

**CAN ANTI-AGEING EXPERIENCES AND MINDFULNESS
CONTRIBUTE TO ENHANCE WELL-BEING AND REDUCE
COGNITIVE AGE OF GERMAN ELDERLY?**

AN EXPLANATORY STUDY.

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Abstract

The purpose of this study is to examine the interrelations of mindfulness, consumer well-being and Cognitive Age among senior consumers in Germany who were asked about the importance of purchase decision factors of anti-ageing products and the frequency they are using these anti-ageing products.

A delivery and collection paper questionnaire was conducted in two German senior universities to ascertain and evaluate scores for the concepts in study. Using SPSS, linear and multiple regression analysis and cluster analysis were applied to evaluate the responses of 211 valid questionnaires.

The results reveal that consumer mindfulness positively affects Subjective Happiness and Satisfaction with Life of senior consumers. Further, the study confirms previous results that chronological age is positively related to seniors' Cognitive Age (i.e. the gap between actual age and the perceived age).

Although, the study was carried out carefully in order to avoid bias, the fact of having been collected with senior students from two German universities do not allow to generalize results to the entire population. Future studies might consider a broader sample, and examine international differences. Further, it may be interesting to adapt the study to other health care products.

Keywords: consumer mindfulness, subjective consumer well-being, anti-ageing products, purchase decision factors

JEL: M310 – Marketing

M390 – Marketing and Advertising; Other

Resumo

O propósito deste estudo é analisar as inter-relações de plena consciência (*mindfulness*), ao bem-estar do consumidor e à idade cognitiva entre os consumidores seniores na Alemanha, que foram questionados sobre a importância dos fatores de decisão de compra de produtos anti-envelhecimento e a frequência que eles usam esses produtos.

A entrega e recolha do questionário em papel foi realizado em duas universidades seniores Alemãs para determinar e avaliar a pontuação para os conceitos em estudo relativos à percepção dos consumidores. Usando SPSS, as análises de regressão simples e múltipla e a de cluster foram aplicadas para avaliar as respostas de 211 questionários válidos.

Os resultados revelam que a atenção plena do consumidor afeta positivamente a felicidade subjetiva e a satisfação com a vida dos consumidores idosos. Além disso, o estudo confirma resultados anteriores que a idade cronológica está positivamente relacionada com a idade cognitiva dos seniores (ou seja, o hiato entre a idade efetiva e a percebida).

Embora, o estudo tenha sido realizado com cuidado, a fim de evitar enviesamentos, o facto de ter sido recolhido junto de estudantes seniores de duas universidades alemãs não permite a generalizada a toda a população. Estudos futuros podem considerar uma amostra mais ampla, e examinar as diferenças internacionais. Além disso, pode ser interessante para o estudo se adaptar a outros produtos de cuidados de saúde

Palavras-chave: *mindfulness* do consumidor, bem-estar subjetivo do consumidor, satisfação com a vida, felicidade Subjetiva, produtos anti-envelhecimento, fatores de decisão de compra

JEL: M310 – Marketing

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List of Abbreviations and Definitions

CA – Cognitive Age

CAD – Cognitive Age Difference = Difference between chronological age and perceived age

CHRONA – Chronological Age

DA – Do Age

DU – ‘Daily-user’ (Study participants stating daily using anti-ageing products)

EN – Engagement

FA – Feel Age

FL – Flexibility

FR – Frequency of using anti-ageing products

GC – ‘Gold consumers’ (Study participants aged older mean age (≥ 63))

HA – Health Age

HSC – ‘Happy-satisfied Consumers’ (Participants scoring ≥ 4.0 in one of the two well-being scores (Subjective Happiness and/or Satisfaction with Life))

IA – Interest Age

LA – Look Age

LMS21 – Langer Mindfulness scale 21

MF – Mindfulness

NU – ‘Never-user’ (Study participants stating never using anti-ageing products)

NP – Novelty Producing

NS – Novelty Seeking

SC – ‘Silver consumers’ (Study participants aged younger mean age (≤ 62))

SH – Subjective Happiness

SHS – Subjective Happiness scale

SWB– Subjective well-being

SWL – Satisfaction with Life

TA – Think Age

UHSC – ‘Unhappy-unsatisfied Consumers’ (Participants scoring ≤ 3.0 in one of the two well-being dimensions (Subjective Happiness and Satisfaction with Life))

Chapter 1: Introduction

The first chapter provides an introductory background section, clarifies the research focus of the study, specifies the overall research aim and objectives and finally, points out the value of this research conducted.

1.1 Background

Due to demographic change, the segment of senior consumers is a growing target group for all industries (Moschis et al., 2007). However, it is estimated that FMCG manufacturers spend 80-90% of marketing budgets on the main target aged 14-49 years old and most research in the past was dedicated to this target group (Nielsen, 2009; Pompe, 2011).

The image of people born in the baby boomer generation (born 1950s to middle 1960s) has been changed in the last years as often people want to be perceived younger, more agile and vital (Pompe, 2011).

Nevertheless, research revealed that the generation 50plus has been mainly ignored in the last years. Due to this groups' economic importance, spending power which is more than half of total sales in Germany and most Western European countries and enormous growth (Nielsen, 2009), the baby boomers generation, is one of the most valuable consumer groups and should not be neglected by marketers.

This research paper is driven by four future trends and developments:

1. **Demographic change means change for marketing.** People have an increased life expectancy and there is a shift in the society structure. For manufacturers, as well as for retailers, that means that consumer segments and their buying behaviour change. The consumer cohort of 50plus consumers is the fastest growing group in most West European countries (CIA, 2016); however, most of the marketing activities are not addressing this target at the moment. In most cases, marketers aggregate older consumers according to their age into one segment (e.g. 50plus); however, several scholars proved that this group is rather heterogeneous (Moschis et al., 2007). Hence, they consider different individual characteristics. Moreover, previous studies also found that the generation 50plus is more loyal to their regular shops compared to their younger counterparts and that there are some important issues to consider when addressing this generation.
2. **There is evidence that marketing ignores new-age senior consumers.** Considering marketing budgets for age groups only ten to twenty percent is spent to consumers aged older 50 years old. (Moschis et al., 2007; Nielsen, 2009), although the spending of people

aged 50 years or older count for more than half of the total consumer spending in Germany (GfK, 2013).

3. **Elderly do not want to be considered as 'old'.** Human beings ageing process cannot be stopped, but there is the trend that people want to slow down the process of ageing (Moschis et al., 2000). The development that the majority of seniors want to feel and look younger and healthier, leads to an increased demand for anti-ageing products and healthy products in the future (Maggee, 2016).
4. **Mindfulness drives consumer well-being.** Previous research (e.g. Brown and Ryan, 2003; Lyke, 2009; Harrington, Loffredo and Perz, 2014; Khan and Zadeh 2014; Bajaj and Pande, 2016) revealed that mindfulness leads to consumer well-being. Well-being is one of the top aims of human beings and organisations might help to achieve their consumer's goal and create thereby, a unique selling proposition in a fierce competition.

1.1.1 Generation 50plus

As mentioned earlier, the 50plus cohort is a very heterogeneous one which can also be seen in the fact that there is no agreement in the definition, labelling and age thresholds. Researchers (e.g. González et al., 2009) set the beginning of being 'old' from 50 to 65 and use terms such as 'older market', mature market, 50-plus market, senior market, elderly market, etc.

The ageing population in Europe has been studied in several studies (e.g., Rechel et al., 2013) from a macro-economic view in the last years. Most reports point out the immense consequences on the society, politics and economy (e.g. public expenses for pensions, healthcare); however, it seems that the micro-economic view (i.e. consumer behaviour of seniors) has not been analysed that much (Alén, Losada and Domínguez, 2016).

According to elderly marketing expert Reidl (as cited in GfK, 2013), 2015 was an exciting time of change. In Germany, the group of 50-plus customers became numerically larger than the main target (14-49 years old) mainly addressed by advertisers. Nielsen (2009) estimates that less than 20% of advertising is geared toward the generation 50plus. No matter which industry we look at: the generation 50plus is crucial for all sectors. Compared to the younger generation (25-44 years old), this generation spends more money on cars, properties, holidays and high-quality products. For instance, in 2013, car sellers sold 65% more cars to older consumers (aged 70-79) than to younger consumers aged between 18 and 29 years (GfK, 2013).

According to the United Nations (2016), demographic change and the ageing population is one of the biggest topics for most countries in the world, as life expectancy has increased by 20 years in the last five decades (cf. Figure 1). Nielsen (2009) expects that more than 50% of

Germany's population - and this is valid for most other Western European countries – will be over 50 years old by 2017. However, as this generation grew out from the advertising-relevant target group of 14 to 49-year-olds, Nielsen (2009) assumes that only less than twenty percent of advertising budgets are geared towards this ignored group.

In the last years, the term of 'senior marketing' arose in the literature, but labelling people as one grey group might be dangerous (Moschis et al., 2007) and may lead to that marketing does not reach their target consumers.

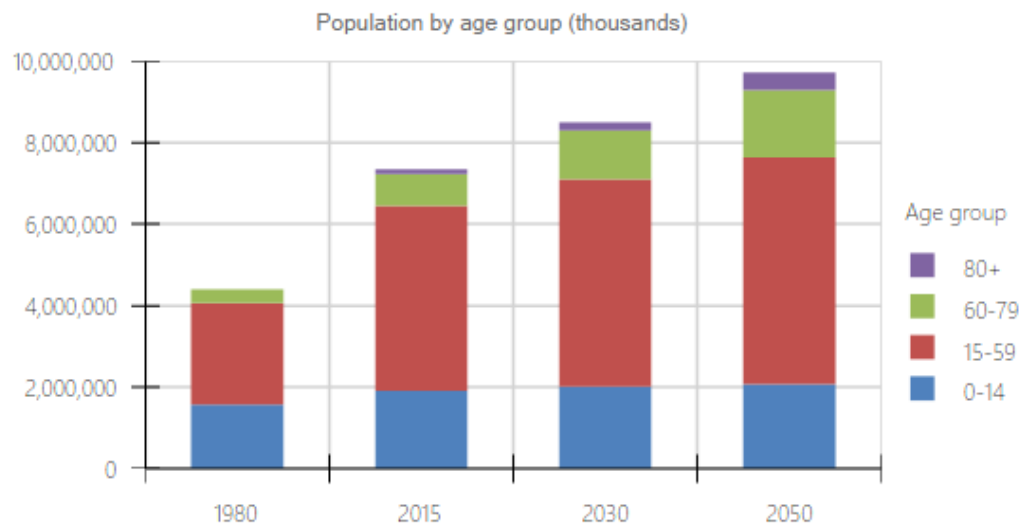


Figure 1. German population by age group

Source. United Nations, 2016

1.1.1.1 Characteristics of the Group in Germany

(1) The demographic change in Germany

The demographic change can be observed in most of the European countries and particularly in Germany, three main characteristics are distinctive:

(a) Increasing life expectancy. A better health care and a decrease in child mortality is one main reason for the higher life expectancy and has been increased constantly in the last 130 years (Federal Statistical Office, 2009). It is assumed that life expectancy will increase to nine to eleven years by 2060 which means that males born today may expect on average to live for 87.7 years and females 91.2 years. Furthermore, Moschis et al. (2007) state that the increasing awareness of a healthy nutrition and big advancements in medical research are the main drivers for the development of an ageing society.

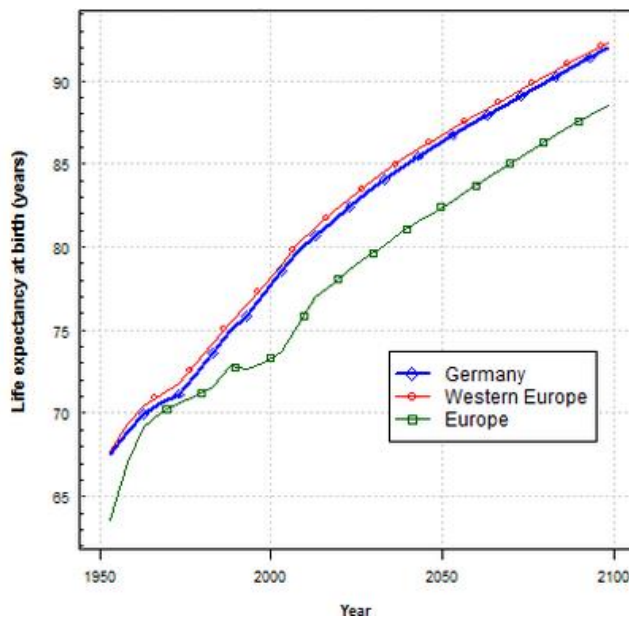


Figure 2. Life expectancy at birth (both genders combined)

Source. United Nations, 2016

(b) Low birth rates. Current data of the CIA Factbook (2016) represent a birth rate of 1.4 children per woman in Germany. The birth rate deficit can also be observed in the fact that every year more people die than are born. According to BMI (2015), a birth rate of 2.1 children would be necessary to keep the original birth level. Nonetheless, migration factors have to be considered as well and may slow the ageing process down. Currently, the group of people aged under 20 has the same size as the population of people over 64-years-old. Each segment makes up about 20% of Germany's population. However, it is expected that the group aged 65 or older will increase to 29% by 2030 and 34% by 2060 (BMI, 2015). Further, there will be the double amount of 70-year-old people than new-born children (Federal Statistical Office, 2009).

This ageing of the population affects all parts of all Germany; however, it can be concluded that rural areas and most of the parts in Eastern Germany are more affected than the rest of the country. These dramatic changes are emphasised by the age structure development in Germany (cf. Figure 3 and 4).

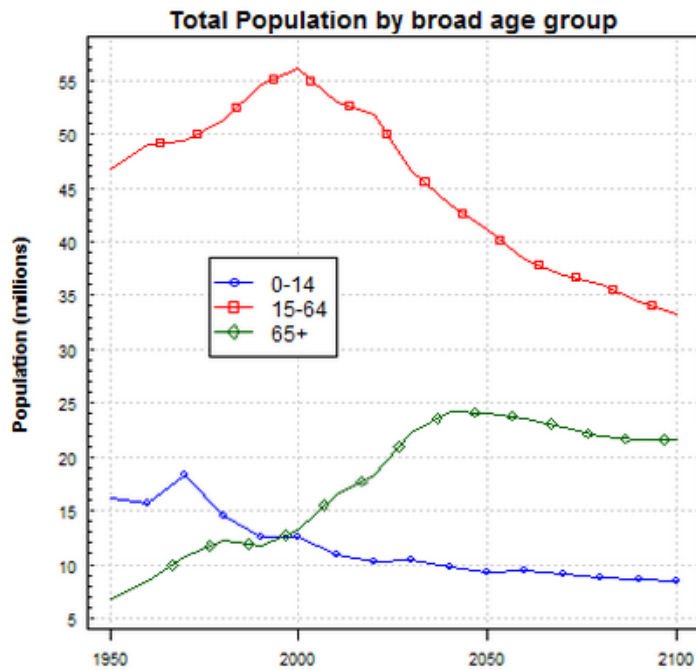


Figure 3. Age structure development of the population in Germany
Source. Federal Statistical Office, 2009

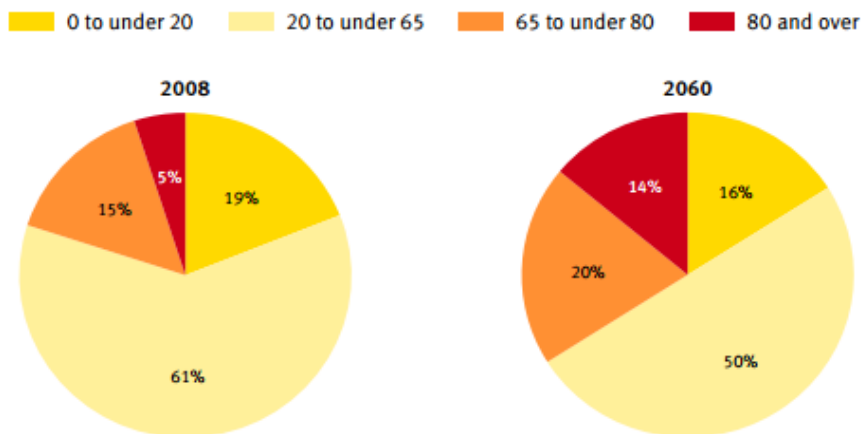


Figure 4. Population in Germany by age groups in 2008 and 2060
Source. Federal Statistical Office, 2009

(2) Spending power

In contrast to stereotypes that elderly consumers tend to parsimony and un-demandingness, the 50plus generation represents rather a hedonistic consumer behaviour. They have a high purchasing power and their financial situation is, usually, less dependent on business cycles. According to GfK (2013), the disposable income in Germany is approximately 60bn € per month which is 720bn € per year (cf. Figure 5).

Spending power in Germany in 2010

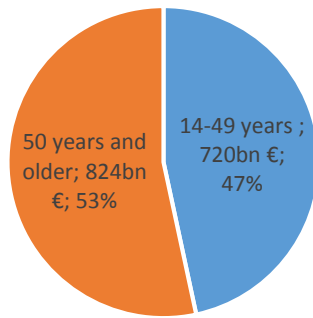


Figure 5. Spending power of elderly in Germany
Source. Own elaboration adapted from GfK, 2013

1.1.1.2 Influence Factors

It is human that people get older and that their life circumstances change in the life course; however, individuals age in different intensities (Pompe 2011). Dependent on prior lifestyles, life-events, attitude, character, biological genes and many other factors, the ageing process and thus changes in life vary enormously (Moschis, Ferguson and Zhu, 2011). Figure 6 displays several factors that affect the consumption behaviour of 50plus consumers and explores them in more detail in the following.

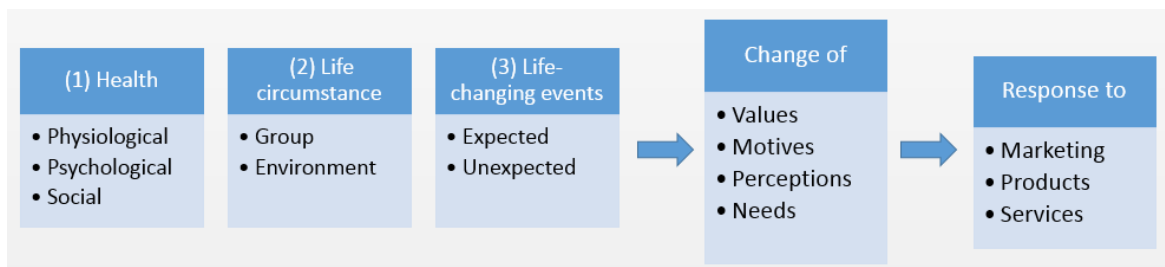


Figure 6. Factors that affect the consumption behaviour of elderly consumers
Source. Own elaboration adapted from Moschis, Ferguson and Zhu, 2011

(1) Health

Despite the increasing life expectancy in the last years, there are several **physiological factors** that might influence daily life of the 50plus generation and thus are relevant for marketing departments. Stroud (2006) explored seven types of health-related ageing that are presented in the following.

(i)Touch. An ageing consumer might lose the feeling of touch. This can result in the loss of temperature sensitivity, limitation in the feeling of different surfaces and how older people react to the touch of different material characteristics. Additionally, it can restrict the usage of electronic devices. For instance, the small buttons of mouse and keyboard of a computer might be more difficult to handle.

(ii) Limited dexterity. Closely linked with the touch are the constrained motor abilities. Illnesses like arthritis can influence the usage of technical devices. The trend that devices like mobile phones get smaller, might be a problem for the older consumers who have less flexibility in their fingers.

(iii) Limited smell and taste. In most cases, the senses of smell and taste decline at the age of 60. The intensity of smells decrease and the older target needs a higher concentration to experience the same as they were young. First of all, salty and sweet tastes decrease, followed by sour and bitter. These change could influence people's product choices to dislikes (Stroud, 2006).

(iv) Limited eyesight. At the age of 40, eyes get worse and it becomes more difficult to focus objects. This also includes that it becomes more difficult to read small printings on a package, to distinguish between similar colours and perceive different contrasts. To see things more clearly, a higher level of light can be useful. Marketers have to consider this in advertisements, web design, product design and packaging. For displaying information, for example, it is vital to consider that colours, fonts, font sizes follow certain rules to be pleasant for the generation 50plus.

(v) Limited hearing. Age-related hearing loss occurs gradually. According to Stroud (2006), one-third of the population between 65 and 74 and almost half of the people over 75 years old suffer from hearing loss. They have difficulties to hear bells, warnings and conversations and as it occurs gradually, many people do not realise that they have lost parts of their hearing.

(vi) Limited cognitive skills. According to Stroud (2006), it is agreed that ageing also leads to restricted cognitive skills. It becomes more demanding to do different tasks at the same time, the speed of conducting complicated tasks decreases and it becomes more difficult to concentrate and focus on one thing for a longer period of time. This influences how elderly people watch and understand communications, such as TV commercials or brand messages.

(vii) Physical capabilities. Dependent on physical activity and how serious individuals are about exercises and a healthy nutrition, elderly tend to gain weight, lose mobility, flexibility and muscles. However, it can also be observed that there are more people trying to work against these constraints and a 60-year-old woman might be fitter than a 30-year-old man who is not doing any sports activities (Schewe, 1988).

Furthermore, humans may also age socially which means that they take over new social roles like grandparents or retirees. These new roles change needs and consumer behaviour and require adaptations in marketing (Sherman, Schiffman and Mathur, 2001). Moreover, psychological ageing describes the fact that people feel younger or older than they actually are.

For marketing it is important to act in the right way as a 64-year-old consumer may be offended if he or she receives a special discount offer for seniors (Stroud, 2006).

(2) Life circumstances

Consumer needs and the mind-set of a person may also be dependent on which life circumstances a person experienced before. For instance, the 50plus generation grew up in a time where it had a high priority to try out and experiment with new things. Research by Moschis, Ferguson and Zhu (2011) provided that these values make this generation open-minded for new products but also unpredictable for their decisions.

(3) Life-changing events

People also may experience expected (e.g. retirement, wedding) or unexpected (e.g. natural catastrophes, accidents, death of a partner) events in their life. These events lead to changes in the mature consumers' mind-sets, beliefs, values, goals and finally also their consumption behaviour or even brand preferences. These events include that the consumer takes over a new role in life, such as a retiree or a widower.

1.1.1.3 Challenges and Recommendations for Communication

According to Habbel et al. (2008), companies have to define an effective approach how to communicate with its target 50plus and name three main problems that should be avoided.

(1) Labelling the generation 50plus as 'old'. Products or services that are designed and labelled exactly for 'old' consumers may be rejected (Leventhal, 1997) as new-age elderly do not want to be considered as old (Moschis et al., 2007). Hence, it is recommended to avoid giving discounts by age but for special products which are designed for older people. Another idea is to give discount at specific times. Moschis, Curasi and Bellenger (2004) revealed that 50plus consumers tend to shop early in the morning; thus 'early morning promotions' could be more appropriate.

(2) Expressing age-related problems. Meiners and Seeberger (2010) examined the challenges and opportunities of marketing to senior consumers. They support the thesis that 'elderly want to be recognised as normal healthy people and not labelled as seniors. Often, they feel younger than they actually are. Thus, they suggest that the term 'senior marketing' is not appropriate.

(3) Over-communicating. Approaching the older generation with wrong advertising messages which are aimed at younger targets can be another danger. In many cases, elderly consumers simply cannot identify with the marketing tools used and the mostly young brand ambassadors in advertisements.

Several further scholars explored how to target new-age elderly consumers. Leventhal (1997) conducted a study in retail stores and showed that consumers enjoy interactions and

conversations with other people within their age group. Therefore, store layout should be designed that customers feel comfortable and that they have space for conversations (Moschis, Curasi and Bellenger, 2004).

Additionally, Dychtwald (1997) summarised that customer service is very important to elderly consumers. Store employees have to be trained how to deal with the 50plus generation properly. Moschis (2003) conducted a field experiment in the restaurant sector and found that mature customers value more than the younger generation to get recognised. With the help of new technologies, this might be applied to the retailing sector by training the staff to recognise regular customer and turn them into loyal customers. Another interesting point to consider is that it should be easy for 50plus consumers to return products without questioning for reasons (Moschis, Curasi and Bellenger, 2004).

A study by Nielsen (as cited in Absatzwirtschaft, 2014) showed that mature consumers in the retailing sector wish to be treated with more respect and honour. Furthermore, they prefer small packaging units, that are easy to open and information that is easy to read and transparent.

According to Moschis et al. (2007), the relationship between brands and customers also changed in the last years. In the past, mature consumers tended to stick to brands they know and were loyal to the good old. However, today elderly consumers are more willing to change a brand and try something new and unknown. Pompe (2011) concluded that 50plus consumers are selective and prefer a simple, individual and personal approach by marketers. They want to be treated with respect and some sense of humour. Further, the 50plus generation is rather more influenced by intuition and instinct compared to the younger generation. Their purchase decision is more based on the feel good factor than their younger counterpart.

To sum up and as reported by Kubena (2015), older consumers often behave, think, look and feel younger than they actually are and their stereotypes tell. However, marketers concentrate mainly on the relevant target group and 80-90% of marketing budgets are spent for this cohort. The 50plus generation is often seen as 'one grey market.' Therefore, Kubena (2015) believes that consumers should not be segmented anymore by age but by attitudes and self-perceived age.

If retailers and manufacturers understand and address this target better, early movers have the chance to present themselves as a competent partner and can bind these consumers early as loyal customers.

1.1.2 Anti-ageing

Anti-ageing is a buzzword that promises eternal youth and is - thanks to marketing - on everyone's lips. These anti-ageing products (medicated cosmeceuticals excluded) make

seductive promises but have the image among some dermatology experts that some products are not working as promised (Ling and Low, 2014).

According to an interview with The Body Shop (2016), the anti-ageing skin care market is growing from year to year, while the market for body care products is stagnating. Some manufacturers have recognised already the importance of consumer well-being and mindfulness in the cosmetics industry (e.g. by establishing blogs where mindful lifestyles are proposed); however not all key players seem to get the most out of this potential. Particularly, the segmentation by Cognitive Age is still not applied by marketing. Research by The Body Shop revealed that the younger target group (end-20s to mid-40s) is more price sensitive than the target consumers aged over 50. Purchase decision factors of elderly are rather driven by high quality ingredients which are fair and sustainably traded. Organic products also see an immense growth in the anti-ageing skin care market (The Body Shop, 2016).

In Germany, the proportion of elderly people and their life expectancy is steadily increasing. At the same time, the negative connotation of age is anchored in the German society. After natural catastrophes and terrorism, ageing is one of the biggest fear among Germans (Statista, 2016). The dream of the prolonged youth and health is very present, although people are aware that it is difficult to stop the biological ageing process.

In this study, we understand anti-ageing products as cosmeceuticals skin care products that are mostly based on moisturiser, for instance, to reduce or prevent wrinkles.

The market for these anti-ageing products is booming (Ling and Low, 2014), although not all products have proved their effectivity in science. According to Ling and Low (2014), a study proved that the best working products can reduce wrinkles by less than 10% within three months which cannot be recognised by the human eye and Salamon (2010) points out that it is much more important what we put in our bodies (to drink much 'water and to eat healthy fats, such as omega-3 fatty acids') than putting on our skin.

Anti-ageing products for men

According to Euromonitor (2015), women were responsible of more than 90% of sales (€151.bn) of personal care products in 2013; men spent only 14.4bn € in the same product category. As growth with female consumers is hardly possible, the anti-ageing industry targets more and more men. Nicolai (2013) states that the market for women cosmetics is still ten times bigger; however, there is more dynamic in the male anti-ageing market and Stone (2008) states that the male German cosmetics market has much potential in the future.

