consumers declared that they purchase green beauty products to "compensate their misbehaviour towards the environment". Then, the second reason regarded the fact that they perceived green products to be healthier compared to other products. Finally, the third motivation regarded the need of self-expression and status display.

To sum up, the luxury market and the fragrance industry are increasingly focusing on sustainability also thanks to the increasing demand by consumers for this type of products. Moreover, Generation Z consumers seem to be particularly interested in sustainability and seem to present different purchase behaviours and attitudes towards the brands compared to previous generations; these differences are interesting to analyse in order to understand how luxury brands should target these young luxury consumers.

3. The theoretical framework

After having presented the sector and having a general overview on the generation at the centre of this study, the third chapter will review in depth the previous literature regarding the main factors that will be analysed, which are the self-brand congruity, the brand sustainability, the brand trust and the brand loyalty.

3.1 The reasons behind the purchase of luxury goods

In the scope of this study, to understand how the self-brand congruity is build and the main elements that influence the creation of this bond, I have started by analysing the reasons behind the purchase of luxury goods.

The motivations related to the purchase of luxury goods that have been identified in previous research are several, among which we find practical, intimate, economic and emotional desires (Eng and Bogaert, 2010; Husain et al., 2021). Some examples regard to show one own's sense of self (Andersson and Andersson, 2006; Lundqvist et al., 2013; Zarantonello et al., 2007), social status (Vickers and Renand, 2003), success, wealth, prosperity and excellent product's quality (Mamat et al., 2016). Anyway, these studies are not exhaustive and always state that there are many other reasons to buy luxury goods and most of them are influenced by culture.

From Amatulli and Guido's research (2011), two guiding factors to purchase luxury goods emerged, which are extrinsic or intrinsic factors. The extrinsic factors regard the characteristics of the product, so the features, the price, the quality, the status and the prestige (Daswani and Jain, 2011), while the intrinsic factors are the experience, feelings, emotions, purchase pleasure, memories and desire.

On the other hand, Truong (2010) categorizes the reasons to purchase luxury items into two other areas: personal orientation and social orientation. He motivates that some consumers are pushed to buy those products for personal pleasure and quality, while other consumers to those motivations add a willingness to display wealth. Some research found that in emerging markets, such as China and India, the motivations are more linked to material and extrinsic factors, compared to Western markets (Eng and Bogaert, 2010). At the same time, we are also seeing a shift in these purchase behaviours on those market, that brought to the

redefinitions of intrinsic elements by luxury companies, such as consumer centricity and customer experience (Daswani and Jain, 2011).

3.2 The self brand congruity theory

Among all the reasons identified to purchase luxury goods, if we focus on the willingness to show something and to own items that match with the oneself image, research demonstrated that customers search for self-congruity (Sirgy et al., 1985).

Going more in depth on the self-congruity concept, research identified three typologies of self-congruity, which are: brand personality congruity, brand user imagery congruity and brand usage imagery congruity (Liu et al., 2011). The first one refers to the relation that is created between the perception of the own oneself personality and the perception of the brand's personality (Wee, 2004). Then, brand user imagery congruity is defined as the level of perceived similarity a potential customer sees between himself and the usual user of a brand (Sirgy et al., 1997); this perception is built through the consumer's experience and contact with the brand users and is usually related to products that are highly visible, such as automobiles and fashion goods (Keller, 1998). The last one is the brand usage imagery congruity and is the relationship between the person's perceptions about the typical use of a brand and how the brand is perceived appropriate in relation with the situation in which it is used (Sotiropoulos, 2003). Among the three, in this study we will focus on the second one, the brand user imagery congruity, which was deeply analysed by Sirgy.

As just stated, the self-image congruity, called by Sirgy the self-congruity theory, was developed in 1982 and assumes that people prefer brands they can link with a set of personality traits consistent with their own. It is defined as the match that occurs between the brand image and the person's self-concept, which is the sum of an individual's thoughts and sentiments about himself with a specific brand or product (Sirgy et al., 2000; Sirgy, 1985). Following this theory, it was demonstrated that people decide to buy and use products and services which present a user image consistent with their own self-image. In doing so, people reinforce their self-concept, as well as their personality and identity and their image of themselves (Sirgy et al., 2008).

In the scope of this study, four dimensions for self-congruity have been identified, which are actual, ideal, social and ideal social self-congruity (Sirgy, 1985). The first one refers to the

relevance between the self-image and the image of the consumers who purchase a determined product or brand. Ideal self-congruity differentiates from the previous one by the fact that it refers to how people like to think about themselves. Social self-congruity refers to the fit between how people think they are perceived by others when they buy or use a determined product or brand and the product or brand user image. Lastly, ideal social self-congruity refers to the relevance of how people would like to be perceived by the others in comparison to the product or brand user image (Sirgy et al., 2000). These four self-congruity effects are also linked to four self-expression rationales: self-consistency, self-esteem, social-consistency and social-approval motives (Sirgy et al., 1991). In fact the research demonstrates as the self-congruity concept is led by the need for self-consistency, where people seek for a self-concept to follow and to refer to in order to reinforce it in a loop way: the more they refer to the self-concept they imagine, the more their personality will match that self-concept, following the need for self-consistency, in a pattern that is called by Sirgy the self-esteem motive, that can be seen also at the following figure:

Figure 1: The self-esteem motive
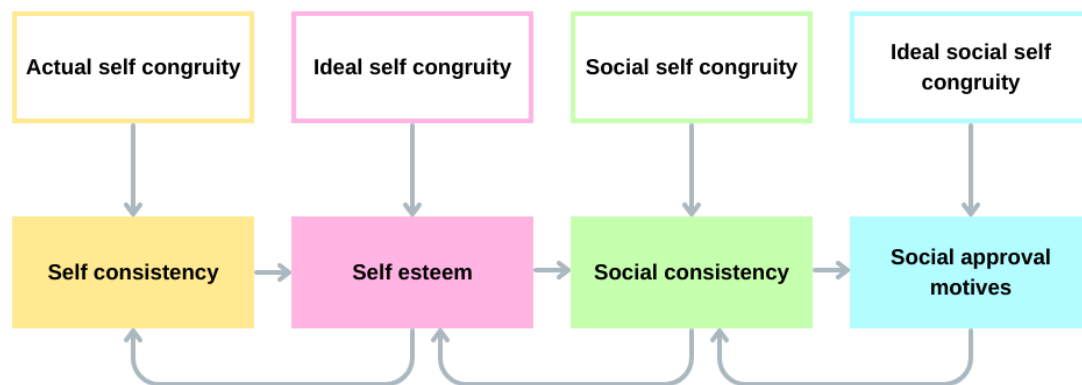
Source: Personal elaboration.

On the other hand, people search also for social-consistency, and they demonstrate so by purchasing and being loyal to brands which present a user image that fit with their ideal social self-image (Sirgy et al., 2008). Finally, people are also influenced by social approval motives in building their self-congruity, as it is possible to see from the previous figure.

Self-brand congruity is important for brands because research demonstrated that firstly a brand image that resonates with the client's self-image (self-congruity) influences positively

consumers' behaviour in terms of "attitude, purchasing motives and brand loyalty" (Davis and Lang, 2013; Sirgy, 1982, 2008). Secondly, having high self-congruity with a brand increases the likeliness of a consumer to purchase it (Liu et al., 2008), and consequently the probability that he becomes loyal to the brand.

When we speak about self-image congruity, an element that can influence the way people perceive and think about a brand with relation to himself is brand sustainability (Kumagai, 2022). By taking the definition made by Latana, "Brand sustainability describes the level to which a company undertakes sustainable practices in all aspects of its business — from sourcing materials to making donations". A sustainable brand is a brand that has a strong motivation to have a minimal impact on the environment, that is authentic in the way it communicates its green attributes, that is capable to adapt to the changes in the market, and finally, a sustainable brand has to be connected with its customers, the market, its employees and their needs (Dodhia, 2021).

Research made by Unilever in 2017 stated that one third of all consumers prefer sustainable brands, even though other research demonstrated that purchase behaviours towards sustainable products don't always respect consumers' stated intentions and explicit attitudes (Auger and Devinney, 2007; Luchs et al., 2010). In fact, one key barrier is identified in the trade-off between making a sustainable choice and the functional product quality, also called the sustainability liability effect, as showed in research made by Skard, Jørgensen and Pedersen in 2020 focused on care products. In this research it has been found consistent evidence of a sustainability liability effect on functional quality inferences for both green core and green peripheral attributes in strength-dependent categories and a sustainability asset effect in gentleness-dependent categories for what concerns core attributes only. A green core attribute is a product related attribute, which means that it is necessary for the product's core functions; for example, natural and ecological ingredients can be considered a green core attribute. On the other hand, green peripheral attributes are defined as non-product related; as an example, the green packaging promoted by many companies is a peripheral attribute, since it is not related to the product's functions (Skard et al., 2020). In this research it is demonstrated how people infer lower functional quality on products with green attributes, especially for strength-dependent products. To sum up, if on one side we see an increase interest and declared intention to buy sustainable products, people are still affected by bias and prefer products to which they infer higher functional quality, at least for certain product categories.

Anyway, research has demonstrated that brand sustainability self-congruity, based on the brand's sustainability intentions, has an effect on brand trust, which consequently leads to purchase intentions (Kumagai, 2022).

3.3 The brand trust

Brand trust is defined as "the willingness of the average consumer to rely on the ability of the brand to perform its stated function" (Chaudhuri et al., 2001). More generally, it is "the consumer's experiential process of learning and perceiving over time" (Delgado-Ballester and Munuera-Alemán, 2005; Husain et al., 2021; Keller, 2012; Keller and Aaker, 1992). In this sense, it is the mix of knowledge and experience the consumer has with a specific brand, both depending on direct and indirect usage and relation (Keller, 2009).

According to Morgan and Hunt (1994), brand trust is crucial to build and preserve long-term relationships between companies and their customers. Following Reichheld and Schefter's analysis (2000), brand trust is the first pillar to get customers' loyalty. This connection between brand trust and brand loyalty has also been investigated by Lee and Jee (2016), who in their analysis state that one of the possible triggers of brand loyalty is brand trust, since at the time brand trust is formed, a relationship between the customer and the brand is created. This relation is based on the fact that the customer trusts the brand to respect its responsibilities. If this expectation is fulfilled, the customer will trust the brand and re-purchase, becoming loyal (Song et al., 2019; Lee et al., 2016). In fact, being able to build a strong relationship with the consumer based on trust is vital for brands, as it has been demonstrated by Urban et al. (2000), also because brand trust has a cumulative effect on loyalty to the brands (Chiou and Droge, 2006), which has also been linked with brand equity (Joseph et al., 2020). In fact, when customers trust a brand, they recognize a lower purchase risk (Melovic et al., 2021), and consequently they show loyalty behaviours.

Finally, by going more in depth in brand trust, in the literature it is distinguished between trust as a belief and trust as intentions or actions (Mayer et al., 1995). Moreover, perceived trustworthiness is described as a combination of perceived ability, benevolence and integrity (Mayer et al., 1995; Colquitt et al., 2007; Pirson et al., 2019). The ability factor refers to the set of skills and competences that the consumer perceives about the company and makes him build trust towards it. The benevolence is the "extent to which a trustee is believed to want to do good to the trustor" (Mayer et al., 1995), while the integrity factor refers to the fact that

the trustor perceives that the trustee respects a set of principles the trustor considers acceptable. These three factors together compose the consumer's perceived trustworthiness about a company.

3.4 The brand loyalty

Moving to the brand loyalty, it has been defined as the result of consumers' inclination and emotional attachment towards a brand (He et al., 2012). It is composed by two different aspects, the behavioural and the attitudinal: "behavioural, or purchase, loyalty consists of repeated purchases of the brand, whereas attitudinal brand loyalty includes a degree of dispositional commitment in terms of some unique value associated with the brand" (Chaudhuri and Holbrook, 2001). Moreover, brand loyalty has also been defined as "a sentimental connection to a company's products and services" and as "a firmly held commitment to continuously re-purchase or re-patronize preferred products/services in the future" (Huo et al., 2021). In fact, brand loyalty regards the degree of attachment a customer has for a specific brand, and generally customers are loyal to those brands they feel they can trust and that are relevant to their values and lifestyles (Liu et al., 2012).

From a paper made by Dick and Basu (1994), four conditions of customer loyalty are proposed: true loyalty, latent loyalty, no loyalty and spurious loyalty. True loyalty is what companies aim to achieve, in fact in this case the client demonstrates repurchasing behaviours regularly and actively recommends the brand. Latent loyalty refers to those customers that have a positive attitude towards the brand, but don't repurchase frequently, and the causes behind are not related to the brand, but to other factors, such as a low disposable income or unemployment. Then, customers that don't present loyal behaviours are those customers that may base their decisions on other factors, such as impulsive purchasing, strategic product placement, convenience and discounts. Finally, people that present spurious loyalty, they seem to have loyal behaviours, from the fact that they sometimes repurchase the brand and have a positive attitude, but at the same time they have the same behaviour also for other competitors' brands.

Having seen the different types of loyalty, to be able to create brand true loyalty, so a relationship between the customer and the brand and more generally retaining the customers, is important because research demonstrated that it is more expensive for companies to acquire new clients instead of retaining the ones they already convinced (Gallo, 2014).

Moreover, loyal and already convinced customers are promoters and spread positive word of mouth (Boulding et al., 1993), frequently pay premium prices (LaBarbera and Mazursky, 1983) and have also high repurchase rates.

3.5 The hypothesis

After having analysed all the previous literature regarding the topics that are in the scope of this research, the following chapter aims at setting the analysis for this study. First of all, I would like to highlight the most relevant previous research regarding the self-congruity image, the brand sustainability, the brand trust and the brand loyalty and their mutual influence. The objective of making the following selection was to highlight studies about these topics in the luxury sector and/or generation focused. In the following table there is an overview of research that have focused on similar themes:

Table 1: Previous research on the relation between self-image congruity, brand trust, brand loyalty in the luxury sector and/or generation focused

Study	Thematic investigated	Methodology	Sample
Alnawas, I. and Altarifi, S. (2016)	The role of brand identification and brand love in generating higher levels of brand loyalty	Survey (432 respondents)	Jordan: 7 hotels
a Rahman, N. A. and Noor, S. (2014)	The role of self-relevance in developing brand loyalty for Honda consumers	Qualitative in depth interviews (34)	Convenience sample: Malaysian Honda owners
Back, K.J. (2001)	The effects of image congruence on customer satisfaction and brand loyalty in the lodging industry	Field survey (194 respondents)	Convenience sample: North Carolina customers of national chain hotels
Chaudhuri, A. and Holbrook, M.B.	The Chain of Effects from Brand Trust and Brand	3 surveys	Brands (107)

(2001).	Affect to Brand Performance: The Role of Brand Loyalty		
Çelikkol, S. (2020)	Brand Image and Brand Trust's Effect on Brand Loyalty: A Study in the Hospitality Industry	Quantitative survey (398 questionnaires)	Turkey: luxury hotel customers
Husain, R., Paul, J. and Koles, B. (2022)	The role of brand experience, brand resonance and brand trust in luxury consumption	Survey (413 respondents)	Convenience sample: Indian luxury brand consumers
Kang, J., Tang, L. and Lee, J.Y. (2015)	Self-congruity and functional congruity in brand loyalty for coffee shops in Korea	Survey (389 respondents)	Seoul: Korean coffee shop customers
Kumagai, K. (2022)	Exploring the role of brand–sustainability–self-congruence on consumers' evaluation of luxury brands	Online survey (409 respondents)	Japan general consumers
Liu, F. et al. (2011)	The effects of three self-congruity constructs in consumers' attitude and brand loyalty toward two luxury fashion brands (CK and Chanel, product categories: watches and sunglasses)	Survey (264 valid questionnaires)	Convenience sample: Australian university students
Maduretno, R.B.E.H.P. and Junaedi, M.F.S. (2022).	Exploring the Effects of Coffee Shop Brand Experience on Loyalty: The Roles of Brand Love and Brand Trust	Survey (234 questionnaires)	Yogyakarta, Indonesia: Generation Y and Z consumers (17-30 years old)
van der Westhuizen,	How the self-brand	Online survey	Convenience sample:

L.M. (2017)	connection is associated with brand loyalty through the brand experience	(317 respondents)	South African adults being active Facebook users

Overall, we can affirm that there is no previous research that has focused in understanding the influence of the brand sustainability on the self-image congruity and on the brand trust and consequently on the brand loyalty, for the Generation Z consumers and with a focus on luxury brands.

From the research analysed in the previous paragraphs, it clearly emerges that brand sustainability has an effect on the self-image congruity and on the brand trust (Kumagai, 2022). This means that the more the brand is active in the sustainability side, for example by operating on the products' core and peripheral attributes, the more the self-image congruity and the brand trust are higher, when we refer to consumers that are interested and conscious about sustainability topics. Moreover, there could be changes depending on the fact the brand operates on core or peripheral sustainability attributes, so on the ingredients or the packaging, as an example (Skard et al., 2020; Cervellon and Carey, 2011).

Then, we also saw in the previous chapters that the self-image congruity has an impact on both brand trust and brand loyalty, and that also the brand trust impacts in the end the brand loyalty (Davis and Lang, 2013; Lee and Jee, 2016; Lee et al., 2016; Liu et al., 2008; Sirgy, 1982, 2008; Song et al., 2019). This means that the more a person relates to a brand, the more he trusts the brand and, in the end, the more he demonstrates loyalty behaviours towards the brand.

For these reasons, the following hypothesis have been identified:

H1. A core sustainable attribute increases brand loyalty compared to no sustainable attribute.

H2. The effect postulated in H1 is mediated by:

   a. self-image congruity, and

   b. brand trust.

H3. A peripheral sustainable attribute increases brand loyalty compared to no sustainable attribute.

H4. The effect postulated in H3 is mediated by:

　　a. *self-image congruity, and*

　　b. *brand trust.*

H5. A core sustainable attribute increases brand loyalty compared to a peripheral sustainable attribute.

H6. The effect postulated in H5 is mediated by:

　　a. *self-image congruity, and*

　　b. *brand trust.*

Since from previous research it clearly emerges that not everyone is positively influenced by brand sustainability (Auger and Devinney, 2007; Luchs et al., 2010; Unilever, 2017), I have formulated two other hypotheses concerning the moderating effect of the environmental consciousness of oneself:

H7. The environmental consciousness of oneself acts as moderator in the relation between brand sustainability and self-brand image congruity in the following way: the effects postulated in H1, H3 and H5 are stronger for high-conscious consumers.

H8. The environmental consciousness of oneself acts as moderator in the relation between brand sustainability and brand trust in the following way: the effects postulated in H1, H3 and H5 are stronger for high-conscious consumers.

In the scope of this research, the decision to focus only on attitudinal loyalty has been taken, since through an online survey it's hard to measure the real purchase and behavioural intentions.

All the hypotheses have to be intended for the luxury sector and for the Generation Z consumers, since this is the real gap this study will cover.

The model that represents the research questions is the following:

Figure 2: The model of this study
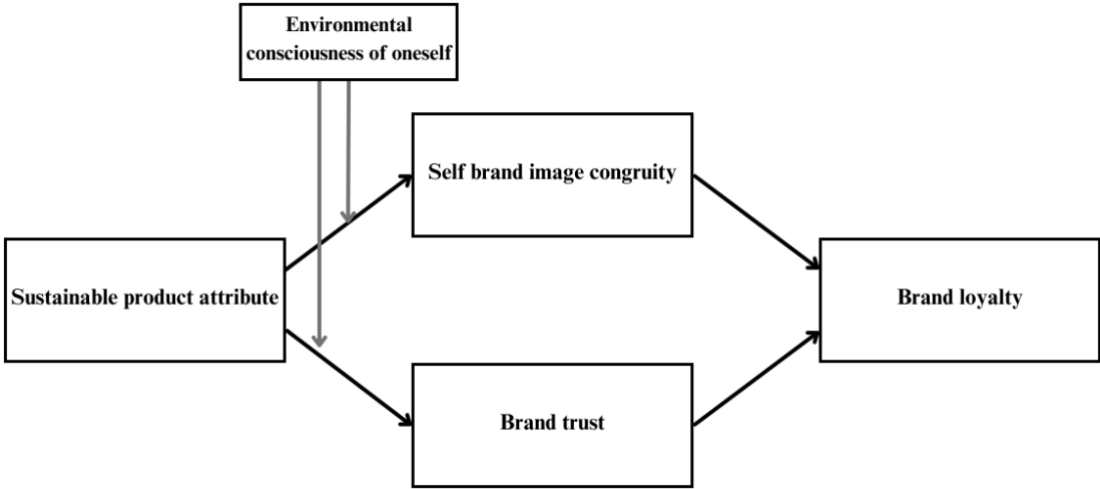
4. Methodology

4.1 The research design

The type of research that has been conducted is an explanatory study, since the main objective is to explain the relationships among the factors highlighted (Saunders et al., 2016). Indeed, the scope of the study was to understand how brand sustainability impacts the self-brand congruity and the brand trust, and how they consequently impact the brand the brand loyalty.

The data has been collected through a quantitative mono-method, which was a questionnaire directed to Generation Z consumers of luxury products, that has been followed by statistical analysis. The research strategy is an experiment and a cross-sectional study, since the survey analysed consumers' behaviour in a snapshot of time. The experiment is ideal since I would like to see the change of a dependent variable caused by the change of an independent variable (Saunders et al., 2016).

4.2 The experiment

In order to understand the effects that sustainable product attribute has on self-brand congruity, brand trust and consequently on brand loyalty, I decided to use a 2*3 between-subjects design for my experiment. By following this methodology, I took two variables of the model, the sustainable product attribute and the self-brand image congruity. The aim was to create 6 possible scenarios, by combining 3 types of sustainable product attributes, which are a core sustainability attribute, a peripheral sustainability attribute and no sustainability attribute, with the self-brand image congruity, which could be high or low. To do so, the independent variable, which is the sustainable product attribute, has been manipulated, while for the other variable, I just measured the self-brand congruity through a question with a Likert scale, since it refers to one's own perception and attitude. The same has been done between the sustainability attribute and the brand trust variables.

4.3 Manipulations

4.3.1 Manipulated variable – sustainable product attribute

To manipulate the sustainable product attribute, I created 3 scenarios. In the first one the company was presented with a clear core attribute, which has been identified has the sustainability of the ingredients, following the same representations used in the study of Skard et al. in 2020. In the second scenario, a peripheral sustainability attribute has been included, which has been identified as the packaging, still referring to the same study. In the last scenario no sustainability attribute has been presented, to have this scenario as a control one.

4.4 Data collection

In order to collect data, a questionnaire was presented to participants (see the Appendix). The questionnaire was constructed with at first a brief description of the perfume company Guerlain and its history, with also some demonstrative pictures, and then it continues presenting questions regarding the three different types of trust, the perceived trustworthiness integrity, the perceived trustworthiness benevolence and the perceived trustworthiness ability, followed by questions about the perceived functional quality, attitudinal loyalty, the self-congruity image and finally the environmental consciousness. Finally, some questions regarding brand attitude and product category involvement have been asked to respondents.

The questionnaires were constructed with 3 different versions containing the 3 different scenarios regarding the brand sustainability, and only one version was randomly shown to the participant. The company that has been chosen is Guerlain, since it's a leader in the perfume sector and is highly involved in sustainability causes, making the scenarios more credible. All the information communicated through the questionnaire about the company are true, directly sourced from Guerlain's website.

4.5 The company: Guerlain

Guerlain is a company focused in producing and selling perfumes, cosmetics, and skincare. It was founded in 1828 in France by Pierre-François Pascal Guerlain. Today, Guerlain is one

of the most iconic and prestigious houses of perfumes in the world, with high attention to quality, packaging and to a luxurious experience (Guerlain website, 2023).

The company is focused on sourcing the best and finest ingredients for their perfumes, from controlled crops, and also searching rare and precious natural essences. For what concerns ingredients, they try more and more to select and trace the sources on one side, and on the other side to reduce at the bare minimum the polluting ingredients, by using alcohol derived by beetroot and other natural sources. Moreover, following the sustainability path, they have worked a lot on the packaging, trying to propose sustainable and recyclable packaging for their perfumes.

Their skills, creativity and high craftmanship have made the perfume house becoming unique and legendary, launching many iconic scents, such as: Shalimar, Jicky and Mitsouko. Furthermore, they have launched some popular collections, such as Les Exclusifs de Guerlain, Aqua Allegoria, which is at the centre of this study, and La Petite Robe Noire.

4.6 Distribution and sampling

The population targeted for this questionnaire has been both Italian and Norwegian Generation Z consumers. The questionnaire has been distributed through various sources, which are Whatsapp, Instagram, Facebook and word of mouth for the Italian sample, while for the Norwegian one I distributed it through email to NHH students. The platform to distribute the survey and collect answers has been Qualtrics.

Since the results are based on the three different scenarios shown to the participants, as a first input of the analysis I have measured the distribution of the scenarios: 29.1% of participants have seen the first scenario, the one presenting a core sustainability attribute, 32.1% of them have seen the second one, that presented a peripheral sustainability attribute, and finally 38.8% of participants saw the third scenario, with no sustainability attribute. Generally speaking, the scenarios have been almost equally shown to the sample to allow the following analysis.

Overall, the survey has been completed by 190 people, but 25 responses were not eligible because people either didn't specify their gender or didn't finish the survey. In total, 165 valid answers have been collected, among which 90 people lived in Italy, 57 people lived in

Norway and 18 people declared to live elsewhere. In the Italian sample, 76.7% of respondents were female, while 23.3% of respondents were male. In the following table it is possible to see the distribution:

Table 2: Italian sample distribution

Age/Gender Italy	18-26	27-34	35-50	51-60	60+	Total
Male	15.6%	0%	2.2%	3.3%	2.2%	23.3%
Female	51.1%	6.7%	2.2%	13.3%	3.3%	76.7%
Total	66.7%	6.7%	4.4%	16.7%	5.5%	100%

Looking at the representativeness of the sample, I cannot say it can represent the Italian population. But since the focus of this study is Generation Z, it is possible to say that the sample is enough big for the purpose of this research.

For what concerns the Norwegian respondents, 57 answers have been collected, as previously mentioned. In the following table it is possible to see the distribution:

Table 3: Norwegian sample distribution

Age/Gender Norway	18-26	27-34	35-50	51-60	60+	Total
Male	45.6%	7%	1.8%	0%	0%	54.4%
Female	28.1%	14%	1.8%	0%	1.8%	45.6%
Total	73.7%	21.1%	3.5%	0%	1.8%	100%

The Norwegian sample showed to be more balanced in terms of gender, with 54.4% male respondents and 45.6% female respondents. As expected, since the questionnaire was distributed through email to NHH students, the respondents are concentred in the first two age ranges, 18-26 and 27-34.

Since this study is interested in the Generation Z, the focus will be on the target 18-26, which is the first age range. The questionnaire was firstly distributed to everybody because it would have been interested to analyse the differences about the model between different

generations, but it has not been possible because of the few responses collected for the other age ranges.

Overall, the Generation Z target is composed by 41.4% of male and 58.6% of female, being quite balanced. As stated before, it was taken the decision to not consider those answers in which respondents declared to identify in "Other" as gender or didn't want to answer. The average age is 23.25, while the median and mode are 23, showing a standard deviation of 1.41. The following graph shows the age distribution:

Figure 3: Age distribution in the range 18-26 in the sample (Question from the questionnaire: *How old are you?*)
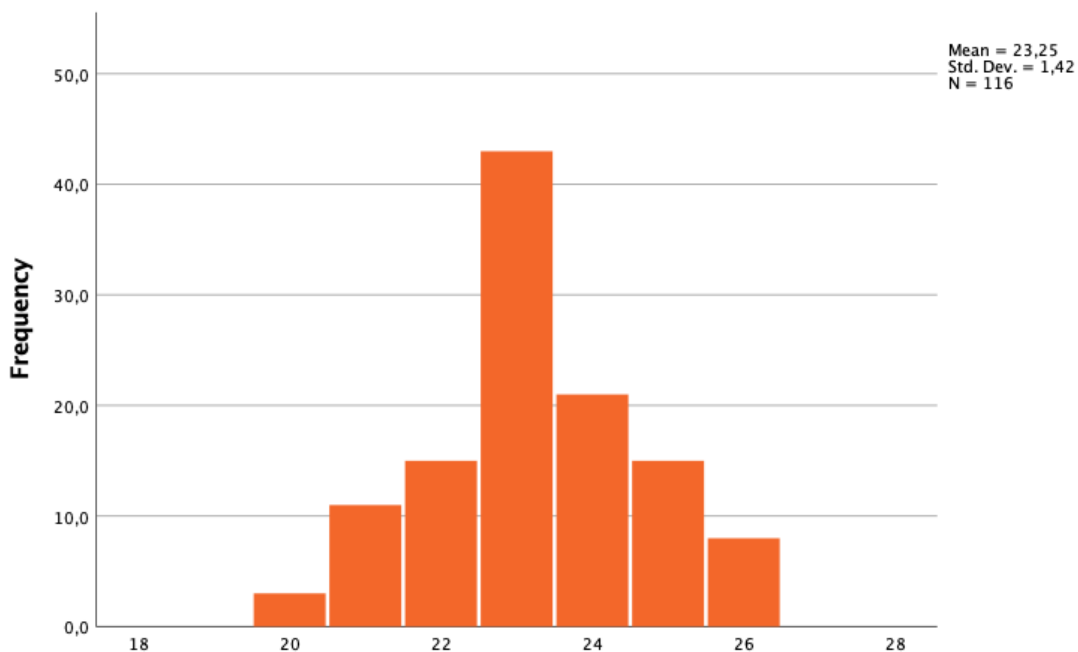
As we can see, it was not possible to reach people under 20, and overall, the sample is concentred on people aged 23. Even though the sample is not balanced, since all the people belong to the same generation, I consider this unbalance as not blocking for the proceeding of the analysis.