L'Oréal (cited in Nicolai, 2013) claims that one out of two men is using a facial care product and 14% are using this product daily. The main age group is between 30 and 49 years old.

According to Beiersdorf (as cited in Handelsblatt, 2015), 90% of the men are using anti-ageing products in order to look good in the business world and almost eight out of ten (77%) want to appeal to their female partners.

The main challenge in reaching the target male 50plus is the inexperience of male consumers with anti-ageing products. Unilever manager de Vreede states that men often do not know what they need or which skin type they have. At the same time, there is the trend that men also want to look younger and more vital (Nicolai, 2013). Nonetheless, only half of the men buy anti-ageing products themselves. Instead, their partners are buying the products for them and in some cases, the man is even using his partners' skincare product.

According to a study by Cosmetics Design (2015), the worldwide cosmetics market will be increased to a volume of \$390bn by 2020. In particular, anti-ageing products for men such as 'moisturizing lotions, skin whitening cream, facial wipes and sunscreen lotion' (Cosmetics Design, 2015) will contribute besides increasing online sales to this growth.

That these two main drivers are connected and online sales are driven by men, supports a study by Mintel (as cited in Cosmetics Design, 2015) that about three out of four men in America prefer to buy anti-ageing products online. These figures should be similar in Europe, but have to be examined in future research (Cosmetics Design, 2015).

The majority of men do not beg for assistance in shops. Instead of asking a shop assistance, men prefer to buy twice the wrong product. Furthermore, men tend to prefer fast decisions and short shopping trips. Currently, supermarkets, such as Tesco in England or REWE in Germany, applying a new concept. They arrange shelves with products exclusively targeted to men: razors, shower gel, hair styling and magazines are placed next to each other which helps male consumers to save time during their shopping experience.

1.1.3 New-age Elderly and Purchase Decision Factors

It is crucial to understand consumers' behaviour and their main purchasing factors to be successful in any industry and particularly in the cosmetics market (Jalalkamali and Nikbin, 2010). There are many studies on purchase decision factors for several industries; however, it is obvious that all kind of products have their specific purchase factors. This section reviews seniors' potential decision factors for the purchase or experience with anti-ageing products. Due to simplicity reasons, we concentrated on a cross section of more general factors, which can be transferred to other healthcare products.

A study by Poturak (2014) revealed that the majority of purchase decisions is affected by **price** (34.1%), **brand** (26.6%), design of the **packaging** (22.5%) or other factors (10.5%).

Olbrich and Jansen (2014) state that if a price for commodity products, such as anti-ageing products, is set too low, this may lead to a decline in sales as many consumers take the price as a cue for quality. Olbrich and Holsing also found in another study (2011) that some motivators, such as a low and fair price, can contribute to consumer well-being; however, consumers do not solely rely on this indicator and consider others factors, such as independent product tests and word-of-mouth, product reviews or other consumer-generated feedback (Olbrich and Holsing, 2011) for the decision-making.

The packaging of consumer products is an important instrument to evoke consumer desire of a product and increase sales numbers. An appealing and original packaging can support that consumers identify more with the product. Packaging includes factors such as innovation, colour of the packaging, printed information, images and material (Poturak, 2014). The same study also found that the older the consumer is, the more important is written information on the product and packaging.

Another study (Veloutsou, Gioulistanis and Moutinho, 2004) looked at the importance of choice criteria of consumers in the Greek and Scottish market and examined the factors price, perceived value for money, perceived quality, appealing packaging, advertising and fulfilment of expectation of own label and manufacturer brands. Souiden and Diagne (2009) examined the purchase behaviour of cosmetics of Canadian and French men and found that advertising and attractiveness are strong drivers for the consumption of anti-ageing products. Moreover, Thanisorn and Byaporn (2013) conducted a study with cosmetics consumers about their purchasing decision factors which included odour and colour of products, physical appearance of products, brand, technology of products, logo/slogan, distribution channel via internet, price of products, advertisement, packaging, television advertisement, cash discount, promotion activities and if a friend is purchasing the product. The study also confirmed the trend that consumers are looking for more natural products and in particular in Europe, consumers' value high quality ingredients. Further, their research showed that many companies launch products which are vegetable-based. Prakash and Sharma (2016) examined purchase factors in impulsive buying of female skincare cosmetics in India. Factors that directly affect the product and product presentation directly in the store are outlined in the following: celebrity endorsement, packaging, displaying of the product, innovative display, promotions at point of purchase, cleanliness at the point of purchase, creative use of colours, background music in the store, scents of the product, helpful sales people, familiarity with the store, trial options, lighting at the place of display, informative graphics / signs.

Considering all these studies dealing with purchase decision factors and criteria for anti-ageing products, it can be summarised that some criteria appear again and again but their importance vary due to intercultural and multinational differences.

1.2 Research Focus

This part outlines (i) the focus of the research conducted and (ii) the rationale for this study.

The major focus of this research concentrates on the group of German new-age elderly as they have been ignored by marketing in the past (Moschis et al, 2007). Which factors are most important for the purchase decision of anti-ageing products? How often are seniors in Germany using anti-ageing products? Are there any lessons to better communicate with new-age elderly in the future?

Further, previous studies (e.g. Khan and Zadeh, 2014; Brown and Ryan, 2003; Harrington, Loffredo and Perz, 2014; Lyke, 2009) have proved that there is a positive relationship between mindfulness and consumer well-being. Applying the 21-items Langer Mindfulness Scale (LMS21 by Bodner and Langer, 2001), four mindfulness dimensions (Novelty Producing, Novelty Seeking, Engagement and Flexibility) are measured and a mindfulness score is calculated. A Subjective Happiness score (scale developed by Lyubomirsky and Lepper, 1999) and Satisfaction with Life scores (scale developed by Diener et al., 1985) are being computed. The extended concept of cognitive age by Clark, Long and Schiffman (1999) is further considered and interconnections with chronological age are drawn.

To the best knowledge of the authors, this is the first research study to explore the interdependence of the constructs of cognitive age, consumer mindfulness and consumer well-being in the context of anti-ageing products for senior consumers. Therefore, we strongly believe this area is worth to study.

1.3 Research Aim and Objectives

The overall aim of this research is to enhance the understanding of the connections of consumer mindfulness, consumer well-being (including Subjective Happiness and Satisfaction with Life), Cognitive Age and purchase decisions factors of anti-ageing products among senior consumers in Germany.

Within this context, the four individual supporting objectives to achieve the research aim are to:

1. Review critically concepts of consumer mindfulness, consumer well-being and Cognitive Age suggested by the literature;

2. Identify the importance of major purchase decision factors of senior consumers by focus groups, survey conduction and in-depth literature review;
3. Determine and assess scores for consumer mindfulness, Subjective Happiness and Satisfaction with Life based on the proposed conceptual framework;
4. Determine whether Cognitive Age differs from actual age.

1.4 Relevance and Value of this Research

This research adds further value to current research in a variety of ways. As stated earlier, due to the increasing spending power and quantitative share in Germany and most Western societies, senior consumers become a more and more important target group for all kind of industries. Understanding elderly consumers is valuable and crucial and Pompe (2011) urge that there is a need of adapting strategies to satisfy needs of this cohort. Particularly for Germany, it is expected that it will be one of the oldest populations in Europe by 2035. Manufacturers and retailers of anti-ageing products might profit from this trend; however, it seems as if there is still some room to know more about this consumer cohort. That is why this study focuses exclusively on consumers aged over 50 years old and contributes to the small but growing amount of empirical studies about the senior generation which has been ignored by marketing in the past. Additionally, this empirical research activity is also unique and gives an important insight into purchase decision factors of anti-ageing products among senior consumers. Whereas previous research concentrated on the relationships of mindfulness and consumer well-being, this study adds the concept of Cognitive Age and combines the three concepts in the context of anti-ageing products for the first time.

Based on the research results, this paper gives also practical recommendations how to appeal better to this important and growing consumer segment and develops appropriate strategies. Thus, Product Management and Marketing in the FMCG sector can profit from the results practically and gain a better understanding of the concepts mindfulness, consumer well-being and Cognitive Age, which are usually rather ignored and not covered by marketing.

Given the fact that only a few organisations are addressing the older generation correctly (Nielsen, 2009), this study contributes in conclusion to the awareness of these important topics. Moreover, if elderly consumers are encouraged to be more mindful in their product choice, this may contribute to a higher degree of Satisfaction with Life, Subjective Happiness and a lower Cognitive Age by using anti-ageing products. Finally, the results of this study can be applied to other healthcare products.

1.5 Structure of the Paper

This dissertation is structured in a very logic way and consists of five main parts as summarised below and outlined in Figure 7.

- (1) Introduction:** This chapter presents the background and rationale behind the study. Further, it highlights the research focus and identifies the overall research aim and objectives of the dissertation. The final part concludes the value of the study.
- (2) Literature Review:** The focus of this part is the broad analysis of the relevant related and latest literature. The three main concepts (i) Cognitive Age, (ii) consumer mindfulness and (iii) consumer well-being (involving Subjective Happiness and Satisfaction with Life) are defined and reviewed broadly to understand the foundation of this topic. Finally, the conceptual framework and the research hypotheses are presented.
- (3) Research Methodology:** At this stage, the way of data collection of the study are introduced by outlining the sample design of the questionnaire. Moreover, the composition of the questionnaire is presented in detail and the chosen research methodologies are explained and justified. Finally, the data treatment procedure is introduced to the reader.
- (4) Results and Discussion:** This part presents and evaluates the data findings based on the statistical analysis and places them into the context of the literature.
- (5) Conclusions and Implications:** The final part of this dissertation presents the main conclusions found in the research conducted, derives implications for cosmetics manufacturers and marketing in general. Lastly, limitations and future research recommendations are presented.

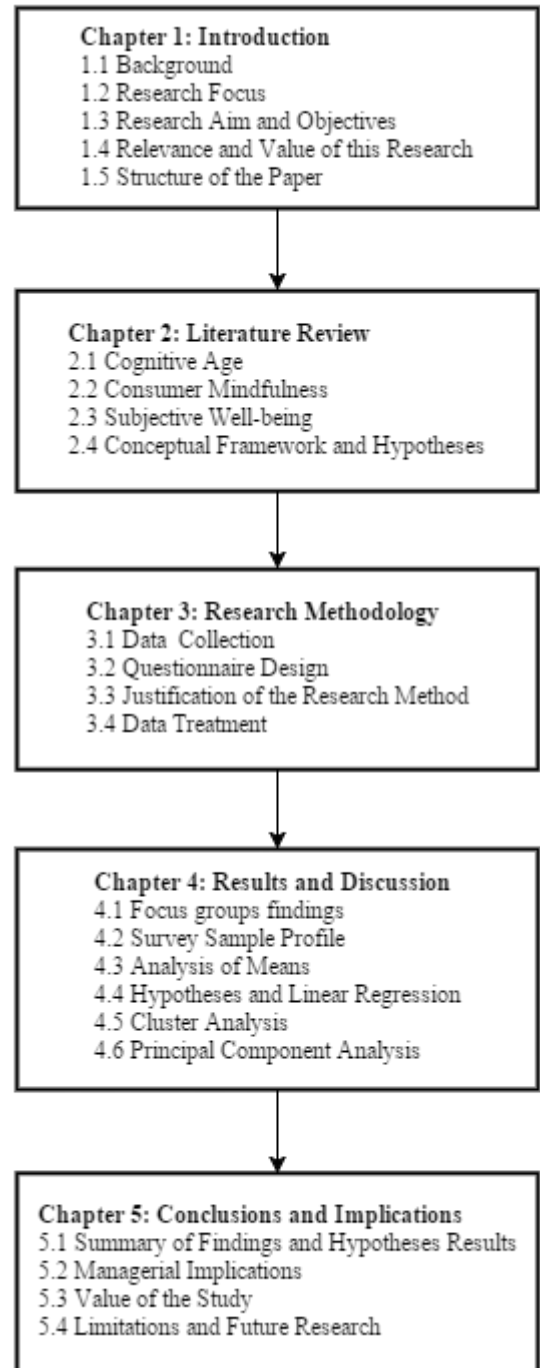


Figure 7. Structure of the paper

Chapter 2: Literature Review

This chapter examines the major issues of ageing (including the concept of Cognitive Age), consumer mindfulness and consumer well-being, including Subjective Happiness and Satisfaction with Life. Hence, the review of literature refers to research objective 1:

1. Review critically concepts of consumer mindfulness, consumer well-being and Cognitive Age suggested by the literature

2.1 Cognitive Age

Almost 40 years ago, Burke and Tully (1977, as cited in Sudbury-Riley, Kohlbacher and Hofmeister, 2015) were the first scholars who explored the importance of self-perceived age. Cognitive Age has been related to well-being and a higher Cognitive Age Difference has been associated with increased Satisfaction with Life (Sherman, Schiffman and Mathur, 2001).

Usually, Marketing takes chronological age or in other words the number of years a person has lived so far (cited in Barak and Schiffman, 1981) as a segmentation variable; however, Stephens (2013) states that Cognitive Age in combination with chronological age is a superior age measure. This is also supported by Moschis et al. (2007) who state that people do age differently and chronological age is only a poor indicator to predict consumer behaviour (Sudbury-Riley, Kohlbacher and Hofmeister, 2015).

Particularly, senior consumers are an important group as this cohort is growing regarding quantity and disposable income (Yoon et al., 2005). Therefore, this cohort is valuable and important for marketers.

Whereas the average senior consumers perceive themselves younger as they actually are, there is also the tendency that younger consumers perceive themselves older than their chronological age (Kaufmann and Elder, 2002). An international study by Sudbury-Riley, Kohlbacher and Hofmeister (2015) shows that the average Cognitive Age of German seniors (chronological mean age: 60.34) is 8.57 years lower than the chronological age.

Nevertheless, cognitive should not be treated isolated from external circumstances which may influence Cognitive Age. Guido, Amatulli and Peluso (2014), for instance, argue that Cognitive Age is not a fixed number but can vary dependent on its context.

2.1.1 Cognitive Age conceptualisation

There are a number of definitions of cognitive or self-perceived age: Goody specified the term in 1976 (as cited in Sudbury-Riley, Kohlbacher and Hofmeister, 2015) as 'how a person defines themselves in relation to their life-course' (p. 248) and Barak and Gould (1985) defined the

term Cognitive Age as *'an individual's actual age-role self-concept, reflecting his/her age-identity concerning four age dimensions (feel-age, look-age, do-age and interest-age) expressed in years'*(p.53).

Prior research examined the concept of Cognitive Age (i.e. how old a person feels) and pointed out that older people feel younger than their birth date states (Barak and Schiffman, 1981). There are several research conclusions that have been found in the area of Cognitive Age and summarised by Barak and Schiffman (1981):

First, women tend to perceive their age differently compared to men and are basically more sensitive to negative connotations of being old (Bengston, Kasschau and Ragan, 1977).

Second, people with a lower Cognitive Age tend to have a higher education (Peters, 1971), to be more open-minded and to have a less traditional life outlook (Bengston and Cutler, 1977) compared to those with a higher Cognitive Age. Further, Blau (1973) found that they are more likely to be innovative.

Third, research revealed that the majority of seniors tend to perceive themselves younger than their chronological age (e.g. Blau, 1973; Peters, 1971; Sudbury-Riley, Kohlbacher and Hofmeister, 2015) and a so-called 'young-at-heart' market exists. Nevertheless, there is also a group of people who consider themselves as being old (Cognitive Age higher than chronological age). This cohort might be a valuable target for healthcare products.

Fourth, studies by Peters (1971) and Bengston, Kasschau and Ragan (1977) showed that Cognitive Age is related to well-being (e.g. Satisfaction with Life).

Fifth, Sudbury-Riley, Kohlbacher and Hofmeister (2015) confirm that Cognitive Age bias and chronological age are positively correlated.

Finally, the sub-dimension Look Age (5.7 years) is the closest dimension to chronological age of elderly German consumers, followed by Feel Age (8.7 years), Do Age (9.7 years) and Interest Age (10.4 years) as found by Sudbury-Riley, Kohlbacher and Hofmeister (2015).

González et al. (2009) suggest that the concept of Cognitive Age should be considered when developing marketing strategies for segmenting and targeting senior tourists and examining their behaviour. Moreover, Goulding and Shankar (2004) confirmed that perceived age influences consumers' buying behaviour and consumption habits and Yoon et al. (2005) summarise that Cognitive Age might better explain purchasing behaviour than chronological age.

The Cognitive Age concept of seniors has been applied and researched by several scholars in different environments and contexts (cf. Table 1).

Table 1. Overview of Cognitive Age studies in several environments

Author	Year	Name of the study	Context	Scale / Items used
Clark, Long and Schiffman	1999	The mind–body connection: The relationship among physical activity level, life satisfaction, and Cognitive Age among mature females	Studied Elderly women and the relation of Cognitive Age and physical activity	Age–decade scale with six items (feel, look, do, interest, health, think)
Gwinner and Stephens	2001	Testing the implied mediational role of Cognitive Age	analysed the Cognitive Age for senior consumers (55 - 91 years old) in the context of consumer behaviour	Age–decade scale with four items (feel, look, do, interest)
Eastman and Iyer	2005	The impact of Cognitive Age on internet use of the elderly	examined Cognitive Age among internet users (aged 65-85)	Age-decade scale with four items (feel, look, interest and do) and adjustment of range from 40s to 90s
Iyer, Reisenwitz and Eastman	2008	The impact of Cognitive Age on seniors' lifestyles.	looked at the relationship between Cognitive Age and lifestyle of seniors (65+)	Age-decade scale with four items (feel, look, interest and do)
González et al.	2009	Cognitive Age as a criterion explaining senior tourists' motivations	looked at motivation of senior tourists	Age–decade scale with six items (feel, look, do, interest, health, think) ranging from 30s to 90s
Kohlbacher and Chéron	2011	Understanding ‘silver’ consumers through Cognitive Age, health condition, financial status, and personal values	examined relations between Cognitive Age, health, financial status, and personal values of the senior generation	Age-decade scale with four items (feel, look, interest and do) and adjustment of range from 20s to 90s
Teller, Gittenberger and Schnedlitz	2013	Cognitive Age and grocery-store patronage by elderly shoppers	examined the impact of Cognitive Age on grocery-store loyalty by senior consumers (60+)	Age–decade scale with six items (feel, look, do, interest, health, think) ranging from 30s to 90s
Hong et al.	2013	How old are you really? Cognitive Age in technology acceptance	conducted an empirical analysis with consumers (aged 13-59) and their acceptance of new technologies	Age-decade scale with four items (feel, look, interest and do)
Guido, Amatulli and Peluso	2014	Context effects on older Consumers' Cognitive Age: The of hedonic versus utilitarian goals	examined the relation of cognitive and chronological age among in different contexts (qualitative study)	Qualitative approach: Cognitive Age was captured in focus groups and personal interviews.
Amatulli, Guido and Natarajan	2015	Luxury purchasing among older consumers: exploring inferences about Cognitive Age, status, and style motivations	explored buying motivation of older luxury shoppers and the influence of perceived age on the purchasing behaviour; seniors with lower Cognitive Age trust more in brands than in specific product characteristics	Feel Age , Moral Age, Social Age (“bundle of very heterogeneous attributes linked to aging”)
Crawford and Naar	2016	A profile of American bed and breakfast entrepreneurs: Bridging the gap to retirement	examined Cognitive Age of American tourists (average age: 59.7 years)	Age-decade scale with four items (feel, look, interest and do)

Source. Own elaboration based on the literature review

2.1.2 Cognitive Age measurement

There are different ways to measure Cognitive Age: Blau (1956) was the first scholar who measured Cognitive Age by simply asking elderly to which age category (‘middle-aged’ or ‘old’) they believed they belong and named this method ‘single-item scale.’

This method has been applied in a clinical context, for instance, by Baum and Boxlex (1983) who found that elderly people who are more involved in physical activities perceive their age younger. A downside of a single-item-method was pointed out by Stephens (2013) who criticises that this way of measuring Cognitive Age is too simplistic for a complex phenomenon which has more sub-dimensions which are not considered in one question. Therefore, a more precise method evolved with the ‘semantic differential scale,’ developed by gerontologist Guptill (1969). This scale consists of 32 bipolar statements to measure Cognitive Age.

Later, Kastenbaum et al. (1972) developed ‘The Ages of Me’ instrument, which asks the respondent for four absolute age statements that are presented in Table 2.

Table 2. The Ages of Me instrument

Author	Items	Response
Kastenbaum et al. (1972)	I feel as though I were about age [...]. I look as though I were about age [...]. I do most things as though I were about age [...]. My interests are mostly those of a person about age [...].	Absolute age

Source. Adapted from Kastenbaum et al., 1972

Barak and Schiffmann (1981) were the first who examined the notion of Cognitive Age in the context of marketing. They simplified Kastenbaum’s and colleagues’ method by rephrasing the statements and ask the participants to state one age decade instead of an absolute age.

They also confirmed that many older people feel younger than it is stated in their birth documents. Particularly, with increasing age, the gap between cognitive and biological age becomes greater (Kaufmann and Elder, 2002).

Therefore, they suggest that with increasing differences between chronological and perceived age, the chronological age should not be used solely for the description of target groups. Instead, the scholars suggest that marketers should also consider how old the consumer feels and how he/she experiences age cognitively. Consequently, they developed a method to measure the Cognitive Age by self-assessment survey with four questions: How old consumers (1) ‘feel’ and (2) ‘look’, (3) their perceived age according to their ‘interests’ and (4) their ‘act age’. The Cognitive Age method was extended by Clark, Long and Schiffman (1999) who added further (5) ‘Health Age’ and (6) ‘Think Age’ as sub-dimensions and named the method ‘Age Decade Scale’. The method considers the decade of different age dimensions and calculates the arithmetic mean of all six sub-dimensions.

For the ‘Age Decade Scale’, Cronbach’s alpha was used to determine internal reliability in previous studies: Kohlbacher and Chéron (2011) determined a Cronbach’s alpha coefficient of 0.87 which is considered as very good (cf. Table 3 below) and also other studies report a very good reliability ranging from 0.85 to 0.88 (Wilkes, 1992). Further, another study by Barak (2009) confirms the validity of the ‘Age Decade Scale’ and confirms that the concept can also be applied to different cultures.

Table 3. Cronbach’s alpha coefficient for internal consistency

Alpha coefficient	Implied reliability
Below 0.60	Unacceptable
Between 0.60 and 0.65	Undesirable
Between 0.65 and 0.70 Minimally acceptable	Minimally acceptable
Between 0.70 and 0.80 Respectable	Respectable
Between 0.80 and 0.90 Very good	Very good
Much above 0.90	Consider shortening the scale

Source. Adapted from DeVellis, 1991

Up to now, the measurement method of the ‘Age Decade Scale’ originally developed by Barak and Schiffman (1981) and extended by Clark, Long and Schiffman (1999) is basically accepted by researchers, has been applied in many studies (as outlined earlier in Table 1) and Stephens (2013), who tested three different measurement concepts summarises that the ‘Age Decade Scale’ has proved to be the best tool due to its simplicity to apply, to evaluate and to interpret. The ‘Age Decade Scale’ is presented below in Table 4.

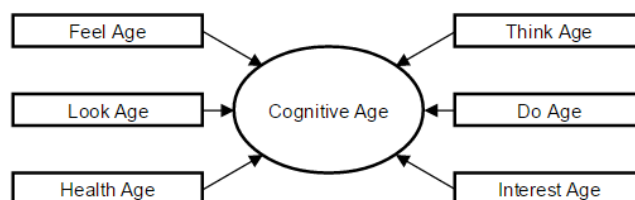


Table 4. The Age Decade Scale

Items	Response	Author
<i>I feel</i> like I’m in my [...] <i>I look</i> like I’m in my [...] <i>My interests</i> are those of a person in his/her [...] <i>I do</i> things a person does in his/her [...]	Cognitive Age stated in decades	Barak and Schiffman (1981)
<i>My health</i> is as though I were in my [...] <i>I think</i> as though I were in my [...]		extended by Clark, Long and Schiffman (1999)

Source. Own elaboration adapted from Clark, Long and Schiffman, 1999

To conclude, Barak (2009) states that the measurement of Cognitive Age can be applied to different nations and is a valid, reliable and easy to apply tool for marketers, although, Sudbury-Riley, Kohlbacher and Hofmeister (2015) found that in an international environment, some

nations have a lower Cognitive Age than other nations (UK: 9.13 years; Germany: 8.57 years; Hungary: 3.80 years and Japan: 5.95 years).

Using Cognitive Age instead of chronological age as a variable avoids that older consumers are seen as one grey market. Regarding marketing, it is a more appropriate and a precise method to segment senior consumers.

2.2 Consumer Mindfulness

Consumers become more and more conscious of their health, ingredient-aware and are interested in transparency of products they purchase. This is valid for nutrition but also for products related to health and body such as cosmetics and anti-ageing products (Imberg, 2015).

2.2.1 *Mindfulness conceptualisation*

There are different perspectives on mindfulness and the oldest one may have its origin in the religious view, such as Buddhism, that is out of scope in this study. The umbrella term mindfulness originally has its background in the research areas of psychology, education, meditation and sociology but has been arisen in the fields of marketing and management only in the last years. Ndubisi (2012) is one of the first scholars who researched how mindfulness influences consumer behaviour and decision-making process and to the authors' knowledge, there is no research in the context of cosmetics or even anti-ageing products.

The literature distinguishes between organisational and individual mindfulness. Due to simplicity and relevance, this study focuses only on individual mindfulness. In the context of an organisation mindfulness is also understood, as an extension of Langer's perspective of mindfulness. Following the individual perspective of Langer (1989), Levinthal and Rerup (2006, p.505) define mindfulness in organisational level as 'high sensitivity of perception and high flexibility of behavior to respond to diverse, changing stimuli.'

In the current study, we employ the individual level of mindfulness since we are dealing with individual senior consumers and their experience consumption. At this level, mindfulness is argued to positively affect various outcomes on the individual level, such as creativity, physical well-being and psychological well-being (Brown and Ryan, 2003) and to be a driver for subjective well-being in tourism experiences (e.g. Frauman and Norman, 2004).

There are several further definitions of mindfulness which are all similar but distinguish in the wording slightly, for instance, Langer, Cohen and Djikic (2012) define mindfulness as an open mind-set to novelty and Brown, Ryan and Creswell (2007) describe the term as a state of being interested and showing awareness of what is taking place in the current market and environment

in general. Furthermore, mindful people have the possibility to draw new distinctions through Novelty Seeking, Novelty Producing and are basically higher engaged (Ryff and Keyes, 1995). Mars and Oliver (2016) outline mindfulness as ‘the art of paying attention to the present moment, with intention, openness and curiosity, and without judgement’ (p.7).

Today, a basically accepted definition by Sauer et al. (2013, p.3) describes mindfulness as the ‘...ability to dispassionately observe the experience of the present moment with non-judgmental openness.’

However, mindfulness can vary from person to person as it is also related to cognitive ability (i.e. the capacity to think mindfully), personal traits (e.g. extroverted behaviour) and cognitive style, i.e. that it is dependent on how a person prefers to think (Sternberg, 2000) and consumers who present a high value of mindfulness are highly involved and aware of the market development (Ndubisi, 2014). For marketers, this can be important to know how these different consumer types react to their marketing investments and how these consumers inform about products and market developments.

Ndubisi (2012) proved in the context of healthcare products that mindful consumers are more loyal and satisfied and thus, tend to spend and consume more than rather mindless consumers. Also, Sheth, Sethia and Srinivas (2011) proved that mindful consumers tend to show greater relationship quality attributes and loyalty as they take more time to collect and analyse information to make more objective and well-thought purchase decisions. This in return decrease the likelihood that the decisions made are regretted retrospectively which leads to greater trust, commitment, satisfaction and loyalty.

Marketers should be aware that mostly these mindful customers who are loyal and show more trust, satisfaction and commitment are also those who tend to be more critical, compare offers to ones of competitors and constantly informing themselves about the current market situation. Ndubisi (2014) advises that marketing should constantly engage with mindful consumers also concerning co-creation and decisions about product improvements, adjustment and other changes. The scholar further states that mindful consumers are valuable for companies as they tend to be more creative than their mindless counterparts and can generate new ideas for product developments. Research also showed that mindful consumers tend to see the broader picture and are more willing to forgive failures as they are more open-minded and try to understand organisations. Finally, mindfulness is positively related to well-being (Hanley, Warner and Garland, 2015) and negatively correlated with financial desire (Brown et al., 2009).

2.2.1 Mindfulness measurement

Several scholars developed scales to measure mindfulness on an individual and organisational level. Table 5 presents only those relevant ones which are developed for the individual level. The literature review revealed that many measures of mindfulness are applied in the clinical context (e.g. Toronto Mindfulness Scale: Lau et al., 2006 and Southampton Mindfulness Questionnaire, revised in Chadwick, 2008). Those measure tools have not been considered in the table as they are not appropriate for the context of consumer behaviour.

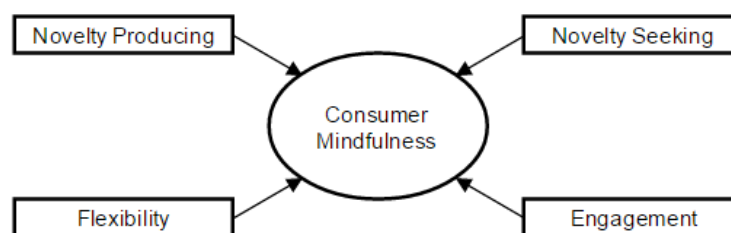
Table 5. Measure tools for mindfulness

Author	Year	Measure Tool	Short Description	Items
Brown and Ryan	2003	Mindful Attention Scale (MAAS)	Assessment of items focussed on mindlessness, as the scholars believe that this behaviour is more common.	Self-assessment of 16 items
Baer, Smith and Allen	2004	Kentucky Inventory of Mindfulness Skills (KIMS)	Assessment of 4 skills: (1) observing, (2) describing, (3) acting with awareness, (4) accepting without judgement	Self-assessment of 39 items
Langer, 2004, as cited in Nsdubi, 2014	2004	Langer Mindfulness Scale (LMS21)	Includes 4 dimensions of mindfulness: (1) novelty-seeking, (2) novelty-engaging, (3) novelty-producing, (4) Flexibility	Self-assessment of 21 items
Baer et al.	2006	Five Factor Mindfulness Questionnaire (FFMQ)	Based on the KIMS method but with adapted elements: (1) observing, (2) describing, (3) acting with awareness, (4) non-judging of inner experience, (5) non-reactivity to inner experience	Self-assessment of 39 questions

Source. Own elaboration based on literature review

The Langer Mindfulness scale 21 (LMS21) can be regarded as a reliable and valid method (Pirson et al., 2012) and is the most appropriate measure method in the context of consumer behaviour in combination with subjective well-being (Langer, 2012).

The four dimensions - Novelty Producing, Novelty Seeking, Engagement and Flexibility - of LMS21 are described in the following:



People scoring high in the Novelty Producing dimension state to develop new ideas, try to think of new ways of doing things, make many new contributions in different areas and like being challenged intellectually. Additionally, novelty producing people consider themselves to be very creative and to be original thinkers.

Novelty Seeking people like to investigate things, to find out how things work and understand the function of processes and products. They look for thought-provoking conversations with other people, seek actively to learn new things and consider themselves as very curious persons. The third dimension of Engagement refers to people who are most of the time aware and alert of changes and new developments in their environment. They are openminded to new ways of doing things, notice what other people are up to and get involved in everything they do. Basically, engaged people tend to see the ‘big picture.’

Finally, the Flexibility dimension refers to people who are always open to new ways of doing things and are openminded to almost everything even it challenges their core belief. Persons scoring high in this dimension never stay with the old tried and their flexibility is also shown that they can behave in many different ways in a given situation.

Table 6 outlines the 21 items proposed by Langer (1989) that compose the mindfulness scale.

Table 6. Langer Mindfulness Scale 21

Construct	Items	Author
Langer Mindfulness Scale 21		Langer, 1989
Novelty Producing	1. I generate few novel ideas (*RS) 2. I try to think new ways of doing things. 3. I find it easy to create new and effective ideas. 4. I am very creative. 5. I make many novel contributions. 6. I am not an original thinker. (*RS)	
Novelty Seeking	7. I like being challenged intellectually. 8. I like to investigate things. 9. I am very curious. 10. I avoid thought-provoking conversations. (*RS) 11. I do not actively seek to learn new things. (*RS)	
*RS – Reverse Scoring	12. I like to figure out how things work.	

Source. Own elaboration adapted from Langer (1989)

Table 6. Langer Mindfulness Scale 21 (continuation)

Construct	Items	Author
Langer Mindfulness Scale 21		Langer, 1989
Engagement	13. I am rarely alert to new developments. (*RS) 14. I seldom notice what other people are up to. (*RS) 15. I attend to the 'big picture.' 16. I get involved in almost everything I do. 17. I am rarely aware of changes. (*RS)	
Flexibility	18. I am always open to new ways of doing things. 19. I have an open mind about everything, even things that challenge my core beliefs. 20. I can behave in many different ways for a given situation.	
*RS – Reverse Scoring	21. I stay with the old tried and true things of doing things. (*RS)	

Source. Own elaboration adapted from Langer (1989)

2.3 Subjective Well-being

Subjective well-being (SWB) is nowadays a key concept in the international discussion about prosperity and a sustainable development of the society in general. People all over the world consider subjective well-being (i. a. happiness and life satisfaction) as extremely important and value happiness to be more important than wealth (Diener et al., 1999). Particularly, for people in Western countries, happiness is the most important superordinate goal in life (Lyubomirsky and Lepper, 1999).

Subjective consumer well-being is a growing field of marketing research which can be observed in the fact that the American Marketing Association adapted its general definition of marketing by adding the importance of contributing to the value for the society which includes the concept of 'well-being'.

'Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large.' (American Marketing Association, 2013)

Today, research on subjective consumer well-being in the field of marketing is mainly motivated due to economic reasons of companies. Pancer and Handelman (2012) argue that if consumers buy and consume more products, it is a sign that these products satisfy their needs, which leads to a better economic state and this in turn to an enhanced consumer well-being state of individuals and the whole society.

In the 1960s, Wilson (as cited in Diener et al., 1999) was one of the first scholars who reviewed the broader concept of subjective well-being. At this time, Wilson concentrated rather on socio-demographics of happy people. His research showed that, as stereotyped expected, happy people are young, healthy, have a high education and high salary, are extroverted, optimistic,

religious and married. In the meantime, research evolved and found that internal (personality factors) and external circumstances are interacting and affecting a person's status of well-being.

2.3.1 Subjective Well-being Conceptualisation

Despite the growing area around this topic, there is no uniform definition agreed by all scholars (Dodge et al., 2012). To define the term consumer well-being (CWB), one has firstly to distinguish between two different perspectives (Ryan and Deci, 2001). McMahan and Estes (2011) summarise them as follows: whereas the hedonic perspective of CWB includes the dimensions of experience of pleasure and avoidance of negative experiences, the eudaimonic perspective focuses rather on the dimensions self-development to achieve one's potential and contribution (example item: 'Living in ways that benefit others'). This research paper only considers the hedonic perspective of consumer well-being as the authors of this study believe that it is more relevant regarding looking at consumer products such as anti-ageing products.

The World Health Organization (2014) defines well-being as the state 'in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully (...)' and Diener (1984 and Diener et al. 1999) determines subjective well-being as the assessment of individual's positive and negative feelings regarding Satisfaction with Life. From a marketing perspective, Merunka and Sirgy (2011) define the term as that consumers make a judgement to what extent a company or a brand contributes to his/her perceived quality of life.

Today, subjective consumer well-being is a growing research area within marketing (De Keyser and Lariviere, 2014). Nevertheless, the private sector does not consider well-being as a focus to market their products as tools to improve people's well-being as there has not been enough awareness for this topic from a marketing perspective (Lefebvre, 2013).

In general, subjective well-being consists of two components: (1) the cognitive component that is referred to as Satisfaction with Life and (2) the affective component that is typically divided into positive affect and negative affect. These components are related but should be treated and measured separately as they do not substitute each other (Albuquerque, 2016; Pavot and Diener, 1993).

Regarding subjective well-being and anti-ageing products, seniors who value health and well-being, which is related to the use of cosmetics in general and anti-ageing products, are more likely to have a positive view, to be more satisfied with life and have a more active life (Sahin, 2008).

The different concepts of measuring subjective consumer well-being come either from the public sector or the academic sector. Land, Sirgy and Michalos (2012) review in their

‘Handbook of consumer well-being’ some of the most important models which are outlined in Table 7 and mainly based on self-reports.

Nonetheless, self-report measure tools also have some disadvantages and concerns: first, external situational factors may influence the results of subjective well-being. For instance, self-report measure tools do not consider the current mood of the participant when the measurement has been conducted. Second, Schwarz and Strack (1991) argue that the order of how the item statements are presented may influence the results. For more precise results, they suggest a ‘multi-method’, combining different methods and applying tools over a period of time.

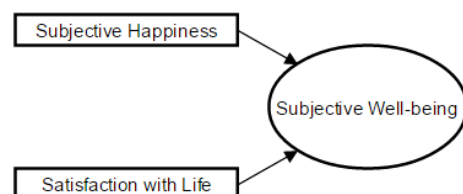
Some of the most appearing tools to capture subjective consumer well-being (e.g. by measuring the mood of positive and negative feelings, experiences in the consumer life cycle process or satisfaction with different life domains) are presented in Table 7.

Table 7. Measure tools to capture subjective well-being

Measure tool	Notes	Author
Affectometer	Measures mood and affective well-being component	Kammann and Flett, 1983
Positive and Negative Affect Schedule		Watson, Clark and Tellegen, 1988
Memorial University of Newfoundland Scale of Happiness		Kozma and Stones, 1980
Overall Consumer Satisfaction-Composite (OCSC)	Based on consumer experiences subjective quality of life is measured	Meadow and Sirgy (2008)
Possession of material things	Based on durable possessions and life standard	Nakano et al. (1995)
Consumer Life Cycle Model	Based on the different experiences in the consumer life cycle in the area of consumer goods:(1) acquisition satisfaction, (2) possession satisfaction, (3) consumption satisfaction, (4) maintenance satisfaction (e.g. after-service) and (5) disposition satisfaction (e.g. selling)	Lee et al. (2002) Lee and Sirgy (2004) in the personal transportation sector Grzeskowiak et al. (2013) for durable goods
Bottom-up Spillover Model	Based on the satisfaction with different life domains e.g. work life, free time life, family life, love live and social live	Diener (1984) Sirgy, Hansen and Littlefeld. (1994) in the area of hospital and life satisfaction Neal, Sirgy and uysal. (1999) in the area of tourism services

Source. Own elaboration based on literature review

Having introduced the general topic of subjective well-being, the following part presents its two sub-dimensions Satisfaction with Life (cognitive



component) and Subjective Happiness (affective component) which are applied in this study.

2.3.2 Cognitive Component Measurement: Satisfaction with Life

Life satisfaction can be defined as the state where respondents ‘assess quality of their lives on the basis of their own unique set of criteria’ (Pavot and Diener, 1993 p.102). The judgement criteria are individual and dependent on the person.

The Satisfaction with Life scale (SWLS) developed by Diener et al. (1985) has been chosen due to the following reasons presented in a critical review by Pavot and Diener (1993).

In contrast to other well-being measuring methods, the SWLS does not consider Satisfaction with Life domains (leisure time, health, etc.), but gives more room for interpretation for the participants in the study. The respondents can choose and weight satisfaction areas according to their standards, criteria and preferences. The respondents decide what area of life is relevant for the evaluation instead of setting specific areas.

Previous scholars applied the SWLS to senior populations (e.g., Blais et al., 1989; Vitaliano et al., 1991) in different languages and contexts. Reviewing the SWLS, Pavot and Diener (1993) found strong internal reliability, moderate temporal sensitivity and a high Cronbach’s alpha coefficient of 0.87 (Diener et al., 1985). Diener (2009, p. 107) conclude that Satisfaction with Life has a long-term construct which is determined to personality and life circumstances, ‘a long-term component (perhaps due to personality, stable life circumstances or both), a moderate-term component (e.g., due to current life events or cognitive schemata) and a short-term component (e.g. due to current mood and immediately salient life circumstances)’.

To sum up, it can be stated that the Satisfaction with Life scale is a powerful tool to measure SWB due to a strong internal reliability and moderate temporal sensitivity to changing life events. Additionally, Pavot and Diener (1993) state that the SWLS presents ‘some degree of autonomy from related SWB constructs such as depression’ (p.113).

Nonetheless, there are a few limitations in applying the SWLS which should be noted. As the SWLS is a self-reported measure tool, respondents might warp their ratings on the scale. Further, it has to be considered that not all dimensions of SWB are measured with the SWLS and is rather focused on the cognitive than on the emotional dimension of SWB. Due to that, Pavot and Diener (1993) recommend using the SWLS in combination with a complementary scale to capture emotional well-being, for instance, Subjective Happiness as a tool to measure the affective component. Finally, the strength that the SWLS allows respondents to choose life domains they wish can be seen as a weakness as the scholars do not know what standard the respondent is referring to.

A high score on the Satisfaction with Life scale signifies that those people feel to have perfect life conditions. Basically, their life is close to their ideal. That also includes that these people have achieved all important things in life so far and if they look back on their life, they would do everything exactly the same way again. In fact, self-reported health, followed by work situation and relationship status, had the largest effect on life satisfaction. (Oguz, Merad and Snape, 2013).

2.3.3 Affective Component Measurement: Subjective Happiness

As mentioned earlier, one affective component and embedded in the broad concept of subjective well-being is Subjective Happiness. The term happiness itself has its origin in Aristotle ('Happiness is the meaning and the purpose of life, the whole aim and end of human existence'). It may be described as the overall goal of people (Deici and Ryan, 2008) and includes the pursuit of pleasure and the meaning in humans' life (Wang and Wong, 2013).

Prior research suggested that determinants of Subjective Happiness are, among others, economic forces, activity levels, adaption levels, goals and life events (Lyubimirsky and Lepper, 1999). However, Lyubimirsky and Lepper found that demographic variables and extreme life events (e.g. winning in the lottery) are less strongly related to happiness than everyday experiences. Thus, they argue that happiness is rather subjective and less explainable by external circumstances.

To assess Subjective Happiness single-item tools and more precise multi-item scales were developed (Diener, 1984).

We consider the 4-item Subjective Happiness scale (SHS) by Lyubomirsky and Lepper (1999) as most appropriate for this study and there are several reasons for choosing this scale to capture the affective component: first, the participants completed the questionnaire in one study in a variety of setting (e.g. at home, in a laboratory, college campus, etc.) and all tests have shown that the SHS has a high internal consistency. The Cronbach's alpha reliability revealed good to excellent results, ranging from 0.79 to 0.94 with a mean of 0.86 (Lyubomirsky and Lepper 1999; Swami et al., 2008). Also, test-retests showed that the SHS is highly reliable and stable over time (reliability ranging from 0.55 to 0.9 with a mean of 0.72).

Second, in order to avoid biases in the self-report of the SHS (e.g. social desirable answers, positive or negative illusions and effects of present mood states) informant reports have been conducted to examine possible correlations.

Finally, Lyubomirsky and Lepper (1999) found that the SHS is also highly correlated with other happiness measures; however, they are basically not over 0.70 which supports that SHS and other happiness and well-being measure tools should not be applied as a substitution.

To sum up, the validation studies showed that the Subjective Happiness scale is a good method to measure Subjective Happiness. Nevertheless, researchers who apply the scale in an international environment should note that the perception if people have a happy life, is an individual subjective view and is also influenced by cultural expectations (Lyubomirsky and Lepper, 1999). Table 8 represents the Subjective Happiness scale which asks respondents to rate the four statements on a 5-point Likert-scale (ranging from 1 “strongly disagree” to 5 “strongly agree”). People scoring high on the SHS consider themselves - also in comparison to the majority of other peers - basically as happy (absolute basis). They enjoy life careless of what is going on around them and get the most out of everything in life (relative basis).

Table 8. Subjective Happiness Scale

Items	Response	Author
In general, I consider myself as happy. (Absolute basis)	from 1 (“strongly disagree”) to 5 (“strongly agree”).	Lyubomirsky and Lepper, 1999
Compared to most of my peers, I consider myself as happy. (Absolute basis)		
Some people are basically not very happy. Although, they are not depressed, they never seem happy as they might be. To what extent does this characterisation describe you? (Relative basis; Reverse scoring)		
Some people are basically very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterisation describe you? (Relative basis)		

Source. Lyubomirsky and Lepper, 1999

2.3.4 Relevance for Marketing

Sirgy (2001) is one of the main authors on consumer well-being in the field of marketing and concludes that all kind of industries should be concerned with their customers’ well-being to get more loyal and satisfied customers.

Grzeskowiak et al. (2013) conclude that measuring consumer well-being allows marketers to evaluate which different buying motivators of products contribute to consumer welfare. This information gives marketers insights about different areas how to enhance consumer well-being and build long-term relationships.

Particularly, in the pharmaceutical industry, well-being and quality of life assessments are applied to receive more evidence about the efficiency of drugs. There are several issues how marketing decisions can be influenced by well-being research:

Product differentiation. Well-being research may help to differentiate concerning effectivity from competitors in an increased competitive environment where all products seem to be similar or even the same. These consumer data can be an advantage and help to differentiate products. Further, the claim that a product contributes to consumers' well-being can be used in promotion messages and attract additional customer groups.

Justify price increases. Obviously, an additional product benefit such as contribution to consumer well-being can be marketed. For instance, the pharmaceutical industry uses quality of life studies to justify a higher price than competitors.

Market segmentation. Supposed, it is found that the product in question improves a certain dimension of well-being and this can be connected to a certain profession. Consumers can be better segmented and then targeted by marketing to persuade this specific target group about the products efficiency.

Opening new sales channels. It is more likely that institutional purchasers, such as pharmacies, may consider products, if it is scientifically proved that those products enhance consumers' well-being. Cramer and Spilker (1998 as cited by Sirgy, 2001) argue that health care managers are becoming more and more aware of well-being research and consider them for their purchase decisions of medical products.

2.4 Conceptual Framework and Hypotheses

The concept of Cognitive Age as a new segmentation variable gets more and more attention by marketers. Mindfulness is still a psychology discipline and is rarely connected to marketing; however, mindful consumption is a growing field of study.

Based on past studies, mindfulness and well-being are an associated construct. Several studies in the past showed that mindfulness enhances Satisfaction with Life (Bajaj and Pande, 2016), Subjective Happiness (Lyke, 2009) and predicts emotional states of persons (Brown and Ryan, 2003). Practically, Khan and Zadeh (2014) revealed, for instance, that there is a significant positive relationship between mindful consumer behaviour (e.g. eating habits) and mental well-being and Harrington, Loffredo and Perz (2014) found that mindfulness of university students is positively and significantly correlated with psychological well-being in general. As presented before, prior research revealed that mindfulness positively affects consumer well-being (e.g., Brown and Ryan, 2003; Frauman and Norman, 2004). Thus, we expected that more mindful consumption will be related to higher Subjective Happiness and Satisfaction with Life scores in the area of German elderly. Therefore, we propose H₁ and H₂:

H₁: Consumer Mindfulness positively affects Subjective Happiness of German senior consumers.

H_{1a}: Novelty Producing positively affects Subjective Happiness of senior consumers.

H_{1b}: Novelty Seeking positively affects Subjective Happiness of senior consumers.

H_{1c}: Engagement positively affects Subjective Happiness of senior consumers.

H_{1d}: Flexibility positively affects Subjective Happiness of senior consumers.

H₂: Mindfulness positively affects Satisfaction with Life of German senior consumers.

H_{2a}: Novelty Producing positively affects Satisfaction with Life of senior consumers.

H_{2b}: Novelty Seeking positively affects Satisfaction with Life of senior consumers.

H_{2c}: Engagement positively affects Satisfaction with Life of senior consumers.

H_{2d}: Flexibility positively affects Satisfaction with Life of senior consumers.

In what concerns to cognitive age and well-being, these two concepts are also connected. Actually, Barak and Schiffman (1981) conclude in their literature review that there is a relation between the concept of Cognitive Age and subjective well-being (Satisfaction with Life).

Based on previous assumptions presented in this paper, Cognitive Age may play a role on mindfulness. Elderly people who regard themselves as younger than their chronological age will be associated with increased levels of Subjective Happiness (Schiffman and Sherman, 1991; Sherman, Schiffman and Mathur, 2001). To explore these interconnections, we propose H₃, H₄ and H₅ for the conceptual model.

H₃: Cognitive Age Difference is positively related with Satisfaction with Life of German senior consumers.

H_{3a}: Feel Age difference is positively related with Satisfaction with Life.

H_{3b}: Look Age difference is positively related with Satisfaction with Life.

H_{3c}: Health Age difference is positively related with the Satisfaction with Life.

H_{3d}: Think Age difference is positively related with Satisfaction with Life.

H_{3e}: Do Age difference is positively related with Satisfaction with Life.

H_{3f}: Interest Age difference is positively related with Satisfaction with Life.

H₄: Cognitive Age Difference is positively related with Subjective Happiness of German senior consumers.

H_{4a}: Feel Age difference is positively related with Subjective Happiness.

H_{4b}: Look Age difference is positively related with Subjective Happiness.

H_{4c}: Health Age difference is positively related with Subjective Happiness.

H_{4d}: Think Age difference is positively related with Subjective Happiness.

H_{4e}: Do Age difference is positively related with Subjective Happiness.

H_{4f}: Interest Age difference is positively related with Subjective Happiness.

H₅: Cognitive Age Difference is positively related with consumer mindfulness of German senior consumers

H_{5a}: Feel Age difference is positively related with consumer mindfulness.

H_{5b}: Look Age difference is positively related with consumer mindfulness.

H_{5c}: Health Age difference is positively related with consumer mindfulness.

H_{5d}: Think Age difference is positively related with consumer mindfulness.

H_{5e}: Do Age difference is positively related with consumer mindfulness.

H_{5f}: Interest Age difference is positively related with consumer mindfulness.

Furthermore, we observed in the focus groups that silver (aged under 63) and gold consumers (63 or older) showed different mindfulness tendencies. To test the relationship between these two variables, we suggest H₆.

H₆: Chronological age negatively affects consumer mindfulness.

Moreover, the literature proved that people perceive a bigger gap between cognitive and actual age, the older they become (e.g. Blau, 1973; Peters, 1971; Sudbury-Riley, Kohlbacher and Hofmeister, 2015). To confirm these results in our study we propose H₇:

H₇: Chronological age positively affects Cognitive Age Difference. Both variables are statistically different among elderly consumers.

Maintaining or improving one's health, to the extent that it can be done through the use of anti-ageing products and experiences, might be an important part of feeling better (well-being) and feeling younger (Cognitive Age).

Finally, the last three hypotheses explore the subjective effectivity of using anti-ageing products. They are devoted to the relationship of the frequency of using anti-ageing products and Subjective Happiness (H₈) and Satisfaction with Life (H₉).

H₈: Frequency of using anti-ageing products positively affects Subjective Happiness.

H₉: Frequency of using anti-ageing products positively affects Satisfaction with Life.

Based on these hypotheses, we propose a simplified conceptual framework in Figure 8 and a more sophisticated conceptual framework in Figure 9.

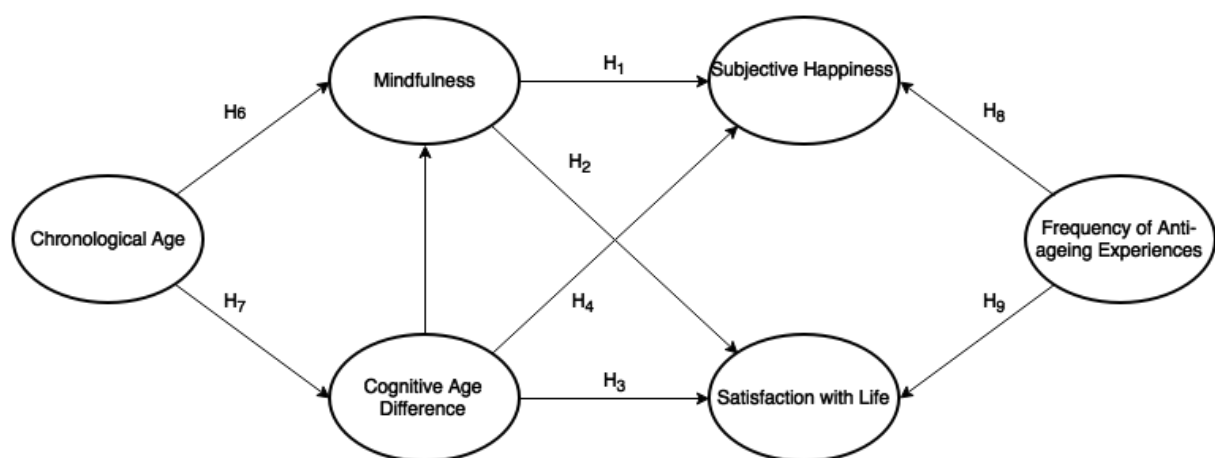


Figure 8. Proposed simplified framework
Source. Own elaboration

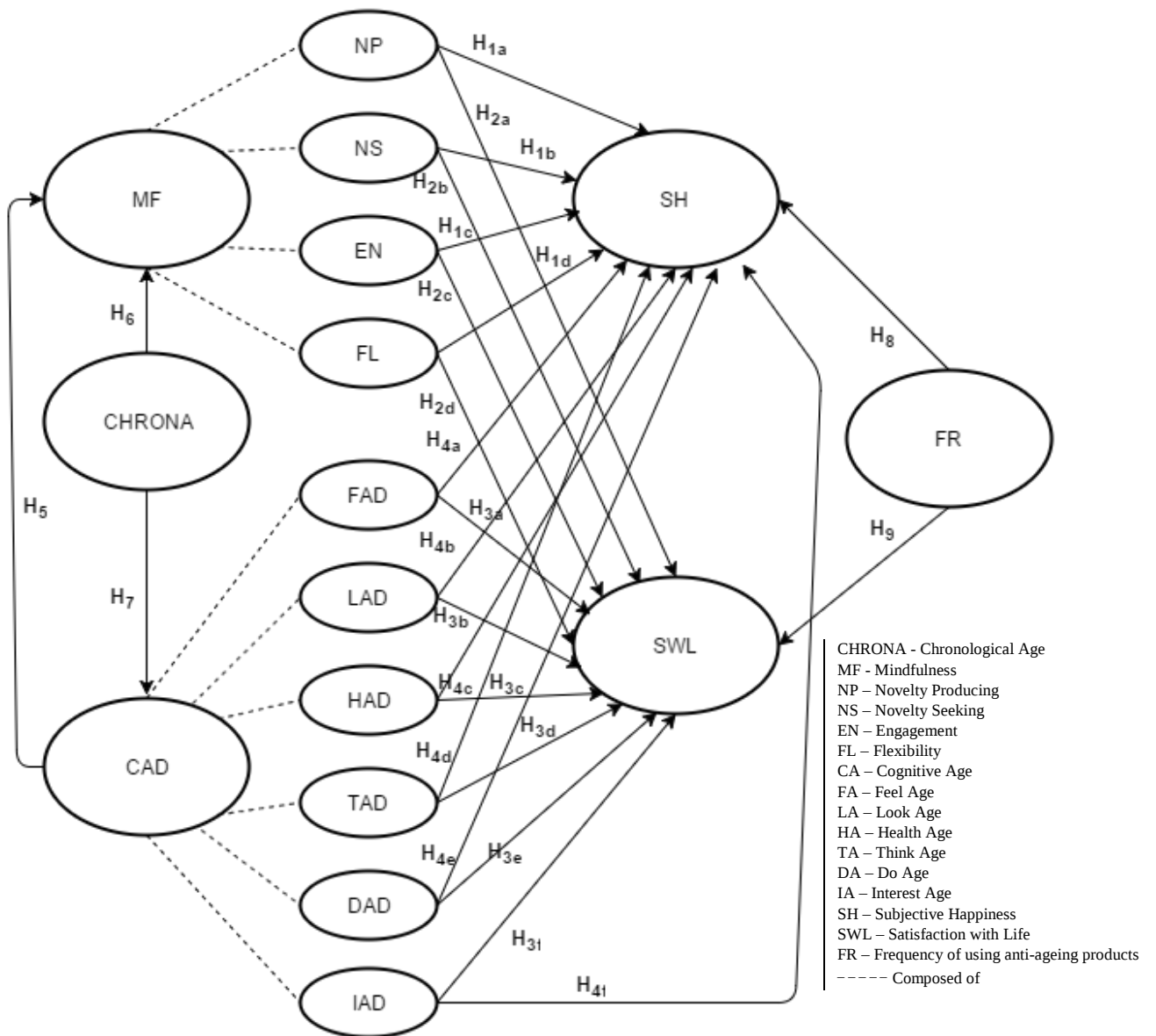


Figure 9. Proposed detailed framework
Source. Own elaboration

Chapter 3: Research Methodology

This chapter – Research Methodology – describes the research strategy applied, together with the presentation of data collection, questionnaire design and data treatment.