Considering the occupation, we can see that the sample is divided in the following way: 51.7% of the sample declared to be a student, 43.1% to be a working student and 5.2% to be employed. Nobody declared to be unemployed. Even though we have not an equal distribution among the options, since we are focusing on the age range 18-26, it is to be

expected that the majority of people are still studying. Moreover, considering the channels in which the questionnaire has been distributed, the unbalances become even more justified.

4.7 Measurement of variables

In order to be able to measure the variables, an operationalization process has been necessary, meaning that all the concepts have been transformed into operationalized questions in order to test and measure them (Saunders et al., 2016). For this reason, all scale already tested in the literature have been used to test the constructs subject of this study.

In the following table there are the constructs and respective scales chosen, with their Cronbach Alpha and the sources:

Table 4: Tested scales used in this study

Constructs	Measure scale	Number of items	Cronbach Alpha	Source
Perceived trustworthiness-integrity	1 = completely disagree; 7 = completely agree	3	0.964	Mayer et al., (1995).
Perceived trustworthiness-benevolence	1 = completely disagree; 7 = completely agree	3	0.908	Mayer et al., (1995).
Perceived trustworthiness-ability	1 = completely disagree; 7 = completely agree	3	0.936	Mayer et al., (1995).
Self-congruity	1 = strongly disagree to 5= strongly agree	4	0.799	Kang, J., Tang, L. and Lee, J.Y. (2015)
Attitudinal loyalty	1= very strongly disagree, 7 = very strongly agree	2	0.83	Chaudhuri, A. and Holbrook, M.B. (2001).
Perceived functional quality	1=low ability; 7=high ability	1	0.95	Newman et al. (1996)

Environmental consciousness of customers	1 = completely disagree; 7 = completely agree	4	0.792	Landon et al. (2018).
Consumer product involvement	1=strongly disagree; 5=strongly agree	3	0.89	Chen and Chaung (2016)
Brand attitude	1 = strongly disagree to 7= strongly agree	3	0.91	MacKenzie and Lutz (1989); Verhagen et al. (2014)

In order to measure brand trust, we followed Mayer's tested scale (1995), in which the three aspects of brand trust are presented separately, respectively divided into ability, benevolence and integrity. Mayer measured them in the following ways, using a 7-point Likert scale (1 = completely disagree; 7 = completely agree). For perceived trustworthiness integrity, the items were: "It appears to do its job in line with what it claims to do" (F = 0.922), "It seems like a company that is fair and honest" (F = 0.929), "It seems like a company that sticks to its word" (F = 0.950). Respondents were asked to rate to what extent they agreed with the statements, referring to a specific company.

For perceived trustworthiness benevolence, the same question was asked to participants, but this time presenting the following items: "I think that consumers' needs and desires are important for the company" (F = 0.825), "I think the company would go out of its way to help its customers" (F = 0.823), "I think the company is concerned about its customers" (F = 0.891).

Finally, for perceived trustworthiness ability, the items were: "It appears to be a company with high competence" (F = 0.884), "I feel confident in its skills" (F = 0.877), "I believe that it is a capable company" (F = 0.901). The question asked to participants was again to rate the statements thinking about the specific company mentioned in the study.

The self-congruity scale was tested in Kang, Tang and Lee's research (2015) and consists in a 5-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree), on four perspectives: actual self-image, social self-image, ideal self-image, and ideal social self-image. The respondents were asked to read a scenario and then indicate their rating about the

following statements: "Purchasing products from this brand is consistent with how I see myself", "This brand is consistent with how I would like to see myself being at this shop", "This brand is consistent with how I believe others see me", "This brand is consistent with how I would like others to see me." In the aim of this research, the statements have been adapted to the context analysed.

In the Chaudhuri and Holbrook's research (2001), attitudinal loyalty was measured by agreement with the following two statements on a 7-point Likert scale: "I am committed to this brand" and "I would be willing to pay a higher price for this brand over other brands". To simplify the survey, the Likert scale has been converted in a Yes-No answer.

To measure the perceived functional quality, the scale tested by Newman et al. (2014) has been used. Participants have been asked to rate using a 7-point Likert scale ranging from "low ability" to "high ability" the ability of the perfume to last during the day, based on their perception. Following the same scale, it was also asked to participants to rate how much they liked the three perfumes presented.

The environmental consciousness of consumers has been tested following Landon's scale (2018), through a 7-point Likert scale (1 = completely disagree; 7 = completely agree), whose items are: "The Earth is like a spaceship with very limited room and resources", "The balance of nature is very delicate and easily upset", "Minimizing my impacts on the environment is in part my responsibility", "I would feel guilty if I were responsible for damage to the environment as a consumer". Participants were asked to state to what extent they agreed or disagreed.

4.8 Control variables

In the questionnaire, three control variables have been added, in order to understand the participants' involvement in the product category and their previous attitude towards the company. First of all, a question about the consumer product involvement has been asked, using the 3-item scale developed by Chen and Chaung (2016), in which participants were asked to rate how much they agreed with the statements on a 5-point Likert scale ranging from "strongly disagree" to "strongly agree". The items were the following: "I have a strong interest in the products in this category", "I often think about the products in this category", "I care about the products in this category".

Secondly, it was asked to respondents if they had ever purchased a perfume of Guerlain, with a multiple-choice question "Yes"/ "No" with one answer allowed.

Thirdly, in order to measure the brand attitude, the Brand Attitude Scale developed by MacKenzie and Lutz (1989) has been used. The scale presented 3 items, which are: "I like the brand", "The brand has good quality", "The brand meets my needs". Respondents have been asked to express how much they agreed with the statements on a 7-point Likert scale, ranging from "strongly disagree" to "strongly agree".

4.9 Preliminary analysis: validity and reliability

In order to check the validity of my questionnaire, some tests have been conducted. In particular, following Saunders's definition (2016), validity of the questionnaire means the ability of the questionnaire to measure what it is supposed to measure.

4.9.1 Preliminary testing

Before launching the questionnaire, some preliminary testing has been conducted in order to test the understanding and overall readiness of the survey. The type of testing has been through interviews in which the participants have been asked to read and complete the questionnaire and to highlight possible misunderstanding or unclear formulation of questions. Overall, 5 interviews have been carried out, having respondents of different age group, gender and both students and employed people. The result of this testing didn't bring up big anomalies and participants had been able to complete the survey smoothly.

4.9.2 Factor analysis

Since the questionnaire presented many variables, especially because some Likert scales had several items, I firstly conducted a factor analysis to reduce the number of variables, taking into consideration only scale variables. The aim of this test was to search for similar pattern between the variables, in order to see if it was possible to reduce them.

Through the factor analysis, after having performed the relevant tests and procedures (see Appendix), the following rotated component matrix resulted:

Table 5: Rotated component matrix of factor analysis on variables

Rotated Component Matrix[a]							
	Component						
	1	2	3	4	5	6	7
Perceived trustworthiness ability item_1	,833						
Perceived trustworthiness ability item_3	,812						
Perceived trustworthiness integrity item_1	,805						
Perceived trustworthiness ability item_2	,790						
Perceived trustworthiness integrity item_3	,715						
Perceived trustworthiness integrity item_2	,691						
Perceived functional quality_1	,530						
Self brand congruity item_4		,857					
Self brand congruity item_1		,856					
Self brand congruity item_3		,847					
Self brand congruity item_2		,842					
Brand attitude item_3		,652					
Brand attitude item_1		,479					
Environmental consciousness item_3			,821				
Environmental consciousness item_4			,820				
Environmental consciousness item_1			,768				
Environmental consciousness item_2			,748				
Brand attitude item_2			,442				

Consumer product involvement item_2				,910			
Consumer product involvement item_1				,900			
Consumer product involvement item_3				,835			
Perceived trustworthiness benevolence item_3					,829		
Perceived trustworthiness benevolence item_2					,812		
Perceived trustworthiness benevolence item_1	,491				,548		
Perceived functional quality_3						,823	
Perceived functional quality_2		,411				,570	
Perceived functional quality_4							,866

The factors have been interpreted in the following way:

- factor 1: perceived trustworthiness (based on integrity and ability);

- factor 2: self-brand congruity and attitude;

- factor 3: environmental consciousness;

- factor 4: consumer product involvement;

- factor 5: perceived trustworthiness benevolence;

- factor 6: preference towards Mandarine Basilic and Nerolia Vetiver perfumes;

- factor 7: preference towards Red Rose perfume.

From this first analysis it possible to see that, for all the variables, the items of each scale show a consistent path one each other.

From now on for the following analysis these factors will be used, since it has been demonstrated that these factors resume all the scale variables.

4.9.3 Cronbach's alpha

As previously mentioned, the data collection has been carried out through an online survey, constructed by using already tested Likert scales. In order to verify the internal consistency of the scales, the Cronbach's alpha has been reviewed.

The Cronbach's alpha is a numerical value that ranges between 0 and 1, that measures the internal consistency of the scale (Tavakol and Dennick, 2011). Normally, a value below 0.7 is considered low.

At this point, it has been necessary to recodify the Likert scale with multiple items. For all the Likert scales, it has been computed the median of the items for each of the scales, in order to reach a unique value and compute a multi-item construct for each variable.

In the following table it is possible to see a comparison between the original Cronbach Alpha of the scales in the literature and the Cronbach Alpha resulted in this experiment:

Table 6: Cronbach Alpha's review

Constructs	Cronbach Alpha literature	Cronbach Alpha experiment
Perceived trustworthiness-integrity	0.964	0.717
Perceived trustworthiness-benevolence	0.908	0.716
Perceived trustworthiness-ability	0.936	0.696
Self-congruity	0.799	0.716
Attitudinal loyalty	0.83	0.793
Perceived functional quality	0.95	0.724
Environmental consciousness of customers	0.792	0.736
Consumer product involvement	0.89	0.769
Brand attitude	0.91	0.682

Overall, for almost all the scales the Cronbach Alpha is acceptable, apart from perceived trustworthiness ability and brand attitude which presented value slightly below the threshold. However, since I decided to use already tested scale to be sure of their reliability, and since those two variables present values only slightly below the threshold, it is possible to continue the analysis because the reliability of the variables had already been tested.

5. Data analysis

In order to analyse the questionnaire, the software SPSS and Excel have been used. The steps that characterized the analysis whose results will be shown in the next chapters are the following:

1. factor analysis, in order to see whether there were constant paths in the variables under analysis to understand if it was possible to group them in factors, already shown in previous chapters.

2. Univariate analysis, by running a descriptive statistic of all the variables to check the mean, median, minimum and maximum, variance, skewness and kurtosis. This analysis was necessary to check the normal distribution of the variables and also the homogeneity of the variance, to be sure there were not any anomalies.

3. Bivariate analysis, by running some correlations and F-tests through ANOVA tables. This analysis gave me a first idea of how the variables related one each other.

4. Hypothesis testing through mediation and moderation analysis. To test the hypothesis, I have run these types of analysis, in simple models, by considering only three variables for each test. The model has been tested through several tests, both with the variables and the factors previously identified.

Finally, I conducted some further analysis to understand how the other variables not concerned in the main model interacted with the variables in the scope of this research, to be able to get further insights.

5.1 Tests of assumptions

To proceed in the analysis several statistic techniques have been used, like factor analysis, univariate analysis, correlation analysis, ANOVAs tests, simple mediation and simple moderator analysis. In the following paragraph a brief description of the methodology used is provided.

5.1.1 Independence of observation

I assumed that the answers collected are not interdependent and influenced one another, by assuming the independence of observation. This is because through the methodology used to spread the questionnaire, which is an online platform, there is a low risk that the answers have been influenced one another. Being able to affirm this is important for the reliability of results (Pallant, 2007).

5.1.2 Factor analysis

The factor analysis is a multivariate technique used to perform correlation analysis among quantitative variables. This type of analysis allows to summarize the information of several original variables within a restricted set of transformed variables, the "factors" (Naresh K. Malhotra, 2010). The original variables are inputs characterized by significant level of correlations, while the output are new variables characterized by optimal properties. The method used is the principal components, that assumes the specific information contribution of the original variables is low, while the shared information contribution is the highest and explained through the common factors. For this reason, the new factors are linear combinations of the original variables, through the following formula:

$$CP_j = s_{j1}x_1 + s_{j2}x_2 + \ldots\ldots\ldots\ldots + s_{jp}x_p.$$

The new variables present the following characteristics:

- they are standardized;

- they are orthogonal between each other;

- altogether they explain the variability of the original variables;

- they are listed in descending order related to the explained variability.

Moreover, this methodology presents some conditions: firstly, the maximum number of principal components is equal to the number of original variables; secondly, the first principal components is a linear combination of the original variables, as stated before, and it is characterized by the highest variability, while the last principal component has assigned the lowest level. Thirdly, if the correlation between the original variables is high, it is enough

to consider a few components in order to represent the original data (Naresh K. Malhotra, 2010).

5.1.3 Normal distribution

In order to test the normal distribution of the variables, I have looked at the kurtosis and skewness. This assumption is key in order to consider the variables reliable (Pallant, 2007). The skewness refers to the symmetry of the distribution, with negative values meaning that the distribution is skewed to high values while positive skewness means a distribution focused on low values. The kurtosis refers to the dispersion of data, with a negative kurtosis value indicating high dispersion and a positive kurtosis indicating low dispersion. Ideal values to confirm a normal distribution of data are within the range -1 and 1, but it is reasonable to assume that data adopt a normal distribution also with values within the range -2 and 2 (George and Mallery, 2010).

5.1.4 Descriptive bivariate statistics

The descriptive bivariate statistics describe the relationship between two variables taken jointly. There are three types of descriptive bivariate statistics:

- connection analysis through contingency tables for qualitative/quantitative discrete variables;

- linear correlation analysis for quantitative variables;

- analysis of variance (ANOVA) when we have one qualitative variable and one quantitative variable.

The second and third methodologies have been used in the scope of this analysis. The linear correlation analysis relies on the coefficient of linear correlation (Pearson coefficient), which is a relative index that presents values that range within -1 and 1 (Naresh K. Malhotra, 2010). The statistical test referred to this index is the t-Test, in which the null hypothesis means there is not a linear relation. It can assume values equal to -1 or 1 only in the case in which there is a perfect linear relation between the two variables. When it is equal to 0, it means there is no linear relation between the two variables.

For what concern the third methodology, the descriptive tool to be used is the comparison between the means of the numerical variable within the categories defined by the variable measured on a nominal/ordinal basis (Naresh K. Malhotra, 2010). The index to refer to is the Eta index, whose statistical test is the F-test in which the null hypothesis means the independence by mean. When the test is significant, an Eta value higher than 0.3 means a large effect size (Naresh K. Malhotra, 2010).

5.1.5 Mediation analysis

In order to test the mediating effects stated in some hypothesis, I have used the SPSS macro-PROCESS developed by Hayes (2018). The simple mediation model involves the presence of three continuous variables. One of them is the predictor variable (independent), another one is the outcome variable (dependent) and then there is the mediating variable, that acts in the relation between the two previous variables. In the following figure it is possible to see graphically the simple mediation model:

Figure 4: Simple mediation model
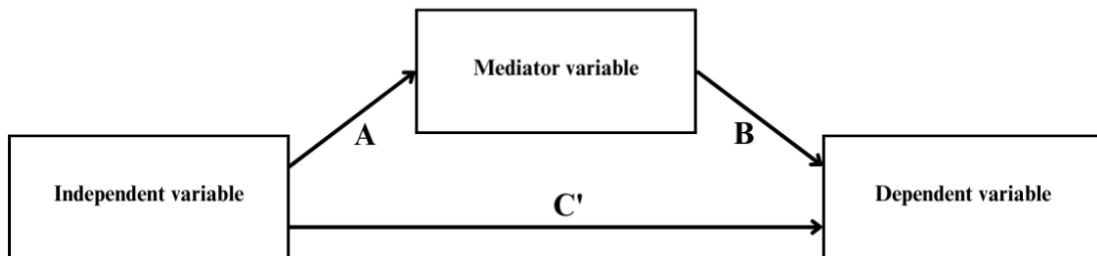
The A path shows the relation between the independent variable and the mediator, the B path shows the relation between the mediator variable and the dependent variable, while the C' path shows the direct effect of the independent variable on the dependent variable. The C path shows the total effect of the model, as a sum of the direct and indirect effects (C = A*B + C') (UCLA, 2023).

5.1.6 Moderation analysis

On the other hand, in order to test the moderating effects stated in some hypothesis, I have used the SPSS macro-PROCESS developed by Hayes (2018). By referring to the simple mediator model, I took into consideration three variables each time. One of these variables is

the independent variable, one is the dependent variable and the third variable acts as moderator, as it can be seen in the following figure:

Figure 5: Simple moderator effect
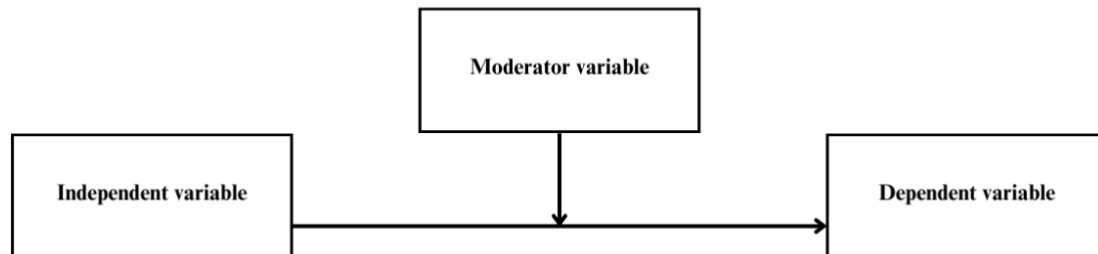
The moderator variable is used to investigate the strength of the relationship between the independent and dependent variables. It "describes the level of change between independent and dependent variables quantified by the linear regression coefficient of the product term" (Cucos, 2022). The product term is the observed effect of the moderator on the relationship between the two variables.

6. Results

In this section the results of the analysis will be presented. From now on, the analysis will focus on the Generation Z and for this reason all the other population has been filtered out, leaving a total number of 116 participants.

6.1 Univariate analysis

In order to start the analysis, I have conducted a descriptive statistic on all the original variables. It is possible to see the results in the following table:

Table 7: Descriptive statistics of the variables

Descriptive Statistics										
	N	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
PTI_1	116	1	7	5,61	1,178	1,387	-,988	,225	1,371	,446
PTI_2	116	2	7	5,14	1,257	1,581	-,372	,225	-,201	,446
PTI_3	116	2	7	5,34	1,208	1,460	-,676	,225	,251	,446
PTB_1	116	2	7	5,40	1,285	1,650	-,680	,225	,139	,446
PTB_2	116	1	7	4,72	1,460	2,132	-,224	,225	-,599	,446
PTB_3	116	1	7	4,88	1,359	1,846	-,328	,225	-,353	,446
PTA_1	116	1	7	5,91	1,269	1,610	-1,551	,225	2,626	,446
PTA_2	116	2	7	5,59	1,195	1,427	-,986	,225	1,118	,446
PTA_3	116	2	7	5,79	1,043	1,087	-,978	,225	1,151	,446
PFQ_1	116	1	7	4,82	1,323	1,750	-,555	,225	,728	,446
PFQ_2	116	1	7	4,51	1,423	2,026	-,275	,225	,063	,446
PFQ_3	116	1	7	4,34	1,759	3,095	-,196	,225	-,991	,446
PFQ_4	116	1	7	4,88	1,674	2,803	-,598	,225	-,506	,446
SBC_1	116	1	5	3,03	1,134	1,286	-,032	,225	-,599	,446
SBC_2	116	1	5	3,13	1,131	1,279	-,112	,225	-,661	,446
SBC_3	116	1	5	2,86	1,134	1,285	,021	,225	-,667	,446
SBC_4	116	1	5	3,18	1,213	1,471	-,236	,225	-,820	,446
AL_1	116	1	2	1,59	,493	,243	-,391	,225	-1,880	,446

AL_2	116	1	2	1,61	,489	,240	-,466	,225	-1,814	,446
CPI_1	116	1	5	2,93	1,228	1,508	,019	,225	-,752	,446
CPI_2	116	1	5	2,45	1,182	1,397	,415	,225	-,759	,446
CPI_3	116	1	5	3,68	1,303	1,697	-,850	,225	-,347	,446
CQ_1	116	1	2	1,84	,364	,132	-1,930	,225	1,754	,446
BA_1	116	1	7	4,48	1,423	2,026	-,296	,225	-,173	,446
BA_2	116	1	7	5,09	1,323	1,749	-,459	,225	,246	,446
BA_3	116	1	7	4,02	1,526	2,330	-,119	,225	-,153	,446
EC_1	116	1	7	5,06	1,711	2,927	-,604	,225	-,483	,446
EC_2	116	2	7	5,40	1,395	1,946	-,683	,225	-,263	,446
EC_3	116	1	7	5,80	1,391	1,934	-1,216	,225	1,037	,446
EC_4	116	1	7	5,53	1,506	2,269	-,967	,225	,467	,446

Overall, I have checked that there were no missing values, and that minimum and maximum fell in the ranges, since all the variables were scales or ordinal variables. Then I also checked the mean values as well as the homogeneity of variance, skewness and kurtosis of the distribution, to make sure there were no anomalies. All the variables passed this check.

6.2 Possible brand bias

To begin the analysis, I run a preliminary test to see how many people have bought a Guerlain perfume before. For this section, I considered the original variables. The result was that 15.5% of our sample has bought at least once a Guerlain perfume in his life, while 84.5% declared to have never purchased from the brand. In the Italian sample, 23.3% of people said they previously bought a Guerlain perfume, against only 7.1% in the Norwegian sample. Overall, we can affirm that since the percentages are low, the sample shouldn't be affected by previous bias linked to the fact that they have already purchased from the brand.

To confirm that, I run some tests with all the variables involved, to see if there was a relation between the fact that the respondents already purchased from the brand and these variables. From the analysis, it has been found a relation between the fact people bought from the brand before and the self-brand congruity, the consumer product involvement and the brand attitude. In particular, people who already bought the brand perceived themselves more similar to the brand (Eta 0.219, p-value 0.027). Then, people who already bought from the brand presented a higher consumer product involvement (Eta 0.285 and p-value 0.004),

which can be justified by the fact that these people, who are more interested in the sector, probably had bought a lot of perfumes, also from Guerlain, which is a leader company in the market. Finally, people who purchased from the brand presented a higher brand attitude (Eta 0.238 and p-value 0.016), meaning that people who tested the brand generally liked it.

Since some relations have been found, there could have been some biases related to the fact that people already knew the brand, even though in the sample there are not a lot of people overall who previously bought form the brand.

6.3 Hypothesis testing

To begin to test the hypothesis, I have conducted some bivariate analysis on the basic relations between the variables, which had already been confirmed by the literature, and that I wanted to test also in my survey.

6.3.1 Brand sustainability's impact on self-image congruity

First of all, I tested the impacts of brand sustainability on self-image congruity. To measure this impact, I used the ANOVA methodology by comparing the means in the three scenarios.

This analysis showed an Eta value of 0.044 and a p-value 0.897. With these results, the relation between the two variables cannot be demonstrated, even though, looking at the results, we can see that people who saw the first scenarios manifested higher self-brand congruity (3.106 out of 5 compared to 3.058 for people who saw the second scenario and 2.988 for people who saw the third scenario).

Then, I run again the analysis considering the factor "self-brand congruity and attitude". This analysis showed an Eta value of 0.073 and a p-value 0.742. With these results, the relation between the two variables cannot be demonstrated, even though, looking at the results, we can see that people who saw the first scenarios manifested higher self-brand congruity.

To sum up, from this first analysis no impacts of brand sustainability on self-image congruity have been detected.

6.3.2 Brand sustainability's impact on brand trust

As second test, I tested the effects of brand sustainability attributes on brand trust.

In the scope of this research, brand trust has been divided into three types of trust:

- perceived trustworthiness integrity;

- perceived trustworthiness benevolence;

- perceived trustworthiness ability.

In order to measure the impacts on the three types of trust, it has been conducted a bivariate analysis between the brand sustainability and the three types of brand trust. In particular, it was interesting to see if changing the scenario, the perceived trust changes.

Firstly, the perceived trustworthiness integrity has been tested. For this typology, the Eta resulting from the relation analysis is 0.048 and the p-value 0.880. With these values, the relation cannot be demonstrated.

Then, I proceeded by testing the perceived trustworthiness benevolence. For this value, the Eta measured 0.084 with a p-value of 0.671. Still these values don't prove the existence of a relation between the two variables, even though we can notice that the mean in the first scenario for the perceived trustworthiness benevolence is higher than in the other scenarios (5.12 compared to 5.05 for people who saw the scenario presenting a peripheral attribute and 4.85 for people who saw the scenario with no sustainability attribute).

Finally, I tested the perceived trustworthiness ability. Doing the ANOVA analysis, the Eta resulted measured 0.128 and the p-value 0.396. These values don't reveal the existence of a relation between the two.

After that, I conducted the same tests taking into consideration the two factors, perceived trustworthiness (based on integrity and ability) and perceived trustworthiness benevolence.

Again, the ANOVA test produced no results. In fact, for the perceived trustworthiness based on integrity and ability, the Eta was 0.151 with a p-value of 0.273, while for the perceived trustworthiness benevolence, the Eta was 0.169 with a p-value of 0.194.

To conclude, it has not been found any relations between the three types of brand trust and the brand sustainability.

6.3.3 Self-image congruity's impact on brand trust

The third test was aimed at testing the correlation between the self-image congruity and the brand trust. In this case, as for the second test, the analysis has been conducted firstly for all the three types of trust, and then among the factors self-brand congruity attitude and the two factors that refer to the brand trust.

Firstly, it has been tested the correlation between perceived trustworthiness integrity and self-image congruity, through the bivariate analysis, which presented a Pearson coefficient of 0.372 and a p-value < 0.001. With these results, it is possible to affirm that the two variables present a positive correlation that is moderately strong. For this reason, it is possible to confirm that self-image congruity has a positive impact on perceived trustworthiness integrity.

Proceeding with the perceived trustworthiness benevolence, I run again the bivariate analysis between the two variables. Also, in this case the analysis resulted in a positive correlation with a Pearson coefficient of 0.310 and a p-value < 0.001. For this reason, it is possible to confirm the correlation between self-image congruity and the perceived trustworthiness benevolence.

Finally, the possible correlation between self-image congruity and perceived trustworthiness ability has been tested. In this case, the Pearson coefficient measured 0.361 and the p-value was < 0.001, confirming the correlation between the two variables. It is then possible to affirm that there is a positive correlation between self-image congruity and perceived trustworthiness ability.

By confirming the three sub-cases, also the main test has been confirmed, and for this reason it is possible to affirm that self-brand congruity has a positive impact on brand trust.

Moving to the factors, I firstly tested the relation between self-image congruity and attitude factor and the perceived trustworthiness integrity and ability factor. The correlation test resulted in a Pearson coefficient of -0.100 and a p-value 0.286, which doesn't allow to demonstrate the correlation. The same result was reached for the other factor, that showed a Pearson coefficient of -0.094 and a significance of 0.316. The reason why these tests showed different result is behind the fact that the factors grouped different variables, so the distribution changed.

6.3.4 Self image congruity's impact on brand attitudinal loyalty

The fourth test was focused on testing a relation between the self-image congruity and the brand loyalty, measured through the attitudinal loyalty. Also in this analysis, the relation has been tested firstly considering the self-image congruity overall variable, computed through the median values, and then considering the self-image congruity and attitude factor.

To conduct this analysis, the ANOVA test has been used. In the first test, Eta resulted was 0.432 and the p-value accounted to < 0.001. These results highlight the presence of a positive relation between the two variables. In particular, people who had a higher self-brand image congruity declared that they would have been loyal to the brand (the mean was 3.441 when they declared they would have been loyal, compared to 2.490).

In the second test, the Eta was 0.337 and the significance was < 0.001, meaning that also in this case the results confirmed the presence of a positive relation between the two variables.

6.3.5 Brand trust's impact on brand attitudinal loyalty

Then, I run another test, aimed at looking at the relation between the brand trust and the brand loyalty, measured through the attitudinal loyalty. Again, the analysis has been conducted at first with the variables and then with the factors. In order to test this, the ANOVA test has been used. Moreover, the test has been conducted on the three different types of brand trust, as for the previous tests, to see if there were different results depending on that.

First of all, the perceived trustworthiness integrity has been tested. The ANOVA test showed an Eta of 0.347 and a p-value < 0.001. These results clearly show that there is a positive relation between the perceived trustworthiness integrity and the brand attitudinal loyalty. In fact, people that declared that they would have been loyal to the brand showed higher levels of perceived trustworthiness integrity (mean value of 5.68 compared to 4.85 for people who wouldn't be loyal).

After that, I proceeded with the perceived trustworthiness benevolence. In this case, the ANOVA test showed an Eta value of 0.377 and a p-value < 0.001. For this reason, it is possible to confirm that there is a relation between the two variables. Indeed, the test demonstrated that people who declared that they would have been loyal to the brand, they

presented higher levels of perceived trustworthiness benevolence (mean of 5.43 compared to 4.40 for people who wouldn't be loyal).

As a third step, I tested the perceived trustworthiness ability. Also in this case, the ANOVA test has been performed, showing an Eta value of 0.374 and a p-value < 0.001. These values clearly show the presence of a relation between the two variables. This test confirmed the hypothesis, showing that people who declared that they would have been loyal to the brand presented higher levels of perceived trustworthiness ability (mean of 6.10 compared to 5.27 for people who wouldn't be loyal).

Then, I conducted the same analysis with the factors referring to the brand trust. For the perceived trustworthiness integrity and ability factor, results showed an Eta of 0.236 and a p-value of 0.011, confirming the presence of a relation between the two, in which, as previously stated, higher levels of trust showed higher levels of loyalty. For what concern the other factor, the relation was not confirmed since the significance value was 0.098, higher than the threshold.

Overall, the three tests confirmed the main case, which was that brand trust has a positive effect on brand attitudinal loyalty.

6.3.6 H1 – bivariate analysis

At this point of the analysis, after having performed all the previous univariate and bivariate analysis needed to test all the variables, I have started to test the first hypothesis of the research. The H1 stated:

H1. A core sustainable attribute increases brand loyalty compared to no sustainable attribute.

In order to test the hypothesis, I run an ANOVA test, by confronting the core sustainability attribute scenario with the no attribute scenario. The model was not significant, with a p-value of 0.267 and an Eta of 0.132. For this reason, it was not possible to confirm the first hypothesis.

6.3.7 H2 – mediation analysis

The second hypothesis was aimed at testing the mediating effects of self-brand congruity and brand trust in the model. The hypothesis stated:

H2. The effect postulated in H1 is mediated by:

   a. *self-image congruity, and*

   b. *brand trust.*

To test H2, I have done a simple mediation analysis. Moreover, I have directly used the factors that I previously computed for the following analysis.

Simple mediation – self brand image congruity (H2.a)

As a first mediation test, I wanted to test if a brand sustainability core attribute increases brand loyalty thanks to the mediation effect of self-brand image congruity. To answer this question, I conducted a mediation analysis on SPSS by using the PROCESS macro written by written by Andrew Hayes (and Little, 2018). The analysis was set using the Model 4, with confidence intervals at 95% and 5000 as number of bootstrap samples. If the confidence interval measures a value different to 0 and the coefficient of the indirect effect measures a value within the CI, it determines the presence of a significant effect, while in the case in which the CI is completely above 0, the statistical significance is positive (Hayes and Little, 2018).

In the following image you have the model tested:

Figure 6: Mediating role of self-brand image congruity on brand sustainability and brand loyalty (core attribute vs control attribute)
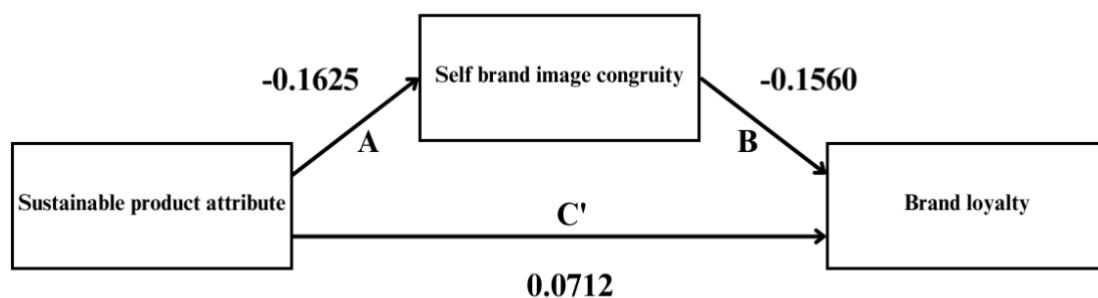
The A path shows the effects of brand sustainability core and control attributes on the self-brand image congruity, while the path B shows the self-brand image congruity's effects on brand loyalty. The C' path shows the total direct effects of brand sustainability on brand loyalty, keeping the self-brand image congruity constant.

The following values have resulted from the mediation analysis: for the path A, the coefficient measured -0.1625, with a t = -0.7140 and the p-value measured 0.4776, meaning that the A path was not significant. For the B path, the coefficient was -0.1560, with a t = -3.7741 and a p-value of 0.0003, resulting in being significant. The direct effect (C') of X on Y was not significant, since it presented a p-value of 0.3736 (β coefficient = 0.0712, t = 0.8956). The indirect effect presented a coefficient of 0.0253, with a CI interval [-0.0428; 0.1060], being not statistically significant.

Since both the direct effect and the indirect effect are not statistically significant, the relation can't be demonstrated. However, the effects of self-brand image congruity on brand loyalty have been confirmed.

Simple mediation – brand trust (H2.b)

The second test I have performed for the mediation analysis regards the fact that a brand sustainability core attribute is predicted to increase brand loyalty through brand trust. In this case, two tests have to be run because the brand trust has been measured through two factors.

I conducted the same type of analysis of before, using the Model 4, with confidence intervals at 95% and 5000 as number of bootstrap samples. The following model explains the mediation that has been tested:

Figure 7: Mediating role of perceived trustworthiness integrity and ability on brand sustainability and brand loyalty (core attribute vs control attribute)
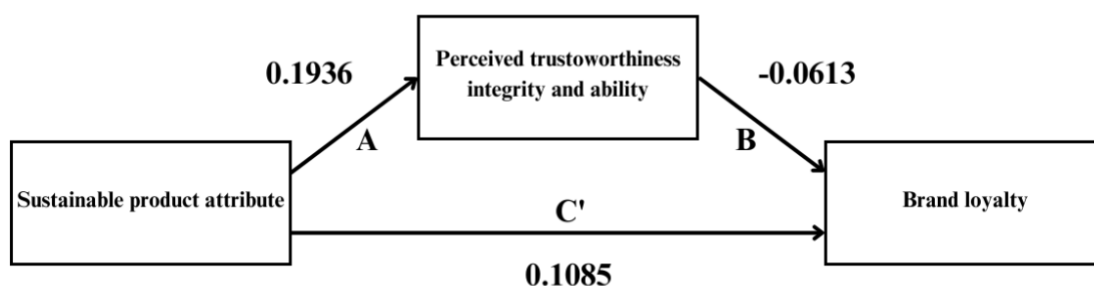
In this case, the A path shows the effects of brand sustainability attributes on the perceived trustworthiness integrity and ability factor, while the path B shows the perceived trustworthiness integrity and ability factor's effects on brand loyalty. The C' path shows the total direct effects of brand sustainability on brand loyalty, keeping the perceived trustworthiness integrity constant.

The mediation analysis showed the following results: for the path A, the coefficient measured 0.1936, with a t = 0.8723 and the p-value measured 0.3860, meaning that the A path was not significant. For the B path, the coefficient was -0.0613, with a t = -1.3349 and a p-value of 0.1862, resulting in not being significant. The direct effect (C') of X on Y was not significant, since it presented a p-value of 0.2132 (β coefficient = 0.1085, t = 1.2563). The indirect effect presented a coefficient of -0.0119, with a CI interval [-0.0649; 0.0145], being not statistically significant.

Since both the direct effect and the indirect effect are not statistically significant, the relation can't be demonstrated also in this case.

Then, the same analysis has been conducted for perceived trustworthiness benevolence factor. In the following graphic it's possible to see the relation tested:

Figure 8: Mediating role of perceived trustworthiness benevolence on brand sustainability and brand loyalty (core attribute vs control attribute)
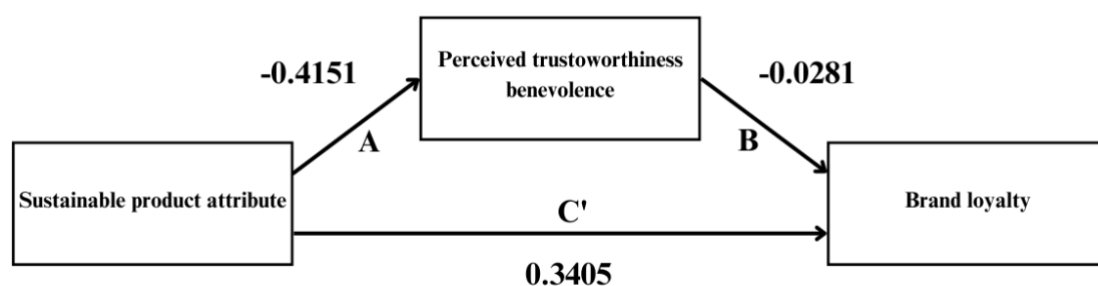
In this second analysis, the A path shows the effects of brand sustainability core attributes on the perceived trustworthiness benevolence factor, while the path B shows the perceived trustworthiness benevolence factor's effects on brand loyalty. The C' path shows the total direct effects of brand sustainability on brand loyalty, keeping the perceived trustworthiness benevolence constant.

The mediation analysis showed the following results: for the path A, the coefficient measured -0.4151, with a t = -1.7249 and the p-value measured 0.0889, meaning that the A path was not significant. For the B path, the coefficient was -0.0281, with a t = -0.6575 and a p-value of 0.5130, resulting in not being significant. The direct effect (C') of X on Y was not significant, since it presented a p-value of 0.3405 (β coefficient = 0.0849, t = 0.9597). The indirect effect presented a coefficient of 0.0117, with a CI interval [-0.0219; 0.0565], being not statistically significant.

Since both the direct effect and the indirect effect are not statistically significant, the relation can't be demonstrated also in this case. To conclude, it was not possible to demonstrate the second hypothesis.

6.3.8 H3 – bivariate analysis

The H3 stated:

H3. A peripheral sustainable attribute increases brand loyalty compared to no sustainable attribute.

To confirm this hypothesis, I used the ANOVA test, by confronting the peripheral sustainability attribute scenario with the no attribute scenario. The model gave the following results: Eta of 0.209 and p-value of 0.058. Since the p-value was above the threshold, it is not possible to affirm that there is a relation between the two variables in this case. For this reason, it is not possible to confirm H3.

6.3.9 H4 – mediation analysis

The analysis proceeded by testing the second hypothesis, that stated:

H4. The effect postulated in H3 is mediated by:

  a. *self-image congruity, and*

  b. *brand trust.*

The methodology followed is the same as for the second hypothesis, so a mediation analysis on SPSS by using the PROCESS macro written by written by Andrew Hayes (and Little, 2018).

Simple mediation – self brand image congruity (H4.a)

As a first test, my aim was to see if a sustainability peripheral attribute increases the brand loyalty through the self-brand image congruity, which acts as mediator variable. The model tested was the same as for hypothesis H2.a, and it can be seen in the following graph:

Figure 9: Mediating role of self-brand image congruity on brand sustainability and brand loyalty (peripheral attribute vs control attribute)
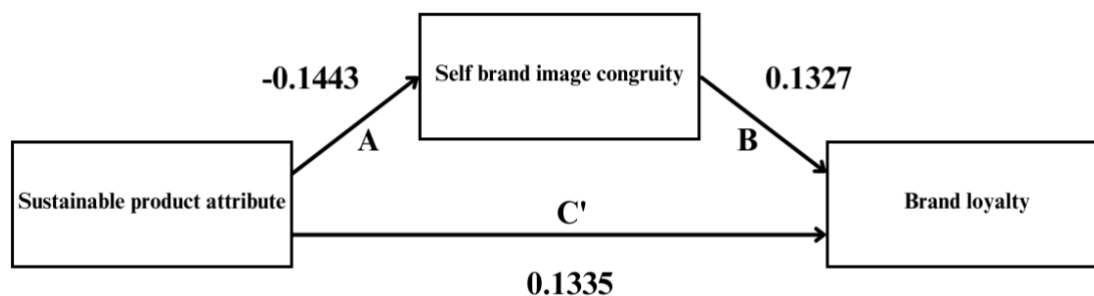
The mediation analysis in SPSS produced the following results: for the A path, the significance was 0.5312, with a coefficient of -0.1443 and a t-test of -0.6289. Unfortunately, this relation is not significant. For the B path, the p-value was 0.0004 with a coefficient of -0.1327 and a t-test of -3.7218. This path has been demonstrated significant, since the p-value is under the threshold. Finally, the C' path had a coefficient of 0.1335, a p-value if 0.0743 and a t-test of 1.8085. Looking at the indirect effect, it measured 0.0191, but unfortunately the range of the p-value fell between 0 [-0.0410 ; 0.0849]. For these reasons, the mediation effect can't be demonstrated, even though the B path relation was significant.

Simple mediation – brand trust (H4.b)

Moving to the brand trust, the test has been conducted with both factors. To start, the first test wanted to demonstrate the following model, as previously for H2.b:

Figure 10: Mediating role of perceived trustworthiness integrity and ability on brand sustainability and brand loyalty (peripheral attribute vs control attribute)
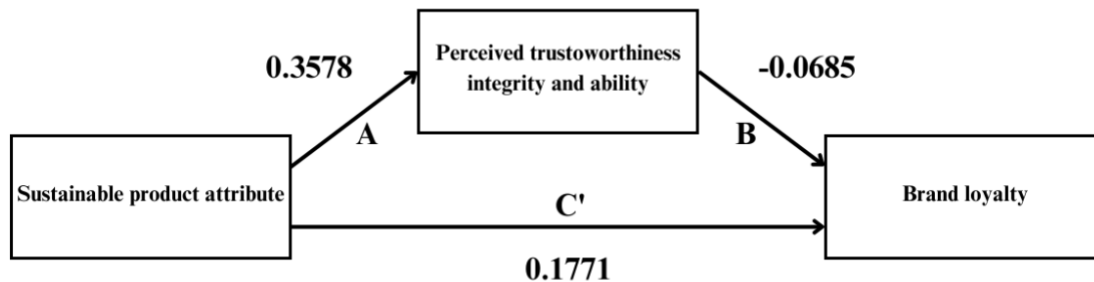
I run again the same type of analysis, considering the cases in which the second scenario was shown (peripheral attribute scenario) compared to the cases where the control scenario was displayed. In this case, the A path showed a coefficient of 0.3578 and a t-test of 1.6070 with a p-value of 0.1119, resulting in not being significant. The B path was not significant, having a p-value of 0.0834, a coefficient of -0.0685 and a t-test of -1.7533. The direct effect of X on Y has been demonstrated significant, with a p-value of 0.0287, a coefficient of 0.1771 and a t-test accounting 2.2281, while the indirect effect had a coefficient of -0.0245 but the p-value was not significant, falling in the following range: [-0.0771 ; 0.0088]. Looking at the result, the mediation effect can't be demonstrated, but the direct effect that a peripheral attribute increases the attitudinal loyalty compared to the control case with no attribute can be confirmed.

The same analysis has been conducted with the other factor, the perceived trustworthiness benevolence factor, resulting in the following model:

Figure 11: Mediating role of perceived trustworthiness benevolence on brand sustainability and brand loyalty (peripheral attribute vs control attribute)
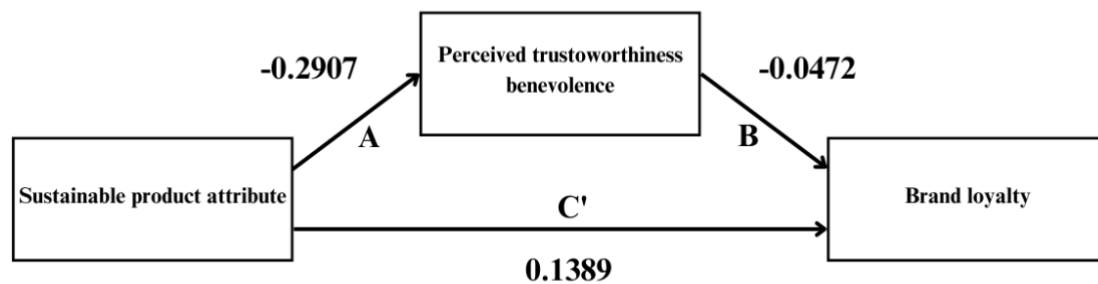
The mediation analysis showed the following results: the A path had a coefficient of -0.2907, a t-test of -1.3231 and a p-value of 0.1895, not being statistically significant. The B-path had a coefficient of -0.0472, a t-test of -1.1817 and a p-value of 0.2408, also in this case not being statistically significant. The C' path showed a coefficient of 0.1389, a t-test of 1.7381 and a p-value of 0.0860, slightly higher than the threshold. Finally, the indirect effect was not significant, having a p-value that fell in the range [-0.0102 ; 0.0559], with a coefficient of 0.0137.

The fourth hypothesis was not demonstrated since all the mediation models were not significant.

6.3.10 H5 – bivariate analysis

Finally, I have tested H5, that stated:

H5. A core sustainable attribute increases brand loyalty compared to a peripheral sustainable attribute.

In order to test this hypothesis, I run an ANOVA test, by confronting the core sustainability attribute scenario with the peripheral attribute scenario. The model was not significant, with a p-value of 0.556 and an Eta of 0.069. For this reason, it was not possible to confirm the fifth hypothesis.

6.3.11 H6 – mediation analysis

The same process has been followed also for the sixth hypothesis, in which the core attribute has been compared to the peripheral attribute. Indeed, the sixth hypothesis stated:

H6. The effect postulated in H5 is mediated by:

a. *self-image congruity, and*

b. *brand trust.*

The methodology followed is the same as for H2 and H4, which is a mediation analysis on SPSS by using the PROCESS macro written by written by Andrew Hayes (and Little, 2018).

Simple mediation – self brand image congruity (H6.a)

As for the previous cases, in this first test the aim was to see if self-brand image congruity acts as mediator in the relation between the sustainable product attribute and brand loyalty. The model tested was the following:

Figure 12: Mediating role of self-brand image congruity on sustainable product attribute and brand loyalty (core attribute vs peripheral attribute)
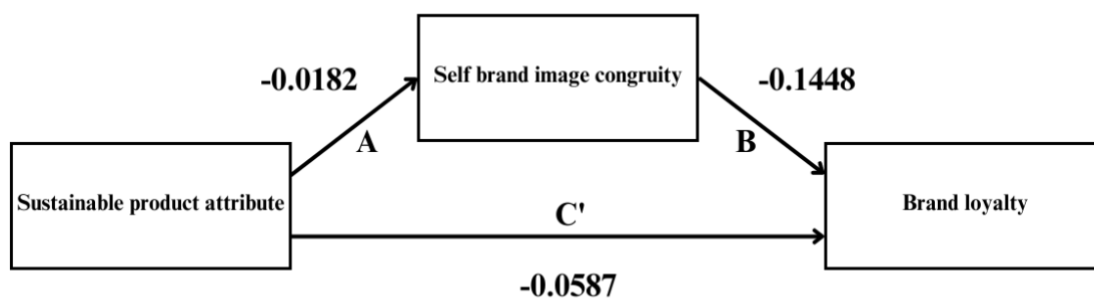
The mediation analysis revealed a coefficient of -0.0182 for the A path, with a t-test of -0.0773 and a p-value of 0.9386, being not statistically significant. The B path had a significance of 0.0015, a coefficient of -0.1448 and a t-test of -3.2972, being significant. The direct effect of X on Y showed a p-value of 0.5123, with a coefficient of -0.0587 and a t-test of -0.6586, while the indirect effect had a coefficient of 0.0026 and the significance falling into the range [-0.0717 ; 0.0734], both being not significant. For these reasons, the mediation

effect can't be demonstrated, while the effect of self-brand image congruity on brand loyalty has been confirmed.

Simple mediation – brand trust (H6.b)

Then, I tested if the brand trust acts as mediator in the relation between the sustainable product attribute attributes and brand loyalty. Again, the hypothesis has been tested considering the brand trust factors. The first test followed this model:

Figure 13: Mediating role of perceived trustworthiness integrity and ability on the sustainable product attribute and brand loyalty (core attribute vs peripheral attribute)
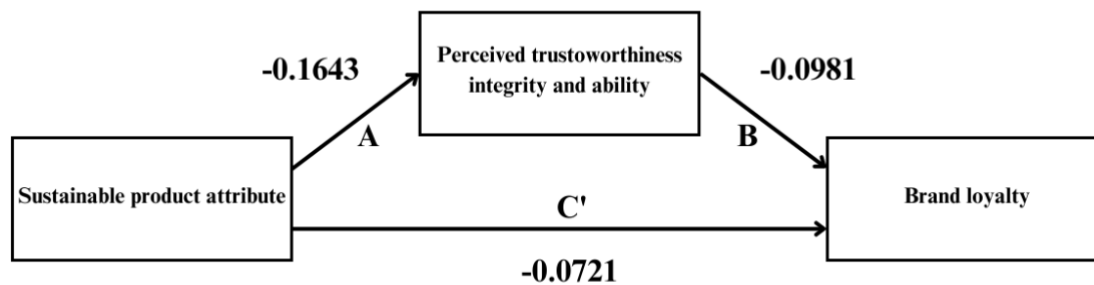
In this case, the mediation analysis showed an A path that presented the following values: coefficient of -0.1643, t-test of -0.6741 and p-value of 0.5023, not being statistically significant. The B path had a coefficient of -0.0981, presented a t-test of 2.2259 and a p-value lower than the threshold that measured 0.0291, being statistically significant. The direct effect C' showed a significance of 0.4388, being not statistically significant (coefficient: -0.0721; t-test: -0.7784). The indirect effect had a coefficient of 0.0161, but again was not significant, with a p-value falling in the range [-0.0388 ; 0.0642]. Looking at these results, the mediation effect can't be confirmed.

I continued the analysis by repeating the same test for the other factor, following this second model:

Figure 14: Mediating role of perceived trustworthiness benevolence on the sustainable product attribute and brand loyalty (core attribute vs peripheral attribute)
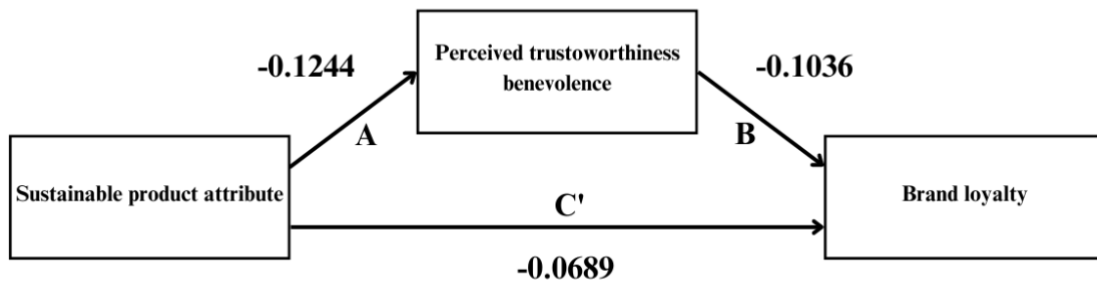
In this case, the A-path showed a coefficient of -0.1244, t-test of -0.5315 and a p-value 0.5966. The B-path had a coefficient of -0.1036, a t-test of -2.2604 and a p-value of 0.0268, being statistically significant. The C' path showed a p-value higher than the threshold, which was 0.4585 (coefficient: -0.0689; t-test: -0.7452). The C path not significant either, with a p-value falling in between -0.0389 and 0.0688 and the coefficient being 0.0129. Also in this model, the mediation effect can't be confirmed.

For the reasons just seen, the sixth hypothesis can't be confirmed.

6.3.12 H7 – simple moderation analysis

The seventh hypothesis stated the following:

H7. The environmental consciousness of oneself acts as moderator in the relation between brand sustainability and self-brand image congruity in the following way: the effects postulated in H1, H3 and H5 are stronger for high-conscious consumers.

To test the hypothesis, it has been necessary to conduct a moderation analysis. The methodology used comprehends the same macro as for the mediation analysis, which is the PROCESS macro written by written by Andrew Hayes (and Little, 2018) on SPSS. The process used was the model 1.

The model tested is the following:

Figure 15: Moderating role of environmental consciousness of oneself on brand sustainability and self-brand image congruity
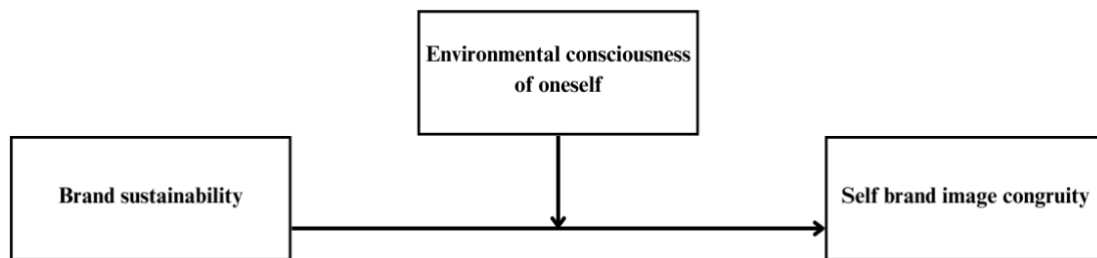
Also in this case, I have used the factors previously computed, and it has been necessary to test the scenario separately, by comparing the following cases:

- core attribute vs control attribute;

- peripheral attribute vs control attribute;

- core attribute vs peripheral attribute.

I have started by considering the first case. In this test, the p-value for all the three effects is higher than the threshold (see the Appendix) and for this reason the moderation effect is not significant.

The same result was reached for the second and third cases, whose significance test showed p-values higher than the threshold. For these reasons, the seventh hypothesis is not demonstrated.

6.3.13 H8 – simple moderation analysis

The last hypothesis stated:

H8. The environmental consciousness of oneself acts as moderator in the relation between brand sustainability and brand trust in the following way: the effects postulated in H1, H3 and H5 are stronger for high-conscious consumers.

As for the previous analysis, the PROCESS macro written by written by Andrew Hayes (and Little, 2018) on SPSS has been used, setting the model 1 since I am testing a moderation analysis. The model is represented in the following image:

Figure 16: Moderating role of environmental consciousness of oneself on brand sustainability and brand trust
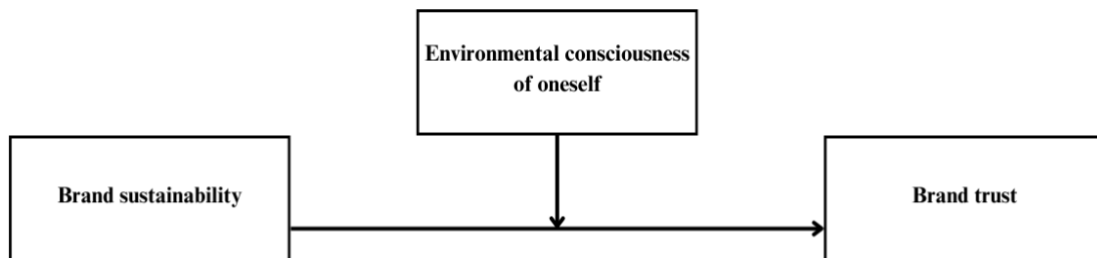
I have run the analysis for the three cases and with the two factors concerning the brand trust. Overall, I run 6 analysis (see the Appendix) but none of them have resulted to be significant. For these reasons, the H8 is not confirmed.

6.4 Further analysis

Since also other variables were included in the test, other analyses have been run in order to better analyse results. All the computations in SPSS can be seen in the Appendix.

6.4.1 Consumer product involvement

To analyse the consumer product involvement, I run some moderation and bivariate tests to see if this variable was related with other variables. I started with investigating whether the consumer product involvement had a moderating role in the relation between the following variables:

- brand sustainability attribute and self-brand congruity;

- brand sustainability attribute and brand trust;

- brand sustainability attribute and brand loyalty;

- self brand congruity and brand loyalty;

- brand trust and brand loyalty.

I ran the tests with the same methodology as before on SPSS, but no results were found, meaning that the consumer product involvement doesn't have a moderating role in those relations.

Then, I tried to see whether there were some correlations between the level of product involvement and the brand trust. The test revealed to be significant only for perceived trustworthiness ability, presenting a positive relation between the two variables, with a Pearson value of 0.203 and a p-value of 0.029. This means that the higher people are involved in the perfume product category, the more people trust the abilities of the brand. Moreover, I also found a positive relation between the consumer product involvement and the attitudinal loyalty (Eta 0.179, p-value 0.055), even though the significance was slightly over the threshold, but still possible to consider it significant. This means that the more people are involved in the product category, the more they declared they would be loyal to the brand. This trend was also confirmed by the fact that I detected a positive correlation between the consumer product involvement and the brand attitude, with a Pearson value of 0.326 and a p-value < 0.001, resulting in the fact that people higher involved demonstrated a more positive brand attitude.

6.4.2 Perceived functional quality

Some questions regarding the perceived functional quality were asked to the participant, in particular, they were asked how much they rated the ability of the perfume to last over the day and how much they liked the three fragrances proposed by Guerlain in this new line.

First of all, I tested the correlation between the perceived ability of the perfume to last and the brand trust. A positive correlation was confirmed for all the three types of trust, with Pearson values of 0.359 (p-value < 0.001) for the perceived trustworthiness integrity, of 0.379 (p-value < 0.001) for the perceived trustworthiness benevolence and of 0.478 (p-value < 0.001) for the perceived trustworthiness ability. This means that the more the people trusted the brand, the more they also trusted its functional quality to last over the day.

I also tested with an ANOVA test the relation between the overall perceived functional quality and the attitudinal loyalty, which showed an Eta of 0.177 and a p-value of 0.058. Coherently with what was previously tested and what we could have expected, people that

have a higher perception of the functional qualities of the brand declared higher levels of attitudinal loyalty.

6.4.3 Brand attitude

I also wanted to see the influence of the brand attitude with other variables. I ran a correlation test between the brand attitude and the brand trust. It revealed that the more respondents trusted the brand the more they presented a positive attitude. In fact, the analysis for all the three variables presented a significance lower than 0.001 and a Pearson value of 0.396 for perceived trustworthiness integrity, 0.402 for perceived trustworthiness benevolence and 0.489 for perceived trustworthiness ability. Then, I tested the correlation between the brand attitude and the self-brand congruity, and also in this case a positive relation has been detected, with a better attitude towards the brand when people perceived themselves more congruent with the brand (Pearson value: 0.537, p-value < 0.001). In the end, I also tested the relation between the brand attitude and the brand loyalty, which were positively correlated with an Eta of 0.508 and a p-value lower than 0.001, as we could have expected.

6.4.4 Environmental consciousness

Finally, I wanted to analyse the environmental consciousness of respondents and see if there were relations with the other variables. For the brand trust, the test revealed a positive correlation, with a Pearson value of 0.267 (p-value of 0.004) for perceived trustworthiness integrity, 0.395 (p-value < 0.001) for perceived trustworthiness benevolence and 0.391 (p-value < 0.001) for perceived trustworthiness ability. The more people were environmentally conscious, the higher levels of trust they demonstrated towards the brand analysed.