The study has four main objectives:

1. Review critically concepts of consumer mindfulness, consumer well-being and Cognitive Age suggested by the literature;
2. Identify the importance of major purchase decision factors of senior consumers by focus groups, survey conduction and in-depth literature review;
3. Determine and assess scores for consumer mindfulness, Subjective Happiness and Satisfaction with Life based on the proposed conceptual framework;
4. Determine whether Cognitive Age differs from actual age

Although the first objective was accomplished in the second chapter, the research methodology intends to be structured in order to achieve the last three objectives.

3.1. Data Collection

3.1.1 Sample Design of the Questionnaire

In a first step, the directors of the senior student programmes of two of Germany's biggest universities with senior students (Technical University of Dortmund and University of Münster) were contacted via email, followed one week later by a telephone call. Confidentiality, anonymity and the importance of the study were emphasised. It was possible to organise four days during the month of November 2015 where the paper questionnaires were handed out before the lectures started. Over three hundred (310) questionnaires were distributed, 61 people did not wish to answer, 38 did not respond to the full extent and 211 questionnaires were usable for analysing the theoretical framework, corresponding to a response rate of 68%.

Both universities offer study programmes for seniors aged over 50 years old who want to study a subject of their choice. All lectures are mandatory to attend. However, the students can choose if they want to attend exams or not. Both university cities are located in the province of North Rhine-Westphalia, the western part of Germany (cf. Figure 10).



Figure 10. Location map of the target universities
Source. Own elaboration

Typically, it is not the principle of senior study programmes to earn a certain degree but for the joy of education and the expansion of the horizon at an advanced age. The senior programmes are rather driven by interests and the individual students can choose their lectures themselves. The German university website (University of Münster, 2016) lists subjects, such as archaeology, architecture, sociology, history science, art and music as the most chosen subjects among elderly.

As the questions in the survey had a rather ethical and personal nature (Subjective Happiness, Satisfaction with Life, mindfulness and anti-ageing products), the survey has been introduced in person to the senior students to achieve a higher response rate.

3.1.2 Focus Groups

According to Saunders, Lewis and Thornhill (2011), a focus group is defined as a group interview with the strict focus on one specific topic. The participants are encouraged by the moderator to discuss the given issues in detail. Focus groups refer to groups where the topic of the meeting is defined and members of the group discuss about that. The literature suggests inviting between four and maximal eight participants. As our topic explores rather emotions than hard facts, we decided to keep the number of participants rather small with four to five elderly.

The participants were selected as they had certain characteristics in common. In the focus groups, all participants were aged over 50 years old and it was meaningful that they were physically and mentally healthy. It was not important if they used anti-ageing products on a regular basis or not, as we also wanted to capture those who rather reject anti-ageing products. The focus group helped to get a deeper understanding about purchase decision factors of anti-ageing products. This research method has been considered as a good tool to identify the key topics which were later applied in the development of the questionnaire.

For the sessions, we considered that the focus group took place in a neutral location where the participants could feel relaxed. Two focus group meetings were conducted to achieve information saturation as suggested by Krueger and Casey (2000). Nine elderly, four males and five females, aged between 54 and 85 years old from the focus group participated in the focus groups. We divided our tasks by two: one person was the moderator of the group; another person took notes to capture the main topics. Each discussion lasted approximately one hour. The meetings of the two focus groups took place in a city close to the two senior universities on 25th October 2015.

3.2 Questionnaire Design

The questionnaire (cf. Appendix A for the English and German version) is based on the literature as outlined in the second chapter and insights from the focus groups and one expert interview. As Bourque and Clark (1994) suggest, parts of the questions have been developed by adapting and adopting of questions that were used in other questionnaires before, as well as the development of own questions. The questions aimed to collect importance data (questionnaire part 1), frequency data (questionnaire part 2) and opinion data (questionnaire part 3). Saunders, Lewis and Thornhill (2011, p.380) suggest five-point Likert-style rating scales in order to explore data to which extent the respondents agree or disagree to with several statements.

The first part of the questionnaire deals with the importance of 15 purchase decisions factors of anti-ageing products and the frequency of using anti-ageing products (with never, seldom-at least once a month; sometimes-at least once a week; often-at least twice a week; very often-daily). For the first part of the questionnaire, two focus groups were conducted to capture the core motivations to use anti-ageing products and experiences. The focus groups with four and five participants each were organised in advance of the questionnaire creation. The results of the focus groups allowed us to get 15 motivational attributes of anti-ageing products and experiences: (1) brand awareness, (2) quality of the product, (3) ingredients, (4) organic product, (5) not animal-tested, (6) vegan ingredients, (7) promotional offers, (8) purpose is achieved, (9) appealing packaging, (10) advertisements, (11) recommendations of friends and family, (12) low price, (13) certifications of the product, (14) trust in product and brand and finally (15) results of independent tests. A summary of the main statements of the focus groups can be found later on in chapter 4.1.

In the next part of the questionnaire, we applied the Langer Mindfulness Scale 21 (LMS21) and captured well-being with two scales to measure Satisfaction with Life (Diener et al. 1985) and Subjective Happiness (Lyubomirsky and Lepper, 1999). LMS 21 asks for agreement or disagreement of 21 statements regarding consumer mindfulness (MS) with its sub-dimensions Novelty Producing (NP), Novelty Seeking (NS), Engagement (EN) and Flexibility (FL). To measure subjective consumer well-being, we considered the cognitive (Satisfaction with Life) and affective component (Subjective Happiness). All items of the different constructs were then mixed randomly in the questionnaire.

For the measurements of the purchase decision factors and the rating of the 30 statements, we used 5-point-likert scales (ranging from 1 “strongly disagree” to 5 “strongly agree”). Please see Table 9 for more details.

Table 9. Applied measure tools of mindfulness and subject well-being

	Construct	Items	Author
Mindfulness	Novelty Producing	I try to think new ways of doing things. I find it easy to create new and effective ideas. I am very creative. I make many novel contributions. I am not an original thinker. (*RS) I like being challenged intellectually.	Bodner and Langer, 2001
	Novelty Seeking	I like to investigate things. I am very curious. I avoid thought-provoking conversations. (*RS) I do not actively seek to learn new things. (*RS) I like to figure out how things work.	
	Engagement	I am rarely alert to new developments. (*RS) I seldom notice what other people are up to. (*RS) I attend to the big picture. I get involved in almost everything I do. I am rarely aware of changes. (*RS)	
	Flexibility	I am always open to new ways of doing things. I have an open mind about everything, even things that challenge my core beliefs. I can behave in many different ways for a given situation. I stay with the old tried and true things of doing things. (*RS)	
Subjective Well-being	Satisfaction with Life	In most ways my life is close to my ideal. The conditions of my life are excellent. I am satisfied with my life. So far, I have gotten the important things I want in life. If I could live my life over, I would change almost nothing.	Diener, et al. 1985
	Subjective Happiness	In general, I consider myself as happy. (Absolute basis) Compared to most of my peers, I consider myself as happy. (Absolute basis) Some people are basically not very happy. Although, they are not depressed, they never seem happy as they might be. To what extent does this characterisation describe you? (Relative basis) Some people are basically very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterisation describe you? (Relative basis)	Lyubomirsky and Lepper, 1999

Source. Own elaboration

*RS =Reverse Scoring

In the third part, we applied the ‘Age Decade Scale’ by Clark, Long and Schiffman (1999). The participants of the study were asked to evaluate their Cognitive Age (CA) with its sub-

dimensions Feel Age (FA), Look Age (LA), Health Age (HA), Think Age (TA), Do Age (DA) and Interest Age (IA) in age categories ranging from 20s to 90s (cf. Table 10).

Table 10. The applied Age Decade Scale

Items	Response	Author
<i>I feel</i> like I'm in my [...] <i>I look</i> like I'm in my [...] <i>My interests</i> are those of a person in his/her [...] <i>I do</i> things a person does in his/her [...]	Cognitive Age stated in decades (from 20s to 90s)	Barak and Schiffman (1981)
<i>My health</i> is as though I were in my [...] <i>I think</i> as though I were in my [...]		extended by Clark, Long and Schiffman (1999)

Source. Own elaboration

The final part of the questionnaire asks for personal data, such as gender and year of birth (in the evaluation recoded to chronological age), which later provide the sample profile.

The questionnaire was originally constructed in English and then translated into the elderly mother tongue German. Following the suggestions by Usunier (1998), attention was paid to (i) the exact meaning of individual words (lexical meaning), (ii) expressions which are only known by native speakers (idiomatic meaning) and (iii) used terms that are familiar in the senior target (experiential meaning). Back translation was used to ensure that both questionnaires communicated the same information (Sekaran, 1983). A pilot sample of ten older consumers from senior universities was used to ensure that the wording of the questionnaire was clear and only a few adjustments were made. Copies of the source questionnaire (English version) and the target questionnaire in German are included in Appendix A for readers who are familiar with both languages.

3.3 Justification of the Research Method

We chose the method of a questionnaire as it is a way to collect much information from a large quantity of specific participants (elderly aged over 50 years old) in a cost-efficient way. As the questionnaire is a quantitative research method, the output can be analysed in an objective scientific way. According to Saunders, Lewis and Thornhill (2011), questionnaires work best if standardised questions are understood and interpreted in the same way by participants. Thus, questionnaires have the tendency to collect descriptive and explanatory data. As older people tend to have a lower response rate in online questionnaires (Sudbury and Simcock, 2010) and since mature consumers tend to be rather less internet-affine, a self-administered delivery and collection paper questionnaire seemed to be most appropriate. The participants were students

of two German senior universities, the Technical University of Dortmund and University of Münster.

Nevertheless, there were a few limitations to this research method: Questionnaires, normally, have a low response rate (Beiske, 2002); however, due to the privilege that the authors found two big senior universities as partners for this study, this disadvantage could be solved. A further limitation is that questionnaires were filled out not correctly or even whole answers are missing. Finally, another main drawback of questionnaires is that the researchers cannot follow up ideas of respondents during the study (Saunders, Lewis and Thornhill, 2011). Future research might consider conducting additional interviews with participants to get deeper insight.

3.4 Data Treatment

Using IBM SPSS Statistics 23.0, descriptive and inductive analysis (linear regression, principal component analysis and cluster analysis) were conducted in this research study.

In a first step, the statistical raw data were prepared concerning dedicating the individual statements to the sub-dimensions of consumer mindfulness (Novelty Producing, Novelty Seeking, Engagement and Flexibility) and aggregated them to compute a Consumer Mindfulness Score. Reversed mindfulness statements (in the questionnaire No. 25, 30 for Novelty Producing; No. 12, 17 for Novelty Seeking; No. 4, 21, 27 for Engagement and No. 22 for Flexibility) were recoded (i.e. 5 turns into 1, 4 turns into 2, 2 into 4, 1 into 5, 3 stays 3). Moreover, statements of consumer well-being were allocated to compute Subjective Happiness and Satisfaction with Life scores. The variable *year of birth* was recoded to *chronological age* by taking 2015 as the reference year. Cognitive Age has been calculated by adding up the means of the sub-dimensions Feel Age, Look Age, Health Age, Think Age, Do Age and Interest Age and finally, calculating the mean of all six age dimensions.

For the descriptive analysis, we analysed and compared means and standard deviations. As we have a population with $n \geq 30$, we relied on the central limit theorem and assumed that the sample follows a normal distribution concerning the variables under analysis. In a further step, the equality of means has been tested for eight different groups by gender (male, female), age group (two groups, with age under and over the chronological mean age of 63 years), Frequency of using anti-ageing products (daily and never-users) and state of well-being (people that are extremely happy and/or satisfied with life versus people that are extremely unhappy and/or unsatisfied with life). Additionally, three groups have been analysed resulting from a cluster analysis based on the importance of purchase decision factors.

Internal consistency of the construct was analysed by applying Cronbach's Alpha with values ranging from 0 and 1.

To estimate the coefficients that best predict the values of dependent variables of the linear equation, as well as, the relation between the independent and dependent variables of the research hypotheses, we conducted a linear regression analysis.

There are several assumptions for linear regression (based on Hair et al., 2009). The central limit theorem is given as $n \geq 30$; hence, the dependent variables come from a normal distribution. Further, we may state that the variance of our distribution of all dependent variables is constant for all values of the independent variables. Additionally, the relation between the dependent and each independent variable should be linear. Finally, all observations should be independent. To sum up, all assumptions were fulfilled to perform a linear regression analysis.

For the analysis of betas, we followed Cohen's rule of thumb (1992). It is basically accepted that a beta of 0.2 to 0.5 represents a small effect size, 0.5 to 0.8 a medium effect size and a $\beta > 0.8$ is considered as a large effect. This also means that a $\beta < 0.2$ is treated as no effect size, even if the value is regarded as statistically significant. We computed all data with a 95% confidence interval.

Finally, we conducted a Principal Component analysis to replace the purchase decision variables by a smaller number of uncorrelated variables (principal components), which contain most of the information of the original set.

To explore if it is appropriate to perform a Principal Component analysis, five requirements have to be fulfilled: First, the KMO has to be > 0.6 . The KMO measure of sampling adequacy indicates whether our sample under analysis is appropriate for our analysis; it ranges between 0 and 1. Second, the sigma of Bartlett's test should be $< 5\%$ that signifies that the variances are correlated and that the correlation matrix is no identity matrix. Third, size of the population $n > 10 \cdot p$ variables. As our sample constituted of $n = 211 > 10 \cdot 15$ variables, we could accept the third requirement. The fourth criteria ("all variables are on the same scale") was fulfilled as all purchase decision criteria in our study were rated on a 5-point-likert-scale. Finally, all variables had to belong to the same topic; in our study, all items were purchase decision criteria of anti-ageing products. In conclusion, all requirements were fulfilled to conduct a Principal Component analysis.

Chapter 4: Results and Discussion

This chapter reveals and analyses the results of the questionnaire and places these findings in the context of the literature. The research concentrated on senior students of two German senior universities. The empirical survey findings are approached in a structured way. First, the sample in this study is characterised in detail, followed by a descriptive testing of means of purchase decision factors, Cognitive Age, consumer mindfulness and consumer well-being. All in all, we considered eight subgroups of the initial data plus a cluster analysis containing three groups and a principal component analysis. Thereafter, the results of linear regression analysis are exposed ordered by the hypotheses presented in Chapter 2. The last part is dedicated to a cluster and principal component analysis.

4.1 Focus Group Findings

The goal of the focus groups was to get deeper insights on purchase decision factors of different elderly consumers. As we selected a broad sample (in terms of age and gender) for the group interviews, the purchase factors were diverse. Whereas the quality and efficiency of the product prevailed the discussion, we also noticed that some consumers, in our case elderly men, tended to doubt that anti-ageing products work and, consequently, reject the use of anti-ageing products or expressed mistrust against those products. Commonly agreed was the point of view that ageing cannot be stopped but actively slowed down by following a mindful lifestyle (e.g. nutrition and sleep) but also by the support of anti-ageing products. Finally, another finding is that anti-ageing products seem to be a topic of interest. Although, the attitudes were different, every participant in the focus groups could contribute with personal opinions and was engaged in the topic of ageing. After the focus group, we took out the main factors that are important for the purchase decisions of elderly and outlined them in Table 11 below. These factors contributed to the development of the first part of the survey.

Table 11. Focus group results

Focus group	No.	Age	Gender	Frequency	Main Comments summarised	Criteria
I	1	61	M	Almost daily	I use the same cream my wife is using. I never buy those products but I trust my wife that it is working. At least the packaging looks of high value.	Word-of-mouth; packaging; trust; recommendations of family members
	2	58	M	Daily	I have never used it in the past but currently, I start to use it. I have two grown-up children and I know that they use it daily. They are in their end 20s. So why should I ignore those products? For me, it is important that the product is not too oily and that sun protection is included. I always buy the private label product.	Efficiency; recommendations; quality; price
	3	59	W	Daily	For me, it is important that I know that the product is produced without testing on animals and that the product does not contain any sources of animals. I do not want to have animal fats on my skin.	not animal-tested; vegan; ingredients
	4	54	W	Daily	I always buy products based on tests. If the result is good, I trust this brand. Of course, it is important that the product works and achieves a better result. I am sometimes sceptical about the efficiency of those products. Thus, I am not willing to pay too much for those products. If there are good promotions for products, I prefer to purchase them.	Test of health magazines; trust in brand; quality; efficiency; price; promotions; advertisements
	5	61	W	Daily	I am using anti-ageing products since I turned 50 years old. The most important thing is that it is a natural product without any animal-based ingredients. The ingredients have to be of high quality. That's why I buy it in a local store. They run their own small factory, so I know where the ingredients come from and I can support a local business. Additionally, the price is not more expensive than in a drug store.	Ingredients; vegan; quality; price

Source. Focus groups from 25.10.2015

Table 11. Focus group results (continuation)

Focus group	No.	Age	Gender	Frequency	Main Comments summarised	Criteria
II	6	64	W	Daily	In my opinion, it is important to take care for your skin. Firstly, I look that the product is organic. I am willing to pay a little bit more for those labels. I believe it is better for my skin and I have a better feeling. I also look sometimes on the back to check the ingredients list.	Organic; price; brand; ingredients
	7	85	M	Never	The best way to stay young is working outside and enjoying fresh air. I have never used any grooming products in the last 60 years and I won't in the future. It is just a way of big companies to make money with products that are too expensive and did not prove that they work. If I see advertisements on TV, I always change to another channel.	Trust in product; advertisements
	8	71	W	Daily	I am not sure if they work but I use grooming products daily. It is too risky at my age to miss opportunities to reduce wrinkles by just putting a cream on.	Trust in products; efficiency
	9	67	M	Sometimes	I never used those products in the past but I see a lot of advertisements on TV. Sometimes, if I feel that my skin is too dry, I use normal lotion for my face. It is Nivea and I believe the quality is good. My skin may look healthier and fresher then but I am not sure if it helps to make you look younger.	Advertisements; purpose achieved; brand; trust

Source. Focus groups from 25.10.2015

4.2 Survey Sample Profile

The sample constitutes as following: 58% of the respondents (n=122) were women and 42% were men (n=89). Hence, the theoretical framework could be analysed with 211 valid answers (cf. Table 12). The mean chronological age of the respondents was 62.8 years (with men: 62.9 years and women 62.7 years). More than half of the sample (52%) had a chronological age between 61 and 70 years old. Figure 13 presents the age distribution of the sample.

Table 12. Gender distribution of the sample

Gender	Frequency	Percent
Male	122	57.8
Female	89	42.2
Total	211	100

Source. Own elaboration

Table 13. Age distribution of the sample

Age	%	Cumul. %
50-55	19.0	19.0
56-60	16.5	35.5
61-65	22.3	57.8
66-70	29.4	87.2
71-75	8.5	95.7
76-87	4.3	100

Source. Own elaboration

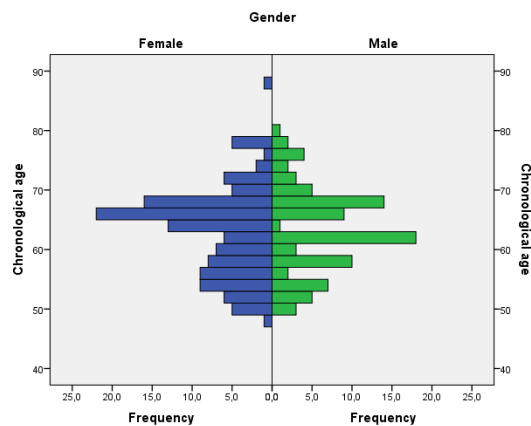


Figure 11. Age distribution of the sample by gender

Source. Own elaboration

To receive a deeper insight, we looked at eight subgroups of the initial data which include gender (male, female), age groups (two groups with age under and over the chronological mean age of 63 years), frequency of using anti-ageing products (daily and never-users) and states of well-being (people that are extremely happy and/or satisfied with life versus people that are extremely unhappy and/or unsatisfied with life).

4.3 Analysis of Means

This part includes the main conclusions of the descriptive analysis with the aim to summarise the different samples in this research study conducted (cf. Appendix B and C for a summary of the results). T-tests to the equality of means in two independent samples were conducted (with $H_0 = \mu_1 = \mu_2$). For the t-tests, we assumed that the two samples come from normal distributions and that the variables are continuous. Further, the sample size was not too small; thus a non-parametric Kolmogorov Smirnov test was not necessary. The Cronbach alpha values of 0.8 and higher can be considered as very good (DeVellis, 1991). The variables in the study are therefore,

reliable. The overall results are summarised in Table 14 and important points are highlighted in the following.

Table 14. Mean overview of the variables of the initial data

Variables		Mean	SD	Cronbach's Alpha
Chronological Age		62.8	7.31	0.812
Cognitive Age		49.2	7.74	0.778
Feel Age		49.2	13.47	0.799
Look Age		52.0	11.47	0.796
Health Age		50.4	12.53	0.801
Think Age		45.6	11.94	0.798
Do Age		47.6	12.01	0.795
Interest Age		44.4	13.45	0.812
Cognitive Age Difference		13.5	7.35	0.847
Feel Age Difference		12.8	11.29	0.828
Look Age Difference		9.9	8.69	0.862
Health Age Difference		11.5	10.88	0.861
Think Age Difference		16.3	10.86	0.859
Do Age Difference		14.4	10.55	0.851
Interest Age Difference		17.6	12.72	0.850
Subjective well-being				
Subjective Happiness		3.7	0.68	0.830
Satisfaction with Life		3.8	0.67	0.830
Consumer Mindfulness		3.7	0.49	0.830
Novelty Seeking		4.0	0.63	0.831
Engagement		3.8	0.60	0.831
Novelty Producing		3.6	0.69	0.831
Flexibility		3.5	0.55	0.830

Source. Own elaboration

4.3.1 General Results and Gender Differences

Purchase decision factors. The study revealed that the seniors' most important purchase decision factors for using anti-ageing products was the *quality of the product*. This factor had the highest mean (4.29) and was the only factor with a median of 5. We computed the median to exclude extreme response values. Also of high importance for the purchase decision was that the *purpose is achieved* (mean: 4.23) and *good ingredients* (mean: 4.17). These most important factors are followed by *results of independent testing entities* (mean: 3.73) that are published, for instance, in test magazines, *trust in the product and the brand* (mean: 3.71), that the product is *not animal tested* (mean: 3.72), *certifications of the product* (mean: 3.54), *promotional offers* (mean: 3.36), a *low price* (mean: 3.25) and *friends and relatives who recommend the product* (mean: 3.14). Rather unimportant decision factors were *advertisements* (mean: 2.14) and an *appealing packaging* (mean: 2.36). The factors *vegan ingredients* (mean: 2.64) and *brand awareness* (mean: 2.74) split the respondents into two groups: those who assigned these factors

a rather high and others a rather low importance; however, the results showed evidence that both factors are of rather low importance.

Basically, these results are in line with findings by Thanisorn and Byaporn (2013) that Europeans put high value on quality and look at ingredients, particularly natural based ones. Our results also highlight that, in contrast to other commodity studies (Poturak, 20014; Olbrich and Jansen, 2014), consumers are rather not very price-conscious when they decide for an anti-ageing product. This might be explained by the fact that all studies took place in different cultures and commodity products should not be treated as homogenous goods. Moreover, the t-test to evaluate differences of the means revealed that most of the purchase decision factor means were the same for men and women. Only the factors *quality of the product*, *ingredients*, *organic product*, *vegan ingredients* and that the *purpose is achieved* showed significant differences in the mean among genders. The lower and upper limits of the 95% confidence interval for the mean differences of these purchase decision factors were all positive, which signifies that these factors are significantly more important to women. There is also evidence that men are more receptive to an *appealing packaging* of anti-ageing products compared to women; however this factor showed a comparable low importance score (2,2). Figure 12 shows the 15 purchase decision factors ordered by their importance for men and women and Table 15 gives a deeper insight into this data.