Then, looking at the self-brand congruity, results showed that the more people were environmentally conscious the more they perceived themselves congruent with the brand (Pearson value: 0.232, p-value: 0.012). Coherently, I also found a correlation between the environmental consciousness and the attitudinal loyalty, with a Pearson value of 0.337 and a p-value lower than 0.001.

To conclude, I also wanted to see whether there were big differences between the Norwegian and Italian samples. Results showed that there was a relation between the environmental consciousness and the country of origin (Eta value of 0.301 and p-value of 0.002).

Specifically, the Italian sample demonstrated higher level of environmental consciousness compared to the Norwegian sample. No other relations between demographics variables and the other variables have been found.

7. Summary of results and discussion

In this section all results emerged from the data analysis will be summarized and further explained. The main purpose of this study was to understand how brand sustainability, self-brand image congruity, brand trust and brand loyalty related one each other. In the following table the hypotheses are summarized:

Table 8: Summary of hypothesis and results

	Hypothesis	Results
H1	A core sustainable attribute increases brand loyalty compared to no sustainable attribute.	Not supported
H2	The effect postulated in H1 is mediated by self-image congruity and brand trust.	Not supported
H3	A peripheral sustainable attribute increases brand loyalty compared to no sustainable attribute	Not supported
H4	The effect postulated in H3 is mediated by self-image congruity and brand trust.	Not supported
H5	A core sustainable attribute increases brand loyalty compared to a peripheral sustainable attribute.	Not supported
H6	The effect postulated in H5 is mediated by self-image congruity and brand trust.	Not supported
H7	The environmental consciousness of oneself acts as moderator in the relation between brand sustainability and self-brand image congruity in the following way: the effect postulated in H1 is stronger for high-conscious consumers.	Not supported
H8	The environmental consciousness of oneself acts as moderator in the relation between brand sustainability and brand trust in the following way: the effect postulated in H1 is stronger for high-conscious consumers.	Not supported

7.1 Summary of findings

Even though I didn't manage to prove the hypothesis I stated at the beginning, some results emerged from the data.

7.1.1 Brand sustainability doesn't have an impact on the other variables

From the analyses, there have not been found any relations between the scenario proposed to the respondents, which highlighted one of the two types of sustainability attributes, and the levels of declared self-brand congruity, brand trust and brand loyalty. The reason why the expected correlations didn't find evidence in my analysis could be multiple. First of all, some participants may not have strongly perceived the sustainability attribute in the description, and this could be because either the text was short and they perceived Guerlain's effort as basic, or because they didn't believe in those efforts and considered them as greenwashing. Another possibility could be linked to the fact that respondents already knew the brand and had a previous knowledge regarding its sustainability efforts. The result was that in all the analysis it has not been found any relation between the scenario showed to the participants and the other variables.

7.1.2 The impacts of self brand congruity on brand trust

The relations between the self-brand congruity and brand trust have been confirmed. In fact, it has been found a positive relation between self-brand congruity and all the three types of trust. The relation was significant in all the three cases, with a Pearson coefficient of 0.372 for perceived trustworthiness integrity, 0.310 for perceived trustworthiness benevolence and 0.361 for perceived trustworthiness ability. This means that the more the customer perceives himself resonating with the brand, the more he also trusted the brand's skills, values and behaviours, and vice versa.

Figure 17: Correlation between self-brand congruity and brand trust
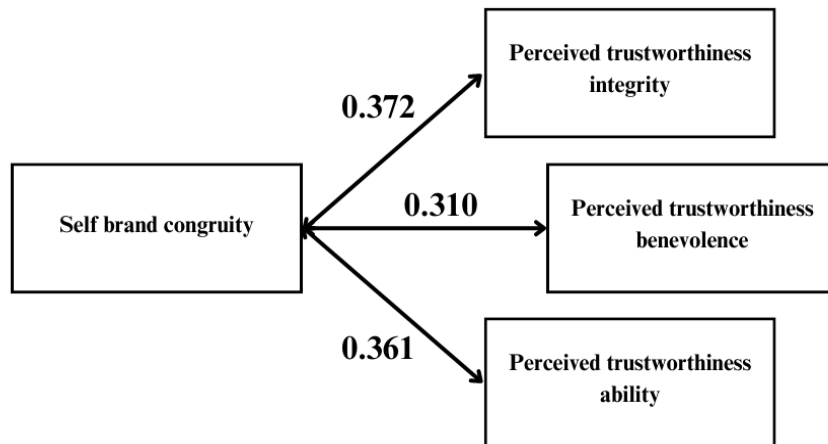
7.1.3 The impacts of brand trust on brand loyalty

In the analysis, I also succeeded to confirm the relation between the three types of trust and the brand loyalty. The Eta values were 0.347 for perceived trustworthiness integrity, 0.377 for perceived trustworthiness benevolence and 0.374 for perceived trustworthiness ability. All the three values demonstrate a strong relation between the variables, since the Eta was higher than 0.3. This positive relation clearly highlights that the more the customer believes in the company's abilities and values, the more he trusts the brand, and consequently the more he will show attitudinal loyal behaviours.

Figure 18: Relation between brand trust and brand loyalty
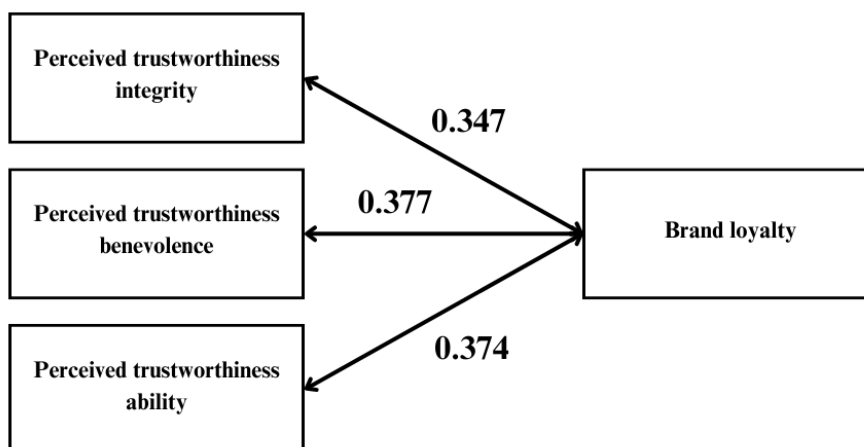
7.1.4 The impacts of self brand congruity on brand loyalty

In the analysis, I also managed to confirm the relation between self-brand congruity and the brand loyalty. In fact, the two variables showed an Eta value of 0.432, which highlights a strong relation between the two. This means that, as expected, the more the customer perceived himself as resonating with the brand, the more he will show an attitudinal behaviour.

Figure 19: Relation between self-brand congruity and brand loyalty
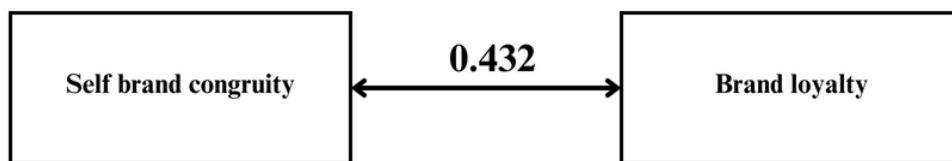
7.1.5 Possible bias determined by the choice of an already known brand

After having run some bivariate analysis, I noticed that there were some relations between the fact that people purchased from the brand before and self-brand congruity. With the other variables at the centre of this study, no relations have been detected. This relation presented an Eta value of 0.219, not being that strong. The fact that people who already bought from the brand had higher self-brand congruity (positive relation) confirmed an almost obvious statement. In fact, it is coherent to think that people who purchase from the brand, so that demonstrated behavioural loyalty, perceive themselves as congruent with the brand.

Moreover, relations have been found also with the consumer product involvement and brand attitude. Indeed, it emerged that people who had a higher product involvement had previously purchased from the brand, proposing the hypothesis that since Guerlain is a known brand in the sector, people who have high knowledge of perfumes and are involved in the product category, have already tried it. The relation between the two variables highlighted an Eta of 0.285, which means a moderately strong relation.

Finally, from the analysis it also emerged a relation between the brand attitude and the fact that people previously purchased from the brand. The relation was positive, with an Eta

value of 0.238, demonstrating that people who already purchased from Guerlain presented a more positive attitude.

7.2 Additional findings

In addition to the main findings that proved the simple relations among variables, I also analysed some additional variables presented in the questionnaire.

7.2.1 The influence of the consumer product involvement

The consumer product involvement variable was aimed at testing how much people were involved in the product category. Overall, people declared to be quite involved in the perfumes category, since the overall mean value was higher than 2.5 in a scale ranging from 1 to 5. In the analysis, it has been possible to prove that this influenced the perceived trustworthiness ability positively. In fact, the higher was the product involvement, the higher participants declared to trust more the brand based on its abilities, with a Pearson correlation coefficient of 0.203. At the same time, people who declared to be more interested in the perfumes demonstrated higher brand attitude and brand loyalty, with Pearson coefficients of respectively 0.179 and 0.326. From these data we can hypothesize that Guerlain is an expert brand in the fragrances sector, and people who are more interested and involved in the category recognize its value and abilities.

7.2.2 The perceived functional quality's influence on brand trust and brand loyalty

As we could have expected, data showed that the better people perceived the functional qualities of the brand, the more they demonstrated trust and loyalty behaviours towards the brand. This was supported by the fact that perceived functional quality had a positive relation with the three types of trust, respectively having a Pearson coefficient of 0.359 with perceived trustworthiness integrity, of 0.379 with perceived trustworthiness benevolence and of 0.478 with perceived trustworthiness ability, all the three values presenting a strong relation. At the same time, people also show higher attitudinal loyalty behaviours when they perceived better functional qualities, with an Eta coefficient of 0.177.

7.2.3 The influence of the brand attitude

From the analyses it also emerged that the brand attitude influences self-brand congruity, brand trust and brand loyalty. This means that the opinion related to a brand impacts the customer's perception of the brand in relation with himself. This was expected, and the relation between the two variables was confirmed by the bivariate test that showed a Pearson coefficient of 0.537, which highlights a strong relation. At the same time, the brand attitude also influences the brand trust, through the three types analysed in my research. The Pearson coefficient that emerged was respectively 0.396 for perceived trustworthiness integrity, 0.402 for perceived trustworthiness benevolence and 0.489 for perceived trustworthiness ability, meaning that the more the person trusted the brand the more he had a positive attitude and vice versa.

Finally, again coherent with expectations, a better brand attitude corresponds to higher brand loyalty and vice versa. These two variables influence one another with a Pearson coefficient of 0.508, highlighting a strong relation between the two.

7.2.4 The environmental consciousness among Gen Z

In the scope of this research, I also analysed the environmental consciousness of Generation Z participants. Overall, the respondents showed a high level of environmental consciousness, with mean values around 5 for all the items proposed in the scales, that ranged from 1 to 7. For this reason, we can affirm that from my sample, this generation seems highly interested in the topic. Moreover, it was found that Italian people are more environmentally conscious since a relation with the country of origin was found (Eta value 0.301).

By testing if this variable influenced also other variables, I firstly detected a correlation with brand trust, and, in particular, with all the three types of brand trust. The Pearson coefficient was 0.267 for perceived trustworthiness integrity, 0.395 for perceived trustworthiness benevolence and 0.391 for perceived trustworthiness ability. This means that generally speaking, the more people were environmentally conscious, the more they trusted the brand Guerlain, since there is a positive correlation among the two variables. This result may suggest that the general perception of the brand among people interested in sustainability is that the brand is sustainable. I also tested whether there was any relation between the level of environmental consciousness and the self-brand congruity. The Pearson correlation coefficient measured 0.232, with the relation being significant. This means that the more

people are environmentally conscious, the more they resonate with the brand, meaning that again they perceive the brand to be coherent with their values regarding sustainability; for this reason, we can assume that they believe Guerlain's sustainability effort is credible. To confirm this, I also found a relation with brand loyalty. In fact, the more people were environmentally conscious, the more they declared they would be loyal to the brand, confirmed by a Pearson coefficient of 0.337.

7.3 Limitations

When looking at the results, also some limitations should be acknowledged. In this sub-chapter, limitations will be presented divided into internal and external validity. The internal validity regards the fact that this research is able to demonstrate the relationship previously cited, while the external validity refers to the fact that this study could be generalized (Saunders et al., 2016).

7.3.1 Internal validity

First of all, it is important to highlight that in order to increase the internal validity of this study I have used Likert scales already tested and presented in the literature, to be sure to measure exactly the constructs I wanted to measure (Saunders et al., 2016). Furthermore, I run some preliminary tests in order to verify the readability and avoid misunderstanding in the questionnaire. However, even though the risk of misunderstanding was low, it is not possible to affirm that for sure the questions were fully understood by all participants, meaning that there could have been some misunderstanding.

In addition to that, in this study I refer to brand loyalty, but I was capable to measure only the altitudinal loyalty, and for this reason no assumptions linked to the purchase behaviours of respondents can be done.

7.3.2 External validity

For the external validity, in order to avoid any confounding variables, some control variables were added to the questionnaire, to reduce the risk in which the variables in the focus of this study were influenced also by other variables not involved in the research. However, it is not possible to guarantee that all possible confounding variables have been taken into consideration.

Furthermore, the external validity is measured also through the possibility to generalize data, connected to the representativeness of the sample. Even though many answers from people belonging to the Generation Z have been collected, both the Italian and Norwegian samples are not representative of the overall respective populations.

Finally, having used a known brand may have brought some previous bias of participants, because even though the fact that people already purchased from Guerlain was checked through a control question, it was not checked if people previously heard about the brand. For this reason, it is not possible to know whether participants were biased by previous knowledge they had about the brand.

8. General discussion and conclusion

8.1 General discussion of findings

The main purpose of this study was to investigate Generation Z behaviours towards luxury goods, in particular for what concern sustainability perceptions, self-brand congruity, trust and loyalty habits and attitudinal behaviours. Moreover, I wanted to understand if there were differences in these elements when different scenarios were presented, with different sustainability attributes, to analyse whether brand sustainability core and peripheral attributes were important and perceived differently.

For this study, I decided to focus the attention on the fragrances sector, since luxury and high-end perfumes could generally be more affordable with respect to other luxury product category, resulting in the fact that more people may have experienced the purchase of a luxury fragrance. Moreover, among Generation Z the demand for sustainable fragrances is increasing (The New York Times, 2022).

My research confirmed, as previously investigated in other research, several relations between the variables at the centre of this study. Indeed, the main findings regarded the fact that the more people felt they resonated with the brand, the more they trusted the brand and consequently the more they are loyal to the brand. These three variables, self-brand congruity, brand trust and brand loyalty, are influenced one another, since I found consistent relations among them. Moreover, people who presented high levels of these variables, also revealed to have a high product involvement, a positive brand attitude, a positive perceived functional quality and to be generally environmentally conscious. This last variable allowed me also to suppose that Guerlain as a brand is generally perceived sustainable.

Moreover, from the analysis it doesn't seem that participants changed their perceptions based on the sustainability attribute that was presented to them, meaning that or the brand is well established, and the purchase drivers are not linked to sustainability, or that people already knew the brand and its efforts towards sustainability.

8.2 Theoretical implications

This master thesis contributes to the literature about self-brand image congruity, brand trust and brand loyalty. The findings from this study generally support previous research about these topics. The main gap that this research covers refers to the fact that findings have been tested on Generation Z consumers and about the luxury product category, specifically the fragrances sector.

To begin, the results of this study confirm previous research about the influence of self-brand congruity on brand trust and brand loyalty. In particular, they confirm that it is the case in the fragrances sector and also for Generation Z consumers, who actually from previous research were found to be less loyal to brands (Williams and Page, 2011).

Moreover, this study also confirms previous research about the influence of brand trust on brand loyalty. This means that for Generation Z consumers, when considering the purchase of fragrances products, the fact that they trust the brand based on its abilities, capacities and attitude influences their propension of being loyal to the brand.

Then, I also found that the involvement of the consumer in the product category can influence the trust the consumer has on the brand. In this research, I found that a higher product involvement positively influenced the brand trust, since probably Guerlain is generally well perceived. Moreover, in this case it also positively influenced the brand attitude and loyalty.

In addition to the previous findings, this study also shows that perceived functional quality positively influences brand trust and brand loyalty. In particular, the perception about the client about the lasting of the perfume and how much he liked the three lines influenced his trust and loyalty attitudes.

Finally, the fact that the person was environmentally conscious influenced the self-brand congruity, the brand trust and the brand loyalty. This suggests that the brand Guerlain is perceived positively in terms of sustainability and for this reason the more people are aware about sustainability, the better they evaluated the brand and expressed their positive attitude towards it.

8.3 Managerial implications

From this study, it clearly emerges that brand loyalty is influenced by various perceptions the customer has towards the brand. Therefore, it is important for brands to create a self-image congruity with your target. In fact, customers and specifically Generation Z consumers want to be able to self-identify with the brands they like. For companies, this means that they have to analyse their customers through a segmenting and targeting approach, to understand the characteristics, behaviours and values of their own target, to be able to, on one side customize the offer, and on the other side at a company level, to communicate consistent and coherent values. In this process, finding the right target that matches the brand identity is crucial, as well as working on the brand personality. Indeed, nowadays people prefer engaged brands, that are those brands that are able to get into the ongoing conversations about values and other topics that are perceived important by the society (Cury, 2022).

In addition to what it has just been said, from this study it emerged once again the importance of building brand trust, and consequently the importance of being transparent and reassuring the customer about the company's abilities, capacity and values. Moreover, Generation Z demonstrated to seem more cynical and sensible, meaning that most of the time they fact check before trusting some information (Edelman, 2021). Following this line, working on the 5Cs of marketing can be a great method in order to build trust (Reznik, 2023). The 5Cs of marketing are:

- company,

- community,

- culture,

- circularity and

- customer.

The company part concerns the brand identity and DNA, meaning that to be appealing to Generation Z it is important to have strong values and mission, to allow the customer to self-identify with the company. The need to be part of a community also refers to the self-brand image, highlighting the customers' needs to self-identify with the brands and as part of a

community. Moreover, brands shouldn't forget they are part of a culture environment in which needs and behaviours change.

Then, to build brand trust it is important also to transmit circularity and to so companies must transform their business model and become sustainable. Even though from this research it didn't emerge the fact that sustainability attributes impact the customers' opinion and attitude, I believe, supported by previous research mentioned at the beginning of this analysis, that sustainability is still a hot topic for consumers, especially for Generation Z.

Finally, companies should start to involve their customers in their activities in order to bring value, which cannot only be the product or service they sell. Generation Z consumers that feel involved in the brand, will demonstrate their loyalty also by sharing their own contents about the brand (Reznik, 2023). Loyalty is indeed crucial for brands, and being able to cultivate the relationship with the customer will become more and more important, since customers' expectations become higher, and customers want the best personalized experience.

8.4 Suggestions for future research

Even though the self-brand image, the brand trust and the brand loyalty are topics that have been extensively studied, my research confirmed that these factors act in the same way for Generation Z consumers for what concerns the fragrances sector. What it has not been possible to investigate was if Generation Z gives more importance to these factors compared to other generations, and more generally if and how their behaviours change when considering the purchase of luxury products.

Future research could also investigate if similar conclusions emerge with a bigger and more representative sample, and with a more diverse sample, with people coming from other countries in the world. This research in fact investigated the behaviours of Italian and Norwegian Generation Z consumers.

Moreover, it would also be interesting to conduct the same research with regards to other product categories in the luxury industry, such as ready to wear, leather goods, accessories or jewels.

In addition to what was previously mentioned, my research didn't bring any findings among the change in perceptions of different sustainability factors and how much the brand sustainability influences the brand trust in particular, and for this reason, since Generation Z seem to be interested and care about the topic, it would be useful in further research to investigate again this topic.

Lastly, my research focuses on the attitudinal loyalty, demonstrating that self-brand congruity and brand trust can contribute to build brand loyalty. It would be interesting to analyse which other factors are important in this process of creating brand loyalty, and also if same results can be applied to behavioural loyalty, so if actually consumers' behaviours match their attitudes.

8.5 Conclusion

Generation Z consumers are becoming more and more important in the luxury sector, and they are forecasted to become the most influential generation in the next years. For this reason, being able to understand their drivers to purchase and what they search in luxury brands is crucial for companies in order to target this group. Overall, it seems that this age group is interested in the brand identity and values behind the single product or service, and for this reason they search for self-congruity with the brand, as well as they want to purchase brands they trust in terms of abilities. Moreover, Gen Z seems particularly interested in sustainability, which is a hot topic in the fashion industry, that it is making all the brands rethinking about their operations. With regards to sustainability, this generation also seems particularly cynical and attentive on the brands' actions, by going in deep on what the brands communicate in order to understand if their actions are purely sustainable or greenwashing. The aim of this study was to investigate how the brand sustainability attributes, the self-brand congruity and the brand trust influence the loyalty to the brand for the Generation Z for what concerns the luxury sector.

In this experiment, I wanted to investigate how different sustainability attributes impacted the self-brand congruity and the brand trust, and how consequently they influenced the brand loyalty. Overall, it was possible to confirm the relations between self-brand congruity and brand loyalty and brand trust and brand loyalty, but it was not possible to confirm if sustainability attributes had a positive impact on these constructs. Moreover, the mediation models did not prove that self-brand congruity and brand trust are mediators in the relation

between the brand sustainability and the brand loyalty. Indeed, what I found was that in the following couples of constructs, which are self-brand congruity with brand trust, self-brand congruity with brand loyalty and brand trust with brand loyalty, there was a relation between the two constructs, but it was not possible to determine which one influenced the other.

In conclusion, the results confirm that Generation Z luxury consumers are impacted by self-brand congruity and brand trust when they develop attitudinal loyalty towards a brand. Furthermore, it was confirmed that this generation is particularly environmentally conscious. For these reasons, this thesis provides useful insights to luxury brands who want to target young consumers. Indeed, for companies it is important to understand that this generation is particularly interested in connecting with the brand, going over the classic customer relationship. These consumers want to self-identify with the brands and share the same values, and they want these values to be coherent internally, but also coherent with the issues society is facing, as for example the environmental crisis. For this reason, they want brands to do their part in reducing the environmental pollution with real actions and not just with communications or light efforts. Indeed, this generation is particularly environmentally conscious, and they tend to fact check what companies communicate. By being able to target the new luxury consumers, brands will guarantee themselves a strong brand loyalty which results in higher revenues.

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Appendix

Questionnaire

SCENARIO 1 – COMPANY WITH A CORE SUSTAINABILITY ATTRIBUTE

Guerlain is a French luxury perfume, cosmetics, and skincare brand that has been in business for over 190 years. The brand was founded in 1828 by Pierre-Francois Pascal Guerlain, and it is known for its high-quality fragrances and elegant cosmetic products.

Over the years, Guerlain has become synonymous with luxury and sophistication, and it has a strong reputation for innovation in the beauty industry. The brand has created some of the most iconic fragrances in history, such as Shalimar, Jicky, Mitsouko, L'Heure Bleue, Habit Rouge, Aqua Allegoria Pamplelune, La Petite Robe Noire, and Mon Guerlain.

Guerlain has recently launched a new limited edition of the Aqua Allegoria collection called Harvest. It is characterized by the use of the best raw materials from exclusive, sustainable, and ethical harvests. For this launch, 95% of the ingredients are of natural origin and the fragrances have been produced using alcohol from organic farming (organic beetroot alcohol). Additionally, the brand collaborates with local producers to develop long-term relationships and ensure the sustainability of its raw material supply chain.

This limited edition will be available in three fragrances: Nerolia Vetiver, with orange flower honey and Neroli essence, Mandarine Basilic, with Marzolo mandarin essence and basil essence, and Rosa Rossa, with Grasse rose water from organic farming and lychee accord.

SCENARIO 2 – COMPANY WITH A PERIPHERAL SUSTAINABILITY ATTRIBUTE

Guerlain is a French luxury perfume, cosmetics, and skincare brand that has been in business for over 190 years. The brand was founded in 1828 by Pierre-Francois Pascal Guerlain, and it is known for its high-quality fragrances and elegant cosmetic products.

Over the years, Guerlain has become synonymous with luxury and sophistication, and it has a strong reputation for innovation in the beauty industry. The brand has created some of the most iconic fragrances in history, such as Shalimar, Jicky, Mitsouko, L'Heure Bleue, Habit Rouge, Aqua Allegoria Pamplelune, La Petite Robe Noire, and Mon Guerlain.

Guerlain has just launched a new limited edition of the Aqua Allegoria collection called Harvest. For this launch, a special "second skin effect" packaging made entirely of cellulose from sustainably managed forests and 100% recyclable has been used.

This limited edition will be available in three fragrances: Nerolia Vetiver, with orange flower honey and Neroli essence, Mandarine Basilic, with Marzolo mandarin essence and basil essence, and Rosa Rossa, with Grasse rose water from organic farming and lychee accord.

SCENARIO 3 – COMPANY WITH NO SUSTAINABILITY ATTRIBUTE

Guerlain is a French luxury perfume, cosmetics, and skincare brand that has been in business for over 190 years. The brand was founded in 1828 by Pierre-Francois Pascal Guerlain, and it is known for its high-quality fragrances and elegant cosmetic products.

Over the years, Guerlain has become synonymous with luxury and sophistication, and it has a strong reputation for innovation in the beauty industry. The brand has created some of the most iconic fragrances in history, such as Shalimar, Jicky, Mitsouko, L'Heure Bleue, Habit Rouge, Aqua Allegoria Pamplelune, La Petite Robe Noire, and Mon Guerlain.

Guerlain has just launched a new limited edition of the Aqua Allegoria collection called Harvest. This limited edition will be available in three fragrances: Nerolia Vetiver, with orange flower honey and Neroli essence, Mandarine Basilic, with Marzolo mandarin essence and basil essence, and Rosa Rossa, with Grasse rose water from organic farming and lychee accord.

QUESTIONS

Perceived trustworthiness integrity

"Based on the information given to you, to what extent from 1 to 7 do you agree with the following statements about Guerlain? (1=completely disagree; 7=completely agree):

- It appears to do its job in line with what it claims to do

- It seems like a company that is fair and honest

- It seems like a company that sticks to its word"

Perceived trustworthiness benevolence

"Based on the information given to you, to what extent do you agree with the following statements about Guerlain? (1=completely disagree; 7=completely agree):

- I think that consumers' needs and desires are important for the company

- I think the company would go extra mile to help its customers

- I think the company is concerned about its customers"

Perceived trustworthiness ability

"Based on the information given to you, to what extent do you agree with the following statements about Guerlain? (1=completely disagree; 7=completely agree):

- It appears to be a company with high competence

- I feel confident in its skills

- I believe that it is a capable company"

Perceived functional quality 1

"Express a rating about the following ability of this new Guerlain Aqua Allegoria collection from 1 to 7 (1=low ability; 7=high ability): Ability of the scent to last during the day"

Perceived functional quality 2

"From 1 to 7, how much do you like the following scents?

- Nerolia Vetiver, with orange flower honey and Neroli essence

- Mandarine Basilic, with Marzolo mandarin essence and basil essence

- Rosa Rossa, with Grasse rose water from organic farming and lychee accord."

Self-congruity

"Please read the scenario and indicate your rating from 1 to 5 regarding the following statements (1=strongly disagree; 5=strongly agree):

- Purchasing the items of this brand is consistent with how I see myself.

- This brand is consistent with how I would like to see myself being at this store.

- This brand is consistent with how I believe others see me.

- This brand is consistent with how I would like others to see me."

Attitudinal loyalty

"Do you agree to the following statements?

- I would be committed to this brand

  o Yes

  o No

- I would be willing to pay a higher price for this brand over other brands

  o Yes

  o No"

Consumer product involvement

"Rate the following statements from 1 to 5 (1=strongly disagree; 5=strongly agree)

- I have a strong interest in perfumes

- I often think about perfumes

- I care about the perfume I use"

Control question 1

Have you ever purchased a perfume from Guerlain?

- Yes

- No

Control question 2 – Brand attitude

"Rate the following statements about Guerlain from 1 to 7 (1=strongly disagree; 7=strongly agree):

- I like the brand.

- The brand has good quality.

- The brand meets my needs.

Environmental consciousness

"To what extent do you agree or disagree with the following statements from 1 to 7 (1=completely disagree; 7=completely agree):

- The Earth is like a spaceship with very limited room and resources

- The balance of nature is very delicate and easily upset

- Minimizing my impacts on the environment is in part my responsibility

- I would feel guilty if I were responsible for damage to the environment as a consumer".

DEMOGRAPHIC QUESTIONS

How old are you?

Insert a number

In which gender do you identify?

- Male

- Female

- Other

- I prefer not to say

Where do you live?

- Italy

- Norway

- Other country

What do you do?

- I am a student

- I am a worker/student

- I am a worker

- I am unemployed

Factor analysis

1. First try

Correlation Matrix (exported in Excel)

Correlation Matrix

		PTI_1	PTI_2	PTI_3	PTB_1	PTB_2	PTB_3	PTA_1	PTA_2	PTA_3	PFQ_1	PFQ_2	PFQ_3	PFQ_4	SBC_1	SBC_2	SBC_3	SBC_4	CPI_1	CPI_2	CPI_3	BA_1	BA_2	BA_3	EC_1	EC_3	EC_4	EC_2
Correlation	PTI_1	1,000	,666	,670	,573	,437	,393	,648	,628	,639	,507	,236	,200	,100	,318	,374	,317	,356	,177	,164	,105	,449	,389	,373	,216	,234	,207	,365
	PTI_2	,666	1,000	,788	,458	,560	,455	,541	,575	,572	,459	,212	,143	,122	,423	,420	,406	,422	,207	,221	,161	,508	,402	,465	,204	,190	,243	,392
	PTI_3	,670	,788	1,000	,477	,575	,535	,573	,635	,618	,447	,168	,146	,162	,382	,438	,375	,397	,155	,158	,123	,490	,456	,482	,208	,242	,290	,449
	PTB_1	,573	,458	,477	1,000	,555	,596	,609	,511	,555	,375	,211	,180	,132	,299	,300	,349	,323	,120	,089	,071	,401	,465	,365	,388	,279	,273	,460
	PTB_2	,437	,560	,575	,555	1,000	,756	,387	,475	,453	,414	,254	,211	,130	,327	,380	,381	,190	,186	,155	,418	,413	,429	,267	,197	,258	,356	
	PTB_3	,393	,455	,535	,596	,756	1,000	,402	,453	,447	,394	,136	,136	,126	,320	,340	,372	,347	,182	,137	,130	,406	,444	,394	,336	,239	,305	,421
	PTA_1	,648	,541	,573	,609	,387	,402	1,000	,777	,800	,492	,234	,234	,234	,309	,315	,265	,339	,199	,119	,170	,488	,526	,369	,249	,311	,296	,417
	PTA_2	,628	,575	,635	,511	,475	,453	,777	1,000	,821	,546	,293	,279	,237	,445	,460	,443	,446	,242	,195	,294	,557	,530	,478	,273	,313	,300	,387
	PTA_3	,639	,572	,618	,555	,453	,447	,800	,821	1,000	,490	,210	,235	,215	,376	,403	,362	,373	,267	,229	,245	,512	,533	,424	,286	,370	,319	,405
	PFQ_1	,507	,459	,447	,375	,414	,394	,492	,546	,490	1,000	,339	,293	,282	,389	,414	,421	,338	,126	,090	,121	,459	,396	,414	,199	,210	,227	,296
	PFQ_2	,236	,212	,168	,211	,254	,136	,234	,293	,210	,339	1,000	,386	,286	,460	,434	,455	,468	,236	,224	,203	,405	,276	,442	,120	,109	,083	,110
	PFQ_3	,200	,143	,146	,180	,211	,136	,234	,279	,235	,293	,386	1,000	,094	,372	,332	,358	,316	,194	,162	,121	,393	,301	,344	,204	,073	,104	,224
	PFQ_4	,100	,122	,162	,132	,130	,126	,234	,237	,215	,282	,286	,094	1,000	,342	,324	,282	,397	,140	,098	,122	,267	,281	,298	-,020	,043	,036	,092
	SBC_1	,318	,423	,382	,299	,327	,320	,309	,445	,376	,389	,460	,372	,342	1,000	,799	,813	,797	,308	,317	,232	,605	,470	,664	,254	,166	,226	,334
	SBC_2	,374	,420	,438	,300	,327	,340	,315	,460	,403	,414	,434	,332	,324	,799	1,000	,760	,788	,291	,253	,215	,559	,457	,654	,216	,118	,148	,310
	SBC_3	,317	,406	,375	,349	,380	,372	,265	,443	,362	,421	,455	,358	,282	,813	,760	1,000	,808	,235	,254	,174	,534	,412	,652	,289	,184	,251	,297
	SBC_4	,356	,422	,397	,323	,381	,347	,339	,446	,373	,338	,468	,316	,397	,797	,788	,808	1,000	,232	,220	,154	,554	,463	,652	,272	,158	,244	,347
	CPI_1	,177	,207	,155	,120	,190	,182	,199	,242	,267	,126	,236	,194	,140	,308	,291	,235	,232	1,000	,849	,694	,432	,420	,444	,154	,155	,215	,239
	CPI_2	,164	,221	,158	,089	,186	,137	,119	,195	,229	,090	,224	,162	,098	,317	,253	,254	,220	,849	1,000	,664	,430	,371	,455	,008	,035	,131	,083
	CPI_3	,105	,161	,123	,071	,155	,130	,170	,294	,245	,121	,203	,121	,123	,232	,215	,174	,154	,694	,664	1,000	,339	,294	,324	,049	,111	,143	,110
	BA_1	,449	,508	,490	,401	,418	,406	,488	,557	,512	,459	,405	,393	,267	,605	,559	,534	,554	,432	,430	,339	1,000	,706	,716	,393	,296	,364	,500
	BA_2	,389	,402	,456	,465	,413	,444	,526	,530	,533	,396	,276	,301	,281	,470	,457	,412	,463	,420	,371	,294	,706	1,000	,591	,406	,381	,431	,523
	BA_3	,373	,465	,482	,365	,429	,394	,369	,478	,424	,414	,442	,344	,298	,664	,654	,652	,652	,444	,455	,324	,716	,591	1,000	,282	,204	,276	,361
	EC_1	,216	,204	,208	,388	,267	,336	,249	,273	,286	,199	,120	,204	-,020	,254	,216	,289	,272	,154	,008	,049	,393	,406	,282	1,000	,504	,547	,631
	EC_3	,234	,190	,242	,279	,197	,239	,311	,313	,370	,210	,109	,073	,043	,166	,118	,184	,158	,155	,035	,111	,296	,381	,204	,504	1,000	,674	,580
	EC_4	,207	,243	,290	,273	,258	,305	,296	,300	,319	,227	,083	,104	,036	,226	,148	,251	,244	,215	,131	,143	,364	,431	,276	,547	,674	1,000	,584
	EC_2	,365	,392	,449	,460	,356	,421	,417	,387	,405	,296	,110	,224	,092	,334	,310	,297	,347	,239	,083	,110	,500	,523	,361	,631	,580	,584	1,000
Sig. (1-tailed)	PTI_1		<,001	<,001	<,001	<,001	<,001	<,001	<,001	<,001	,000	,003	,034	,059	,000	,000	,000	,000	,004	,002	,019	,000	,000	,000	,004	,007	,001	,000
	PTI_2	,000		,000	,000	,000	,000	,000	,000	,000	,000	,003	,016	,031	,019	,000	,000	,000	,000	,024	,002	,019	,000	,000	,000	,004	,007	,001	,000
	PTI_3	,000	,000		,000	,000	,000	,000	,000	,000	,000	,016	,019	,057	,000	,000	,000	,000	,024	,021	,057	,000	,000	,000	,004	,001	,000	,000
	PTB_1	,000	,000	,000		,000	,000	,000	,000	,000	,000	,003	,046	,048	,000	,000	,000	,000	,063	,128	,184	,000	,000	,000	,000	,000	,000	,000
	PTB_2	,000	,000	,000	,000		,000	,000	,000	,000	,000	,003	,003	,048	,000	,000	,000	,000	,007	,008	,023	,000	,000	,000	,000	,006	,000	,000
	PTB_3	,000	,000	,000	,000	,000		,000	,000	,000	,000	,040	,041	,053	,000	,000	,000	,000	,010	,039	,048	,000	,000	,000	,000	,001	,000	,000
	PTA_1	,000	,000	,000	,000	,000	,000		,000	,000	,000	,001	,001	,001	,000	,000	,000	,000	,005	,063	,014	,000	,000	,000	,001	,000	,000	,000
	PTA_2	,000	,000	,000	,000	,000	,000	,000		,000	,000	,003	,001	,003	,000	,000	,000	,000	,001	,006	,000	,000	,000	,000	,000	,000	,000	,000
	PTA_3	,000	,000	,000	,000	,000	,000	,000	,000		,000	,003	,001	,003	,000	,000	,000	,000	,000	,002	,001	,000	,000	,000	,000	,000	,000	,000
	PFQ_1	,000	,000	,000	,000	,000	,000	,000	,000	,000		,000	,000	,000	,000	,000	,000	,000	,053	,126	,061	,000	,000	,000	,005	,003	,002	,000
	PFQ_2	,001	,003	,016	,003	,000	,040	,003	,000	,003	,000		,000	,000	,000	,000	,000	,000	,000	,001	,002	,004	,000	,000	,000	,063	,082	,144	,000
	PFQ_3	,005	,034	,031	,010	,003	,041	,001	,000	,001	,000	,000		,114	,000	,000	,000	,000	,006	,019	,061	,000	,000	,000	,004	,175	,091	,002
	PFQ_4	,100	,059	,019	,046	,048	,053	,001	,001	,003	,000	,000	,114		,000	,000	,000	,000	,037	,105	,059	,000	,000	,000	,399	,291	,324	,119
	SBC_1	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000		,000	,000	,000	,000	,000	,001	,000	,000	,000	,000	,016	,002	,000
	SBC_2	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000		,000	,000	,000	,001	,003	,000	,000	,000	,003	,065	,029	,000
	SBC_3	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000		,000	,000	,001	,013	,000	,000	,000	,000	,009	,001	,000
	SBC_4	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000		,000	,001	,024	,000	,000	,000	,000	,021	,001	,000
	CPI_1	,011	,004	,024	,063	,007	,010	,005	,001	,000	,053	,001	,006	,037	,000	,000	,001	,001		,000	,000	,000	,000	,000	,024	,023	,003	,001
	CPI_2	,018	,002	,021	,128	,008	,039	,063	,006	,002	,126	,002	,019	,105	,000	,001	,000	,002	,000		,000	,000	,000	,000	,459	,330	,046	,143
	CPI_3	,091	,019	,057	,184	,023	,048	,014	,000	,001	,061	,004	,061	,059	,001	,003	,013	,024	,000	,000		,000	,000	,000	,267	,079	,034	,080
	BA_1	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000		,000	,000	,000	,000	,000	,000
	BA_2	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000		,000	,000	,000	,004	,000
	BA_3	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000		,000	,000	,000	,000
	EC_1	,003	,004	,004	,000	,000	,000	,001	,000	,000	,005	,062	,004	,399	,000	,003	,000	,000	,024	,459	,267	,000	,000	,000		,000	,000	,000
	EC_3	,001	,007	,001	,000	,006	,001	,000	,000	,000	,062	,175	,291	,016	,065	,009	,021	,023	,330	,079	,000	,000	,000		,000		,000	,000
	EC_4	,004	,001	,000	,000	,000	,000	,000	,000	,000	,002	,144	,091	,324	,002	,029	,001	,001	,003	,046	,034	,000	,000	,000	,000	,000		,000
	EC_2	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,080	,002	,119	,000	,000	,000	,000	,001	,143	,080	,000	,000	,000	,000	,000	,000	

Communalities (exported in Excel)

Communalities	Initial	Extraction
PTI_1	1,000	1,000
PTI_2	1,000	1,000
PTI_3	1,000	1,000
PTB_1	1,000	1,000
PTB_2	1,000	1,000
PTB_3	1,000	1,000
PTA_1	1,000	1,000
PTA_2	1,000	1,000
PTA_3	1,000	1,000
PFQ_1	1,000	1,000
PFQ_2	1,000	1,000
PFQ_3	1,000	1,000
PFQ_4	1,000	1,000
SBC_1	1,000	1,000
SBC_2	1,000	1,000
SBC_3	1,000	1,000
SBC_4	1,000	1,000
CPI_1	1,000	1,000
CPI_2	1,000	1,000
CPI_3	1,000	1,000
BA_1	1,000	1,000
BA_2	1,000	1,000
BA_3	1,000	1,000
EC_1	1,000	1,000
EC_3	1,000	1,000
EC_4	1,000	1,000
EC_2	1,000	1,000

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10,541	39,042	39,042	10,541	39,042	39,042
2	2,797	10,360	49,402	2,797	10,360	49,402
3	2,145	7,946	57,348	2,145	7,946	57,348
4	1,903	7,049	64,397	1,903	7,049	64,397
5	1,188	4,399	68,796	1,188	4,399	68,796
6	,984	3,644	72,441	,984	3,644	72,441
7	,918	3,399	75,839	,918	3,399	75,839
8	,709	2,625	78,464	,709	2,625	78,464
9	,668	2,474	80,938	,668	2,474	80,938
10	,592	2,191	83,129	,592	2,191	83,129
11	,522	1,934	85,063	,522	1,934	85,063
12	,500	1,853	86,916	,500	1,853	86,916
13	,434	1,607	88,524	,434	1,607	88,524
14	,363	1,343	89,866	,363	1,343	89,866
15	,321	1,191	91,057	,321	1,191	91,057
16	,313	1,161	92,218	,313	1,161	92,218
17	,284	1,053	93,271	,284	1,053	93,271
18	,273	1,010	94,281	,273	1,010	94,281
19	,252	,932	95,212	,252	,932	95,212
20	,229	,847	96,060	,229	,847	96,060
21	,198	,733	96,793	,198	,733	96,793
22	,189	,702	97,494	,189	,702	97,494
23	,164	,608	98,102	,164	,608	98,102
24	,150	,555	98,657	,150	,555	98,657
25	,142	,526	99,183	,142	,526	99,183
26	,122	,451	99,634	,122	,451	99,634
27	,099	,366	100,000	,099	,366	100,000

Extraction Method: Principal Component Analysis.

Scree Plot
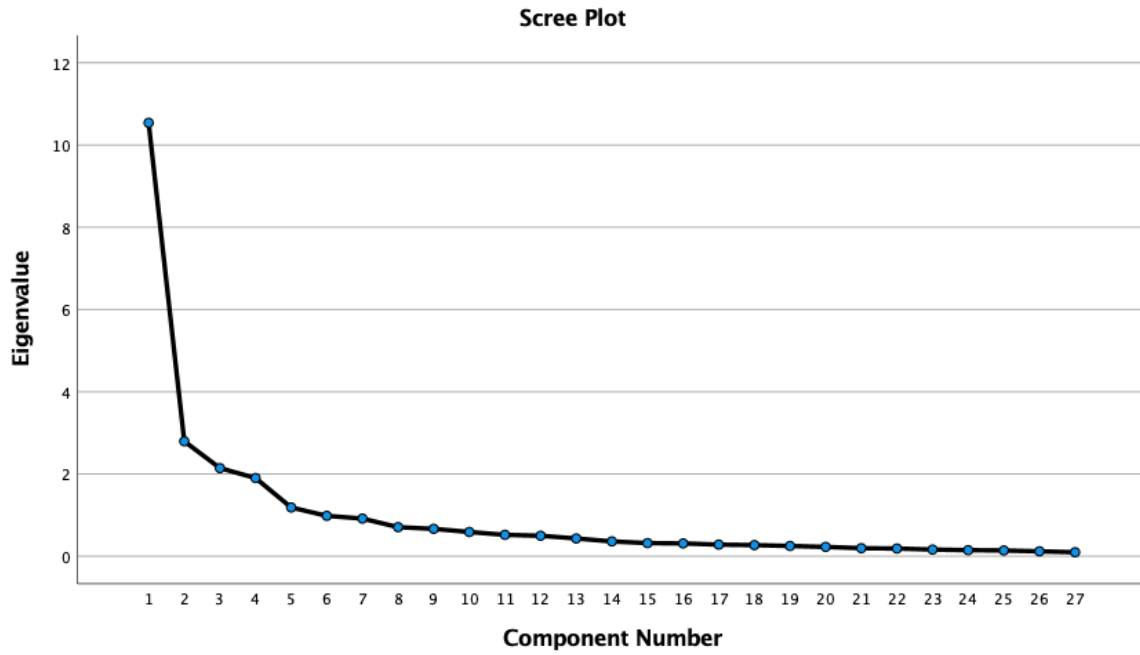
Component Matrix (exported in Excel)

Component Matrix[a]

	Component																										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
PTI_1	,674	-,307	-,175	-,308	,092	,028	-,239	,057	,011	,219	-,103	,166	,180	,007	-,058	,020	,215	,197	-,180	-,034	-,051	,025	-,065	-,059	-,036	-,055	,012
PTI_2	,705	-,208	-,170	-,275	-,180	-,130	-,268	,172	-,196	,126	,087	,097	-,075	,090	,082	-,003	,033	-,227	,077	,002	,145	,089	,064	-,024	-,144	,019	,020
PTI_3	,721	-,295	-,169	-,246	-,158	-,165	-,184	,104	-,222	,040	,179	,023	-,068	-,038	,001	,029	-,017	,115	,174	,122	-,121	-,021	-,018	,074	,184	,019	-,051
PTB_1	,645	-,373	-,067	-,069	-,127	,165	,202	-,242	,267	,245	-,125	,067	,202	-,025	,223	,121	-,021	-,061	,099	,041	-,002	-,093	,035	,053	-,014	,065	-,048
PTB_2	,646	-,212	-,097	-,138	-,481	,185	,277	,156	,005	-,065	,155	-,055	-,045	,045	-,068	-,005	,052	-,072	-,067	-,225	,024	-,163	-,065	,037	,040	-,070	,015
PTB_3	,629	-,277	-,032	-,054	-,496	,100	,341	-,014	,070	-,164	,014	-,034	,002	-,078	-,082	-,055	-,031	,099	-,082	,209	,029	,183	,021	-,057	-,044	,031	,016
PTA_1	,703	-,344	-,063	-,273	,367	-,001	,023	-,169	,124	,023	,034	-,061	,001	,023	,052	-,110	-,149	-,014	-,028	-,046	,159	,131	-,056	,079	,127	-,091	,090
PTA_2	,781	-,195	-,092	-,244	,266	-,028	-,045	-,035	,166	-,189	,064	-,093	-,179	,047	-,030	,006	-,032	,030	-,037	-,019	-,165	-,016	-,048	,157	-,179	,085	,009
PTA_3	,753	-,277	-,012	-,278	,273	-,058	-,043	-,108	,180	-,130	,080	-,072	-,027	,067	-,164	,017	-,049	-,066	,031	,032	,001	-,120	,098	-,239	,028	-,009	-,062
PFQ_1	,624	-,102	-,232	-,075	,203	,127	,133	,337	-,173	-,276	-,464	,104	,063	-,027	,010	-,039	-,048	-,036	,050	-,050	,006	-,002	,011	,001	,046	,055	-,019
PFQ_2	,468	,382	-,181	,114	,208	,323	,146	,386	,154	,419	,043	-,137	-,150	-,057	-,032	-,116	-,048	,017	,045	,062	-,032	,001	,008	-,034	-,012	-,002	,004
PFQ_3	,411	,227	-,072	,161	,229	,686	-,086	-,095	-,183	-,194	,300	,150	,123	,025	,031	,059	,040	,020	,033	,021	,027	,025	,015	,000	-,007	,020	,002
PFQ_4	,337	,264	-,225	,037	,313	-,374	,619	-,027	-,193	,074	,142	,238	,019	,108	-,017	,078	,038	,004	-,009	,040	-,013	-,014	,001	,001	-,025	-,020	,022
SBC_1	,719	,421	-,216	,260	-,050	-,117	-,129	-,047	,088	-,073	,002	,033	,043	-,032	,040	-,043	-,004	-,161	-,038	,111	,013	-,028	-,299	-,061	,013	,019	-,043
SBC_2	,707	,382	-,288	,189	-,062	-,139	-,148	-,072	,087	-,085	-,048	,061	-,010	-,186	-,092	-,052	,042	,143	,082	,065	,176	-,180	,077	,070	-,050	-,026	,087
SBC_3	,703	,354	-,264	,307	-,133	-,063	-,109	,036	,199	-,120	-,045	,010	,090	,084	,048	,048	,011	-,100	,037	,000	-,188	,097	,118	,024	,015	-,186	,028
SBC_4	,714	,346	-,288	,299	-,074	-,176	-,056	-,066	,125	,030	,093	,024	,013	,042	,011	-,110	,039	,051	-,097	-,193	,028	,100	,098	,000	,088	,177	-,069
CPI_1	,446	,466	,592	-,307	-,050	,010	,010	-,014	,022	,048	-,027	,149	,095	,016	-,172	-,092	-,088	,010	,035	-,014	,054	,035	,002	,104	-,048	-,075	-,175
CPI_2	,395	,540	,501	-,398	-,126	,004	-,047	,003	-,009	,061	-,028	,007	,184	,112	-,092	-,029	-,041	-,077	-,006	,035	-,088	-,038	,011	-,007	,056	,113	,175
CPI_3	,352	,424	,515	-,387	,022	-,027	,055	,102	,187	-,145	,022	,130	-,250	-,130	,273	,093	,134	,062	,002	-,029	,023	,026	,000	-,065	,040	-,014	,006
BA_1	,800	,169	,123	,048	,052	,060	-,041	-,116	-,279	,065	-,110	-,190	-,122	,000	,068	,066	,024	-,090	-,296	,132	,018	-,079	,096	,065	,050	-,022	-,042
BA_2	,745	,015	,237	,054	,079	-,013	,147	-,263	-,231	,026	-,071	-,284	,034	-,111	,003	-,166	,244	-,026	,179	-,075	-,053	,053	-,023	-,035	-,035	-,018	,002
BA_3	,764	,340	-,008	,063	-,104	-,027	-,036	-,042	-,152	,061	-,079	-,214	,002	,063	,007	,307	-,199	,178	,061	-,115	,046	,051	-,061	-,070	-,054	-,008	,005
EC_1	,466	-,283	,346	,511	-,058	,138	-,034	-,132	,067	,081	-,181	,194	-,299	,259	-,138	,046	,093	,015	,077	,026	,027	,017	-,035	,013	,046	,012	,029
EC_3	,424	-,359	,455	,383	,201	-,141	,001	,272	,120	-,012	,111	-,083	,148	-,195	-,148	,235	,096	-,106	-,012	,000	,053	,058	,002	,060	,028	,033	,008
EC_4	,473	-,288	,485	,398	,040	-,142	-,017	,244	-,008	-,091	,095	-,102	,162	,233	,215	-,167	-,032	,146	-,010	,052	,037	-,085	,002	-,017	-,042	-,015	-,007
EC_2	,616	-,327	,324	,353	-,029	-,029	-,049	-,094	-,157	,090	,037	,256	-,066	-,266	,032	-,095	-,223	-,025	-,061	-,097	-,123	-,026	,014	-,068	-,040	-,015	,040

Extraction Method: Principal Component Analysis.

a 30 components extracted.

Factor analysis criteria:

1. Ratio between number of components and variables: 9

2. Percentage of explained variance (between 60-75%): 4-7

3. Scree plot: 5 or 8

4. Eigenvalue > 1: 7

I chose 7 as number of factors.

2. Factor analysis with 7 factors

Communalities (exported in Excel)

Communalities		
	Initial	Extraction
PTI_1	1,000	,740
PTI_2	1,000	,765
PTI_3	1,000	,782
PTB_1	1,000	,649
PTB_2	1,000	,833
PTB_3	1,000	,849
PTA_1	1,000	,826
PTA_2	1,000	,790
PTA_3	1,000	,800
PFQ_1	1,000	,534
PFQ_2	1,000	,580
PFQ_3	1,000	,782
PFQ_4	1,000	,857
SBC_1	1,000	,841
SBC_2	1,000	,810
SBC_3	1,000	,817
SBC_4	1,000	,841
CPI_1	1,000	,864
CPI_2	1,000	,875
CPI_3	1,000	,723
BA_1	1,000	,694
BA_2	1,000	,643
BA_3	1,000	,716
EC_1	1,000	,702
EC_3	1,000	,723
EC_4	1,000	,722
EC_2	1,000	,719
Extraction Method: Principal Component Analysis.		

The communality check is ok.

New component matrix (exported in Excel)

Component Matrix a	1	2	3	4	5	6	7
Dai un voto alle seguenti affermazioni su Guerlain da 1 a 7 (1=sono totalmente in disaccordo; 7=sono totalmente d'accordo) - Mi piace il brand	,800						
Sulla base del testo che hai appena letto, in che misura da 1 a 7 sei d'accordo con le seguenti affermazioni riguardo Guerlain / (1=non sono per niente d'accordo; 7=sono completamente d'accordo) - Confido nelle sue capacità	,781						
Dai un voto alle seguenti affermazioni su Guerlain da 1 a 7 (1=sono totalmente in disaccordo; 7=sono totalmente d'accordo) - Il brand incontra i miei bisogni	,764						
Sulla base del testo che hai appena letto, in che misura da 1 a 7 sei d'accordo con le seguenti affermazioni riguardo Guerlain / (1=non sono per niente d'accordo; 7=sono completamente d'accordo) - Credo che sia un'azienda capace	,753						
Dai un voto alle seguenti affermazioni su Guerlain da 1 a 7 (1=sono totalmente in disaccordo; 7=sono totalmente d'accordo) - Il brand è di buona qualità	,745						
Sulla base del testo che hai appena letto, in che misura da 1 a 7 sei d'accordo con le seguenti affermazioni riguardo Guerlain / (1=non sono per niente d'accordo; 7=sono completamente d'accordo) - Sembra essere un'azienda che mantiene la sua parola	,721						
Indica la tua valutazione da 1 a 5 per le seguenti affermazioni (1=fortemente in disaccordo; 5=fortemente d'accordo): - L'acquisto degli articoli di questo marchio è coerente con come mi vedo	,719	,421					
Indica la tua valutazione da 1 a 5 per le seguenti affermazioni (1=fortemente in disaccordo; 5=fortemente d'accordo): - Questo marchio è coerente con il modo in cui vorrei che gli altri mi vedessero	,714						
Indica la tua valutazione da 1 a 5 per le seguenti affermazioni (1=fortemente in disaccordo; 5=fortemente d'accordo): - Questo marchio è coerente con come vorrei vedermi in questo negozio	,707						
Sulla base del testo che hai appena letto, in che misura da 1 a 7 sei d'accordo con le seguenti affermazioni riguardo Guerlain / (1=non sono per niente d'accordo; 7=sono completamente d'accordo) - Sembra essere un'azienda equa e onesta	,705						
Indica la tua valutazione da 1 a 5 per le seguenti affermazioni (1=fortemente in disaccordo; 5=fortemente d'accordo): - Questo marchio è coerente con il modo in cui credo che gli altri mi vedano	,703						
Sulla base del testo che hai appena letto, in che misura da 1 a 7 sei d'accordo con le seguenti affermazioni riguardo Guerlain / (1=non sono per niente d'accordo; 7=sono completamente d'accordo) - Sembra essere un'azienda con una grande competenza	,703						
Sulla base del testo che hai appena letto, in che misura da 1 a 7 sei d'accordo con le seguenti affermazioni riguardo Guerlain / (1=non sono per niente d'accordo; 7=sono completamente d'accordo) - Sembra svolgere il suo lavoro in linea con ciò che dichiara	,674						
Sulla base del testo che hai appena letto, in che misura da 1 a 7 sei d'accordo con le seguenti affermazioni riguardo Guerlain / (1=non sono per niente d'accordo; 7=sono completamente d'accordo) - Credo che l'azienda farebbe di tutto per aiutare i suoi cli	,646				-,481		
Sulla base del testo che hai appena letto, in che misura da 1 a 7 sei d'accordo con le seguenti affermazioni riguardo Guerlain / (1=non sono per niente d'accordo; 7=sono completamente d'accordo) - Credo che le esigenze e i desideri dei consumatori siano im	,645						
Sulla base del testo che hai appena letto, in che misura da 1 a 7 sei d'accordo con le seguenti affermazioni riguardo Guerlain / (1=non sono per niente d'accordo; 7=sono completamente d'accordo) - Credo che l'azienda si preoccupi dei suoi clienti	,629				-,496		
Esprimi una valutazione da 1 a 7 riguardo la seguente abilità della nuova collezione Aqua Allegoria di Guerlain (1=abilità bassa; 7=abilità alta): - Abilità della profumazione di durare durante il giorno	,624						
In che misura sei d'accordo o in disaccordo con le seguenti affermazioni da 1 a 7 (1=non sono per niente d'accordo; 7=sono completamente d'accordo): - L'equilibrio della natura è molto delicato e facilmente perturbabile	,616						
Da 1 a 7, quanto ti piacciono le seguenti fragranze? (1=per niente; 7=molto) - Nerolia Vetiver, con miele di fiori d'arancio e essenza di Neroli	,468						
Valuta le seguenti affermazioni da 1 a 5 (1=sono fortemente in disaccordo; 5=sono fortemente d'accordo) - Penso spesso ai profumi		,540	,501				
Valuta le seguenti affermazioni da 1 a 5 (1=sono fortemente in disaccordo; 5=sono fortemente d'accordo) - Ho un forte interesse per i profumi	,446	,466	,592				
Valuta le seguenti affermazioni da 1 a 5 (1=sono fortemente in disaccordo; 5=sono fortemente d'accordo) - Mi importa molto che profumo utilizzo		,424	,515				
In che misura sei d'accordo o in disaccordo con le seguenti affermazioni da 1 a 7 (1=non sono per niente d'accordo; 7=sono completamente d'accordo): - Mi sentirei in colpa se fossi responsabile di danni all'ambiente come consumatore	,473		,485				
In che misura sei d'accordo o in disaccordo con le seguenti affermazioni da 1 a 7 (1=non sono per niente d'accordo; 7=sono completamente d'accordo): - Minimizzare i miei impatti sull'ambiente è in parte una mia responsabilità	,424		,455				
In che misura sei d'accordo o in disaccordo con le seguenti affermazioni da 1 a 7 (1=non sono per niente d'accordo; 7=sono completamente d'accordo): - La Terra è come una navicella spaziale con spazio e risorse molto limitati	,466			,511			
Da 1 a 7, quanto ti piacciono le seguenti fragranze? (1=per niente; 7=molto) - Mandarine Basilic, con essenza di mandarino di Marzolo e essenza di basilico	,411					,686	
Da 1 a 7, quanto ti piacciono le seguenti fragranze? (1=per niente; 7=molto) - Rosa Rossa, con acqua di rose di Grasse da agricoltura biologica e accordo di litchi							,619
Extraction Method: Principal Component Analysis.							
a 7 components extracted.							

The first factor is correlated with almost all the variables, so it is tough to interpret. Others factors are correlated with few variables, but they are present in more than one factor. I performed a VARIMAX rotation.

Rotated Component Matrixa

	Component						
	1	2	3	4	5	6	7
PTA_1	,833						
PTA_3	,812						
PTI_1	,805						
PTA_2	,790						
PTI_3	,715						
PTI_2	,691						
PFQ_1	,530						
SBC_4		,857					
SBC_1		,856					
SBC_3		,847					
SBC_2		,842					
BA_3		,652					
BA_1		,479					
EC_3			,821				
EC_4			,820				
EC_1			,768				
EC_2			,748				
BA_2			,442				
CPI_2				,910			
CPI_1				,900			
CPI_3				,835			
PTB_3					,829		
PTB_2					,812		
PTB_1	,491				,548		
PFQ_3						,823	
PFQ_2		,411				,570	
PFQ_4							,866
Extraction Method: Principal Component Analysis.							
Rotation Method: Varimax with Kaiser Normalization.							
a Rotation converged in 6 iterations.							