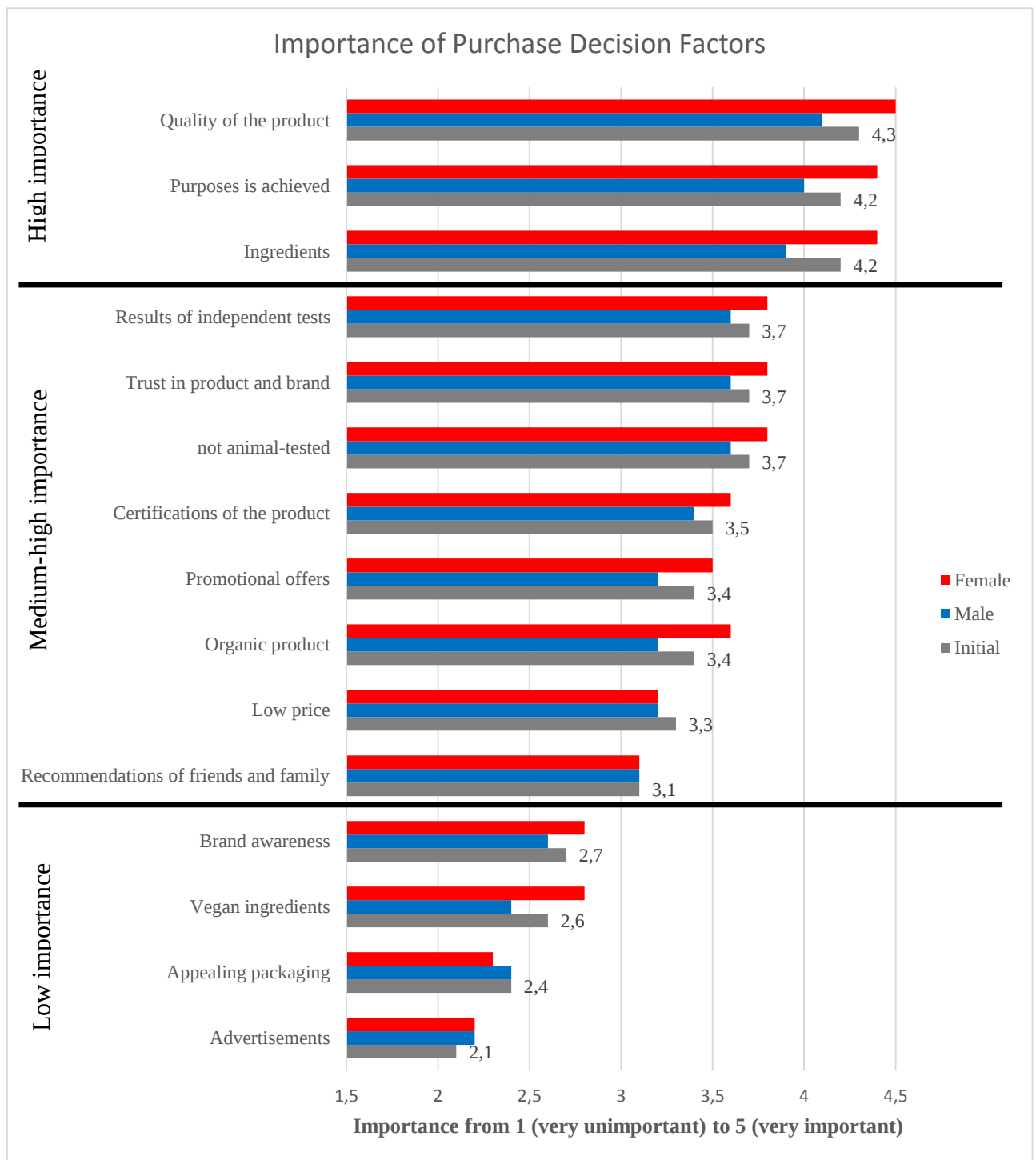


Figure 12. Importance of purchase decision factors
Source. Own elaboration

Table 15. Means of the purchase decision factors by gender

	Mean (Median)		Mean		Mean	
	Initial data	SD	Females	SD	Males	SD
Brand awareness	2.74 (3)	1.16	2.8	1.11	2.6	1.22
Quality of the product	4.29 (5)	1.08	4.5	.87	4.1	1.29
Ingredients	4.17 (4)	1.11	4.4	.97	3.9	1.24
Organic product	3.39 (3)	1.18	3.6	1.16	3.2	1.19
Not animal-tested	3.72 (4)	1.28	3.8	1.19	3.6	1.38
Vegan ingredients	2.64 (3)	1.26	2.8	1.19	2.4	1.34
Promotional offers	3.36 (4)	1.09	3.5	1.01	3.2	1.19
Purpose is achieved	4.23 (4)	1.07	4.4	.85	4.0	1.31
Appealing packaging	2.36 (2)	1.08	2.3	1.06	2.4	1.13
Advertisements	2.14 (2)	1.03	2.2	1.01	2.2	1.06
Recommendations of friends and family	3.14 (3)	1.14	3.1	1.08	3.1	1.25
Low price	3.25 (3)	1.15	3.2	1.10	3.2	1.23
Certifications of the product	3.54 (4)	1.25	3.6	1.15	3.4	1.38
Trust in product and brand	3.71 (4)	1.20	3.8	1.20	3.6	1.19
Results of independent tests	3.73 (4)	1.10	3.8	1.02	3.6	1.20

Source. Own elaboration

Cognitive Age. The average senior consumer in our study felt 13.5 years younger than their chronological age (with men 13.3 years and women 13.8 years). These results are in line with prior research that found that men and women do perceive their Cognitive Age lower than their chronological age (e.g. Bengto, Kasschau and Ragan, 1977). Therefore, our results are in line with previous studies (e.g. Peters, 1971; Blau, 1973; Sudbury-Riley, Kohlbacher and Hofmeister, 2015) who stated that there is a new customer segment of ‘Young-at-heart’ consumers (96.68% of the sample) who feel younger than they actually are. ‘Old-identifiers’, so people whose chronological age is lower than the Cognitive Age, were an absolute minority of the sample with a mean age of 55.86 years.

Looking at the drivers of a higher Cognitive Age Difference (i.e. the gap between chronological age and Cognitive Age), it is noticeable that interests, thoughts and activities (Do Age) are shaping men’s and women’s Cognitive Age most. Look Age and Health Age is influencing the Cognitive Age less compared to the other components of Cognitive Age. Figure 13 displays which sub-dimension of Cognitive Age contributes most to the total perceived age.

On average, women stated their Feel Age 32.1%, Look Age 18.7% and Health Age 37.5% lower than men. In contrast, men perceived their Think Age (11.3% lower), Do Age (11% lower) and Interest Age (7.5%) lower than women.

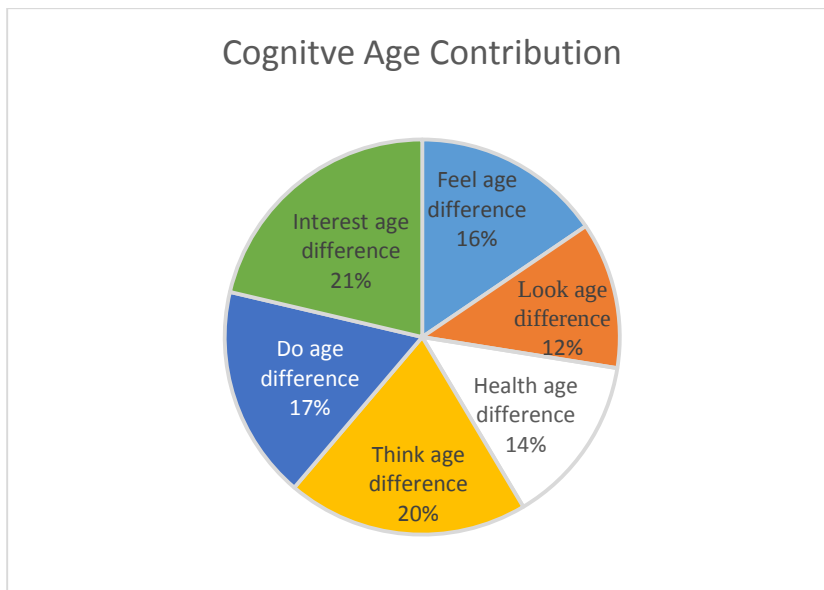


Figure 13. Cognitive Age contribution in the initial data
Source. Own elaboration

The t-test analysis did not reveal any significant differences in the total Cognitive Age among males and females (cf. Figure 14); however, we can outline that men evaluated their Feel Age (3.5 years) and Health Age (3.6 years) significantly higher than women. This partially confirms findings by Bengston, Kasschau and Ragan (1977), who stated that males and females perception of age differ. The results also confirm findings by Sudbury-Riley, Kohlbacher and Hofmeister (2015), that Look Age has the closest value to chronological age. However, the following dimensions are not aligned with previous findings by Sudbury-Riley and his colleagues. It is notable that Interest Age Difference and Think Age Difference is considerable higher than found in prior studies. This might be explained by that our respondents were exclusively students who had from nature rather interests (studying in age) and thinking processes of younger persons.

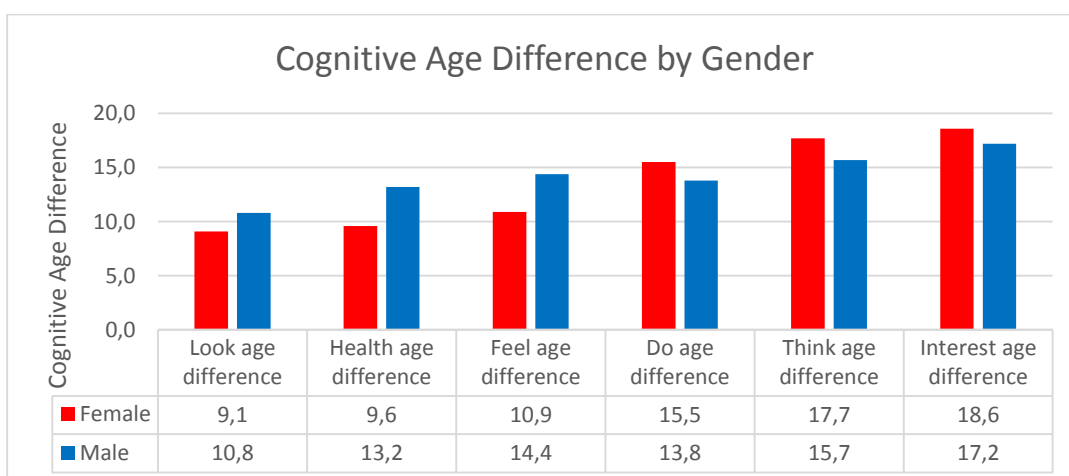


Figure 14. Cognitive Age Differences by gender
Source. Own elaboration

Mindfulness. Regarding mindfulness, it could not be found that men show significant higher mindfulness scores than women (cf. Figure 15); however, there is evidence that men tend to score slightly higher concerning Novelty Producing, which means that men tend to show a higher willingness to be creative, to develop new ideas and are more likely to be open-minded to intellectual challenges. Basically, we may note that Novelty Producing and Novelty Seeking contribute more to mindfulness than Engagement and Flexibility.

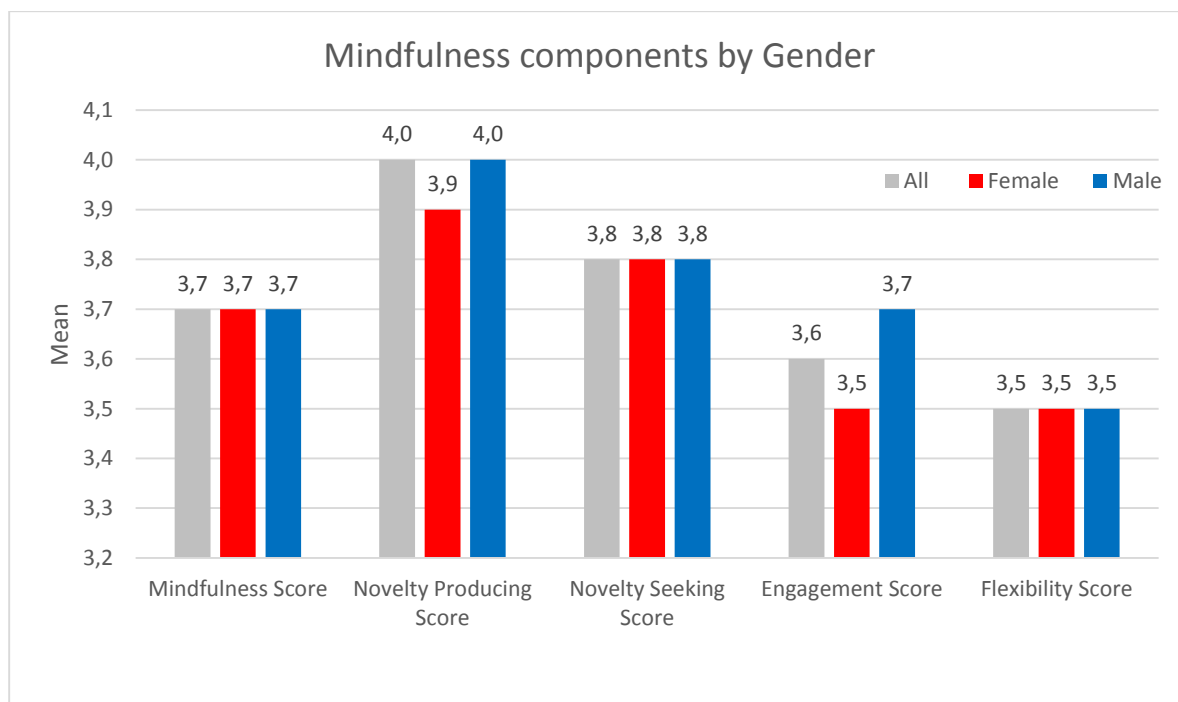


Figure 15. Mindfulness components by gender
Source. Own elaboration

Well-being. We did not find any differences between the well-being status of male and female elderly. The majority showed high scores in happiness (mean=3.7) and satisfaction with life (mean=3.8). Hence, our results are in line with results by Lyubomirsky and Lepper (1999) who state that Western countries tend to have basically high well-being scores. Nonetheless, a minority of 12.80% of the sample showed scores lower than '3' which signifies that they were rather unhappy and/or are not completely satisfied with life.

Anti-ageing experience. As expected, our results agree with findings by Euromonitor (2015), that women use significantly more anti-ageing products than men. As presented in Table 16, more than eight of ten women (82.8%) in the sample were using anti-ageing products on a daily basis whereas only four out of ten men (40.4%) stated to use those anti-ageing products daily. Further, the results showed that one-third (36%) of men never or seldom use anti-ageing products, whereas the proportion of women in this group was marginal (5%).

Table 16. Frequency of using anti-ageing products by gender

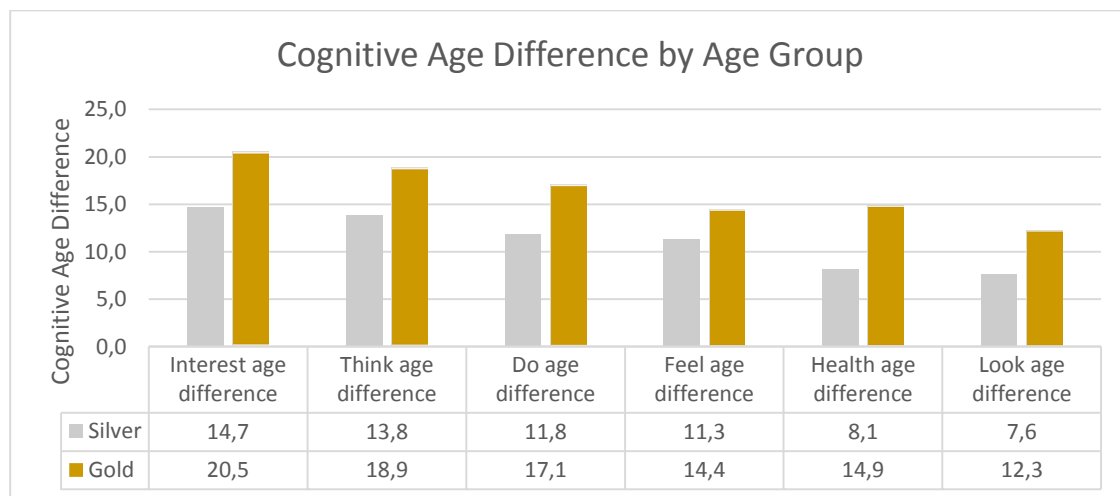
Frequency of using anti-ageing products	Females			Males		
	n	%	Cumul. %	N	%	Cumul. %
Never	3	2.5	2.5	20	22.5	22.5
Seldom - min. 1-3 times a month	3	2.5	5	12	13.5	36.0
Sometimes - min. once a week	8	6.6	11.6	13	14.6	50.6
Often - min. twice a week	7	5.6	17.2	8	9.0	59.6
Very often - daily	101	82.8	100	36	40.4	100
Total	122	100.0		89	100.0	

Source. Own elaboration

4.3.2 Silver vs. Gold consumers

Purchase decision factors. Levine's t-test (cf. Appendix C) showed that when it comes to the purchase decision of anti-ageing products, silver consumers (aged lower 63) are significantly more influenced by what friends and family members recommend to them (upper limit 0.617), are more receptive to advertisements (upper limit 0,466) and appealing packages (upper limit 0.570) compared to their counterpart of older gold consumers.

Cognitive Age. Comparing the groups of silver and gold consumers (cf. Figure 16), it becomes obvious that older consumers perceive a larger gap between actual age and perceived age: Gold consumers had a 50% higher Cognitive Age Difference. The results revealed a Cognitive Age Difference ranging between 3.4 and 7.1 years lower than their silver counterpart for a confidence interval of 95% of the population. Whereas silver consumers (mean age: 56.5 years) had a Cognitive Age Difference of 10.8 years, gold consumers (mean age: 68.4 years) perceived themselves 16.1 years younger. The main drivers, particularly for gold consumers were Interest Age, Think Age and Do Age (cf. Figure 17). Look Age was closest to actual age in both groups as found in prior studies (Sudbury-Riley, Kohlbacher and Hofmeister, 2015).

**Figure 16.** Cognitive Age Differences for silver and gold consumers

Source. Own elaboration

Mindfulness. The t-test of mindfulness showed that the means are the same for silver and gold consumers with the tendency that silver consumers achieve slightly higher mindfulness scores, particularly in the dimension of Novelty Producing (cf. Figure 17) that indicates that the elderly in study like to generate new ideas and consider themselves to be original thinkers and creative. Moreover, the high scores in Novelty Seeking allude that elderly are curious and aim to learn and understand new things that confirms findings by Sheth, Sethia and Srinivas (2011).

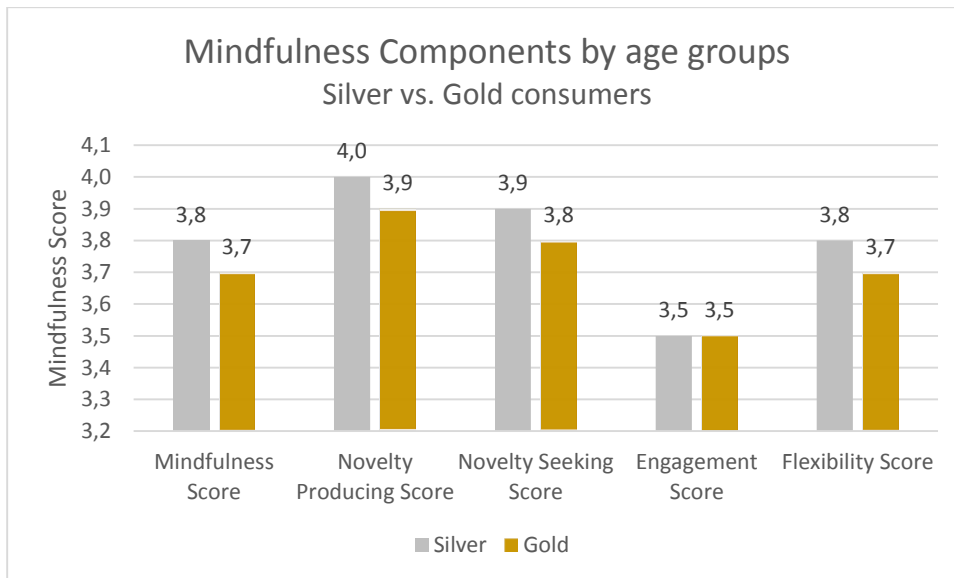


Figure 17. Mindfulness components for silver and gold consumers
Source. Own elaboration

Anti-ageing experience. We observed that gold consumers (77% daily-users) use significantly more often anti-ageing products than silver consumers (51% daily-users). Whereas 15% in the younger cohort stated never using any anti-ageing products, only 7% of the Gold consumers rejected anti-ageing experiences. However, if we split the sample by gender and age group, we note that seniors increase significantly their frequency in using anti-ageing products in the process of ageing: an increase by 75.6% in the male cohort and by 29.6% among female consumers. This shift from never-users to daily-users is presented in Table 17.

Table 17. Frequency of anti-ageing experiences by age group and gender

	DU		NU	
	F	M	F	M
Silver consumer	70.6%	29.8%	2.0%	29.8%
Gold consumer	91.5%	52.4%	2.8%	14.3%

Source. Own elaboration

4.3.3 Daily and Never-users

Purchase decision factors. For never-users, we found for almost all purchase decision factors significant lower importance levels than for daily-users. Concerning means, we observed

particular big gaps among the factors *purpose is achieved* (-1.77), *trust in product and brand* (-1.63) and *quality of the product* (-1.56).

It was striking that some decision factors (*quality of the product*, *purpose is achieved*, *trust in product and brand*) are significantly less important for elderly consumers who never use anti-ageing products. The mean gaps for these factors were particularly big with more than 1.5 scale points less than their counterpart group that uses anti-ageing products on a daily basis. Based on these differences, we may assume that those people never using anti-ageing products are not confident in the effectivity of those products and do not have trust in the brand and products.

Cognitive Age. There were no significant differences between the two groups; however, we can observe that daily-users tend to perceive a lower Interest Age (up to 9.79 years) and Health Age (up to 6.91 years).

Mindfulness. Concerning mindfulness, Levine's t-test showed that there are no significant differences, neither in the total mindfulness score, nor in sub-dimensions. Nevertheless, there is the tendency that never-users score slightly lower in the Flexibility dimension which indicates that they tend to resist changes and stay rather with the old tried than trying out new things (cf. Figure 18).

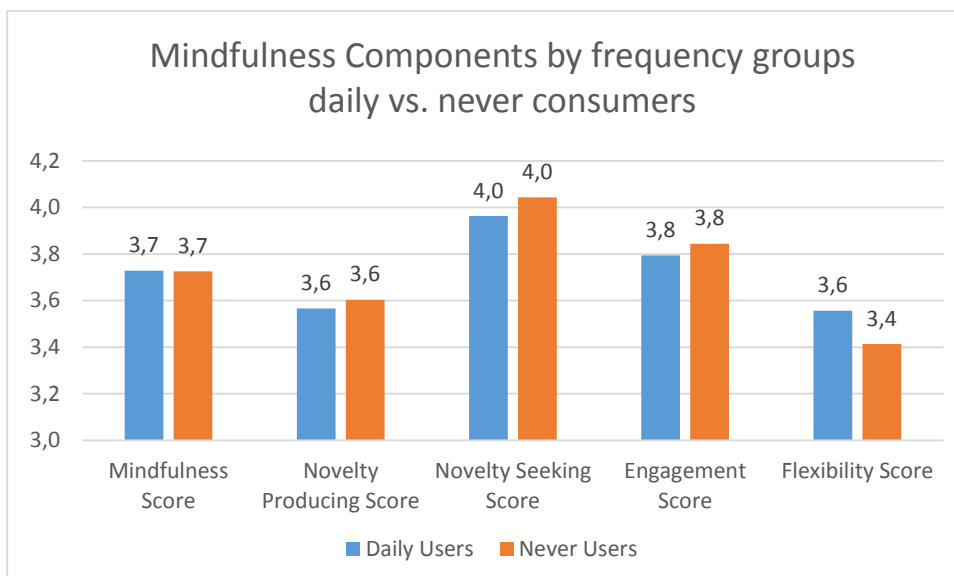


Figure 18. Mindfulness components by frequency groups

Source. Own elaboration

Well-being. Comparing the means of the two samples, we could not find significant signs that daily-users are happier or more satisfied than never-users. Nevertheless, there is evidence that daily-users are up to 0.5 scale points more satisfied than their counter group.

4.3.4 Happy/Satisfied with Life vs. Unhappy/Unsatisfied with Life Consumers

Purchase decision Factors. Based on the analysis, we can generalise that happy and/or satisfied people were less receptive to brand awareness and put significantly more value on ingredients than their unhappy counterpart. There is also the tendency that happy people do not like animal-tested products and prefer products assured and certified by independent entities much more than their unhappy counterparts. We also saw evidence that unhappy consumers tend to be more open to advertisements, an appealing packaging and prefer a low price of the product (cf. Figure 19).

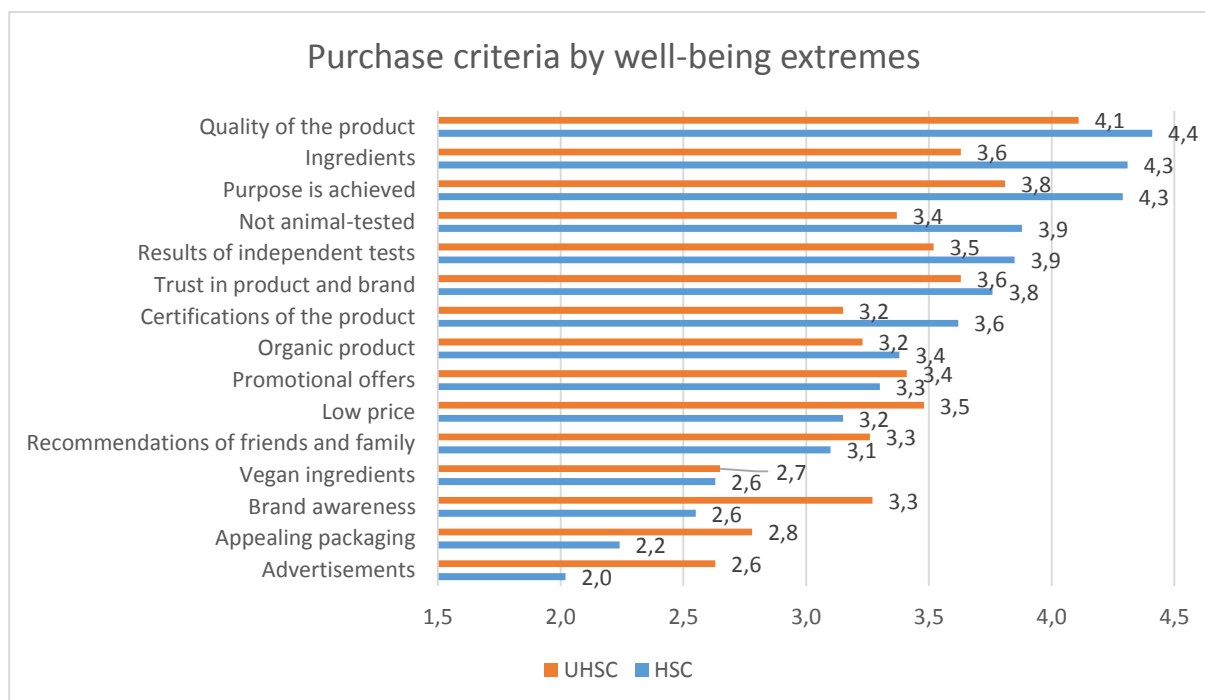


Figure 19. Purchase decision factors by well-being extremes

Source. Own elaboration

Cognitive Age. Basically, we cannot conclude that happy consumers perceive their Cognitive Age significantly lower than their unhappy counterparts (cf. Figure 20); however, we may generalise that happier consumers perceive their Health Age up to 8.2 years lower than people who scored rather low in one of the well-being dimensions. We also found evidence that Feel Age and Look Age tend to be lower for happy/satisfied consumers.

Happy/satisfied with life consumers (Cognitive Age Difference: 14.0) felt slightly younger (0.4 years) than unhappy/unsatisfied with life consumers (Cognitive Age Difference: 13.6). However, it was striking that Do Age Difference and Interest Age Difference of unhappy and/or unsatisfied with life consumers is 2.7 resp. 2.6 years higher compared to happy/satisfied consumers. In all other categories happy/satisfied consumers had a lower Cognitive Age.

Particularly, Feel and Health Age (both 2.7 years lower than unhappy consumers) are influencing Cognitive Age of happy/satisfied consumers.