Factor 1: Perceived trustworthiness (based on integrity and ability)

Factor 2: Self brand congruity and attitude

Factor 3: Environmental consciousness

Factor 4: Consumer product involvment

Factor 5: Perceived trustowrthiness benevolence

Factor 6: Preference towards Mandarine Basilic and Nerolia Vetiver

Factor 7: Preference towards Red Rose

Bivariate analysis

Bias test

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Perceived trustworthiness integrity * Hai mai acquistato un profumo Guerlain?	102	100,0%	0	0,0%	102	100,0%
Perceived trustworthiness benevolence * Hai mai acquistato un profumo Guerlain?	102	100,0%	0	0,0%	102	100,0%
Perceived trustworthiness ability * Hai mai acquistato un profumo Guerlain?	102	100,0%	0	0,0%	102	100,0%
PFQ_OV * Hai mai acquistato un profumo Guerlain?	102	100,0%	0	0,0%	102	100,0%
SBC_OV * Hai mai acquistato un profumo Guerlain?	102	100,0%	0	0,0%	102	100,0%
CPI_OV * Hai mai acquistato un profumo Guerlain?	102	100,0%	0	0,0%	102	100,0%
BA_OV * Hai mai acquistato un profumo Guerlain?	102	100,0%	0	0,0%	102	100,0%

Report

Hai mai acquistato un profumo Guerlain?		Perceived trustworthiness integrity	Perceived trustworthiness benevolence	Perceived trustworthiness ability	PFQ_OV	SBC_OV	CPI_OV	BA_OV
Si	Mean	5,53	4,53	5,47	5,029	3,618	3,65	5,35
	N	17	17	17	17	17	17	17
	Std. Deviation	1,281	1,663	1,231	1,0528	1,2058	1,115	1,539
No	Mean	5,26	5,02	5,75	4,565	2,982	2,73	4,42
	N	85	85	85	85	85	85	85
	Std. Deviation	1,197	1,253	1,122	1,1746	1,0364	1,169	1,409
Total	Mean	5,30	4,94	5,71	4,642	3,088	2,88	4,58
	N	102	102	102	102	102	102	102
	Std. Deviation	1,209	1,334	1,140	1,1633	1,0864	1,205	1,465

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Perceived trustworthiness integrity * Hai mai acquistato un profumo Guerlain?	Between Groups	(Combined)	1,037	1	1,037	,708	,402
	Within Groups		146,541	100	1,465		
	Total		147,578	101			
Perceived trustworthiness benevolence * Hai mai acquistato un profumo Guerlain?	Between Groups	(Combined)	3,459	1	3,459	1,963	,164
	Within Groups		176,188	100	1,762		
	Total		179,647	101			
Perceived trustworthiness ability * Hai mai acquistato un profumo Guerlain?	Between Groups	(Combined)	1,129	1	1,129	,868	,354
	Within Groups		130,047	100	1,300		
	Total		131,176	101			
PFQ_OV * Hai mai acquistato un profumo Guerlain?	Between Groups	(Combined)	3,059	1	3,059	2,289	,133
	Within Groups		133,629	100	1,336		
	Total		136,689	101			
SBC_OV * Hai mai acquistato un profumo Guerlain?	Between Groups	(Combined)	5,718	1	5,718	5,038	,027
	Within Groups		113,488	100	1,135		
	Total		119,206	101			
CPI_OV * Hai mai acquistato un profumo Guerlain?	Between Groups	(Combined)	11,929	1	11,929	8,859	,004
	Within Groups		134,659	100	1,347		
	Total		146,588	101			
BA_OV * Hai mai acquistato un profumo Guerlain?	Between Groups	(Combined)	12,237	1	12,237	5,980	,016
	Within Groups		204,635	100	2,046		
	Total		216,873	101			

Measures of Association

	Eta	Eta Squared
Perceived trustworthiness integrity * Hai mai acquistato un profumo Guerlain?	,084	,007
Perceived trustworthiness benevolence * Hai mai acquistato un profumo Guerlain?	,139	,019
Perceived trustworthiness ability * Hai mai acquistato un profumo Guerlain?	,093	,009
PFQ_OV * Hai mai acquistato un profumo Guerlain?	,150	,022
SBC_OV * Hai mai acquistato un profumo Guerlain?	,219	,048
CPI_OV * Hai mai acquistato un profumo Guerlain?	,285	,081
BA_OV * Hai mai acquistato un profumo Guerlain?	,238	,056

ANOVA analysis – Brand sustainability impact on self-brand congruity factor

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Self brand congruity and attitude * SCENARIO	116	100,0%	0	0,0%	116	100,0%

Report

Self brand congruity and attitude

SCENARIO	Mean	N	Std. Deviation
S1	-,0213191	33	,92678442
S2	-,0395329	43	1,08358367
S3	-,1837937	40	,99996855
Total	-,0840965	116	1,00611506

ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
Self brand congruity and attitude * SCENARIO	Between Groups (Combined)	,613	2	,307	,299	,742
	Within Groups	115,798	113	1,025		
	Total	116,411	115			

Measures of Association

	Eta	Eta Squared
Self brand congruity and attitude * SCENARIO	,073	,005

ANOVA analysis – Brand sustainability impact on perceived trustworthiness integrity and ability factor

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Perceived trustworthiness (integrity and ability) * SCENARIO	116	100,0%	0	0,0%	116	100,0%

Report

Perceived trustworthiness (integrity and ability)

SCENARIO	Mean	N	Std. Deviation
S1	,0508016	33	,98461824
S2	-,1134905	43	1,10245695
S3	,2443581	40	,90842155
Total	,0566438	116	1,00826855

ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
Perceived trustworthiness (integrity and ability) * SCENARIO	Between Groups (Combined)	2,655	2	1,328	1,313	,273
	Within Groups	114,254	113	1,011		
	Total	116,910	115			

Measures of Association

	Eta	Eta Squared
Perceived trustworthiness (integrity and ability) * SCENARIO	,151	,023

ANOVA analysis – Brand sustainability impact on perceived trustworthiness benevolence factor

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Perceived trustworthiness benevolence * SCENARIO	116	100,0%	0	0,0%	116	100,0%

Report

Perceived trustworthiness benevolence

SCENARIO	Mean	N	Std. Deviation
S1	,1756576	33	1,03874887
S2	,0512233	43	,99031588
S3	-,2394502	40	1,01049285
Total	-,0136095	116	1,01700418

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Perceived trustworthiness benevolence * SCENARIO	Between Groups	(Combined)	3,403	2	1,702	1,664	,194
	Within Groups		115,541	113	1,022		
	Total		118,944	115			

Measures of Association

	Eta	Eta Squared
Perceived trustworthiness benevolence * SCENARIO	,169	,029

ANOVA test – Brand sustainability on self image congruity

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
SBC_OV * SCENARIO	116	100,0%	0	0,0%	116	100,0%

Report

SBC_OV

SCENARIO	Mean	N	Std. Deviation
S1	3,106	33	,9743
S2	3,058	43	1,1402
S3	2,988	40	1,1463
Total	3,047	116	1,0894

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
SBC_OV * SCENARIO	Between Groups	(Combined)	,262	2	,131	,109	,897
	Within Groups		136,227	113	1,206		
	Total		136,489	115			

Measures of Association

	Eta	Eta Squared
SBC_OV * SCENARIO	,044	,002

ANOVA test – Brand sustainability on brand trust

Case Processing Summary

| | Cases | | | | | |
| | Included | | Excluded | | Total | |
	N	Percent	N	Percent	N	Percent
Perceived trustworthiness integrity * SCENARIO	116	100,0%	0	0,0%	116	100,0%
Perceived trustworthiness benevolence * SCENARIO	116	100,0%	0	0,0%	116	100,0%
Perceived trustworthiness ability * SCENARIO	116	100,0%	0	0,0%	116	100,0%

Report

SCENARIO		Perceived trustworthiness integrity	Perceived trustworthiness benevolence	Perceived trustworthiness ability
S1	Mean	5,42	5,12	5,82
	N	33	33	33
	Std. Deviation	1,173	1,474	1,014
S2	Mean	5,30	5,05	5,58
	N	43	43	43
	Std. Deviation	1,245	1,430	1,118
S3	Mean	5,30	4,85	5,90
	N	40	40	40
	Std. Deviation	1,114	1,167	1,150
Total	Mean	5,34	5,00	5,76
	N	116	116	116
	Std. Deviation	1,172	1,351	1,100

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Perceived trustworthiness integrity * SCENARIO	Between Groups	(Combined)	,358	2	,179	,128	,880
	Within Groups		157,530	113	1,394		
	Total		157,888	115			
Perceived trustworthiness benevolence * SCENARIO	Between Groups	(Combined)	1,478	2	,739	,400	,671
	Within Groups		208,522	113	1,845		
	Total		210,000	115			
Perceived trustworthiness ability * SCENARIO	Between Groups	(Combined)	2,267	2	1,134	,935	,396
	Within Groups		136,974	113	1,212		
	Total		139,241	115			

Measures of Association

	Eta	Eta Squared
Perceived trustworthiness integrity * SCENARIO	,048	,002
Perceived trustworthiness benevolence * SCENARIO	,084	,007
Perceived trustworthiness ability * SCENARIO	,128	,016

ANOVA test – Brand sustainability on brand trust factors

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Perceived trustworthiness (integrity and ability) * SCENARIO	116	100,0%	0	0,0%	116	100,0%
Perceived trustworthiness benevolence * SCENARIO	116	100,0%	0	0,0%	116	100,0%

Report

SCENARIO		Perceived trustworthiness (integrity and ability)	Perceived trustworthiness benevolence
S1	Mean	,0508016	,1756576
	N	33	33
	Std. Deviation	,98461824	1,03874887
S2	Mean	-,1134905	,0512233
	N	43	43
	Std. Deviation	1,10245695	,99031588
S3	Mean	,2443581	-,2394502
	N	40	40
	Std. Deviation	,90842155	1,01049285
Total	Mean	,0566438	-,0136095
	N	116	116
	Std. Deviation	1,00826855	1,01700418

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Perceived trustworthiness (integrity and ability) * SCENARIO	Between Groups	(Combined)	2,655	2	1,328	1,313	,273
	Within Groups		114,254	113	1,011		
	Total		116,910	115			
Perceived trustworthiness benevolence * SCENARIO	Between Groups	(Combined)	3,403	2	1,702	1,664	,194
	Within Groups		115,541	113	1,022		
	Total		118,944	115			

Measures of Association

	Eta	Eta Squared
Perceived trustworthiness (integrity and ability) * SCENARIO	,151	,023
Perceived trustworthiness benevolence * SCENARIO	,169	,029

Correlation analysis – self brand image congruity on perceived trustworthiness integrity

Descriptive Statistics

	Mean	Std. Deviation	N
Perceived trustworthiness integrity	5,34	1,172	116
SBC_OV	3,047	1,0894	116

Correlations

		Perceived trustworthiness integrity	SBC_OV
Perceived trustworthiness integrity	Pearson Correlation	1	,372**
	Sig. (2–tailed)		<,001
	N	116	116
SBC_OV	Pearson Correlation	,372**	1
	Sig. (2–tailed)	<,001	
	N	116	116

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

Correlation analysis – self brand image congruity on perceived trustworthiness benevolence

Descriptive Statistics

	Mean	Std. Deviation	N
SBC_OV	3,047	1,0894	116
Perceived trustworthiness benevolence	5,00	1,351	116

Correlations

		SBC_OV	Perceived trustworthiness benevolence
SBC_OV	Pearson Correlation	1	,310**
	Sig. (2–tailed)		<,001
	N	116	116
Perceived trustworthiness benevolence	Pearson Correlation	,310**	1
	Sig. (2–tailed)	<,001	
	N	116	116

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

Correlation analysis – self brand image congruity on perceived trustworthiness ability

Descriptive Statistics

	Mean	Std. Deviation	N
SBC_OV	3,047	1,0894	116
Perceived trustworthiness ability	5,76	1,100	116

Correlations

		SBC_OV	Perceived trustworthiness ability
SBC_OV	Pearson Correlation	1	,361**
	Sig. (2–tailed)		<,001
	N	116	116
Perceived trustworthiness ability	Pearson Correlation	,361**	1
	Sig. (2–tailed)	<,001	
	N	116	116

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

Correlation analysis – self brand congruity and attitude factor on perceived trustworthiness integrity and ability factor

Descriptive Statistics

	Mean	Std. Deviation	N
Self brand congruity and attitude	-,0840965	1,00611506	116
Perceived trustworthiness (integrity and ability)	,0566438	1,00826855	116

Correlations

		Self brand congruity and attitude	Perceived trustworthiness (integrity and ability)
Self brand congruity and attitude	Pearson Correlation	1	-,100
	Sig. (2–tailed)		,286
	N	116	116
Perceived trustworthiness (integrity and ability)	Pearson Correlation	-,100	1
	Sig. (2–tailed)	,286	
	N	116	116

Correlation analysis – self brand congruity and attitude factor on perceived trustworthiness benevolence factor

Descriptive Statistics

	Mean	Std. Deviation	N
Self brand congruity and attitude	-,0840965	1,00611506	116
Perceived trustworthiness benevolence	-,0136095	1,01700418	116

Correlations

		Self brand congruity and attitude	Perceived trustworthiness benevolence
Self brand congruity and attitude	Pearson Correlation	1	-,094
	Sig. (2-tailed)		,316
	N	116	116
Perceived trustworthiness benevolence	Pearson Correlation	-,094	1
	Sig. (2-tailed)	,316	
	N	116	116

ANOVA test – self image congruity and attitudinal loyalty

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
SBC_OV * Recodification attitudinal loyalty	116	100,0%	0	0,0%	116	100,0%

Report

SBC_OV

Recodification attitudinal loyalty	Mean	N	Std. Deviation
Yes	3,441	68	,9000
No	2,490	48	1,0988
Total	3,047	116	1,0894

ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
SBC_OV * Recodification attitudinal loyalty	Between Groups (Combined)	25,480	1	25,480	26,166	<,001
	Within Groups	111,009	114	,974		
	Total	136,489	115			

Measures of Association

	Eta	Eta Squared
SBC_OV * Recodification attitudinal loyalty	,432	,187

ANOVA test – self image congruity and attitude factor and attitudinal loyalty

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Self brand congruity and attitude * Recodification attitudinal loyalty	116	100,0%	0	0,0%	116	100,0%

Report

Self brand congruity and attitude

Recodification attitudinal loyalty	Mean	N	Std. Deviation
Yes	,1993048	68	,88434366
No	-,4855817	48	1,03978159
Total	-,0840965	116	1,00611506

ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
Self brand congruity and attitude * Recodification attitudinal loyalty	Between Groups (Combined)	13,199	1	13,199	14,578	<,001
	Within Groups	103,212	114	,905		
	Total	116,411	115			

Measures of Association

	Eta	Eta Squared
Self brand congruity and attitude * Recodification attitudinal loyalty	,337	,113

ANOVA test – brand trust and attitudinal loyalty

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Perceived trustworthiness integrity * Recodification attitudinal loyalty	116	100,0%	0	0,0%	116	100,0%
Perceived trustworthiness benevolence * Recodification attitudinal loyalty	116	100,0%	0	0,0%	116	100,0%
Perceived trustworthiness ability * Recodification attitudinal loyalty	116	100,0%	0	0,0%	116	100,0%

Report

Recodification attitudinal loyalty		Perceived trustworthiness integrity	Perceived trustworthiness benevolence	Perceived trustworthiness ability
Yes	Mean	5,68	5,43	6,10
	N	68	68	68
	Std. Deviation	,888	1,273	,794
No	Mean	4,85	4,40	5,27
	N	48	48	48
	Std. Deviation	1,353	1,233	1,284
Total	Mean	5,34	5,00	5,76
	N	116	116	116
	Std. Deviation	1,172	1,351	1,100

ANOVA test – perceived trustworthiness integrity and ability factor and attitudinal loyalty

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Perceived trustworthiness (integrity and ability) * Recodification attitudinal loyalty	116	100,0%	0	0,0%	116	100,0%

Report

Perceived trustworthiness (integrity and ability)

Recodification attitudinal loyalty	Mean	N	Std. Deviation
Yes	,2557189	68	,69018807
No	-,2253792	48	1,29220957
Total	,0566438	116	1,00826855

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Perceived trustworthiness (integrity and ability) * Recodification attitudinal loyalty	Between Groups	(Combined)	6,513	1	6,513	6,725	,011
	Within Groups		110,397	114	,968		
	Total		116,910	115			

Measures of Association

	Eta	Eta Squared
Perceived trustworthiness (integrity and ability) * Recodification attitudinal loyalty	,236	,056

ANOVA test – perceived trustworthiness benevolence factor and attitudinal loyalty

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Perceived trustworthiness benevolence * Recodification attitudinal loyalty	116	100,0%	0	0,0%	116	100,0%

Report

Perceived trustworthiness benevolence

Recodification attitudinal loyalty	Mean	N	Std. Deviation
Yes	,1175707	68	1,03727455
No	-,1994483	48	,96787156
Total	-,0136095	116	1,01700418

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Perceived trustworthiness benevolence * Recodification attitudinal loyalty	Between Groups	(Combined)	2,828	1	2,828	2,776	,098
	Within Groups		116,116	114	1,019		
	Total		118,944	115			

Measures of Association

	Eta	Eta Squared
Perceived trustworthiness benevolence * Recodification attitudinal loyalty	,154	,024

H1-H3-H5

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
AL_OV * IV_S1-control	73	62,9%	43	37,1%	116	100,0%

Report

AL_OV

IV_S1-control	Mean	N	Std. Deviation
Scenario 1	1,591	33	,4231
Control	1,687	40	,3139
Total	1,644	73	,3678

ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
AL_OV * IV_S1-control	Between Groups (Combined)	,169	1	,169	1,251	,267
	Within Groups	9,571	71	,135		
	Total	9,740	72			

Measures of Association

	Eta	Eta Squared
AL_OV * IV_S1-control	,132	,017

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
AL_OV * IV_S2-control	83	71,6%	33	28,4%	116	100,0%

Report

AL_OV

IV_S2-control	Mean	N	Std. Deviation
Scenario 2	1,535	43	,3993
Control	1,687	40	,3139
Total	1,608	83	,3667

ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
AL_OV * IV_S2-control	Between Groups (Combined)	,483	1	,483	3,709	,058
	Within Groups	10,541	81	,130		
	Total	11,024	82			

Measures of Association

	Eta	Eta Squared
AL_OV * IV_S2-control	,209	,044

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
AL_OV * IV_S1–S2	76	65,5%	40	34,5%	116	100,0%

Report

AL_OV

IV_S1–S2	Mean	N	Std. Deviation
Scenario 1	1,591	33	,4231
Scenario 2	1,535	43	,3993
Total	1,559	76	,4080

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
AL_OV * IV_S1–S2	Between Groups	(Combined)	,059	1	,059	,349	,556
	Within Groups		12,425	74	,168		
	Total		12,484	75			

Measures of Association

	Eta	Eta Squared
AL_OV * IV_S1–S2	,069	,005

Mediation analysis

Simple mediation – self brand image congruity (H1.a)

Run MATRIX procedure:

**************** PROCESS Procedure for SPSS Version 4.2 ****************

          Written by Andrew F. Hayes, Ph.D.   www.afhayes.com
     Documentation available in Hayes (2022). www.guilford.com/p/hayes3

****
Model : 4
    Y : AL_OV
    X : IV_S1c
    M : FAC2_1

Sample
Size: 73

****
OUTCOME VARIABLE:
 FAC2_1

Model Summary
          R   R-sq   MSE   F   df1   df2   p
      ,0844   ,0071   ,9364   ,5098   1,0000   71,0000   ,4776

Model
              coeff   se   t   p   LLCI   ULCI
constant   ,1412   ,3700   ,3815   ,7040   -,5966   ,8789
IV_S1c   -,1625   ,2276   -,7140   ,4776   -,6162   ,2913

Standardized coefficients
            coeff
IV_S1c   -,1685

****
OUTCOME VARIABLE:
 AL_OV

Model Summary
          R   R-sq   MSE   F   df1   df2   p
      ,4283   ,1835   ,1136   7,8645   2,0000   70,0000   ,0008

Model
              coeff   se   t   p   LLCI   ULCI
constant   1,5163   ,1290   11,7531   ,0000   1,2590   1,7737
IV_S1c   ,0712   ,0795   ,8956   ,3736   -,0874   ,2299
FAC2_1   -,1560   ,0413   -3,7741   ,0003   -,2385   -,0736

Standardized coefficients
            coeff
IV_S1c   ,1937
FAC2_1   -,4091

************************* TOTAL EFFECT MODEL *************************
OUTCOME VARIABLE:
 AL_OV

Model Summary
          R   R-sq   MSE   F   df1   df2   p
      ,1316   ,0173   ,1348   1,2515   1,0000   71,0000   ,2670

Model
              coeff   se   t   p   LLCI   ULCI
constant   1,4943   ,1404   10,6439   ,0000   1,2144   1,7743
IV_S1c   ,0966   ,0863   1,1187   ,2670   -,0756   ,2688

Standardized coefficients
            coeff
IV_S1c   ,2626

```
************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
     Effect        se         t         p      LLCI      ULCI      c_ps
     ,0966      ,0863    1,1187     ,2670    -,0756     ,2688     ,2626

Direct effect of X on Y
     Effect        se         t         p      LLCI      ULCI     c'_ps
     ,0712      ,0795     ,8956     ,3736    -,0874     ,2299     ,1937

Indirect effect(s) of X on Y:
          Effect     BootSE   BootLLCI   BootULCI
FAC2_1     ,0253      ,0373     -,0428      ,1060

Partially standardized indirect effect(s) of X on Y:
          Effect     BootSE   BootLLCI   BootULCI
FAC2_1     ,0689      ,1008     -,1186      ,2831

******************** ANALYSIS NOTES AND ERRORS ********************

Level of confidence for all confidence intervals in output:
  95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

NOTE: Standardized coefficients for dichotomous or multicategorical X are in
      partially standardized form.

------ END MATRIX -----
```

Simple mediation – brand trust (H1.b)

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

        Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
    Documentation available in Hayes (2022). www.guilford.com/p/hayes3

**************************************************************************
Model : 4
    Y : AL_OV
    X : IV_S1c
    M : FAC1_1

Sample
Size: 73

**************************************************************************
OUTCOME VARIABLE:
 FAC1_1

Model Summary
         R       R-sq       MSE         F       df1       df2         p
     ,1030      ,0106     ,8902     ,7610    1,0000   71,0000     ,3860

Model
            coeff         se         t         p      LLCI      ULCI
constant   -,1428      ,3608    -,3957     ,6935    -,8621     ,5766
IV_S1c      ,1936      ,2219     ,8723     ,3860    -,2489     ,6360

Standardized coefficients
          coeff
IV_S1c    ,2055
```

```
****************************************************************************
OUTCOME VARIABLE:
 AL_OV

Model Summary
         R        R-sq       MSE         F        df1        df2          p
      ,2042      ,0417      ,1333     1,5236     2,0000    70,0000      ,2251

Model
             coeff        se         t          p        LLCI       ULCI
constant    1,4856      ,1398   10,6280      ,0000     1,2068     1,7643
IV_S1c       ,1085      ,0863    1,2563      ,2132     -,0637      ,2806
FAC1_1      -,0613      ,0459   -1,3349      ,1862     -,1529      ,0303

Standardized coefficients
           coeff
IV_S1c      ,2949
FAC1_1     -,1570

*************************** TOTAL EFFECT MODEL ***************************
OUTCOME VARIABLE:
 AL_OV

Model Summary
         R        R-sq       MSE         F        df1        df2          p
      ,1316      ,0173      ,1348     1,2515     1,0000    71,0000      ,2670

Model
             coeff        se         t          p        LLCI       ULCI
constant    1,4943      ,1404   10,6439      ,0000     1,2144     1,7743
IV_S1c       ,0966      ,0863    1,1187      ,2670     -,0756      ,2688

Standardized coefficients
           coeff
IV_S1c      ,2626




************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
     Effect        se         t          p        LLCI       ULCI       c_ps
      ,0966      ,0863    1,1187      ,2670     -,0756      ,2688      ,2626

Direct effect of X on Y
     Effect        se         t          p        LLCI       ULCI      c'_ps
      ,1085      ,0863    1,2563      ,2132     -,0637      ,2806      ,2949

Indirect effect(s) of X on Y:
           Effect    BootSE    BootLLCI    BootULCI
FAC1_1    -,0119     ,0201     -,0649       ,0145

Partially standardized indirect effect(s) of X on Y:
           Effect    BootSE    BootLLCI    BootULCI
FAC1_1    -,0323     ,0553     -,1743       ,0399

********************** ANALYSIS NOTES AND ERRORS **********************

Level of confidence for all confidence intervals in output:
  95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

NOTE: Standardized coefficients for dichotomous or multicategorical X are in
      partially standardized form.

------ END MATRIX -----
```

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

          Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
      Documentation available in Hayes (2022). www.guilford.com/p/hayes3

*************************************************************************
Model  : 4
    Y  : AL_OV
    X  : IV_S1c
    M  : FAC5_1

Sample
Size:  73

*************************************************************************
OUTCOME VARIABLE:
 FAC5_1

Model Summary
          R       R-sq       MSE          F        df1        df2          p
      ,2006      ,0402     1,0472     2,9754     1,0000    71,0000      ,0889

Model
              coeff        se          t          p        LLCI       ULCI
constant      ,5908      ,3913     1,5098      ,1355      -,1895     1,3710
IV_S1c       -,4151      ,2407    -1,7249      ,0889      -,8950      ,0647

Standardized coefficients
            coeff
IV_S1c     -,4002




*************************************************************************
OUTCOME VARIABLE:
 AL_OV

Model Summary
          R       R-sq       MSE          F        df1        df2          p
      ,1528      ,0234      ,1359      ,8369     2,0000    70,0000      ,4373

Model
              coeff        se          t          p        LLCI       ULCI
constant     1,5109      ,1432    10,5511      ,0000     1,2253     1,7965
IV_S1c        ,0849      ,0885      ,9597      ,3405      -,0916      ,2614
FAC5_1       -,0281      ,0428     -,6575      ,5130      -,1134      ,0572

Standardized coefficients
          coeff
IV_S1c     ,2309
FAC5_1    -,0793

************************** TOTAL EFFECT MODEL **************************
OUTCOME VARIABLE:
 AL_OV

Model Summary
          R       R-sq       MSE          F        df1        df2          p
      ,1316      ,0173      ,1348     1,2515     1,0000    71,0000      ,2670

Model
              coeff        se          t          p        LLCI       ULCI
constant     1,4943      ,1404    10,6439      ,0000     1,2144     1,7743
IV_S1c        ,0966      ,0863     1,1187      ,2670      -,0756      ,2688

Standardized coefficients
          coeff
IV_S1c     ,2626
```

```
************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
     Effect        se         t         p      LLCI      ULCI      c_ps
     ,0966      ,0863    1,1187     ,2670    -,0756     ,2688     ,2626

Direct effect of X on Y
     Effect        se         t         p      LLCI      ULCI      c'_ps
     ,0849      ,0885     ,9597     ,3405    -,0916     ,2614     ,2309

Indirect effect(s) of X on Y:
             Effect    BootSE   BootLLCI   BootULCI
FAC5_1        ,0117     ,0194    -,0219      ,0565

Partially standardized indirect effect(s) of X on Y:
             Effect    BootSE   BootLLCI   BootULCI
FAC5_1        ,0317     ,0531    -,0598      ,1571

*********************** ANALYSIS NOTES AND ERRORS ***********************

Level of confidence for all confidence intervals in output:
  95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

NOTE: Standardized coefficients for dichotomous or multicategorical X are in
      partially standardized form.

------ END MATRIX -----
```

Simple mediation – self brand image congruity (H2.a)

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2022). www.guilford.com/p/hayes3

*************************************************************************
Model  : 4
    Y  : AL_OV
    X  : IV_S2c
    M  : FAC2_1

Sample
Size:  83

*************************************************************************
OUTCOME VARIABLE:
 FAC2_1

Model Summary
         R        R-sq       MSE         F       df1       df2         p
     ,0697      ,0049    1,0903     ,3956    1,0000   81,0000     ,5312

Model
            coeff        se         t         p      LLCI      ULCI
constant    ,1047     ,3587     ,2920     ,7711    -,6090     ,8185
IV_S2c     -,1443     ,2294    -,6289     ,5312    -,6006     ,3121

Standardized coefficients
          coeff
IV_S2c    -,1387
```

```
*****************************************************************************
OUTCOME VARIABLE:
 AL_OV

Model Summary
          R        R-sq       MSE         F        df1        df2          p
      ,4300       ,1849      ,1123    9,0746     2,0000    80,0000      ,0003

Model
               coeff        se         t         p        LLCI       ULCI
constant      1,3962      ,1152   12,1199     ,0000      1,1669     1,6254
IV_S2c         ,1335      ,0738    1,8085     ,0743      -,0134      ,2803
FAC2_1        -,1327      ,0357   -3,7218     ,0004      -,2037     -,0618

Standardized coefficients
           coeff
IV_S2c     ,3640
FAC2_1    -,3766

*************************** TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
 AL_OV

Model Summary
          R        R-sq       MSE         F        df1        df2          p
      ,2092       ,0438      ,1301    3,7088     1,0000    81,0000      ,0576

Model
               coeff        se         t         p        LLCI       ULCI
constant      1,3823      ,1239   11,1532     ,0000      1,1357     1,6289
IV_S2c         ,1526      ,0792    1,9258     ,0576      -,0051      ,3103

Standardized coefficients
           coeff
IV_S2c     ,4162




************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
     Effect        se         t         p        LLCI       ULCI       c_ps
      ,1526      ,0792    1,9258     ,0576      -,0051      ,3103      ,4162

Direct effect of X on Y
     Effect        se         t         p        LLCI       ULCI      c'_ps
      ,1335      ,0738    1,8085     ,0743      -,0134      ,2803      ,3640

Indirect effect(s) of X on Y:
            Effect     BootSE    BootLLCI    BootULCI
FAC2_1       ,0191      ,0318      -,0410       ,0849

Partially standardized indirect effect(s) of X on Y:
            Effect     BootSE    BootLLCI    BootULCI
FAC2_1       ,0522      ,0866      -,1141       ,2330

********************** ANALYSIS NOTES AND ERRORS ***********************

Level of confidence for all confidence intervals in output:
  95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

NOTE: Standardized coefficients for dichotomous or multicategorical X are in
      partially standardized form.