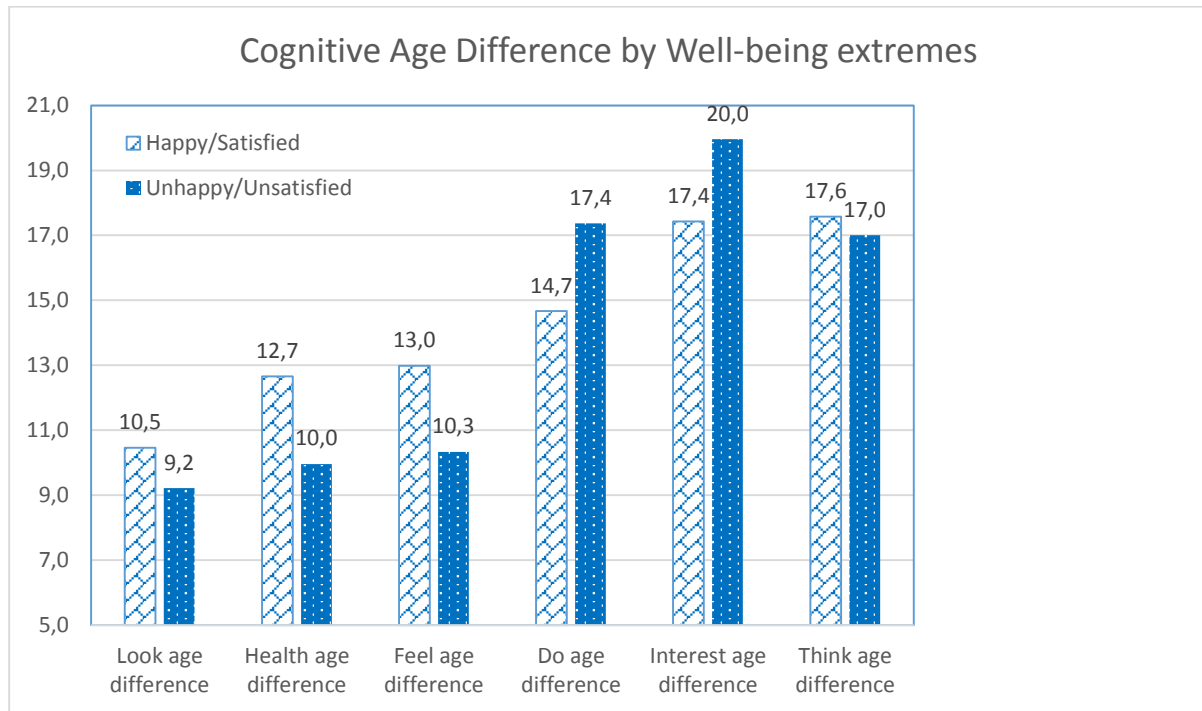


Figure 20. Cognitive Age Differences by well-being extremes

Source. Own elaboration

Mindfulness. We could not find more statistical evidence in any other dimension than mindfulness. Levene's test of means showed that consumers who scored higher in one of the well-being dimensions, showed significantly higher levels of Novelty Producing (0.5-1.0 scale points), Novelty Seeking (0.4-0.8 scale points), Engagement (0.3-0.7 scale points) and Flexibility (0.3-0.7 scale points). Figure 21 presents the means of the two groups. Details are summarised in Appendix C.

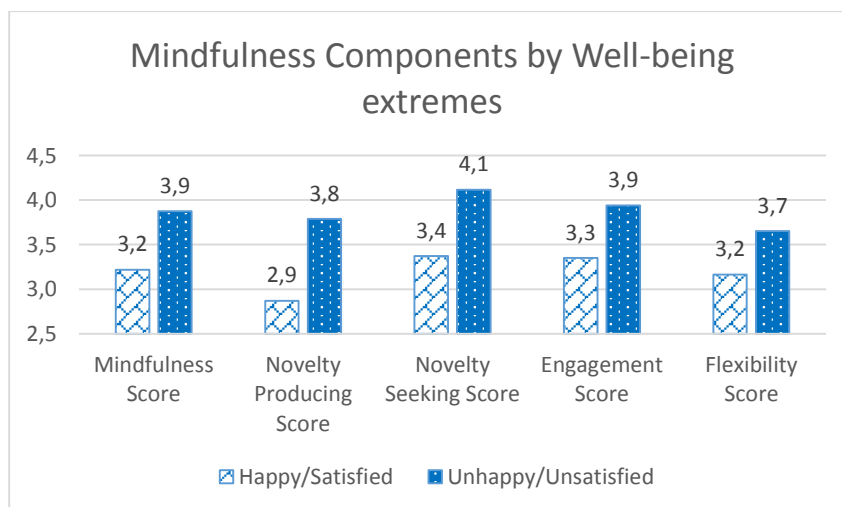


Figure 21. Mindfulness components by well-being extremes

Source. Own elaboration

4.4 Hypotheses and Linear Regression Analysis

To test the nine hypotheses in this study, linear regression analysis has been conducted using SPSS 23 (please cf. Appendix E for a summary of the results). Linear Regression estimates the coefficients of the equation including the independent variable to predict the dependent variables value. For the linear regression, we assume that for each independent variable value, the distribution of the dependent variable underlies a normal distribution. Further, the variance of the dependent variable distribution is constant for all values of the independent variable. Finally, we expect a linear relationship between all variables and independent observations.

Due to simplicity, we subdivided the chapter into five parts (as presented in Table 18) dedicated to test the nine hypotheses proposed in the conceptual framework (chapter 2.4).

Table 18. The five linear regression parts

Chapter	Variables	Dedicated to
4.4.1	Mindfulness and subjective well-being	H ₁ , H ₂
4.4.2	Cognitive Age and subjective well-being	H ₃ , H ₄
4.4.3	Age and mindfulness	H ₅ , H ₆
4.4.4	Chronological and Cognitive Age	H ₇
4.4.5	Frequency and subjective well-being	H ₈ , H ₉

Source. Own elaboration

4.4.1 Mindfulness and Subjective Well-being

H₁: Mindfulness positively affects Subjective Happiness of senior consumers.

H₂: Mindfulness positively affects Satisfaction with Life of senior consumers.

H₁ and H₂ are both fully supported: To test H₁ and H₂, linear regression analysis has been applied (cf. Table 19). In the first step, the total mindfulness score served as the independent variable while the Subjective Happiness/Satisfaction with Life score was the dependent variable. Further, the authors examined the sub-dimensions of mindfulness (Novelty Producing, Novelty Seeking, Engagement and Flexibility).

Basically, among all participants in this study, the results are in line with previous studies (e.g. Brown and Ryan. 2003; Frauman, and Norman. 2004) who examined a positive relationship between consumer mindfulness and Subjective Happiness and Satisfaction with Life.

For H₁, we found a significant positive relationship between consumer mindfulness and Subjective Happiness ($\beta=0.454$). Novelty Producing ($\beta=0.474$) and Novelty Seeking ($\beta=0.424$) were the main drivers for mindfulness, whereas Engagement and Flexibility affected Subjective Happiness slightly less. The results signify that people stating to be creative, curious, original

thinkers and seek actively to learn new things are happier than people who score lower in those dimensions.

Concerning H₂, the linear regression analysis confirmed that there is a significant positive relationship between consumer mindfulness and Satisfaction with Life ($\beta=0.479$). Looking at the sub-dimensions, it can be stated that, again, Novelty Producing ($\beta=0.508$) and Novelty Seeking ($\beta=0.415$) were the key drivers for mindfulness. Further, the results revealed that for silver consumers (seniors ≤ 62 years old), Novelty Producing contributed significantly more to Satisfaction with Life and Subjective Happiness than for gold consumers.

Highlights. One exception in the results can be found among the group of never-users: there is a significant negative relationship ($\beta=-0.427$) between Flexibility and Subjective Happiness and between Flexibility and Satisfaction with Life ($\beta=-0.564$). This result is against our expectations what we have seen in prior studies where all dimensions positively affected subjective well-being. However, since the cohort of never-users had already high values of Subjective Happiness (mean: 3.7) and satisfaction with life (mean: 3.6), we may analyse the Flexibility dimension in more detail. Two flexibility statements (*‘I have an open mind about everything, even things that challenge my core beliefs’* and *‘I stay with the old tried and true ways of doing things.’*) scored significantly lower than daily-users. Based on this, we assume that a deviation from elderlies core beliefs and the old tried (e.g. living without anti-ageing experiences) would not contribute to a higher degree of consumer well-being as they are already satisfied and happy. Nonetheless, it might be interesting to explore this specific group in more detail in the future as our sample (with $n<30$) was not large enough to draw generalised conclusions.

Table 19. Linear regression results: Mindfulness and consumer well-being

	H	Path	Initial	F	M	SC	GC	DU	NU	HSC	UHSC
Mindfulness & Consumer Well-being	H1	MF $\rightarrow$ SH	0.454	0.458	0.447	0.551	0.381	0.422	0.499	0.121ns	0.498
		NP $\rightarrow$ SH	0.474	0.481	0.487	0.396	0.254	0.179ns	0.331ns	0.083ns	0.411ns
		NS $\rightarrow$ SH	0.424	0.386	0.479	0.270	0.200	0.256	0.664	0.291	0.103ns
		EN $\rightarrow$ SH	0.280	0.296	0.247	-0.127ns	-0.113ns	-0.103ns	-0.141ns	-0.282	-0.035ns
		FL $\rightarrow$ SH	0.345	0.440	0.156ns	0.113ns	0.135ns	0.194	-0.427	0.046	0.090ns
	H2	MF $\rightarrow$ SWL	0.479	0.424	0.552	0.508	0.470	0.386	0.506	0.187	0.470
		NP $\rightarrow$ SWL	0.508	0.466	0.581	0.477	0.256	0.235	0.106ns	0.139ns	0.425ns
		NS $\rightarrow$ SWL	0.415	0.336	0.523	-0.014ns	0.296	0.098ns	0.789	0.139ns	-0.166ns
		EN $\rightarrow$ SWL	0.353	0.325	0.380	0.032ns	-0.029ns	0.051ns	0.041ns	0.036ns	-0.004ns
		FL $\rightarrow$ SWL	0.321	0.366	0.208ns	0.125ns	0.036ns	0.090ns	-0.564	-0.112ns	0.323ns

Significant at $p=0.05$

ns: not significant

Source. Own elaboration

With regard to happiness, our results confirm findings by Wang and Wong (2013) who state that the probability of being very happy in Western Europe and USA is higher compared to

other regions. With a Subjective Happiness score of 3.7 (SD: 0.679) and a Satisfaction with Life score of 3.8 (SD: 0.668), the majority of the participants scored above-average on the subjective well-being scale. The interrelations are similar with Lyke (2009) who stated that insight, a construct similar to mindfulness, is positively related to Subjective Happiness and Satisfaction with Life (both 0.38).

With regard to the relationship between mindfulness and satisfaction with life, our findings have the same tendency as Balaj and Pande (2016). However, due to cultural differences in India and Germany, as well as the composition of the sample of younger students in the Indian study, the results differ in its effect size and it is not reasonable to compare.

4.4.2 Cognitive Age and Subjective Consumer Well-being

H₃: Cognitive Age Difference is positively related with Satisfaction with Life of senior consumers.

H₄: Cognitive Age Difference is positively related with Subjective Happiness of senior consumers.

H₃ and H₄ are partially supported (cf. Table 20). Although, there is no relationship (with betas ranging around zero) between Cognitive Age Difference and the affective and cognitive well-being constructs in the initial data, we may note that the sub-dimension Think Age Difference is significantly and positively related to both, Subjective Happiness ($\beta=0.248$) and Satisfaction with Life ($\beta=0.238$). This indicates that the younger elderlies' thinking processes are the more satisfied and happier these people are. This effect is strongly developed among the cohort of never-users ($\beta=0.799$)

The phenomenon that perceived Do Age Difference negatively affects Satisfaction with Life (Male $\beta=-0.453$; Gold consumers $\beta=-0.307$; Never-users $\beta=-0.661$) might be explained by the thesis that these elderly desire to catch up on things that they have been missed in prior times. This should be explored further in future studies.

For H₄, there is no significant relationship between Cognitive Age Difference and Subjective Happiness in the initial group. Although, the group of never-users is small ($n=23$), H₄ can be accepted partially as there is a significant positive relationship between Cognitive Age Difference and Subjective Happiness ($\beta=0.535$). The significant key driver for Subjective Happiness is the perceived Think Age ($\beta=0.849$).

Table 20. Linear regression results: Cognitive Age and consumer well-being

	H	Path	Initial	F	M	SC	GC	DU	NU	HSC	UHSC
Cognitive Age & Well-being	H3	CAD → SWL	0.030ns	0.079ns	-0.017ns	0.024ns	0.010ns	-0.036ns	0.480	-0.007ns	-0.070ns
		FAD → SWL	0.100ns	0.131ns	0.078ns	0.041ns	0.234ns	0.280	0.312ns	0.036ns	0.760
		LAD → SWL	-0.015ns	0.006ns	-0.023ns	-0.305	-0.052ns	-0.099ns	0.140ns	-0.213ns	-0.332ns
		HAD → SWL	0.053ns	0.087ns	0.035ns	0.263ns	-0.060ns	-0.108ns	-0.331ns	0.140ns	-0.616
		TAD → SWL	0.063ns	0.089ns	0.047ns	0.279ns	0.185ns	0.082ns	0.799	0.142ns	-0.011ns
		DAD → SWL	-0.078ns	0.057ns	-0.270ns	-0.104ns	-0.307	-0.168ns	-0.661	-0.104ns	0.127ns
		LAD → SWL	-0.061ns	-0.026	-0.092	-0.119ns	-0.040ns	-0.063ns	0.445ns	-0.32ns	-0.138ns
	H4	CAD → SH	0.075ns	0.119ns	0.045ns	0.049ns	0.042ns	-0.061ns	0.535	0.125ns	-0.232ns
		FAD → SH	0.126ns	0.128ns	0.129ns	0.081ns	0.151ns	0.130ns	0.240ns	0.193ns	0.469ns
		LAD → SH	0.0700ns	0.063ns	0.092ns	-0.281ns	0.068ns	0.070ns	0.174ns	-0.022ns	-0.501ns
		HAD → SH	0.102ns	0.120ns	0.075ns	0.225ns	-0.072ns	-0.137ns	-0.294ns	-0.106ns	-0.151ns
		TAD → SH	0.109ns	0.120ns	0.154ns	0.084ns	0.308	0.064ns	0.849	0.098ns	0.112ns
		DAD → SH	-0.005ns	0.114ns	-0.114ns	0.093ns	-0.224ns	-0.117ns	-0.427ns	-0.018ns	0.185ns
		LAD → SH	-0.030ns	0.045ns	-0.087ns	-0.067	0.189ns	-0.067ns	0.229ns	0.024ns	-0.570ns

Significant at $p=0.05$

ns: not significant; / not computable

Source. Own elaboration

4.4.3 Age and Mindfulness

H₅: Cognitive Age Difference is positively related with consumer mindfulness.

H₆: Chronological age negatively affects mindfulness.

H₅ is not supported, H₆ is partially supported (cf. Table 21). There are no significant signs that Cognitive Age and chronological age are related to consumer mindfulness. All betas in the initial data range between zero (H₅) and close to 0.2 (H₆) which can be regarded as not significant.

Highlights. Looking at male consumers only, there is a significant negative relationship ($\beta = -0.240$) between chronological age and consumer mindfulness. That signifies that male elderly are slightly less mindful than younger seniors, whereas Novelty Producing and Flexibility had significant more influence than the other two dimensions.

Furthermore, the group of unhappy and/or dissatisfied with life elderly revealed a significant negative relationship ($\beta = -0.394$) between chronological age and consumer mindfulness. Particularly, the mindfulness sub-dimensions Novelty Producing ($\beta = -0.471$) and Engagement ($\beta = -0.581$) contributed significantly to consumer mindfulness which means that in this cohort becomes less mindful the older they become.

Table 21. Linear regression results: Age and mindfulness

	H	Path	Initial	F	M	SC	GC	DU	NU	HSC	UHSC
Cognitive Age & Mindfulness	H5	CAD → MF	0.059ns	0.090ns	0.072ns	0.143ns	0.108ns	0.056ns	0.364ns	0.015ns	-0.100ns
		FAD → MF	0.037ns	0.023ns	0.248ns	-0.19ns	0.037ns	-0.164ns	0.470ns	0.021ns	-0.280ns
		LAD → MF	-0.100ns	-0.188ns	-0.110ns	0.284ns	-0.100ns	0.021ns	-0.234ns	-0.174ns	0.258ns
		HAD → MF	0.117ns	0.305ns	-0.124ns	-0.297ns	0.117ns	0.229ns	-0.267ns	0.133ns	-0.173ns
		TAD → MF	0.155ns	-0.072ns	0.265	-0.146ns	0.155ns	-0.004ns	0.409ns	-0.082ns	0.781ns
		DAD → MF	-0.155ns	0.066ns	-0.314ns	-0.085ns	-0.155ns	-0.138ns	-0.289ns	-0.076ns	-0.256ns
		IAD → MF	0.036ns	0.008ns	0.107ns	0.085ns	0.036ns	0.160ns	0.262ns	0.245	-0.493ns
Chronological Age & Mindfulness	H6	CHRONA → MF	-0.082ns	0.016ns	-0.240	0.095ns	-0.122ns	-0.100ns	-0.188ns	-0.151ns	-0.394
		CHRONA → NP	-0.158	-0.113ns	-0.254	0.116ns	-0.237	-0.189	-0.166ns	-0.179	-0.471
		CHRONA → NS	-0.030ns	0.057ns	-0.159ns	0.152ns	-0.045ns	-0.046ns	-0.068ns	-0.082ns	-0.328ns
		CHRONA → EN	-0.114ns	-0.116ns	-0.113ns	0.097ns	-0.167ns	-0.111ns	-0.186ns	-0.108ns	-0.581
		CHRONA → FL	-0.061ns	0.045ns	-0.236	-0.072ns	-0.165ns	-0.122ns	-0.225ns	-0.081ns	-0.169ns

Significant at p=0.05

ns: not significant; / not computable

Source. Own elaboration

4.4.4 Chronological and Cognitive Age

H₇: Chronological age positively affects Cognitive Age Difference. Both variables are statistically different among elderly consumers.

H₇ is fully supported (cf. Table 22 and Table 23). There is a significant positive relationship ($\beta=0.436$) between chronological age and Cognitive Age Difference. This goes in line with several studies (e.g. Blau, 1973; Peters, 1971; Sudbury-Riley, Kohlbacher and Hofmeister, 2015), that this gap between chronological and Cognitive Age increases by age.

Table 22. Linear regression results: Chronological and Cognitive Age

	H	Path	Initial	F	M	SC	GC	DU	NU	HSC	UHSC
Cognitive Age & Chronological Age	H7	CAD → CHRONA	0.436	0.405	0.493	0.251	0.257	0.406	0.440	0.400	0.566
		FAD → CHRONA	-0.137ns	-0.024ns	-0.367	0.176ns	-0.198ns	0.209	-0.288ns	-0.071ns	-0.375ns
		LAD → CHRONA	0.060ns	-0.093ns	0.289	0.066ns	-0.023ns	0.222	0.295ns	0.137ns	-0.069ns
		HAD → CHRONA	0.255	0.206ns	0.417	-0.051ns	0.16	0.232	0.267ns	0.121ns	0.678
		TAD → CHRONA	0.206	0.308ns	0.143ns	0.348	0.131ns	0.346	0.234ns	0.246ns	0.333ns
		DAD → CHRONA	0.043ns	-0.027ns	0.157ns	-0.186ns	0.079ns	0.320	-0.106ns	-0.023ns	0.126ns
		IAD → CHRONA	0.114ns	0.061ns	0.096ns	0.014ns	0.165ns	0.328	0.337ns	0.035ns	0.005ns

Significant at p=0.05

ns: not significant; / not computable

Source. Own elaboration

Additionally, we conducted a paired sample t-test - a statistical technique that is used to compare two population means in the case of two samples that are correlated. In this study the same subjects (participants from senior universities) are present in both groups (chronological age and Cognitive Age). Following the assumptions to use the t-test, the variables are

continuous, the normal distribution is assumed as we rely on the central limit theorem and the variances of the samples are equal. Table 22 indicates a significant difference between Cognitive Age and chronological age and hence, the chronological age tends to be significantly higher than Cognitive Age.

Table 23. Pairwise comparisons for Cognitive Age

				95% Confidence Interval of the Difference		t	p-value
		Mean	Std. Deviation	Lower	Upper		
Pair 1	Chronological age - Feel Age	12.95 (62.81-49.86)	11.264	11.419	14.476	16.698	0.000
Pair 2	Chronological age - Look Age	10.06 (62.81-52.75)	8.667	8.881	11.233	16.855	0.000
Pair 3	Chronological age - Health Age	11.67 (62.81-51.14)	10.869	10.193	13.143	15.594	0.000
Pair 4	Chronological age - Think Age	16.53 (62.81-46.28)	10.756	15.066	17.986	22.319	0.000
Pair 5	Chronological age - Do Age	14.58 (62.81-48.22)	10.486	13.160	16.006	20.202	0.000
Pair 6	Chronological age - Interest Age	17.81 (62.81-45.00)	12.635	16.091	19.520	20.470	0.000
Pair 7	Chronological age - Cognitive Age (composite of the six items)	13.61 (62.81-49.20)	7.264	12.620	14.592	27.206	0.000

Source. Own elaboration

Many of the patterns in our study are similar or the same as in previous research: Cognitive Age Difference (or labelled as youth bias in other studies) was not the same in prior studies. Sudbury-Riley, Kohlbacher and Hofmeister (2015) reported a youth bias of 8.57 years of German elderly consumers. Their sample had a mean chronological age that was slightly lower (60.34 years). The fact that the mean Cognitive Age Difference in our sample (13.5 years) was notable higher, might be explained by different research approaches in both studies. Whereas the previous study conducted postal questionnaires, our respondents solely constituted from students who are expected to perceive their age lower than the average.

Moreover, our results confirm findings by Guido, Amatulli and Peluso (2014), that Cognitive Age is in most the situations lower than elderly's actual age. However, their results differ from our study as the scholars applied the scale to different contexts and circumstances (e.g. wearing different sports clothes, in a senior centre or in a church).

4.4.5 Frequency, Subjective Well-being and Cognitive Age

H₈: Frequency of using anti-ageing products positively affects Subjective Happiness.

H₉: Frequency positively affects Satisfaction with Life

H₈ and H₉ are not supported. The findings do not reveal any significant signs that anti-ageing products / healthy experiences contribute to an enhanced consumer well-being level (H₈/H₉) with betas ranging around zero. Although not significant, we may observe the tendency of a positive relationship between Frequency and Subjective Happiness ($\beta=0.126ns$) and Frequency

and Satisfaction with Life ($\beta=0.237ns$) in the group of unhappy/unsatisfied consumers (cf. Table 24).

Table 24. Linear regression results: Frequency and subjective well-being

	H	Path	Initial	F	M	SC	GC	HSC	UHSC
Frequency & Well-being	H8	FR $\rightarrow$ SH	0.039ns	0.116ns	-0.097ns	0.001ns	-0.004ns	0.035ns	0.126ns
	H9	FR $\rightarrow$ SWL	0.093ns	0.106ns	0.128ns	0.079ns	0.047ns	0.122ns	0.237ns

Significant at $p=0.05$

ns: not significant; / not computable

Source. Own elaboration

4.5 Cluster Analysis

To classify elements of the purchase decision criteria in groups of similar characteristics, we conducted a cluster analysis. Using the K-Means methods, a solution with three clusters seemed to be most appropriate. The decision factors *Quality of the product*, *Purpose achieved* and *ingredients*, followed by *certifications of the products*, *results of independent test magazines* and the *trust in the product and the brand* best discriminated the three clusters chosen (cf. the highest F values in the ANOVA table in Appendix F). We labelled the three clusters based on the results of the purchase decision factors and the frequency of using anti-ageing products (cf. Table 25).

Table 25. Final cluster centers

	Cluster		
	1	2	3
Brand awareness	3	2	2
Quality of the product	5	1	4
Ingredients	5	1	4
Organic product	4	2	3
not animal-tested	4	2	3
Vegan ingredients	3	2	2
Promotional offers	4	2	3
Purpose is achieved	5	1	4
Appealing packaging	3	2	2
Advertisements	2	2	2
Recommendations of friends and family	4	2	2
Low price	4	2	3
Certifications of the product	4	1	3
Trust in product and brand	4	1	3
Results of independent tests	4	2	3

Source. Own elaboration

The group of *Carers* (cluster 1) put a high value on almost all purchase decision factors but advertisements and an appealing packaging, brand awareness and vegan ingredients. The majority of this cohort consists of women (58%) and 60% of this group are using anti-ageing products daily. The group of *Carers* is by far the biggest cohort from the three clusters (n=130). We labelled the second cluster as *Rejecters*, characterised by the fact that all purchase decision factors were rated as little or not important for consumers of this group. More than half of this cohort (56%) stated that they never use any anti-ageing products. This cluster consists mainly of men (68.75%).

The third cluster *Pragmatics* valued the purchase decision criteria most differentiated: the most important criteria for this group are product *quality, ingredients* and that the *purpose is achieved* (mean: 4). Other factors, such as e.g. *organic origin, not animal-tested, promotional offers, a low and fair price* and *certifications* were less important. *Vegan ingredients, packaging, advertisements* and *recommendations of friends and family* were only of little importance within this group. In total, this group achieved the highest mean regarding frequency of using anti-ageing products.

Table 26 displays the means concerning mindfulness, consumer well-being, chronological age and Cognitive Age of the three clusters in study.

Table 26. Mean overview of the final clusters

	Mean Cluster 1 Carers	Mean Cluster 2 Rejecters	Mean Cluster 3 Pragmatics
Novelty Producing Score	3.67	3.35	3.45
Novelty Seeking Score	4.01	3.87	3.87
Engagement Score	3.86	3.80	3.76
Flexibility Score	3.58	3.27	3.52
Mindfulness Score	3.78	3.64	3.65
Well-Being			
Subjective Happiness Score	3.74	3.42	3.78
Satisfaction with Life Score	3.76	3.44	3.79
Chronological age	61.98	64.81	63.55
Cognitive Age	48.62	48.23	50.23
Feel Age	47.00	50.63	52.58
Feel Age Difference	13.55	14.19	10.97
Look Age	51.00	51.87	53.79
Look Age Difference	9.55	12.94	9.76
Health Age	48.62	52.50	53.03
Health Age Difference	11.93	12.31	10.52
Think Age	44.81	41.87	47.88
Think Age Difference	15.74	22.94	15.67
Do Age	46.85	48.13	48.41
Do Age Difference	13.70	16.69	15.14
Interest Age	43.96	44.38	44.85
Interest Age Difference	16.58	20.44	18.70
Cognitive Age Difference in years	13.15	16.58	13.32

Source. Own elaboration

4.6 Principal Component Analysis

We applied the Varimax rotation (see Appendix G for details) to create a simplified structure that maximises the variability of the correlations of the initial variables for each principal component and obtained a solution with four factors that accounted for 69.1% of total variance as Table 27 shows. All factor loadings are significant since they are equal or greater than 0.5. The alpha of Cronbach value (0.92) indicated a good reliability or internal consistency of the scale. Then, two sub-samples were selected randomly from the original sample to validate the exploratory factorial analysis. Since the communalities of the sub-samples present similar values to those of the initial sample, the total variance explained being also similar and the factor loadings, after the Varimax rotation, close enough; the validity of the factorial analysis can be accepted.

Table 27. Results of the principal component analysis with Varimax rotation

Dimensions	Items	Mean (SD)	Factor loading	Communality	Eigenvalue	Variance explained	Cronbach alpha
Awareness and trust	Brand awareness	2.7(1.15)	0.647	0.704	5.867	39.116%	0.839
	Quality of the product	4.3(1.09)	0.776	0.818			
	Ingredients	4.2(1.12)	0.643	0.786			
	Purpose is achieved	4.2(1.06)	0.705	0.708			
	Trust in product and brand	3.7(1.20)	0.638	0.636			
Promotion and recommendation	Recommendations of friends and family	3.1(1.14)	0.669	0.568	1.899	12.662%	
	Low price	3.3(1.16)	0.888	0.810			
	Promotional offers	3.4(1.09)	0.758	0.676			
Health consumption	Organic product	3.4(1.19)	0.761	0.687	1.516	10.106%	0.782
	Not animal-tested	3.7(1.25)	0.599	0.437			
	Vegan ingredients	2.6(1.26)	0.819	0.733			
	Certifications of the product	3.6(1.23)	0.548	0.592			
	Results of independent tests	3.7(1.08)	0.555	0.630			
Corporate communication	Appealing packaging	2.3(1.07)	0.872	0.777	1.078	7.186%	0.809
	Advertisements	2.1(1.03)	0.865	0.798			

Kaiser–Meyer–Olkin measure of sampling adequacy = 0.87. Bartlett's test of sphericity $\chi^2 = 1447.48$, $p < 0.00$.

Source. Own elaboration

The first dimension, labelled as *Awareness and trust*, refers to motivations for anti-ageing products based on knowledge of the brand, perceived quality and the composition of the products. The second dimension, named *Promotion and recommendation*, includes motivations based on the influence of others (family, friends) and a low price. The third dimension, designed as *Health consumption*, groups items regarding aspects of organic products, food without animal origin, certificated and assurance made by independent entities. Finally, the dimension *Corporate communication* includes items referring to those who are influenced by the corporate/brand advertising and the package.

Chapter 5: Conclusions and Implications

5.1 Summary of Findings and Hypothesis Results

The main goal of this study was to improve the understanding of the interrelations of consumer mindfulness, subjective consumer well-being (including Subjective Happiness and Satisfaction with Life), Cognitive Age and purchase decisions factors of anti-ageing products and healthy experiences among German elderly. We achieved our four objectives (see Chapter 1.3) by examining the latest literature, conducting two focus groups and analysing the quantitative data of more than 200 valid questionnaires of elderly students from two German senior universities. Whereas the literature and two focus groups identified 15 purchase decision factors of anti-ageing products, the findings from the questionnaire revealed their importance to senior consumers. To sum up, *quality, good ingredients, efficiency of the product, test results* from independent entities, *trust in product and brand* and *not animal tested* products are the most important factors to elderly consumers. However, marketing professionals should avoid to treat elderly as one grey market and pay attention to details of the different sub target groups.

Our study could not find statistical evidence that the frequency of using anti-ageing products affects consumer well-being (H_8 , H_9). However, comparing people using anti-ageing products on a daily basis to never-users, it could be proved that some Cognitive Age dimensions shape consumer well-being.

Hence, our findings reveal that (i) mindfulness has a positive effect on Subjective Happiness (H_1) and Satisfaction with Life (H_2) among elderly consumers, (ii) Cognitive Age and chronological age are not overlapped (H_7) and (iii) the way elderly consumers perceive the anti-ageing products and experiences may be correlated with Subjective Happiness.

Aligned with previous research (e.g., Brown and Ryan, 2003; Langer, 2005, 2009; Moscardo, 1996; Frauman and Norman, 2004), our study highlights the positive influence of more mindful elderly consumers on their happiness. Overall, elderly consumers who perceive each situation as an opportunity to learn something new, are more engaged with the environment and welcome a change rather than resist it, tend to be happier than those elderly consumers who are less engaged to the environment and less open to changes in live.

Actually, new-age elderly have a cognitive perception of their age statistically lower than they chronological age, which denotes a propensity to act as younger than what is expected based on their chronological age.

Regarding the association between anti-ageing products and experiences and Subjective Happiness, consumers who do not have a perception about their physical health condition tend to be more receptive to the recommendation and promotions about anti-ageing products, as well

as be more aware and confident in such products and experiences. These anti-ageing products and experiences act as a hope in order to feel better. When a person feels old based on his/her thinking processes (e.g., lack a memory, some very conservative and old style thoughts), he/she tends to be more aware about anti-ageing brands, quality of the products and if effectively the purpose (or the promise) of the product or experience is achieved.

Finally, happier elderly consumers tend to be less seducible by corporate communications, which are an appealing packaging and advertising.

In this vein, depending on the way elderly consumers interpret and understand their Cognitive Age, managers should differentiate the way they communicate and deliver their products and experiences (in co-creation with consumers).

5.2 Managerial Implications

Based on the review of the latest literature (Chapter 2) and findings from our research with German elderly (Chapter 4), the following part provides recommendations for managers in the health and cosmeceuticals business dealing with elderly consumers.

First, marketing should avoid treating elderly consumers as one homogenous market. As we learned from Kubena (2015), consumers should rather be segmented by characteristics and in combination by chronological age and perceived age; therefore, we give recommendations for targeting and communicating with specific sub-groups in Chapter 5.2.1. Additionally, we learned that mindfulness has a positive impact on subjective consumer well-being; thus we advise to enhance certain mindfulness dimensions of elderly in Chapter 5.2.2.

Basically, consultants and professionals who manage and communicate in the anti-ageing products and healthy experiences should consider in their marketing mix that (i) elderly have a significant lower Cognitive Age than their chronological age and this Cognitive Age bias is increasing by age. Furthermore, (ii) mindful consumer behaviour positively affects Subjective Happiness and Satisfaction with Life, (iii) daily use of anti-ageing products tends to lower Health Age by up to 4.539 years (CI: 75%) and increases Satisfaction with Life by up to 0.4 scale points (CI: 85%) compared to those never using any anti-ageing products.

5.2.1 Implications for specific Sub-groups

General and gender. Whereas communication for female products should focus on high-value organic ingredients with insights where the manufacturer sources from, male products should communicate the health and feel-young-factor, as we found that these dimensions are perceived significantly higher by men. Further, elderly are basically more willing to be creative as their novelty producing score was significantly higher; hence co-creation processes might be useful.

Age. We recommend to approach gold consumers (aged over 63) differently than silver consumers. Our findings showed that gold consumers are more open to recommendations by friends and family. They accept guidance by others they can trust and therefore, referral marketing may be applied. By targeting elderlies' family members, promotional activities such as 'Free trial product for your grandfather' could be conducted. Further, we advise to approach Gold consumers more directly via advertisements and design appealing packaging units accordingly to seniors' needs.

Moreover, we found that consumers who feel more physical difficulties are more engaged in purchase anti-ageing products. If consumers feel old based on his/her thinking processes are more depending on the confidence in a brand. It is more difficult to communicate and recommend these products and experiences to those who feel young and healthy, the majority of respondents in our study. In this situation, it is better to appeal for the products features that allow maintaining the health condition. In contrast, products appealing to consumers who perceive a higher Cognitive Age should communicate that those products may improve the perception of health, to feel and look younger (see Figure 22).

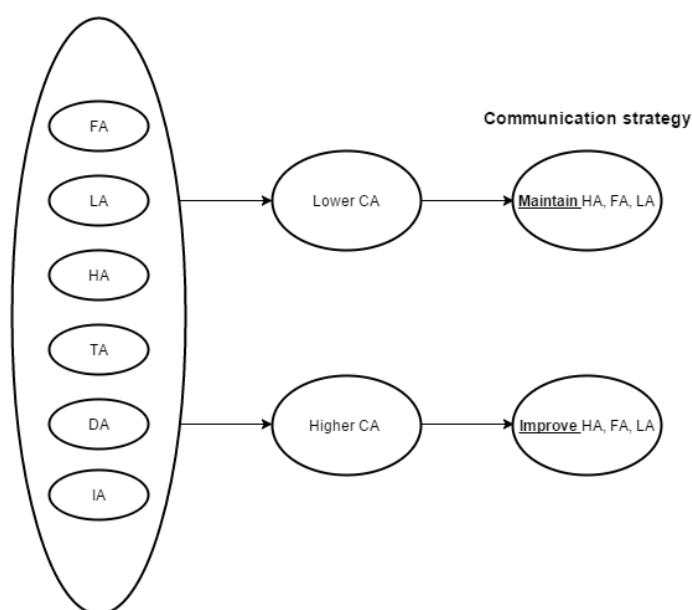


Figure 22. Communication strategy for old-identifiers and young-at-hearts
Source. Own elaboration

Never-users. The research indicated that approaching consumer who never use any anti-ageing-products is difficult, as it seems as if these non-consumers do not have high levels of trust in the effectivity of the product and in the brand. Marketers can enhance trust values by e.g. communicating test results by independent entities. Further, we found evidence that never-users rather trust what friends and family members recommend and advise to them. Therefore,

we recommend to consider this accordingly in promotional activities (e.g. ‘Make a present to your friend’).

Happy/satisfied vs unhappy/unsatisfied users. A majority of the respondents in this study were happy and/or satisfied with life; however, we found that unhappy and/or unsatisfied consumers (less than 10% of the sample), were more open to advertisements and were more price-conscious compared to their happy counterparts. For this reason, we see a huge potential for private-label products to reach this consumer segment. Finally, we found evidence that unhappy/unsatisfied consumers had a lower Look Age Difference the more they were using anti-ageing products. Marketing should consider this knowledge in its communication strategy. In contrast, happier elderly consumers tend to be less seducible by corporate communications, which are an appealing packaging and advertising. In this vein, depending on the way elderly consumers interpret and understand their Cognitive Age, managers should differentiate the way they communicate and deliver their products and experiences (in co-creation with consumers).

Mindful consumers. As stated earlier, mindful consumers show higher degrees of engagement and tend to be more aware of latest product developments and changes. As mindful consumers seek information more carefully and spend more time before the purchase decision is made, these consumers show a lower rate of regretted product choices. Having said this, mindful consumers show more loyalty with the brand, satisfaction and trust (Sheth, Sethia and Srinivas, 2011) and are often asked by peers for product or brand recommendations. Hence, highly mindful consumers have the power to influence other consumers’ product choice and may act as brand ambassadors. Marketing should interact with mindful consumers and use this multiplier potential (e.g. ‘Recommend the product to a friend’ campaigns). In addition to that, manufacturers should establish co-creation processes with this consumer cohort (Ndubisi, 2014) as they show huge levels of creativity and may help to improve and adapt products.

Moreover, the findings also allow us to understand that flexibility is positively related with health consumption, meaning that those who welcome a changing environment or situation rather than resist it, are more willing to search, give importance to purchase organic product, vegan ingredients and certificated products.

To summarise, we suggest to target different segments as presented in Figure 23 below.



Figure 23. Communication strategy for several consumer segments

Source. Own elaboration

5.2.2 Enhancing Consumer Well-being through Mindfulness

As we learned earlier, increasing the mindfulness dimensions of Novelty Seeking, Novelty Producing and Engagement increases the chance to improve Subjective Happiness and Satisfaction with Life. Encouraging consumers to be more mindful can make the difference in a competitive environment and may help consumers to be more satisfied with life in general. This in turn may have spill-over effects on the brand and the product. Manufacturers of healthcare products might apply this knowledge to their marketing and retail strategies to enhance consumers' well-being. Our results showed that the mindfulness dimensions Novelty Seeking and Novelty Producing are positively and significantly related to both, Subjective Happiness and Satisfaction with Life. The mindfulness dimensions Engagement and Flexibility only had a trivial effect on consumer well-being; therefore, they are ignored in the practical suggestions below.

To promote **Novelty Producing**, anti-ageing manufacturers might first, foster the co-creation of products by giving consumers the opportunity to participate in the innovation process (for instance, by asking for opinions about a new development, packaging or scents of the product). Second, manufacturers could give consumers the chance to participate in creativity competitions, to share ideas about new products on platforms. Trends of today show that elderly of the future will be familiar with the internet and it is much easier to connect with them on social media platforms, such as Facebook or Instagram.

To promote the mindfulness dimension of **Novelty Seeking**, anti-ageing manufacturers should communicate with full transparency how and where products are developed, produced and most importantly how products work. Therefore, it is important to provide background information of the procedure as mindful consumers consider themselves as very curious and want to understand how things work. Finally, it might be useful to provide a Q&A platform moderated by a product expert where consumers can discuss about the products as we found that a majority of elderly consumers like thought-provoking conversations.

5.3 Value of the Study

As far as we know, this is the first study with German elderly on the topics of consumer mindfulness, Cognitive Age and consumer well-being in the context of anti-ageing products and healthy experiences. Although, there are several studies dealing with Cognitive Age as a segmentation variable of senior consumers, we are not aware of any research applied to healthy consumer products and further, considering the contributions to consumer well-being and Cognitive Age. Finally, there are no studies pioneering to apply the knowledge that mindfulness positively affects consumer well-being to marketing purposes.

As stated before in chapter 2.3.4, if consumers are aware that certain products may contribute to well-being or contribute to a lower perception of Feel Age or Health Age, this might have positive effects on sales numbers. As a result, anti-ageing manufacturers can better justify pricing decisions and advertise the product to new consumer segments and retailers (e.g. pharmacies). Moreover, it is a valuable unique selling proposition to distinguish from competitor products.

For consumer product manufacturers, these results implicit that the relevant target market should be eyed, segmented and targeted accordingly by considering Cognitive Age. This might help marketing to reach better senior consumers who perceive themselves younger than their chronological age. That goes in line with Moschis, Ferguson and Zhu (2011) who state that individuality of consumers should be considered when addressing consumers.

In summary, this study contributes to the small but enormously growing topic of marketing to elderly in the anti-ageing industry.

5.4 Limitations and Future Research

As in most other empirical research studies, there are a couple of limitations to the research conducted and findings should be treated considering them.

First, participants were only elderly who had recently started a senior university programme, so their consumer behaviour might differ from elderly who are not participating in a senior university programme. The authors of this study assume that elderly who decide to broaden their horizon in a senior study programme, tend to be more mindful and perceive a lower Cognitive Age compared to other peers. Therefore, future studies should examine new-age elderly from a broader sample to generalise results. Additionally, future research might conduct control groups with a younger counter group to reveal better differences of the age groups.

Second, the data collection only concentrated on the region of North Rhine-Westphalia, the western part of Germany. Hence, there might be geographical differences which are not covered in this study and should be examined in the future. Sudbury-Riley, Kohlbacher and Hofmeister (2015) also note that it is seldom to find studies on Cognitive Age, mindfulness and well-being in an international environment; thus future research could concentrate on examining differences in a multinational and intercultural context.

Third, socio-demographics and moderators such as income, satisfaction with the financial situation, health status, family situation (marital status, children, etc.), life changing event, length of using anti-ageing and health care products should be considered in future research. In this research, the universities asked the scholars to refrain from such sensitive data. Another interesting part for the future would be to extend the questionnaire by further dimensions and questions. Whereas, we concentrated only on purchase decision factors, it might be interesting to include further motivations (why exactly elderly using anti-ageing products) to deduct further implications for marketing communications.

Fourth, the questions in the survey were translated into German which might have influenced the perceptions in a conceptual way to some extent; however we back translated the items before the final distribution to the participants.

Fifth, it should be noted that all scores of well-being (Subjective Happiness and Satisfaction with Life), mindfulness and Cognitive Age rely on self-report ratings. Therefore, it should be noted that social desirable responses could not be excluded completely, although kept to a minimum.

Sixth, it has to be considered that subjective well-being states might change from time to time depending on life circumstances. Moreover, individual circumstances on the day of the survey were neglected and might influence the well-being score. For this reason, we suggest several repetitions of the study may be necessary to contribute to a more precise result. This may also help to get insights into the development of the variables in this study over time.

Seventh, although the results reported supported or at least partially supported some hypotheses regarding the associations among constructs, further research would be necessary to establish any causal links.

Eighthly, the elderly who are rejecting anti-ageing products – mostly men – are an interesting cohort as we learned that the target group of men is growing constantly. Understanding this group is crucial to reach potential consumers in the future; however, it should be noted that the proportion of this cohort should be larger in future studies.

Finally, other avenues for further research are related to the open question how to practically employ Cognitive Age as a segmentation variable.

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Appendices

Appendix A: Transcript of the Questionnaire (English and German version)

Dear participant,

As part of a scientific study at ISCTE – University Institute of Lisbon, this survey deals with motivations of using anti-ageing products. The results are very important and used only for research purposes and not commercially.

The survey is completely **anonymous**; thus no conclusions about individuals can be drawn. The length of the survey is

approx. 8 minutes.

Thank you very much for your support!

1. Please rate the importance of the following attributes of an anti-ageing product.

1 (Not important at all) to 5 (Extremely important)

Barak, B. & Schiffman, L. 1981. Cognitive Age: a Nonchronological Age Variable. Association for Consumer Research, pp.602-606.										
Barak, B., & Gould, S. 1985. Alternative age measures: A research agenda. Advances in Consumer Research, 12, 53–58.										
Blau, Zena S. 1973. Old Age in A C Society, N.Y.: Franklin Watts, Inc.										
Bodner, T. E., Langer, E. J. 2001. Individual differences in mindfulness: The Mindfulness/Mindlessness Scale. Poster presented at the 13th annual American Psychological Society Conference, Toronto, Ontario, Canada.										
Brown, K. W., Ryan, R. M., & Creswell, J. D. 2007. Mindfulness: Theoretical foundations and evidence for its salutary effects. Psychological Inquiry, 18, pp.211–237.										
Clark, S. D., Long, M. M., & Schiffman, L. G. 1999. The mind–body connection: The relationship among physical activity level, life satisfaction, and Cognitive Age among mature females. Journal of Social Behavior and Personality, 14, 221–240.										
Diener, E. 1984. Subjective well-being. Psychological Bulletin, 95, 542–575.										
Diener, E., Emmmons, R., Lasen, R. & Griffin, S. 1985. The Satisfaction with Life scale. Journal of Personality Assessment, 49, pp.71-75.										

Diener, E., Suh, E.M., Lucas, R.E. & Smith, H.L. 1999. 'Subjective well-being: Three decades of progress', <i>Psychological Bulletin</i> , 125(2), pp.276–302.										
Goulding, C. & Shankar, A. 2004. Age is just a number: rave culture and the cognitively young "thirty something". <i>European Journal of Marketing</i> , 38(5/6), pp.641-658.										
Langer, E., Cohen, M. & Djikic, M. 2012. Mindfulness as a Psychological Attractor: The Effect on Children. <i>Journal of Applied Social Psychology</i> , 42(5), pp.1114–1122.										
Lyubomirsky, S., & Lepper, H. 1999. A Measure of Subjective Happiness: Preliminary Reliability and Construct Validation. <i>Social Indicators Research</i> , 46(2), 137-155.										

2. How often do you use anti-ageing products?

Practically never	
Seldom	
Sometimes - More than 1 time per month but less than once a week	
Often - More than 1 time per week	
Very often - Every day	

3. Please state your agreement or disagreement for the following statements.

1 – Strongly disagree to 5 - Strongly agree

Statement	1	2	3	4	
1. I like being challenged intellectually.					
1. I am always open to new ideas.					
2. I like to investigate new things.					
3. I am rarely alert to new developments.					
4. I have an open mind about everything, even things that challenge my core beliefs.					
5. In general, I consider myself as happy.					
6. The conditions of my life are excellent					
7. I try to think of new ways of doing things.					
8. I find it easy to create new and effective ideas.					
9. I am very curious.					
10. I am satisfied with my life					
11. I avoid thought-provoking conversations.					
12. Compared to my peers I consider myself as happy.					
13. I am very creative.					
14. So far I have gotten the important things I want in life					

15. I make many novel contributions.					
16. I do not actively seek to learn new things.					
17. I can behave in many different ways for a given situation.					
18. Some people are basically not very happy. Although, they are not depressed, they never seem happy as they might be. To what extent does this describe you?					
19. I like to figure out how things work.					
20. I seldom notice what other people are up to.					
21. I stay with the old tried and true ways of doing things.					
22. I attend to the 'big picture.'					
23. If I could live my life over, I would change almost nothing					
24. I am not an original big thinker.					
25. I 'get involved' in almost everything I do.					
26. I am rarely aware of changes.					
27. In most ways my life is close to my ideal					
28. Some people are basically very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this describe you?					
29. I generate few novel ideas.					

Socio demographics

A. Gender

Year of birth _____

Male	
Female	

B. Perceived age

	20s	30s	40s	50s	60s	70s	80s	90s
I <u>feel</u> as I am in my...								
I <u>look</u> as I am in my...								
My <u>health</u> is as I were in my...								
I <u>think</u> as I am in my...								
I <u>do</u> most things as I am in my...								
My <u>interests</u> are mostly those of a person in his/her...								

Transcript of the questionnaire (German version)

Sehr geehrte(r) Teilnehmer/in,

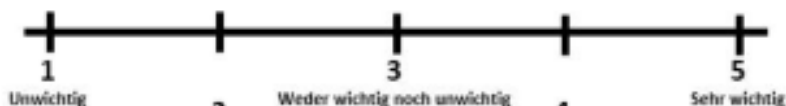
im Rahmen meiner Masterarbeit mit Unterstützung von Frau Prof. Dr. S. Loureiro von der ISCTE University of Lisbon, untersucht dieser Fragebogen die Motivationsfaktoren vom Gebrauch oder Nicht-Gebrauch von Pflegeprodukten (z.B. Feuchtigkeitscreme, Anti-Ageing Produkte etc.). Auch wenn Sie keine dieser Produkte benutzen, sind Ihre Antworten für meine Arbeit sehr wichtig.

Der Fragebogen ist absolut **anonym**, so dass keine Rückschlüsse auf einzelne Personen gezogen werden können. Er dient ausschließlich der Forschung für meine Masterarbeit und wird nicht kommerziell verwendet. Zum Beantworten benötigen Sie **ca. 8 Minuten**.

Vielen Dank für Ihre Unterstützung!

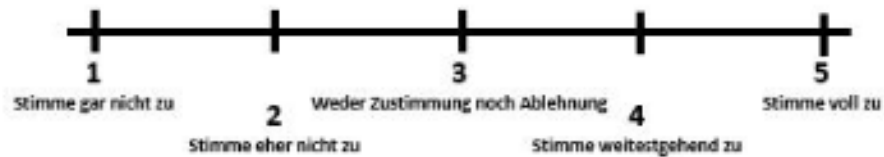
Jan Middendorf

1. Bitte beurteilen Sie die Wichtigkeit der folgenden Merkmale von Pflegeprodukten (z.B. Feuchtigkeitscreme, Anti-Ageing).



3. Inwiefern stimmen die folgenden Aussagen mit Ihrer Einstellung / Meinung überein?

Zutreffendes bitte ankreuzen (x)



Aussagen	1	2	3	4	5
1. Mich reizen intellektuelle Herausforderungen.					
2. Ich bin immer offen für neue Ideen.					
3. Ich mag es neue Dinge zu entdecken.					
4. Ich verfolge kaum neue Entwicklungen.					
5. Ich bin offen für alle Dinge, auch dann, wenn diese gegen meine Grundeinstellungen sind.					
6. Grundsätzlich halte ich mich für glücklich.					
7. Meine Lebensbedingungen sind optimal.					
8. Ich denke über neue Möglichkeiten nach, wie man Dinge verbessern kann.					
9. Mir fällt es leicht neue und effektive Ideen zu entwickeln.					
10. Ich bin sehr neugierig auf neue Dinge.					
11. Ich bin mit meinem Leben zufrieden.					
12. Ich vermeide nachdenkliche Gespräche.					
13. Im Vergleich zu anderen in meinem Alter, bin ich glücklich.					
14. Ich bin sehr kreativ.					
15. Bisher habe ich die wichtigen Dinge in meinem Leben erreicht.					
16. Ich bringe viele neue Ideen ein.					
17. Ich strebe nicht aktiv danach neue Dinge zu lernen.					
18. Ich kann mich einem neuen Umfeld gut anpassen.					
19. Einige Menschen sind nicht besonders glücklich. Obwohl sie nicht depressiv sind, scheinen sie nie so glücklich zu sein, wie sie sein könnten. Inwiefern trifft dies auf Sie zu?					
20. Ich mag es herauszufinden, wie Dinge funktionieren.					
21. Ich erkenne selten, was andere Menschen wollen.					
22. Ich tue Dinge so, wie sie sich in der Vergangenheit bewährt haben.					
23. Ich versuche das "große Ganze" zu sehen.					
24. Wenn ich auf mein Leben blicke, würde ich fast alles genau so wieder machen.					
25. Ich bin <u>kein</u> origineller Denker.					
26. Ich engagiere mich fast immer bei Aktivitäten.					
27. Ich bekomme von Veränderungen nicht viel mit.					
28. In der Regel ist mein Leben nah an meinem Ideal.					
29. Einige Menschen sind sehr glücklich. Sie genießen das Leben unabhängig davon, was um sie herum passiert. Sie holen aus Allem das Beste heraus. Inwiefern trifft dies auf Sie zu?					
30. Ich entwickle wenige neue Ideen.					

Demografische Daten

A. Geschlecht

Geburtsjahr 19..

Männlich	☐
Weiblich	☐

B. "Gefühltes Alter"

Zutreffendes bitte ankreuzen (x)

	20ern	30ern	40ern	50ern	60ern	70ern	80ern	90ern
Ich <u>fühle</u> mich wie in meinen...								
Ich <u>sehe aus</u> wie in meinen...								
Meine Gesundheit ist wie in meinen...								
Ich <u>denke</u> wie in meinen...								
Ich <u>tue</u> die meisten Dinge, wie in meinen...								
Meine <u>Interessen</u> sind wie die einer Person in den...								

Vielen herzlichen Dank für Ihre Teilnahme!

Für Fragen stehe ich Ihnen gerne per Email unter Jan_Middendorf@iscite-iul.pt zur Verfügung.