------ END MATRIX -----
```

Simple mediation – brand trust (H2.b)

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
     Documentation available in Hayes (2022). www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
    Y  : AL_OV
    X  : IV_S2c
    M  : FAC1_1

Sample
Size:  83

**************************************************************************
OUTCOME VARIABLE:
 FAC1_1

Model Summary
          R        R-sq        MSE          F        df1        df2          p
      ,1758       ,0309     1,0275     2,5825     1,0000    81,0000      ,1119

Model
               coeff         se          t          p       LLCI       ULCI
constant     -,4713      ,3482    -1,3535      ,1797    -1,1642      ,2216
IV_S2c        ,3578      ,2227     1,6070      ,1119     -,0852      ,8009

Standardized coefficients
             coeff
IV_S2c       ,3497


    **************************************************************************
    OUTCOME VARIABLE:
     AL_OV

    Model Summary
              R        R-sq        MSE          F        df1        df2          p
          ,2814       ,0792      ,1269     3,4388     2,0000    80,0000      ,0369

    Model
                   coeff         se          t          p       LLCI       ULCI
    constant     1,3500      ,1238    10,9088      ,0000     1,1037     1,5963
    IV_S2c        ,1771      ,0795     2,2281      ,0287      ,0189      ,3353
    FAC1_1       -,0685      ,0390    -1,7533      ,0834     -,1462      ,0092

    Standardized coefficients
                 coeff
    IV_S2c       ,4830
    FAC1_1      -,1911

    ************************** TOTAL EFFECT MODEL **************************
    OUTCOME VARIABLE:
     AL_OV

    Model Summary
              R        R-sq        MSE          F        df1        df2          p
          ,2092       ,0438      ,1301     3,7088     1,0000    81,0000      ,0576

    Model
                   coeff         se          t          p       LLCI       ULCI
    constant     1,3823      ,1239    11,1532      ,0000     1,1357     1,6289
    IV_S2c        ,1526      ,0792     1,9258      ,0576     -,0051      ,3103

    Standardized coefficients
                 coeff
    IV_S2c       ,4162
```

```
************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
     Effect         se          t          p        LLCI       ULCI       c_ps
      ,1526       ,0792     1,9258      ,0576     -,0051      ,3103      ,4162

Direct effect of X on Y
     Effect         se          t          p        LLCI       ULCI      c'_ps
      ,1771       ,0795     2,2281      ,0287      ,0189      ,3353      ,4830

Indirect effect(s) of X on Y:
           Effect     BootSE    BootLLCI    BootULCI
FAC1_1     -,0245      ,0221     -,0771       ,0088

Partially standardized indirect effect(s) of X on Y:
           Effect     BootSE    BootLLCI    BootULCI
FAC1_1     -,0668      ,0610     -,2142       ,0239

********************** ANALYSIS NOTES AND ERRORS **********************

Level of confidence for all confidence intervals in output:
  95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

NOTE: Standardized coefficients for dichotomous or multicategorical X are in
      partially standardized form.

------ END MATRIX -----




Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
      Documentation available in Hayes (2022). www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
    Y  : AL_OV
    X  : IV_S2c
    M  : FAC5_1

Sample
Size:  83

**************************************************************************
OUTCOME VARIABLE:
 FAC5_1

Model Summary
        R         R-sq        MSE          F         df1        df2          p
     ,1454       ,0212     1,0002     1,7506     1,0000    81,0000      ,1895

Model
             coeff         se          t          p        LLCI       ULCI
constant     ,3419       ,3436      ,9951      ,3226     -,3417     1,0255
IV_S2c      -,2907       ,2197    -1,3231      ,1895     -,7278      ,1464

Standardized coefficients
           coeff
IV_S2c     -,2893
```

```
***************************************************************************
OUTCOME VARIABLE:
 AL_OV

Model Summary
         R       R-sq      MSE        F       df1       df2         p
      ,2453     ,0602     ,1295    2,5617    2,0000   80,0000     ,0835

Model
            coeff       se        t         p       LLCI      ULCI
constant   1,3984     ,1244   11,2426     ,0000    1,1509    1,6460
IV_S2c      ,1389     ,0799    1,7381     ,0860    -,0201     ,2979
FAC5_1     -,0472     ,0400   -1,1817     ,2408    -,1268     ,0323

Standardized coefficients
          coeff
IV_S2c     ,3788
FAC5_1    -,1295

**************************** TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
 AL_OV

Model Summary
         R       R-sq      MSE        F       df1       df2         p
      ,2092     ,0438     ,1301    3,7088    1,0000   81,0000     ,0576

Model
            coeff       se        t         p       LLCI      ULCI
constant   1,3823     ,1239   11,1532     ,0000    1,1357    1,6289
IV_S2c      ,1526     ,0792    1,9258     ,0576    -,0051     ,3103

Standardized coefficients
          coeff
IV_S2c     ,4162




************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
    Effect        se        t         p       LLCI      ULCI      c_ps
     ,1526     ,0792    1,9258     ,0576    -,0051     ,3103     ,4162

Direct effect of X on Y
    Effect        se        t         p       LLCI      ULCI      c'_ps
     ,1389     ,0799    1,7381     ,0860    -,0201     ,2979     ,3788

Indirect effect(s) of X on Y:
          Effect     BootSE   BootLLCI   BootULCI
FAC5_1     ,0137     ,0171     -,0102      ,0559

Partially standardized indirect effect(s) of X on Y:
          Effect     BootSE   BootLLCI   BootULCI
FAC5_1     ,0375     ,0463     -,0280      ,1497

*********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

NOTE: Standardized coefficients for dichotomous or multicategorical X are in
      partially standardized form.

------ END MATRIX -----
```

Simple mediation – self brand image congruity (H3.a)

```
Run MATRIX procedure:

**************** PROCESS Procedure for SPSS Version 4.2 ****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
     Documentation available in Hayes (2022). www.guilford.com/p/hayes3

*************************************************************************
Model  : 4
    Y  : AL_OV
    X  : IV_S1S2
    M  : FAC2_1

Sample
Size:  76

*************************************************************************
OUTCOME VARIABLE:
 FAC2_1

Model Summary
         R        R-sq        MSE          F        df1        df2          p
     ,0090       ,0001     1,0378      ,0060     1,0000    74,0000      ,9386

Model
              coeff        se          t          p       LLCI       ULCI
constant     -,0031      ,3872     -,0080      ,9936     -,7746      ,7684
IV_S1S2      -,0182      ,2358     -,0773      ,9386     -,4880      ,4516

Standardized coefficients
              coeff
IV_S1S2      -,0180


     *************************************************************************
     OUTCOME VARIABLE:
      AL_OV

     Model Summary
              R        R-sq        MSE          F        df1        df2          p
          ,3657       ,1337     ,1481     5,6335     2,0000    73,0000      ,0053

     Model
                   coeff        se          t          p       LLCI       ULCI
     constant     1,6465      ,1463    11,2546      ,0000     1,3549     1,9380
     IV_S1S2      -,0587      ,0891     -,6586      ,5123     -,2362      ,1189
     FAC2_1       -,1448      ,0439     -3,2972      ,0015     -,2323     -,0573

     Standardized coefficients
                   coeff
     IV_S1S2      -,1438
     FAC2_1       -,3592

     ************************* TOTAL EFFECT MODEL *************************
     OUTCOME VARIABLE:
      AL_OV

     Model Summary
              R        R-sq        MSE          F        df1        df2          p
          ,0685       ,0047     ,1679      ,3490     1,0000    74,0000      ,5565

     Model
                   coeff        se          t          p       LLCI       ULCI
     constant     1,6469      ,1557    10,5745      ,0000     1,3366     1,9573
     IV_S1S2      -,0560      ,0948     -,5908      ,5565     -,2450      ,1329

     Standardized coefficients
                   coeff
     IV_S1S2      -,1373
```

```
************* TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y *************

Total effect of X on Y
     Effect         se          t          p        LLCI       ULCI       c_ps
     -,0560       ,0948     -,5908      ,5565     -,2450      ,1329     -,1373

Direct effect of X on Y
     Effect         se          t          p        LLCI       ULCI      c'_ps
     -,0587       ,0891     -,6586      ,5123     -,2362      ,1189     -,1438

Indirect effect(s) of X on Y:
            Effect     BootSE    BootLLCI    BootULCI
FAC2_1       ,0026      ,0353      -,0717       ,0734

Partially standardized indirect effect(s) of X on Y:
            Effect     BootSE    BootLLCI    BootULCI
FAC2_1       ,0065      ,0868      -,1737       ,1797

*********************** ANALYSIS NOTES AND ERRORS ***********************

Level of confidence for all confidence intervals in output:
  95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

NOTE: Standardized coefficients for dichotomous or multicategorical X are in
      partially standardized form.

------ END MATRIX -----
```

Simple mediation – brand trust (H3.b)

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

          Written by Andrew F. Hayes, Ph.D.        www.afhayes.com
     Documentation available in Hayes (2022). www.guilford.com/p/hayes3

*************************************************************************
Model  : 4
    Y  : AL_OV
    X  : IV_S1S2
    M  : FAC1_1

Sample
Size:  76

*************************************************************************
OUTCOME VARIABLE:
 FAC1_1

Model Summary
          R        R-sq        MSE          F        df1        df2          p
      ,0781       ,0061     1,1091      ,4544     1,0000    74,0000      ,5023

Model
              coeff         se          t          p        LLCI       ULCI
constant      ,2151      ,4003      ,5374      ,5926     -,5825     1,0127
IV_S1S2      -,1643      ,2437     -,6741      ,5023     -,6499      ,3213

Standardized coefficients
              coeff
IV_S1S2      -,1566
```

```
**************************************************************************
OUTCOME VARIABLE:
 AL_OV

Model Summary
         R        R-sq        MSE          F        df1        df2          p
      ,2607       ,0680      ,1594     2,6612     2,0000    73,0000      ,0766

Model
             coeff         se          t          p       LLCI       ULCI
constant    1,6680      ,1520    10,9710      ,0000     1,3650     1,9710
IV_S1S2     -,0721      ,0927     -,7784      ,4388     -,2568      ,1126
FAC1_1      -,0981      ,0441    -2,2259      ,0291     -,1859     -,0103

Standardized coefficients
             coeff
IV_S1S2     -,1768
FAC1_1      -,2523

*************************** TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
 AL_OV

Model Summary
         R        R-sq        MSE          F        df1        df2          p
      ,0685       ,0047      ,1679      ,3490     1,0000    74,0000      ,5565

Model
             coeff         se          t          p       LLCI       ULCI
constant    1,6469      ,1557    10,5745      ,0000     1,3366     1,9573
IV_S1S2     -,0560      ,0948     -,5908      ,5565     -,2450      ,1329

Standardized coefficients
             coeff
IV_S1S2     -,1373




*************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
     Effect         se          t          p       LLCI       ULCI       c_ps
     -,0560      ,0948     -,5908      ,5565     -,2450      ,1329     -,1373

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI      c'_ps
     -,0721      ,0927     -,7784      ,4388     -,2568      ,1126     -,1768

Indirect effect(s) of X on Y:
            Effect     BootSE    BootLLCI    BootULCI
FAC1_1       ,0161      ,0251      -,0388       ,0642

Partially standardized indirect effect(s) of X on Y:
            Effect     BootSE    BootLLCI    BootULCI
FAC1_1       ,0395      ,0617      -,0956       ,1577

*********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

NOTE: Standardized coefficients for dichotomous or multicategorical X are in
      partially standardized form.

------ END MATRIX -----
```

```
Run MATRIX procedure:

****************** PROCESS Procedure for SPSS Version 4.2 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
     Documentation available in Hayes (2022). www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
    Y  : AL_OV
    X  : IV_S1S2
    M  : FAC5_1

Sample
Size:  76

**************************************************************************
OUTCOME VARIABLE:
 FAC5_1

Model Summary
         R        R-sq        MSE          F        df1        df2          p
      ,0617       ,0038     1,0232      ,2825     1,0000    74,0000      ,5966

Model
             coeff         se          t          p       LLCI       ULCI
constant     ,3001      ,3845      ,7805      ,4376     -,4660     1,0662
IV_S1S2     -,1244      ,2341     -,5315      ,5966     -,5909      ,3420

Standardized coefficients
             coeff
IV_S1S2     -,1236




**************************************************************************
OUTCOME VARIABLE:
 AL_OV

Model Summary
         R        R-sq        MSE          F        df1        df2          p
      ,2642       ,0698      ,1591     2,7388     2,0000    73,0000      ,0713

Model
             coeff         se          t          p       LLCI       ULCI
constant    1,6780      ,1522    11,0239      ,0000     1,3747     1,9814
IV_S1S2     -,0689      ,0925     -,7452      ,4585     -,2532      ,1154
FAC5_1      -,1036      ,0458    -2,2604      ,0268     -,1950     -,0123

Standardized coefficients
             coeff
IV_S1S2     -,1689
FAC5_1      -,2556

************************** TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
 AL_OV

Model Summary
         R        R-sq        MSE          F        df1        df2          p
      ,0685       ,0047      ,1679      ,3490     1,0000    74,0000      ,5565

Model
             coeff         se          t          p       LLCI       ULCI
constant    1,6469      ,1557    10,5745      ,0000     1,3366     1,9573
IV_S1S2     -,0560      ,0948     -,5908      ,5565     -,2450      ,1329

Standardized coefficients
             coeff
IV_S1S2     -,1373
```

```
************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
     Effect        se         t         p       LLCI      ULCI      c_ps
    -,0560      ,0948    -,5908     ,5565    -,2450     ,1329    -,1373

Direct effect of X on Y
     Effect        se         t         p       LLCI      ULCI      c'_ps
    -,0689      ,0925    -,7452     ,4585    -,2532     ,1154    -,1689

Indirect effect(s) of X on Y:
            Effect     BootSE   BootLLCI   BootULCI
FAC5_1      ,0129      ,0265    -,0389      ,0688

Partially standardized indirect effect(s) of X on Y:
            Effect     BootSE   BootLLCI   BootULCI
FAC5_1      ,0316      ,0652    -,0963      ,1691

*********************** ANALYSIS NOTES AND ERRORS ***********************

Level of confidence for all confidence intervals in output:
  95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

NOTE: Standardized coefficients for dichotomous or multicategorical X are in
      partially standardized form.

------ END MATRIX -----
```

Moderation analysis

H4

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

          Written by Andrew F. Hayes, Ph.D.        www.afhayes.com
     Documentation available in Hayes (2022). www.guilford.com/p/hayes3

*************************************************************************
Model  : 1
    Y  : FAC2_1
    X  : IV_S1c
    W  : FAC3_1

Sample
Size:  73

*************************************************************************
OUTCOME VARIABLE:
 FAC2_1

Model Summary
          R       R-sq       MSE         F        df1        df2         p
      ,2094      ,0438     ,9279    1,0547     3,0000    69,0000     ,3741

Model
              coeff        se         t         p       LLCI      ULCI
constant      ,2028     ,3733     ,5433     ,5886    -,5419     ,9475
IV_S1c       -,2172     ,2300    -,9442     ,3484    -,6760     ,2417
FAC3_1        ,3097     ,3205     ,9661     ,3373    -,3298     ,9492
Int_1        -,2720     ,2040   -1,3328     ,1870    -,6790     ,1351

Product terms key:
 Int_1   :        IV_S1c   x        FAC3_1

Test(s) of highest order unconditional interaction(s):
       R2-chng        F        df1        df2         p
X*W      ,0246    1,7763    1,0000    69,0000     ,1870
----------
    Focal predict: IV_S1c  (X)
          Mod var: FAC3_1  (W)
```

Conditional effects of the focal predictor at values of the moderator(s):

FAC3_1	Effect	se	t	p	LLCI	ULCI
-1,3853	,1596	,3322	,4804	,6324	-,5031	,8223
-,0614	-,2005	,2282	-,8786	,3827	-,6556	,2547
1,0146	-,4931	,3350	-1,4720	,1456	-1,1613	,1752

There are no statistical significance transition points within the observed range of the moderator found using the Johnson-Neyman method.

Conditional effect of focal predictor at values of the moderator:

FAC3_1	Effect	se	t	p	LLCI	ULCI
-3,2283	,6608	,6592	1,0025	,3196	-,6542	1,9758
-2,9903	,5961	,6138	,9711	,3349	-,6284	1,8205
-2,7523	,5313	,5689	,9339	,3536	-,6036	1,6663
-2,5143	,4666	,5247	,8892	,3770	-,5802	1,5134
-2,2763	,4019	,4814	,8349	,4067	-,5584	1,3622
-2,0383	,3372	,4391	,7678	,4452	-,5389	1,2132
-1,8003	,2724	,3983	,6840	,4963	-,5222	1,0671
-1,5623	,2077	,3594	,5779	,5652	-,5093	,9248
-1,3243	,1430	,3232	,4425	,6595	-,5017	,7877
-1,0863	,0783	,2905	,2694	,7884	-,5014	,6579
-,8483	,0135	,2629	,0515	,9591	-,5109	,5380
-,6103	-,0512	,2419	-,2116	,8331	-,5337	,4314
-,3723	-,1159	,2294	-,5052	,6150	-,5736	,3418
-,1343	-,1806	,2269	-,7962	,4287	-,6332	,2720
,1037	-,2454	,2346	-1,0460	,2992	-,7133	,2226
,3417	-,3101	,2516	-1,2325	,2220	-,8120	,1918
,5797	-,3748	,2762	-1,3570	,1792	-,9258	,1762
,8177	-,4395	,3066	-1,4337	,1562	-1,0511	,1721
1,0557	-,5043	,3412	-1,4779	,1440	-1,1849	,1764
1,2937	-,5690	,3789	-1,5017	,1377	-1,3248	,1869
1,5317	-,6337	,4188	-1,5131	,1348	-1,4692	,2018
1,7697	-,6984	,4604	-1,5170	,1338	-1,6169	,2201

*********************** ANALYSIS NOTES AND ERRORS ***********************

Level of confidence for all confidence intervals in output:
  95,0000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

------ END MATRIX -----

    Run MATRIX procedure:

    ***************** PROCESS Procedure for SPSS Version 4.2 *****************

            Written by Andrew F. Hayes, Ph.D.   www.afhayes.com
        Documentation available in Hayes (2022). www.guilford.com/p/hayes3

    ****
    Model : 1
        Y : FAC2_1
        X : IV_S2c
        W : FAC3_1

    Sample
    Size: 83

    ****
    OUTCOME VARIABLE:
     FAC2_1

    Model Summary

R	R-sq	MSE	F	df1	df2	p
,1790	,0320	1,0873	,8717	3,0000	79,0000	,4594

    Model

	coeff	se	t	p	LLCI	ULCI
constant	,1479	,3613	,4093	,6834	-,5713	,8671
IV_S2c	-,1897	,2320	-,8178	,4159	-,6514	,2720
FAC3_1	,2844	,4155	,6844	,4957	-,5427	1,1115
Int_1	-,2593	,2487	-1,0426	,3003	-,7543	,2357

    Product terms key:
     Int_1   :   IV_S2c x   FAC3_1

    Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0133	1,0870	1,0000	79,0000	,3003

        Focal predict: IV_S2c (X)
              Mod var: FAC3_1 (W)

Conditional effects of the focal predictor at values of the moderator(s):

FAC3_1	Effect	se	t	p	LLCI	ULCI
-,9807	,0646	,3315	,1949	,8459	-,5951	,7244
-,0277	-,1825	,2318	-,7872	,4335	-,6440	,2790
,9830	-,4446	,3421	-1,2997	,1975	-1,1254	,2363

There are no statistical significance transition points within the observed range of the moderator found using the Johnson-Neyman method.

Conditional effect of focal predictor at values of the moderator:

FAC3_1	Effect	se	t	p	LLCI	ULCI
-2,4476	,4450	,6448	,6901	,4922	-,8385	1,7285
-2,2468	,3929	,5985	,6565	,5134	-,7984	1,5842
-2,0459	,3408	,5528	,6166	,5393	-,7595	1,4411
-1,8451	,2887	,5079	,5685	,5713	-,7221	1,2996
-1,6443	,2367	,4640	,5101	,6114	-,6869	1,1602
-1,4435	,1846	,4215	,4380	,6626	-,6543	1,0235
-1,2426	,1325	,3807	,3481	,7287	-,6253	,8904
-1,0418	,0805	,3425	,2349	,8149	-,6012	,7621
-,8410	,0284	,3076	,0923	,9267	-,5838	,6406
-,6402	-,0237	,2773	-,0854	,9321	-,5757	,5283
-,4393	-,0758	,2534	-,2990	,7657	-,5801	,4286
-,2385	-,1278	,2377	-,5379	,5922	-,6009	,3452
-,0377	-,1799	,2319	-,7760	,4401	-,6414	,2816
,1631	-,2320	,2367	-,9801	,3300	-,7031	,2391
,3639	-,2841	,2515	-1,1293	,2622	-,7847	,2166
,5648	-,3361	,2748	-1,2232	,2249	-,8831	,2108
,7656	-,3882	,3045	-1,2748	,2061	-,9944	,2179
,9664	-,4403	,3391	-1,2986	,1979	-1,1151	,2346
1,1672	-,4924	,3770	-1,3058	,1954	-1,2428	,2581
1,3681	-,5444	,4176	-1,3038	,1961	-1,3756	,2867
1,5689	-,5965	,4599	-1,2969	,1984	-1,5120	,3190
1,7697	-,6486	,5037	-1,2876	,2016	-1,6512	,3540

*********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
   95,0000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

------ END MATRIX -----

Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

          Written by Andrew F. Hayes, Ph.D.   www.afhayes.com
     Documentation available in Hayes (2022). www.guilford.com/p/hayes3

****
Model : 1
    Y : FAC2_1
    X : IV_S1S2
    W : FAC3_1

Sample
Size: 76

****
OUTCOME VARIABLE:
 FAC2_1

Model Summary

R	R-sq	MSE	F	df1	df2	p
,0342	,0012	1,0655	,0280	3,0000	72,0000	,9936

Model

	coeff	se	t	p	LLCI	ULCI
constant	,0131	,3968	,0331	,9737	-,7778	,8041
IV_S1S2	-,0275	,2412	-,1139	,9096	-,5082	,4533
FAC3_1	,0504	,3602	,1399	,8891	-,6677	,7685
Int_1	-,0127	,2441	-,0518	,9588	-,4993	,4740

Product terms key:
 Int_1   :   IV_S1S2 x   FAC3_1

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0000	,0027	1,0000	72,0000	,9588

    Focal predict: IV_S1S2 (X)
          Mod var: FAC3_1   (W)

Conditional effects of the focal predictor at values of the moderator(s):

FAC3_1	Effect	se	t	p	LLCI	ULCI
-1,0603	-,0141	,3505	-,0401	,9681	-,7128	,6847
,1497	-,0294	,2446	-,1200	,9048	-,5169	,4582
,9496	-,0395	,3376	-,1170	,9072	-,7124	,6335

There are no statistical significance transition points within the observed
range of the moderator found using the Johnson–Neyman method.

Conditional effect of focal predictor at values of the moderator:

FAC3_1	Effect	se	t	p	LLCI	ULCI
-3,2283	,0134	,8199	,0163	,9870	-1,6210	1,6478
-3,0077	,0106	,7686	,0138	,9890	-1,5216	1,5428
-2,7872	,0078	,7177	,0109	,9914	-1,4229	1,4385
-2,5666	,0050	,6672	,0075	,9940	-1,3250	1,3351
-2,3461	,0022	,6173	,0036	,9971	-1,2284	1,2328
-2,1255	-,0006	,5681	-,0010	,9992	-1,1331	1,1320
-1,9050	-,0034	,5199	-,0065	,9949	-1,0398	1,0330
-1,6844	-,0062	,4729	-,0130	,9897	-,9488	,9365
-1,4638	-,0089	,4274	-,0209	,9834	-,8610	,8431
-1,2433	-,0117	,3842	-,0305	,9757	-,7776	,7541
-1,0227	-,0145	,3439	-,0422	,9664	-,7001	,6711
-,8022	-,0173	,3079	-,0562	,9553	-,6310	,5964
-,5816	-,0201	,2776	-,0724	,9425	-,5735	,5333
-,3611	-,0229	,2552	-,0897	,9288	-,5317	,4859
-,1405	-,0257	,2430	-,1057	,9161	-,5101	,4587
,0801	-,0285	,2423	-,1175	,9068	-,5115	,4546
,3006	-,0313	,2534	-,1234	,9021	-,5364	,4738
,5212	-,0341	,2747	-,1240	,9017	-,5817	,5136
,7417	-,0369	,3042	-,1211	,9039	-,6433	,5696
,9623	-,0396	,3397	-,1167	,9074	-,7169	,6376
1,1828	-,0424	,3796	-,1118	,9113	-,7991	,7143
1,4034	-,0452	,4226	-,1070	,9151	-,8876	,7971

*********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95,0000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

------ END MATRIX -----

H5

Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

          Written by Andrew F. Hayes, Ph.D.   www.afhayes.com
     Documentation available in Hayes (2022). www.guilford.com/p/hayes3

****
Model : 1
    Y : FAC1_1
    X : IV_S1c
    W : FAC3_1

Sample
Size: 73

****
OUTCOME VARIABLE:
 FAC1_1

Model Summary

R	R-sq	MSE	F	df1	df2	p
,1624	,0264	,9015	,6226	3,0000	69,0000	,6028

Model

	coeff	se	t	p	LLCI	ULCI
constant	-,2047	,3679	-,5562	,5799	-,9387	,5294
IV_S1c	,2292	,2267	1,0111	,3155	-,2230	,6815
FAC3_1	-,3294	,3159	-1,0426	,3008	-,9597	,3009
Int_1	,1878	,2011	,9337	,3537	-,2134	,5890

Product terms key:
 Int_1   :   IV_S1c   x   FAC3_1

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0123	,8719	1,0000	69,0000	,3537

    Focal predict: IV_S1c   (X)
          Mod var: FAC3_1   (W)

```
Conditional effects of the focal predictor at values of the moderator(s):

    FAC3_1    Effect       se         t         p        LLCI      ULCI
   -1,3853    -,0309     ,3274    -,0945     ,9250     -,6841     ,6222
    -,0614     ,2177     ,2249     ,9679     ,3365     -,2310     ,6663
    1,0146     ,4197     ,3302    1,2713     ,2079     -,2389    1,0784

There are no statistical significance transition points within the observed
range of the moderator found using the Johnson-Neyman method.

Conditional effect of focal predictor at values of the moderator:
    FAC3_1    Effect       se         t         p        LLCI      ULCI
   -3,2283    -,3770     ,6497    -,5803     ,5636    -1,6732     ,9191
   -2,9903    -,3323     ,6050    -,5494     ,5845    -1,5392     ,8745
   -2,7523    -,2876     ,5608    -,5130     ,6096    -1,4063     ,8310
   -2,5143    -,2430     ,5172    -,4697     ,6400    -1,2748     ,7888
   -2,2763    -,1983     ,4745    -,4178     ,6774    -1,1448     ,7483
   -2,0383    -,1536     ,4328    -,3548     ,7238    -1,0170     ,7099
   -1,8003    -,1089     ,3926    -,2773     ,7824     -,8921     ,6743
   -1,5623    -,0642     ,3543    -,1811     ,8568     -,7709     ,6426
   -1,3243    -,0195     ,3185    -,0612     ,9514     -,6550     ,6160
   -1,0863     ,0252     ,2864     ,0880     ,9301     -,5461     ,5965
    -,8483     ,0699     ,2591     ,2698     ,7881     -,4470     ,5868
    -,6103     ,1146     ,2384     ,4807     ,6323     -,3610     ,5902
    -,3723     ,1593     ,2261     ,7045     ,4835     -,2918     ,6104
    -,1343     ,2040     ,2236     ,9122     ,3648     -,2421     ,6501
     ,1037     ,2487     ,2312    1,0756     ,2859     -,2126     ,7099
     ,3417     ,2934     ,2480    1,1831     ,2408     -,2013     ,7881
     ,5797     ,3381     ,2722    1,2418     ,2185     -,2050     ,8812
     ,8177     ,3828     ,3022    1,2667     ,2095     -,2201     ,9856
    1,0557     ,4275     ,3363    1,2711     ,2080     -,2434    1,0984
    1,2937     ,4722     ,3734    1,2643     ,2104     -,2729    1,2172
    1,5317     ,5169     ,4128    1,2520     ,2148     -,3067    1,3404
    1,7697     ,5615     ,4538    1,2374     ,2201     -,3438    1,4669

*********************** ANALYSIS NOTES AND ERRORS ***********************

Level of confidence for all confidence intervals in output:
  95,0000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

------ END MATRIX -----
```

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 ****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
      Documentation available in Hayes (2022). www.guilford.com/p/hayes3

*************************************************************************
Model  : 1
    Y  : FAC5_1
    X  : IV_S1c
    W  : FAC3_1

Sample
Size:  73

*************************************************************************
OUTCOME VARIABLE:
 FAC5_1

Model Summary
          R        R-sq        MSE          F        df1        df2          p
      ,2405       ,0578     1,0578     1,4115     3,0000    69,0000      ,2468

Model
              coeff         se          t          p       LLCI       ULCI
constant      ,6435      ,3986     1,6146      ,1110     -,1516     1,4387
IV_S1c       -,4587      ,2456    -1,8681      ,0660     -,9486      ,0311
FAC3_1        ,2680      ,3422      ,7832      ,4362     -,4147      ,9508
Int_1        -,2187      ,2179    -1,0040      ,3189     -,6534      ,2159

Product terms key:
 Int_1    :      IV_S1c   x       FAC3_1

Test(s) of highest order unconditional interaction(s):
        R2-chng          F        df1        df2          p
X*W       ,0138     1,0080     1,0000    69,0000      ,3189
----------
    Focal predict: IV_S1c   (X)
          Mod var: FAC3_1   (W)




Conditional effects of the focal predictor at values of the moderator(s):

     FAC3_1      Effect         se          t          p       LLCI       ULCI
    -1,3853     -,1557      ,3547     -,4391      ,6620     -,8633      ,5518
     -,0614     -,4453      ,2436    -1,8280      ,0719     -,9313      ,0407
     1,0146     -,6807      ,3576    -1,9032      ,0612    -1,3941      ,0328

There are no statistical significance transition points within the observed
range of the moderator found using the Johnson-Neyman method.

Conditional effect of focal predictor at values of the moderator:
     FAC3_1      Effect         se          t          p       LLCI       ULCI
    -3,2283      ,2474      ,7038      ,3515      ,7263    -1,1566     1,6514
    -2,9903      ,1953      ,6553      ,2981      ,7666    -1,1120     1,5027
    -2,7523      ,1433      ,6074      ,2359      ,8142    -1,0685     1,3551
    -2,5143      ,0912      ,5603      ,1628      ,8712    -1,0265     1,2089
    -2,2763      ,0392      ,5140      ,0762      ,9395     -,9862     1,0645
    -2,0383     -,0129      ,4689     -,0275      ,9781     -,9483      ,9224
    -1,8003     -,0650      ,4253     -,1528      ,8790     -,9134      ,7835
    -1,5623     -,1170      ,3838     -,3049      ,7613     -,8826      ,6486
    -1,3243     -,1691      ,3451     -,4900      ,6257     -,8575      ,5193
    -1,0863     -,2211      ,3102     -,7128      ,4784     -,8400      ,3977
     -,8483     -,2732      ,2807     -,9733      ,3338     -,8331      ,2867
     -,6103     -,3253      ,2583    -1,2594      ,2121     -,8405      ,1900
     -,3723     -,3773      ,2449    -1,5403      ,1280     -,8660      ,1114
     -,1343     -,4294      ,2422    -1,7725      ,0807     -,9126      ,0539
      ,1037     -,4814      ,2505    -1,9222      ,0587     -,9811      ,0182
      ,3417     -,5335      ,2686    -1,9860      ,0510    -1,0694      ,0024
      ,5797     -,5855      ,2949    -1,9856      ,0511    -1,1738      ,0028
      ,8177     -,6376      ,3273    -1,9478      ,0555    -1,2906      ,0154
     1,0557     -,6897      ,3643    -1,8931      ,0625    -1,4164      ,0371
     1,2937     -,7417      ,4045    -1,8335      ,0710    -1,5487      ,0653
     1,5317     -,7938      ,4472    -1,7751      ,0803    -1,6859      ,0983
     1,7697     -,8458      ,4916    -1,7206      ,0898    -1,8265      ,1349

*********************** ANALYSIS NOTES AND ERRORS ***********************

Level of confidence for all confidence intervals in output:
  95,0000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

------ END MATRIX ------
```

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

          Written by Andrew F. Hayes, Ph.D.        www.afhayes.com
      Documentation available in Hayes (2022). www.guilford.com/p/hayes3

*************************************************************************
Model  : 1
    Y  : FAC5_1
    X  : IV_S2c
    W  : FAC3_1

Sample
Size:  83

*************************************************************************
OUTCOME VARIABLE:
 FAC5_1

Model Summary
          R        R-sq       MSE          F        df1        df2          p
       ,1981      ,0392     1,0065     1,0758     3,0000    79,0000      ,3643

Model
            coeff        se          t          p       LLCI       ULCI
constant    ,3600      ,3476     1,0355      ,3036     -,3320     1,0519
IV_S2c     -,3170      ,2232    -1,4203      ,1595     -,7612      ,1272
FAC3_1      ,3519      ,3998      ,8801      ,3815     -,4439     1,1476
Int_1      -,2606      ,2393    -1,0892      ,2794     -,7369      ,2157

Product terms key:
 Int_1   :        IV_S2c    x        FAC3_1

Test(s) of highest order unconditional interaction(s):
        R2-chng          F        df1        df2          p
X*W       ,0144     1,1864     1,0000    79,0000      ,2794
----------
    Focal predict: IV_S2c    (X)
          Mod var: FAC3_1    (W)




Conditional effects of the focal predictor at values of the moderator(s):

    FAC3_1      Effect        se          t          p       LLCI       ULCI
    -,9807     -,0613      ,3189     -,1923      ,8480     -,6961      ,5734
    -,0277     -,3097      ,2231    -1,3886      ,1689     -,7537      ,1343
     ,9830     -,5732      ,3291    -1,7415      ,0855    -1,2283      ,0819

There are no statistical significance transition points within the observed
range of the moderator found using the Johnson-Neyman method.

Conditional effect of focal predictor at values of the moderator:
    FAC3_1      Effect        se          t          p       LLCI       ULCI
   -2,4476      ,3210      ,6204      ,5174      ,6063     -,9139     1,5559
   -2,2468      ,2686      ,5758      ,4665      ,6421     -,8775     1,4148
   -2,0459      ,2163      ,5318      ,4067      ,6853     -,8423     1,2749
   -1,8451      ,1640      ,4886      ,3355      ,7381     -,8086     1,1366
   -1,6443      ,1116      ,4464      ,2500      ,8032     -,7770     1,0002
   -1,4435      ,0593      ,4055      ,1462      ,8842     -,7479      ,8664
   -1,2426      ,0069      ,3663      ,0189      ,9850     -,7222      ,7361
   -1,0418     -,0454      ,3295     -,1378      ,8907     -,7013      ,6105
    -,8410     -,0978      ,2959     -,3303      ,7420     -,6868      ,4913
    -,6402     -,1501      ,2668     -,5626      ,5753     -,6812      ,3810
    -,4393     -,2024      ,2438     -,8304      ,4088     -,6877      ,2828
    -,2385     -,2548      ,2287    -1,1142      ,2686     -,7099      ,2004
    -,0377     -,3071      ,2231    -1,3768      ,1725     -,7512      ,1369
     ,1631     -,3595      ,2277    -1,5786      ,1184     -,8127      ,0938
     ,3639     -,4118      ,2420    -1,7017      ,0927     -,8935      ,0699
     ,5648     -,4642      ,2644    -1,7557      ,0830     -,9904      ,0621
     ,7656     -,5165      ,2930    -1,7628      ,0818    -1,0997      ,0667
     ,9664     -,5688      ,3262    -1,7438      ,0851    -1,2182      ,0805
    1,1672     -,6212      ,3628    -1,7124      ,0908    -1,3433      ,1009
    1,3681     -,6735      ,4018    -1,6765      ,0976    -1,4732      ,1261
    1,5689     -,7259      ,4425    -1,6403      ,1049    -1,6067      ,1549
    1,7697     -,7782      ,4846    -1,6058      ,1123    -1,7429      ,1864

*********************** ANALYSIS NOTES AND ERRORS ***********************

Level of confidence for all confidence intervals in output:
  95,0000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

------ END MATRIX ------
```

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 ****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
      Documentation available in Hayes (2022). www.guilford.com/p/hayes3

************************************************************************
Model  : 1
    Y  : FAC1_1
    X  : IV_S2c
    W  : FAC3_1

Sample
Size:  83


************************************************************************
OUTCOME VARIABLE:
 FAC1_1

Model Summary
          R        R-sq       MSE         F        df1        df2          p
      ,2180       ,0475    1,0355    1,3139     3,0000    79,0000       ,2758

Model
              coeff         se         t         p       LLCI       ULCI
constant    -,5191      ,3526   -1,4720      ,1450    -1,2209       ,1828
IV_S2c       ,3864      ,2264    1,7071      ,0917     -,0641       ,8370
FAC3_1       ,3797      ,4055     ,9363      ,3520     -,4275     1,1868
Int_1       -,1668      ,2427    -,6870      ,4941     -,6499       ,3163

Product terms key:
 Int_1    :      IV_S2c    x       FAC3_1

Test(s) of highest order unconditional interaction(s):
         R2-chng         F       df1       df2          p
X*W        ,0057     ,4720    1,0000    79,0000      ,4941
----------
    Focal predict: IV_S2c    (X)
          Mod var: FAC3_1    (W)




Conditional effects of the focal predictor at values of the moderator(s):

   FAC3_1      Effect         se         t          p       LLCI       ULCI
   -,9807       ,5499      ,3235    1,7002      ,0930     -,0939     1,1938
   -,0277       ,3910      ,2263    1,7283      ,0878     -,0593      ,8414
    ,9830       ,2225      ,3338     ,6665      ,5070     -,4419      ,8869

There are no statistical significance transition points within the observed
range of the moderator found using the Johnson-Neyman method.

Conditional effect of focal predictor at values of the moderator:
   FAC3_1      Effect         se         t          p       LLCI       ULCI
  -2,4476       ,7945      ,6293    1,2627      ,2104     -,4580     2,0471
  -2,2468       ,7611      ,5840    1,3031      ,1963     -,4014     1,9236
  -2,0459       ,7276      ,5394    1,3488      ,1813     -,3462     1,8013
  -1,8451       ,6941      ,4956    1,4005      ,1653     -,2924     1,6806
  -1,6443       ,6606      ,4528    1,4589      ,1485     -,2407     1,5619
  -1,4435       ,6271      ,4113    1,5247      ,1313     -,1916     1,4458
  -1,2426       ,5936      ,3716    1,5977      ,1141     -,1459     1,3332
  -1,0418       ,5601      ,3342    1,6760      ,0977     -,1051     1,2254
   -,8410       ,5266      ,3002    1,7545      ,0832     -,0708     1,1241
   -,6402       ,4932      ,2706    1,8222      ,0722     -,0455     1,0318
   -,4393       ,4597      ,2473    1,8590      ,0668     -,0325      ,9518
   -,2385       ,4262      ,2319    1,8375      ,0699     -,0355      ,8878
   -,0377       ,3927      ,2263    1,7356      ,0865     -,0577      ,8431
    ,1631       ,3592      ,2310    1,5552      ,1239     -,1005      ,8189
    ,3639       ,3257      ,2455    1,3270      ,1883     -,1629      ,8143
    ,5648       ,2922      ,2682    1,0898      ,2791     -,2415      ,8260
    ,7656       ,2587      ,2972     ,8707      ,3866     -,3328      ,8503
    ,9664       ,2253      ,3309     ,6808      ,4980     -,4333      ,8838
   1,1672       ,1918      ,3679     ,5212      ,6037     -,5406      ,9242
   1,3681       ,1583      ,4075     ,3884      ,6987     -,6528      ,9694
   1,5689       ,1248      ,4488     ,2780      ,7817     -,7686     1,0182
   1,7697       ,0913      ,4916     ,1857      ,8531     -,8871     1,0697

*********************** ANALYSIS NOTES AND ERRORS ***********************

Level of confidence for all confidence intervals in output:
  95,0000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

------ END MATRIX -----
```

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
      Documentation available in Hayes (2022). www.guilford.com/p/hayes3

*************************************************************************
Model  : 1
    Y  : FAC1_1
    X  : IV_S1S2
    W  : FAC3_1

Sample
Size:  76

*************************************************************************
OUTCOME VARIABLE:
 FAC1_1

Model Summary
          R       R-sq       MSE         F        df1        df2          p
      ,1826      ,0333    1,1086      ,8275    3,0000    72,0000      ,4830

Model
              coeff        se         t         p        LLCI       ULCI
constant      ,1817      ,4047      ,4491      ,6547     -,6251      ,9886
IV_S1S2      -,1572      ,2460     -,6390      ,5249     -,6476      ,3332
FAC3_1       -,4961      ,3674    -1,3503      ,1812    -1,2286      ,2363
Int_1         ,3545      ,2490     1,4239      ,1588     -,1418      ,8509

Product terms key:
 Int_1    :      IV_S1S2   x      FAC3_1

Test(s) of highest order unconditional interaction(s):
       R2-chng         F        df1        df2          p
X*W      ,0272    2,0274     1,0000    72,0000      ,1588
----------
    Focal predict: IV_S1S2   (X)
          Mod var: FAC3_1    (W)



    Conditional effects of the focal predictor at values of the moderator(s):

        FAC3_1     Effect        se         t         p        LLCI       ULCI
       -1,0603    -,5331      ,3575    -1,4911      ,1403    -1,2459      ,1796
         ,1497    -,1041      ,2495     -,4173      ,6777     -,6015      ,3932
         ,9496     ,1795      ,3443      ,5213      ,6038     -,5069      ,8659

    There are no statistical significance transition points within the observed
    range of the moderator found using the Johnson-Neyman method.

    Conditional effect of focal predictor at values of the moderator:
        FAC3_1     Effect        se         t         p        LLCI       ULCI
       -3,2283   -1,3018      ,8363    -1,5566      ,1240    -2,9689      ,3654
       -3,0077   -1,2236      ,7840    -1,5607      ,1230    -2,7864      ,3393
       -2,7872   -1,1454      ,7321    -1,5646      ,1221    -2,6047      ,3139
       -2,5666   -1,0672      ,6806    -1,5681      ,1213    -2,4239      ,2895
       -2,3461    -,9890      ,6297    -1,5706      ,1207    -2,2442      ,2663
       -2,1255    -,9108      ,5795    -1,5716      ,1204    -2,0660      ,2445
       -1,9050    -,8326      ,5303    -1,5700      ,1208    -1,8897      ,2246
       -1,6844    -,7544      ,4823    -1,5641      ,1222    -1,7159      ,2071
       -1,4638    -,6762      ,4360    -1,5509      ,1253    -1,5453      ,1929
       -1,2433    -,5980      ,3919    -1,5260      ,1314    -1,3792      ,1832
       -1,0227    -,5198      ,3508    -1,4817      ,1428    -1,2191      ,1795
        -,8022    -,4416      ,3140    -1,4063      ,1639    -1,0676      ,1844
        -,5816    -,3634      ,2832    -1,2834      ,2035     -,9279      ,2011
        -,3611    -,2852      ,2604    -1,0954      ,2770     -,8042      ,2338
        -,1405    -,2070      ,2478     -,8352      ,4063     -,7011      ,2871
         ,0801    -,1288      ,2472     -,5211      ,6039     -,6216      ,3639
         ,3006    -,0506      ,2585     -,1958      ,8453     -,5658      ,4646
         ,5212     ,0276      ,2802      ,0984      ,9219     -,5311      ,5862
         ,7417     ,1058      ,3103      ,3409      ,7342     -,5128      ,7244
         ,9623     ,1840      ,3465      ,5309      ,5971     -,5069      ,8748
        1,1828     ,2622      ,3872      ,6771      ,5005     -,5097     1,0340
        1,4034     ,3404      ,4310      ,7897      ,4323     -,5189     1,1996

    ******************** ANALYSIS NOTES AND ERRORS ********************

    Level of confidence for all confidence intervals in output:
      95,0000

    W values in conditional tables are the 16th, 50th, and 84th percentiles.

       ------ END MATRIX ------
```

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

          Written by Andrew F. Hayes, Ph.D.        www.afhayes.com
     Documentation available in Hayes (2022). www.guilford.com/p/hayes3

**************************************************************************
Model : 1
   Y : FAC5_1
   X : IV_S1S2
   W : FAC3_1

Sample
Size:  76

**************************************************************************
OUTCOME VARIABLE:
 FAC5_1

Model Summary
         R        R-sq       MSE         F       df1       df2         p
     ,0921      ,0085    1,0467     ,2053    3,0000   72,0000     ,8924

Model
             coeff        se         t         p      LLCI      ULCI
constant     ,3266     ,3933     ,8304     ,4090    -,4574    1,1106
IV_S1S2     -,1418     ,2390    -,5931     ,5549    -,6183     ,3347
FAC3_1       ,0074     ,3570     ,0207     ,9835    -,7043     ,7191
Int_1        ,0419     ,2419     ,1732     ,8630    -,4404     ,5242

Product terms key:
 Int_1    :        IV_S1S2  x        FAC3_1

Test(s) of highest order unconditional interaction(s):
       R2-chng         F       df1       df2         p
X*W      ,0004     ,0300    1,0000   72,0000     ,8630
----------
    Focal predict: IV_S1S2  (X)
          Mod var: FAC3_1   (W)


    Conditional effects of the focal predictor at values of the moderator(s):

        FAC3_1    Effect        se         t         p      LLCI      ULCI
       -1,0603    -,1862     ,3474    -,5360     ,5936    -,8788     ,5063
         ,1497    -,1355     ,2424    -,5590     ,5779    -,6188     ,3478
         ,9496    -,1020     ,3346    -,3048     ,7614    -,7689     ,5650

    There are no statistical significance transition points within the observed
    range of the moderator found using the Johnson-Neyman method.

    Conditional effect of focal predictor at values of the moderator:
        FAC3_1    Effect        se         t         p      LLCI      ULCI
       -3,2283    -,2771     ,8126    -,3410     ,7341    -1,8970    1,3428
       -3,0077    -,2678     ,7618    -,3516     ,7262    -1,7864    1,2507
       -2,7872    -,2586     ,7113    -,3636     ,7173    -1,6766    1,1594
       -2,5666    -,2494     ,6613    -,3771     ,7072    -1,5676    1,0689
       -2,3461    -,2401     ,6118    -,3924     ,6959    -1,4598     ,9796
       -2,1255    -,2309     ,5631    -,4100     ,6830    -1,3534     ,8917
       -1,9050    -,2216     ,5153    -,4301     ,6684    -1,2488     ,8056
       -1,6844    -,2124     ,4687    -,4532     ,6518    -1,1466     ,7219
       -1,4638    -,2031     ,4236    -,4795     ,6330    -1,0476     ,6414
       -1,2433    -,1939     ,3808    -,5092     ,6122     -,9529     ,5652
       -1,0227    -,1846     ,3409    -,5417     ,5897     -,8642     ,4949
        -,8022    -,1754     ,3051    -,5749     ,5672     -,7837     ,4329
        -,5816    -,1662     ,2751    -,6039     ,5478     -,7147     ,3823
        -,3611    -,1569     ,2530    -,6202     ,5371     -,6612     ,3474
        -,1405    -,1477     ,2408    -,6132     ,5417     -,6277     ,3324
         ,0801    -,1384     ,2402    -,5764     ,5662     -,6172     ,3404
         ,3006    -,1292     ,2511    -,5144     ,6085     -,6298     ,3714
         ,5212    -,1199     ,2723    -,4405     ,6609     -,6627     ,4229
         ,7417    -,1107     ,3015    -,3671     ,7146     -,7118     ,4904
         ,9623    -,1014     ,3367    -,3013     ,7641     -,7727     ,5698
        1,1828    -,0922     ,3762    -,2451     ,8071     -,8422     ,6578
        1,4034    -,0830     ,4188    -,1981     ,8435     -,9179     ,7519

    *********************** ANALYSIS NOTES AND ERRORS ***********************

    Level of confidence for all confidence intervals in output:
      95,0000

    W values in conditional tables are the 16th, 50th, and 84th percentiles.

    ------ END MATRIX -----
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Further analysis

Correlation between consumer product involvement and perceived trustworthiness ability

Descriptive Statistics

	Mean	Std. Deviation	N
CPI_OV	2,91	1,223	116
Perceived trustworthiness ability	5,76	1,100	116

Correlations

		CPI_OV	Perceived trustworthiness ability
CPI_OV	Pearson Correlation	1	,203[*]
	Sig. (2-tailed)		,029
	N	116	116
Perceived trustworthiness ability	Pearson Correlation	,203[*]	1
	Sig. (2-tailed)	,029	
	N	116	116

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

ANOVA between consumer product involvement and attitudinal loyalty

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
CPI_OV * Recodification attitudinal loyalty	116	100,0%	0	0,0%	116	100,0%

Report

CPI_OV

Recodification attitudinal loyalty	Mean	N	Std. Deviation
Yes	3,09	68	1,143
No	2,65	48	1,296
Total	2,91	116	1,223

ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
CPI_OV * Recodification attitudinal loyalty	Between Groups (Combined)	5,507	1	5,507	3,772	,055
	Within Groups	166,450	114	1,460		
	Total	171,957	115			

Measures of Association

	Eta	Eta Squared
CPI_OV * Recodification attitudinal loyalty	,179	,032

Correlation between consumer product involvement and brand attitude

Descriptive Statistics

	Mean	Std. Deviation	N
CPI_OV	2,91	1,223	116
BA_OV	4,54	1,441	116

Correlations

		CPI_OV	BA_OV
CPI_OV	Pearson Correlation	1	,326**
	Sig. (2–tailed)		<,001
	N	116	116
BA_OV	Pearson Correlation	,326**	1
	Sig. (2–tailed)	<,001	
	N	116	116

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

Correlation between perceived functional quality and perceived trustworthiness integrity

Correlations

		Esprimi una valutazione da 1 a 7 riguardo la seguente abilità della nuova collezione Aqua Allegoria di Guerlain (1=abilità bassa; 7=abilità alta): – Abilità della profumazione di durare durante il giorno	Perceived trustworthiness integrity
Esprimi una valutazione da 1 a 7 riguardo la seguente abilità della nuova collezione Aqua Allegoria di Guerlain (1=abilità bassa; 7=abilità alta): – Abilità della profumazione di durare durante il giorno	Pearson Correlation	1	,359**
	Sig. (2–tailed)		<,001
	N	116	116
Perceived trustworthiness integrity	Pearson Correlation	,359**	1
	Sig. (2–tailed)	<,001	
	N	116	116

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

Correlation between perceived functional quality and perceived trustworthiness benevolence

Correlations

		Esprimi una valutazione da 1 a 7 riguardo la seguente abilità della nuova collezione Aqua Allegoria di Guerlain (1=abilità bassa; 7=abilità alta): – Abilità della profumazione di durare durante il giorno	Perceived trustworthiness benevolence
Esprimi una valutazione da 1 a 7 riguardo la seguente abilità della nuova collezione Aqua Allegoria di Guerlain (1=abilità bassa; 7=abilità alta): – Abilità della profumazione di durare durante il giorno	Pearson Correlation	1	,379**
	Sig. (2–tailed)		<,001
	N	116	116
Perceived trustworthiness benevolence	Pearson Correlation	,379**	1
	Sig. (2–tailed)	<,001	
	N	116	116

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

Correlation between perceived functional quality and perceived trustworthiness ability

Correlations

		Esprimi una valutazione da 1 a 7 riguardo la seguente abilità della nuova collezione Aqua Allegoria di Guerlain (1=abilità bassa; 7=abilità alta): – Abilità della profumazione di durare durante il giorno	Perceived trustworthiness ability
Esprimi una valutazione da 1 a 7 riguardo la seguente abilità della nuova collezione Aqua Allegoria di Guerlain (1=abilità bassa; 7=abilità alta): – Abilità della profumazione di durare durante il giorno	Pearson Correlation	1	,478**
	Sig. (2–tailed)		<,001
	N	116	116
Perceived trustworthiness ability	Pearson Correlation	,478**	1
	Sig. (2–tailed)	<,001	
	N	116	116

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

ANOVA between perceived functional quality and attitudinal loyalty

Case Processing Summary

| | Cases | | | | | |
| | Included | | Excluded | | Total | |
	N	Percent	N	Percent	N	Percent
PFQ_OV * Recodification attitudinal loyalty	116	100,0%	0	0,0%	116	100,0%

Report

PFQ_OV

Recodification attitudinal loyalty	Mean	N	Std. Deviation
Yes	4,831	68	,9408
No	4,406	48	1,4427
Total	4,655	116	1,1876

ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
PFQ_OV * Recodification attitudinal loyalty	Between Groups (Combined)	5,074	1	5,074	3,681	,058
	Within Groups	157,133	114	1,378		
	Total	162,207	115			

Measures of Association

	Eta	Eta Squared
PFQ_OV * Recodification attitudinal loyalty	,177	,031

Correlation between brand attitude and perceived trustworthiness integrity

Descriptive Statistics

	Mean	Std. Deviation	N
BA_OV	4,54	1,441	116
Perceived trustworthiness integrity	5,34	1,172	116

Correlations

		BA_OV	Perceived trustworthiness integrity
BA_OV	Pearson Correlation	1	,396[**]
	Sig. (2-tailed)		<,001
	N	116	116
Perceived trustworthiness integrity	Pearson Correlation	,396[**]	1
	Sig. (2-tailed)	<,001	
	N	116	116

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

Correlation between brand attitude and perceived trustworthiness benevolence

Descriptive Statistics

	Mean	Std. Deviation	N
BA_OV	4,54	1,441	116
Perceived trustworthiness benevolence	5,00	1,351	116

Correlations

		BA_OV	Perceived trustworthines s benevolence
BA_OV	Pearson Correlation	1	,402**
	Sig. (2–tailed)		<,001
	N	116	116
Perceived trustworthiness benevolence	Pearson Correlation	,402**	1
	Sig. (2–tailed)	<,001	
	N	116	116

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

Correlation between brand attitude and perceived trustworthiness ability

Descriptive Statistics

	Mean	Std. Deviation	N
BA_OV	4,54	1,441	116
Perceived trustworthiness ability	5,76	1,100	116

Correlations

		BA_OV	Perceived trustworthines s ability
BA_OV	Pearson Correlation	1	,489**
	Sig. (2–tailed)		<,001
	N	116	116
Perceived trustworthiness ability	Pearson Correlation	,489**	1
	Sig. (2–tailed)	<,001	
	N	116	116

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

Correlation between brand attitude and self brand congruity

Descriptive Statistics

	Mean	Std. Deviation	N
BA_OV	4,54	1,441	116
SBC_OV	3,047	1,0894	116

Correlations

		BA_OV	SBC_OV
BA_OV	Pearson Correlation	1	,537**
	Sig. (2–tailed)		<,001
	N	116	116
SBC_OV	Pearson Correlation	,537**	1
	Sig. (2–tailed)	<,001	
	N	116	116

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

Correlation between brand attitude and brand loyalty

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
BA_OV * Recodification attitudinal loyalty	102	100,0%	0	0,0%	102	100,0%

Report

BA_OV

Recodification attitudinal loyalty	Mean	N	Std. Deviation
Yes	5,22	58	1,215
No	3,73	44	1,336
Total	4,58	102	1,465

ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
BA_OV * Recodification attitudinal loyalty	Between Groups (Combined)	56,059	1	56,059	34,860	<,001
	Within Groups	160,813	100	1,608		
	Total	216,873	101			

Measures of Association

	Eta	Eta Squared
BA_OV * Recodification attitudinal loyalty	,508	,258

Correlation between environmental consciousness and perceived trustworthiness integrity

Descriptive Statistics

	Mean	Std. Deviation	N
Amb_OV	5,526	1,3185	116
Perceived trustworthiness integrity	5,34	1,172	116

Correlations

		Amb_OV	Perceived trustworthiness integrity
Amb_OV	Pearson Correlation	1	,267[**]
	Sig. (2–tailed)		,004
	N	116	116
Perceived trustworthiness integrity	Pearson Correlation	,267[**]	1
	Sig. (2–tailed)	,004	
	N	116	116

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

Correlation between environmental consciousness and perceived trustworthiness benevolence

Descriptive Statistics

	Mean	Std. Deviation	N
Amb_OV	5,526	1,3185	116
Perceived trustworthiness benevolence	5,00	1,351	116

Correlations

		Amb_OV	Perceived trustworthiness benevolence
Amb_OV	Pearson Correlation	1	,395**
	Sig. (2-tailed)		<,001
	N	116	116
Perceived trustworthiness benevolence	Pearson Correlation	,395**	1
	Sig. (2-tailed)	<,001	
	N	116	116

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

Correlation between environmental consciousness and perceived trustworthiness ability

Descriptive Statistics

	Mean	Std. Deviation	N
Amb_OV	5,526	1,3185	116
Perceived trustworthiness ability	5,76	1,100	116

Correlations

		Amb_OV	Perceived trustworthiness ability
Amb_OV	Pearson Correlation	1	,391**
	Sig. (2-tailed)		<,001
	N	116	116
Perceived trustworthiness ability	Pearson Correlation	,391**	1
	Sig. (2-tailed)	<,001	
	N	116	116

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

Correlation between environmental consciousness and self brand congruity

Descriptive Statistics

	Mean	Std. Deviation	N
Amb_OV	5,526	1,3185	116
SBC_OV	3,047	1,0894	116

Correlations

		Amb_OV	SBC_OV
Amb_OV	Pearson Correlation	1	,232*
	Sig. (2–tailed)		,012
	N	116	116
SBC_OV	Pearson Correlation	,232*	1
	Sig. (2–tailed)	,012	
	N	116	116

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

ANOVA between environmental consciousness and where do you live?

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Amb_OV * Dove vivi?	102	100,0%	0	0,0%	102	100,0%

Report

Amb_OV

Dove vivi?	Mean	N	Std. Deviation
Italia	5,883	60	1,0430
Norvegia	5,095	42	1,4785
Total	5,559	102	1,2941

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Amb_OV * Dove vivi?	Between Groups	(Combined)	15,345	1	15,345	9,977	,002
	Within Groups		153,802	100	1,538		
	Total		169,147	101			

Measures of Association

	Eta	Eta Squared
Amb_OV * Dove vivi?	,301	,091