Appendix B: Descriptive Analysis Results

		Initial	Female	Male	SC	GC	DU	NU	HSC	UHSC	Cluster 1	Cluster 2	Cluster 3
Purchase Decision Factors	Brand awareness	2,7	2,8	2,6	2,7	2,8	2,9	2,1	2,6	3,3	3	2	2
	Quality of the product	4,3	4,5	4,1	4,3	4,3	4,4	3,3	4,4	4,1	5	1	4
	Ingredients	4,2	4,4	3,9	4,1	4,2	4,3	3,5	4,3	3,6	5	1	4
	Organic product	3,4	3,6	3,2	3,4	3,4	3,4	3,1	3,4	3,2	4	2	3
	Not animal-tested	3,7	3,8	3,6	3,7	3,8	3,8	3,4	3,9	3,4	4	2	3
	Vegan ingredients	2,6	2,8	2,4	2,5	2,8	2,7	2,5	2,6	2,7	3	2	2
	Promotional offers	3,4	3,5	3,2	3,5	3,3	3,4	2,5	3,3	3,4	4	2	3
	Purpose is achieved	4,2	4,4	4	4,2	4,3	4,4	3,1	4,3	3,8	5	1	4
	Appealing packaging	2,4	2,3	2,4	2,5	2,2	2,3	2,2	2,2	2,8	3	2	2
	Advertisements	2,1	2,2	2,2	2,3	2,1	2,1	2,0	2,0	2,6	2	2	2
	Recommendations of friends and family	3,1	3,1	3,1	3,3	3,0	3,2	2,7	3,1	3,3	4	2	2
	Low price	3,3	3,2	3,2	3,3	3,2	3,3	2,5	3,2	3,5	4	2	3
	Certifications of the product	3,5	3,6	3,4	3,6	3,5	3,6	2,7	3,6	3,2	4	1	3
	Trust in product and brand	3,7	3,8	3,6	3,7	3,8	3,9	2,8	3,8	3,6	4	1	3
	Results of independent tests	3,7	3,8	3,6	3,8	3,6	3,8	3,1	3,9	3,5	4	2	3
Mindfulness	Mindfulness Score	3,7	3,7	3,7	3,8	3,7	3,7	3,7	3,2	3,9	3,8	3,6	3,7
	Novelty Producing Score	4,0	3,9	4,0	4,0	3,9	3,6	3,6	2,9	3,8	3,7	3,4	3,5
	Novelty Seeking Score	3,8	3,8	3,8	3,9	3,8	4,0	4,0	3,4	4,1	4,0	3,9	3,9
	Engagement Score	3,6	3,5	3,7	3,5	3,5	3,8	3,8	3,3	3,9	3,9	3,8	3,8
	Flexibility Score	3,5	3,5	3,5	3,8	3,7	3,6	3,4	3,2	3,7	3,6	3,3	3,5
Well-Being	Consumer Well-Being												
	Subjective Happiness Score	3,7	3,8	3,7	3,6	3,8	3,8	3,7	4,1	2,5	3,7	3,4	3,8
	Satisfaction with Life Score	3,8	3,7	3,8	3,7	3,8	3,8	3,6	4,1	2,5	3,8	3,4	3,8
Chronological & Cognitive Age in years	Chronological age	62,8	62,7	62,9	56,5	68,4	63,9	62,2	63,2	61,1	62,0	64,8	63,6
	Cognitive age	49,2	48,9	49,6	45,7	52,3	49,9	48,6	49,1	47,4	48,6	48,2	50,2
	Feel age	49,2	48,3	52,0	45,2	54,0	49,9	49,1	49,8	50,7	47,0	50,6	52,6
	Look age	52,0	52,0	53,8	48,9	56,2	52,4	51,7	52,3	51,9	51,0	51,9	53,8
	Health age	50,4	49,5	53,4	48,4	53,6	50,6	52,2	50,1	51,1	48,6	52,5	53,0
	Think age	45,6	47,1	45,2	42,6	49,5	46,6	45,2	45,2	44,1	44,8	41,9	47,9
	Do age	47,6	48,9	47,3	44,7	51,3	47,7	45,2	48,1	43,7	46,9	48,1	48,4
	Interest age	44,4	45,5	44,3	41,7	47,9	44,3	47,8	45,3	41,1	44,0	44,4	44,9
	Cognitive age difference	13,5	13,8	13,3	10,8	16,1	13,7	13,6	14,0	13,6	13,2	16,6	13,3
	Feel age difference	12,8	14,4	10,9	11,3	14,4	12,6	13,0	13,0	10,3	13,6	14,2	11,0
	Look age difference	9,9	10,8	9,1	7,6	12,3	10,1	10,4	10,5	9,2	9,6	12,9	9,8
	Health age difference	11,5	13,2	9,6	8,1	14,9	11,9	10,0	12,7	10,0	11,9	12,3	10,5
	Think age difference	16,3	15,7	17,7	13,8	18,9	15,9	17,0	17,6	17,0	15,7	22,9	15,7
	Do age difference	14,4	13,8	15,5	11,8	17,1	14,8	17,0	14,7	17,4	13,7	16,7	15,1
	Interest age difference	17,6	17,2	18,6	14,7	20,5	18,2	14,4	17,4	20,0	16,6	20,4	18,7
	Frequency of using anti-aging products	4,1	4,6	3,3	3,7	4,4	5	1	4,0	3,8	4,1	2,4	4,6
Gender	n	214	122	89	99	112	140	23	127	27	130	16	66
	Male	89	0	89	48	41	36	20	57	13	53	11	23
	Female	122	122	0	51	71	101	3	69	14	74	5	43
	Missing	3	-	-	0	-	3	-	1	-	3	-	-

Appendix C: Levene's Test of Means

Variables		F/M		95% Confidence Interval of the Difference		SC/GC		95% Confidence Interval of the Difference		NU/DU		95% Confidence Interval of the Difference		HSC/UHSC	
		p value of Levene's mean test		Lower	Upper	p value of Levene's mean test		Lower	Upper	p value of Levene's mean test		Lower	Upper	p value of Levene's mean test	
Importance of Purchase Decision Factors	Brand awareness	>0,05	-0,128	0,516	0,221	>0,05	-0,417	0,221	0,221	<0,05*	-1,321	-0,266	-0,266	<0,05*	-1,083
	Quality of the product	<0,05*	0,099	0,688	0,332	>0,05	-0,260	0,332	0,332	<0,05*	-1,557	-0,598	-0,598	>0,05	-0,216
	Ingredients	<0,05*	0,215	0,818	0,267	>0,05	-0,344	0,267	0,267	<0,05*	-1,263	-0,287	-0,287	<0,05*	0,139
	Organic product	<0,05*	0,049	0,698	0,271	>0,05	-0,378	0,271	0,271	>0,05	-0,777	0,253	0,253	>0,05	-0,359
	Not animal-tested	>0,05	-0,078	0,627	0,220	>0,05	-0,480	0,220	0,220	>0,05	-0,997	0,159	0,159	>0,05	-0,101
	Vegan ingredients	<0,05*	0,027	0,723	0,154	>0,05	-0,540	0,154	0,154	>0,05	-0,747	0,357	0,357	>0,05	-0,427
	Promotional offers	>0,05	-0,057	0,545	0,466	>0,05	-0,131	0,466	0,466	<0,05*	-1,392	-0,487	-0,487	>0,05	-0,460
	Purpose is achieved	<0,05*	0,043	0,632	0,206	>0,05	-0,384	0,206	0,206	<0,05*	-1,767	-0,872	-0,872	>0,05	-0,094
	Appealing packaging	>0,05	-0,403	0,199	0,570	<0,05*	-0,021	0,570	0,570	>0,05	-0,513	0,446	0,446	>0,05	-0,802
	Advertisements	>0,05	-0,286	0,287	0,466	<0,05*	-0,099	0,466	0,466	>0,05	-0,619	0,307	0,307	>0,05	-0,749
	Recommendations of friends and family	>0,05	-0,325	0,312	0,617	<0,05*	-0,007	0,617	0,617	>0,05	-0,986	0,046	0,046	>0,05	-0,543
	Low price	>0,05	-0,323	0,316	0,498	>0,05	-0,131	0,498	0,498	<0,05*	-1,343	-0,314	-0,314	>0,05	-0,735
	Certifications of the product	>0,05	-0,161	0,53	0,436	>0,05	-0,248	0,436	0,436	<0,05*	-1,432	-0,360	-0,360	>0,05	-0,187
	Trust in product and brand	>0,05	-0,112	0,549	0,216	>0,05	-0,439	0,216	0,216	<0,05*	-1,631	-0,575	-0,575	>0,05	-0,441
Mindfulness	Results of independent tests	>0,05	-0,157	0,452	0,528	>0,05	-0,071	0,528	0,528	<0,05*	-1,226	-0,231	-0,231	>0,05	-0,281
	Mindfulness Score	>0,05	-0,181	0,08788	0,208	>0,05	-0,057	0,208	0,208	>0,05	-0,219	0,215	0,215	<0,05*	0,406
	NP	>0,05	-0,340	0,036457	0,348	>0,05	-0,024	0,348	0,348	>0,05	-0,274	0,350	0,350	<0,05*	0,532
	NS	>0,05	-0,250	0,096692	0,255	>0,05	-0,088	0,255	0,255	>0,05	-0,206	0,368	0,368	<0,05*	0,369
Subjective Well-being	EN	>0,05	-0,213	0,11634	0,270	>0,05	-0,056	0,270	0,270	>0,05	-0,215	0,315	0,315	<0,05*	0,339
	FL	>0,05	-0,097	0,205599	0,138	>0,05	-0,161	0,138	0,138	>0,05	-0,377	0,091	0,091	<0,05*	0,274
	SH	>0,05	-0,072	0,298794	-0,002	<0,05*	-0,367	-0,002	-0,002	>0,05	-0,350	0,245	0,245	<0,05*	1,222
	SWL	>0,05	-0,209	0,158039	0,015	>0,05	-0,346	0,015	0,015	>0,05	-0,489	0,075	0,075	<0,05*	1,191
Cognitive Age	CAD	<0,05*	-1,503	2,497287	3,422	<0,05*	-7,116	3,422	3,422	>0,05	-3,470	3,275	3,275	>0,05	-2,110
	FAD	>0,05	0,459	6,59	0,153	>0,05	-5,941	0,153	0,153	>0,05	-4,136	5,123	5,123	>0,05	-1,187
	LAD	>0,05	-0,744	4,011	-2,264	<0,05*	-6,827	-2,264	-2,264	>0,05	-3,835	4,462	4,462	>0,05	-1,255
	HAD	<0,05*	-0,685	3,952	-3,777	<0,05*	-9,427	-3,777	-3,777	>0,05	-6,905	3,091	3,091	<0,05*	0,045
Frequency	TAD	>0,05	-4,994	0,906	-2,346	<0,05*	-8,040	-2,346	-2,346	>0,05	-3,910	6,080	6,080	>0,05	-3,204
	DAD	>0,05	-4,687	1,068	-2,512	<0,05*	-8,048	-2,512	-2,512	>0,05	-2,732	7,045	7,045	>0,05	-6,681
	LAD	>0,05	-4,861	2,09	-2,515	<0,05*	-9,220	-2,515	-2,515	>0,05	-9,787	2,026	2,026	>0,05	-6,932
	FR	<0,05*	0,978	1,67179	1,078	<0,05	0,328	1,078	1,078	/	/	/	/	>0,05	-0,352

* significant difference of means

Appendix D: Pairwise Comparisons for Cognitive Age

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Chronological age - Feel Age	12.948	11.264	.775	11.419	14.476	16.698	210	.000
Pair 2	Chronological age - Look Age	10.057	8.667	.597	8.881	11.233	16.855	210	.000
Pair 3	Chronological age - Health Age	11.668	10.869	.748	10.193	13.143	15.594	210	.000
Pair 4	Chronological age - Think Age	16.526	10.756	.740	15.066	17.986	22.319	210	.000
Pair 5	Chronological age - Do Age	14.583	10.486	.722	13.160	16.006	20.202	210	.000
Pair 6	Chronological age - Interest Age	17.806	12.635	.870	16.091	19.520	20.470	210	.000
Pair 7	Chronological age - Cognitive Age in years	13.606	7.264	.500	12.620	14.592	27.206	210	.000

Appendix E: Linear Regression Results

	H	Path	Initial	F	M	SC	GC	DU	NU	HSC	UHSC
Mindfulness & Consumer Wellbeing	H1	MF → SH	0,454	0,458	0,437	0,551	0,381	0,422	0,499	0,121ns	0,498
		NP → SH	0,291	0,289	0,362	0,396	0,254	0,179ns	0,331ns	0,083ns	0,411ns
		NS → SH	0,244	0,115ns	0,453	0,270	0,200	0,256	0,664	0,291	0,103ns
		EN → SH	-0,134ns	-0,133ns	-0,165ns	-0,127ns	-0,113ns	-0,103ns	-0,141ns	-0,282	-0,035ns
		FL → SH	0,153	0,303ns	-0,178ns	0,113ns	0,135ns	0,194	-0,427	0,046	0,090ns
	H2	MF → SWL	0,479	0,437	0,552	0,508	0,470	0,386	0,506	0,187	0,470
		NP → SWL	0,330	0,362	0,428	0,477	0,256	0,235	0,106ns	0,139ns	0,425ns
		NS → SWL	0,148ns	0,453	0,284	-0,014ns	0,296	0,098ns	0,789	0,139ns	-0,166ns
		EN → SWL	-0,007ns	-0,165ns	-0,029ns	0,032ns	-0,029ns	0,051ns	0,041ns	0,036ns	-0,004ns
		FL → SWL	0,114ns	-0,178ns	-0,023ns	0,125ns	0,036ns	0,090ns	-0,564	-0,112ns	0,323ns
Cognitive Age & Wellbeing	H3	CAD → SWL	0,030ns	0,079ns	-0,017ns	0,024ns	0,010ns	-0,036ns	0,480	-0,007ns	-0,070ns
		FAD → SWL	0,108ns	0,142ns	0,124ns	0,041ns	0,234ns	0,280	0,312ns	0,036ns	0,760
		LAD → SWL	-0,113ns	-0,166ns	-0,127ns	-0,305	-0,052ns	-0,099ns	0,140ns	-0,213ns	-0,332ns
		HAD → SWL	0,088ns	0,095ns	0,098ns	0,263ns	-0,060ns	-0,108ns	-0,331ns	0,140ns	-0,616
		TAD → SWL	0,248	0,117ns	0,278	0,279ns	0,185ns	0,082ns	0,799	0,142ns	-0,011ns
		DAD → SWL	-0,229	0,053ns	-0,453	-0,104ns	-0,307	-0,168ns	-0,661	-0,104ns	0,127ns
		IAD → SWL	-0,087ns	-0,172ns	0,005ns	-0,119ns	-0,040ns	-0,063ns	0,445ns	-0,32ns	-0,138ns
	H4	CAD → SH	0,075ns	0,119ns	0,045ns	0,049ns	0,042ns	-0,061ns	0,535	0,125ns	-0,232ns
		FAD → SH	0,070ns	0,082ns	0,113ns	0,081ns	0,151ns	0,130ns	0,240ns	0,193ns	0,469ns
		LAD → SH	-0,019ns	-0,090ns	0,026ns	-0,281ns	0,068ns	0,070ns	0,174ns	-0,022ns	-0,501ns
		HAD → SH	0,081ns	0,091ns	0,038ns	0,225ns	-0,072ns	-0,137ns	-0,294ns	-0,106ns	-0,151ns
		TAD → SH	0,238	0,067ns	0,327	0,084ns	0,308	0,064ns	0,849	0,098ns	0,112ns
		DAD → SH	-0,146ns	0,085ns	-0,249ns	0,093ns	-0,224ns	-0,117ns	-0,427ns	-0,018ns	0,185ns
		IAD → SH	-0,118ns	-0,092ns	-0,150ns	-0,067	0,189ns	-0,067ns	0,229ns	0,024ns	-0,570ns
Cognitive Age & Mindfulness	H5	CAD → MF	0,059ns	0,090ns	0,072ns	0,143ns	0,108ns	0,056ns	0,364ns	0,015ns	-0,100ns
		FAD → MF	0,037ns	0,023ns	0,248ns	-0,19ns	0,037ns	-0,164ns	0,470ns	0,021ns	-0,280ns
		LAD → MF	-0,100ns	-0,188ns	-0,11ns	0,284ns	-0,100ns	0,021ns	-0,234ns	-0,174ns	0,258ns
		HAD → MF	0,117ns	0,305ns	-0,124ns	-0,297ns	0,117ns	0,229ns	-0,267ns	0,133ns	-0,173ns
		TAD → MF	0,155ns	-0,072ns	0,265	-0,146ns	0,155ns	-0,004ns	0,409ns	-0,082ns	0,781ns
		DAD → MF	-0,155ns	0,066ns	-0,314	-0,085ns	-0,155ns	-0,138ns	-0,289ns	-0,076ns	-0,256ns
		IAD → MF	0,036ns	0,008ns	0,107ns	0,085ns	0,036ns	0,160ns	0,262ns	0,245	-0,493ns
Chronological Age & Mindfulness	H6	CHRONA → MF	-0,082ns	0,016ns	-0,240	0,095ns	-0,122ns	-0,100ns	-0,188ns	-0,151ns	-0,394
		CHRONA → NP	-0,158	-0,113ns	-0,254	0,116ns	-0,237	-0,189	-0,166ns	-0,179	-0,471
		CHRONA → NS	-0,030ns	0,057ns	-0,159ns	0,152ns	-0,045ns	-0,046ns	-0,068ns	-0,082ns	-0,328ns
		CHRONA → EN	-0,114ns	-0,116ns	-0,113ns	0,097ns	-0,167ns	-0,111ns	-0,186ns	-0,108ns	-0,581
		CHRONA → FL	-0,061ns	0,045ns	-0,236	-0,072ns	-0,165ns	-0,122ns	-0,225ns	-0,081ns	-0,169ns
Cognitive Age & Chronological Age	H7	CAD → CHRONA	0,436	0,405	0,493	0,251	0,257	0,406	0,440	0,400	0,566
		FAD → CHRONA	-0,137ns	-0,024ns	-0,367	0,176ns	-0,198ns	0,209	-0,288ns	-0,071ns	-0,375ns
		LAD → CHRONA	0,060ns	-0,093ns	0,289	0,066ns	-0,023ns	0,222	0,295ns	0,137ns	-0,069ns
		HAD → CHRONA	0,255	0,206ns	0,417	-0,051ns	0,160	0,232	0,267ns	0,121ns	0,678
		TAD → CHRONA	0,206	0,308ns	0,143ns	0,348	0,131ns	0,346	0,234ns	0,246ns	0,333ns
		DAD → CHRONA	0,043ns	-0,027ns	0,157ns	-0,186ns	0,079ns	0,320	-0,106ns	-0,023ns	0,126ns
		IAD → CHRONA	0,114ns	0,061ns	0,096ns	0,014ns	0,165ns	0,328	0,337ns	0,035ns	0,005ns
Frequency & Wellbeing	H8	FR → SH	0,039ns	0,116ns	-0,097ns	0,001ns	-0,004ns	-	-	0,035ns	0,126ns
	H9	FR → SWL	0,093ns	0,106ns	0,128ns	0,079ns	0,047ns	-	-	0,122ns	0,237ns
Frequency & Cognitive Age	H10	FR → CAD	0,057ns	0,082ns	0,051ns	0,029ns	-0,072ns	-	-	-0,024ns	0,418
		FR → FAD	-0,005ns	-0,086ns	-0,081ns	-0,074ns	0,027ns	-	-	-0,035ns	0,414ns
		FR → LAD	0,030ns	0,052ns	-0,050ns	-0,002ns	-0,051ns	-	-	0,020ns	-0,673
		FR → HAD	0,060ns	0,000ns	-0,012ns	0,119ns	-0,119ns	-	-	-0,008ns	0,508ns
		FR → TAD	-0,028ns	0,064ns	0,009ns	-0,090ns	-0,073ns	-	-	-0,116ns	0,077ns
		FR → DAD	0,033ns	0,113ns	0,092ns	-0,022ns	-0,016ns	-	-	0,005ns	-0,148ns
		FR → IAD	0,107ns	-0,002ns	0,298	0,134ns	0,006ns	-	-	0,081ns	0,175ns

Notes: Significant at: p, 0.05; ns: not significant; - not computable

Appendix F: Cluster Analysis with three Groups

ANOVA						
	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
Brand awareness	20.738	2	1.153	207	17.988	.000
Quality of the product	87.277	2	.332	209	263.165	.000
Ingredients	73.432	2	.540	208	135.974	.000
Organic product	41.621	2	1.015	208	41.008	.000
not animal-tested	36.416	2	1.299	208	28.043	.000
Vegan ingredients	21.194	2	1.401	207	15.122	.000
Promotional offers	40.397	2	.799	207	50.552	.000
Purposes is achieved	80.757	2	.374	207	215.657	.000
Appealing packaging	10.804	2	1.080	208	9.999	.000
Advertisements	13.752	2	.933	206	14.740	.000
Recommendations of friends and family	44.108	2	.898	208	49.114	.000
Low price	44.473	2	.915	208	48.624	.000
Certifications of the product	79.968	2	.810	208	98.687	.000
Trust in product and brand	72.862	2	.740	207	98.492	.000
Results of independent tests	61.366	2	.622	207	98.626	.000

The F tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters. The observed significance levels are not corrected for this and thus cannot be interpreted as tests of the hypothesis that the cluster means are equal.

Appendix G: Principal Component Analysis

	Correlation Matrix														
	Brand awareness	Quality of the product	Ingredients	Organic product	not animal-tested	Vegan ingredients	Promotional offers	Purpose is achieved	Appealing packaging	Advertisements	Recommendations of friends and family	Low price	Certifications of the product	Trust in product and brand	Results of independent tests
Brand awareness	1.000	.331	.250	.202	.124	.006	.298	.318	.320	.328	.300	.192	.208	.426	.184
Quality of the product	.331	1.000	.733	.431	.410	.177	.466	.752	.008	-.010	.349	.360	.559	.613	.527
Ingredients	.250	.733	1.000	.639	.465	.352	.366	.646	.073	.058	.275	.229	.523	.498	.526
Organic product	.202	.431	.639	1.000	.393	.524	.249	.395	.133	.150	.243	.159	.472	.341	.439
not animal-tested	.124	.410	.465	.393	1.000	.341	.237	.331	.103	.078	.173	.222	.418	.314	.334
Vegan ingredients	.006	.177	.352	.524	.341	1.000	.158	.151	.153	.215	.174	.119	.346	.158	.320
Promotional offers	.298	.466	.366	.249	.237	.158	1.000	.522	.126	.227	.440	.695	.349	.450	.434
Purpose is achieved	.318	.752	.646	.395	.331	.151	.522	1.000	.046	.107	.366	.444	.462	.553	.482
Appealing packaging	.320	.008	.073	.133	.103	.153	.126	.046	1.000	.681	.246	.152	.156	.136	.051
Advertisements	.328	-.010	.058	.150	.078	.215	.227	.107	.681	1.000	.297	.229	.106	.178	.122
Recommendations of friends and family	.300	.349	.275	.243	.173	.174	.440	.366	.246	.297	1.000	.510	.402	.435	.454
Low price	.192	.360	.229	.159	.222	.119	.695	.444	.152	.229	.510	1.000	.396	.418	.464
Certifications of the product	.208	.559	.523	.472	.418	.346	.349	.462	.156	.106	.402	.396	1.000	.539	.609
Trust in product and brand	.426	.613	.498	.341	.314	.158	.450	.553	.136	.178	.435	.418	.539	1.000	.553
Results of independent tests	.184	.527	.526	.439	.334	.320	.434	.482	.051	.122	.454	.464	.609	.553	1.000

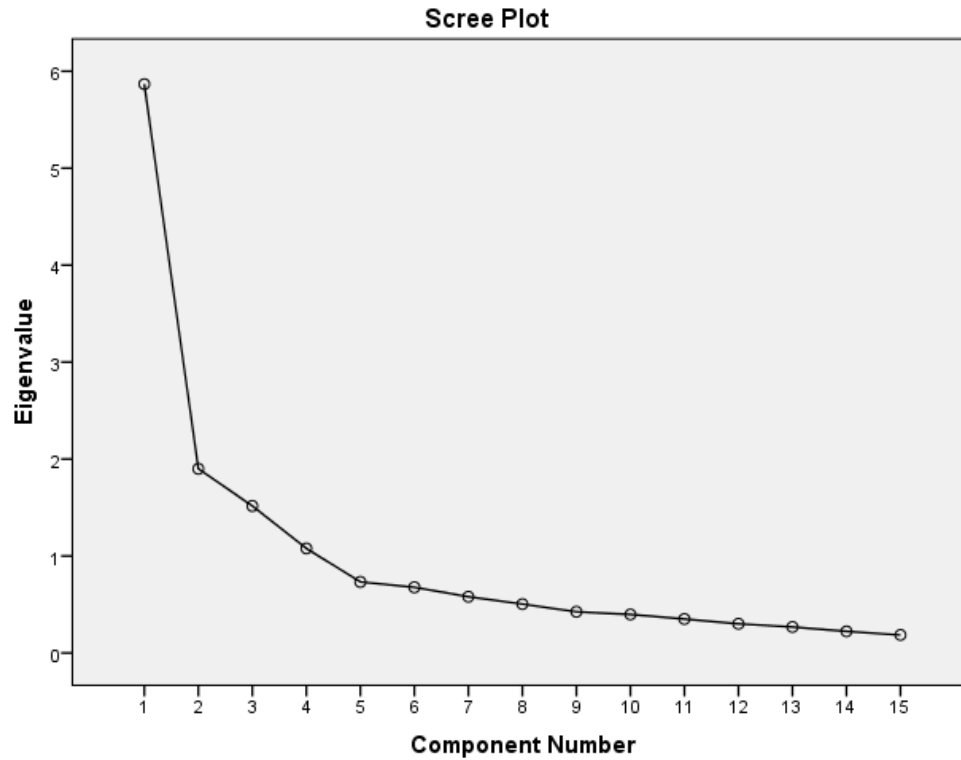
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			.866
Bartlett's Test of Sphericity	Approx. Chi-Square		1447.482
	df		105
	Sig.		.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.867	39.116	39.116	5.867	39.116	39.116	2.877	19.181	19.181
2	1.899	12.662	51.777	1.899	12.662	51.777	2.784	18.562	37.743
3	1.516	10.106	61.884	1.516	10.106	61.884	2.762	18.415	56.158
4	1.078	7.186	69.070	1.078	7.186	69.070	1.937	12.912	69.070
5	.732	4.882	73.952						
6	.677	4.512	78.464						
7	.580	3.863	82.327						
8	.504	3.361	85.688						
9	.424	2.829	88.517						
10	.397	2.645	91.162						
11	.350	2.334	93.496						
12	.300	2.000	95.495						
13	.268	1.784	97.280						
14	.223	1.487	98.767						
15	.185	1.233	100.000						

Extraction Method: Principal Component Analysis.



Component Matrix^a

	Component			
	1	2	3	4
Quality of the product	.793	-.303	-.150	-.275
Ingredients	.766	-.322	.202	-.233
Purpose is achieved	.765	-.169	-.223	-.210
Trust in product and brand	.750	.008	-.197	-.188
Results of independent tests	.745	-.131	-.034	.240
Certifications of the product	.741	-.129	.110	.121
Promotional offers	.667	.164	-.384	.239
Organic product	.632	-.184	.504	-.027
Low price	.613	.229	-.427	.446
Recommendations of friends and family	.604	.314	-.212	.245
not animal-tested	.539	-.198	.326	.031
Advertisements	.295	.801	.261	-.021
Appealing packaging	.252	.770	.321	-.134
Vegan ingredients	.419	-.046	.656	.354
Brand awareness	.448	.392	-.123	-.579

Extraction Method: Principal Component Analysis.

a. 4 components extracted.

Rotated Component Matrix^a

	Component			
	1	2	3	4
Quality of the product	.776	.299	.332	-.128
Purpose is achieved	.705	.389	.239	-.048
Brand awareness	.647	.061	-.121	.517
Ingredients	.643	.120	.596	-.046
Trust in product and brand	.638	.419	.202	.112
Low price	.109	.888	.056	.078
Promotional offers	.294	.758	.082	.087
Recommendations of friends and family	.178	.669	.133	.267
Results of independent tests	.308	.555	.474	-.054
Vegan ingredients	-.165	.095	.819	.164
Organic product	.307	.038	.761	.109
not animal-tested	.257	.110	.599	.011
Certifications of the product	.355	.406	.548	.018
Appealing packaging	.015	.066	.106	.872
Advertisements	-.032	.196	.104	.865

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 8 iterations.

Component Transformation Matrix

Component	1	2	3	4
1	.602	.568	.534	.171
2	-.197	.221	-.303	.906
3	-.257	-.524	.746	.321
4	-.729	.595	.260	-.217

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Appendix H: Interview Summary

The anti-ageing skin care market is growing from year to year, while the market for body care products is stagnating. Some manufacturers have recognised already the importance of consumer well-being and mindfulness in the cosmetics industry (e.g. by establishing blogs where mindful lifestyles are proposed); however not all key players seem to get the most out of this potential. Particularly, the segmentation by Cognitive Age is still not applied by marketing. Research by The Body Shop revealed that the younger target group (end-20s to mid-40s) are more price sensitive than the target consumers aged 50plus. Purchase decision factors of elderly are rather driven by high quality ingredients which are fair and sustainably traded. Organic products also see an immense growth in the anti-ageing skin care market (The Body Shop, 2016).