

RETOUCHED!

A quantitative study on how the digital modification of models in print advertisements affects consumer reactions

The display of highly attractive models in advertising and the negative psychological effects the exposure to such unattainable beauty ideals has on consumers is a controversial topic that is widely discussed in literature. Current scandals related to digitally manipulating models fuel the debate. This raises the question why marketers retouch models in the first place. No empirical research has yet proved whether digitally idealizing the body of an already attractive female model in print advertisements leads to increased perceived attractiveness ratings or more positive consumer reactions.

Thus, the purpose of this study is to fill this research gap by exploring whether the positive effects that marketers claim idealized advertising imagery to have on advertising effectiveness truly exist. This is done by digitally manipulating the looks of a female model according to standards common in the industry. Two print advertisements where this decorative model promotes either an appearance-related product (razor) or an appearance-unrelated product (vitamin water) are created. In a quantitative laboratory experiment a total sample of 422 Romanian students is exposed to one of the product ads, in one of three ad conditions: an ad showing the untouched model, an ad showing the retouched model, or an ad showing the product-only. Subsequently, a questionnaire assesses their reactions in terms of cognitive responses, attitudes and intentions.

There is evidence that the idealization of female models in print advertisements fails to produce higher levels of ad, brand and product attitude, product intention, willingness to pay a higher price or word of mouth intention, at a statistically significant level. The only statistically significant difference was found for the product and brand recall of the appearance-unrelated product (vitamin water), where the retouched model led to a higher cognitive response.

Keywords: retouching, Photoshop practices, female model attractiveness, decorative models, advertising effectiveness

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LIST OF ABBREVIATIONS

ANOVA	Analysis Of Variance
BMI	Body Mass Index
CMO	Chief Marketing Officer
CSR	Corporate Social Responsibility
DOB	Distributor's Own Brand
FMCG	Fast Moving Consumer Goods
HOE	Hierarchy Of Effects
POS	Point Of Sales
WOM	Word Of Mouth

1 INTRODUCTION

"We suffer primarily not from our vices or our weaknesses, but from our illusions. We are haunted, not by reality, but by those images we have put in their place."

- Daniel J. Boorstin, American social historian and educator, 1914 (Great-Quotes.com, 2013)

1.1 Background

As one of the most important tools used for differentiation and market capitalization, marketing communication has become essential to every organization that wants to be seen and heard by in the market. This has led to a high media saturation, which creates barriers for marketers to reach their audience with advertising messages (Rosengren, 2008). Creamer and Klaassen (2007) estimate that consumers are exposed to 254 to 5,000 advertising messages on a daily basis, which correspond to a minimum of 16 exposures per waking hour. Visual advertisements consumers are exposed to today are almost by default digitally manipulated (Van Dijck, 2008). In other words, daily, every single person is confronted with a multitude of human images that have been professionally retouched by marketers and communicators. Models' bodies are idealized to correspond to the cultural beauty ideal (Eagly et al., 1991; Joseph, 1982) and consequently the diversity of body shapes and sizes represented in advertisements have shrunk drastically in the last three decades (U.S. National Eating Disorder Association, 2010 as in Kite, 2011). The "Photoshop phenomenon" has reached an unimaginably broad scale and scope of use, from pictures in the news to magazines and advertisements, leaving very few images left untouched.

This paper will concern the topic of digital manipulation. In the following sub-chapters, which deal with (i) the increasing popularity of digital manipulation, (ii) negative psychological effects related to the idealization of female images, and (iii) current counter-movements, this very broad topic will be framed.

1.1.1 The Increasing Popularity of Digital Manipulation

If in the past, photography was mainly used to capture the important experiences and events occurring in people's lives, today photography is a means of communication, persuasion and aspiration creation. In other words, photography has developed from a mere mode of sharing memories and experiences and has become a method by which individuals as well as companies communicate with their surroundings. In order to convince stakeholders, it has

become increasingly common to make advertising pictures more appealing and persuasive, often by distorting reality (Van Dijck, 2008; Warlaumont, 1997).

The fact is that every image ever captured is in some way a distortion of reality; the mere act of deciding what segment of a scene to include or exclude from a frame can drastically affect a photo's integrity (Farid, 2009). Photographic alterations have existed about as long as photography itself (ibid). One of the first known examples of photo tampering in history is the portrait of U.S. President Abraham Lincoln which was created by adding Lincoln's head on the top of a southern politician's body (Fourandsix Technologies, Inc., 2013). Photo manipulation has and is being done from different reasons, starting with political reasons (e.g. in 1930 Stalin removed a fallen out of grace commissar from his picture) and ending with commercial ones (e.g. making a product look more desirable). While in the past digital manipulation was a complex and time-consuming process that required certain skills and techniques, nowadays anyone with mediocre computer skills can download freeware to alter images. This has led to an abundance of sophisticated forgeries (Farid, 2009).

Digital manipulation is used in all kinds of photographic material and in every visual media available, for objects as well as for human images. In this paper the scope has been limited and only the retouching of female human images in print advertisements will be of interest.

1.1.2 The Idealization of Female Models and Related Negative Effects

Images of women in advertising tend to be altered to fit often unrealistic und unattainable ideals (Cohan, 2001). One of the main approaches to emphasize and standardize a misleading idea of "an average woman" is media's representation of women as abnormally thin.¹ Such a predominant representation is achieved either by consistently using models and celebrities that are underweight or close to it, or by making them fit the idea of ideal thinness and beauty through digital manipulation.

Besides the debate regarding the ethics behind the retouching of human images, there are discussions related to negative psychological effects provoked by idealized model portrays. The negative effects most often found by researchers include the development of a poor body image, body dissatisfaction or anxiety (e.g. Anschutz et al., 2009; Cash & Pruzinsky, 2002; Davison & McCabe, 2005; Grabe et al., 2008; Hargreaves & Tiggemann, 2003, 2004; Higgins, 1987; Jung & Lennon, 2003; Levine & Murnen, 2009; Richins, 1991). Poor body image has been

¹ In this paper abnormally is defined as much thinner than the actual population or what is attainable by typical consumers.

associated with several psychological and health problems, such as low self-esteem (e.g. Tiggemann, 2005), drug and alcohol abuse (e.g. Kanayama et al., 2006), depression (e.g. Brausch & Gutierrez, 2009) or eating disorders (e.g. Stice, 2002). The rates of eating disorders have risen steeply in the last three decades, at the same time as the variety of female body sizes and shapes represented in the media has plummeted (U.S. National Eating Disorder Association, 2010 as in Kite, 2011). Research at least partly relates eating disorders to consumers' striving to haunt the cultural body ideal created and fueled by advertising images. Even though the U.S. Department of Health and Human Services does not completely agree since "no exact cause of eating disorders have yet been found", it admits that illnesses like anorexia nervosa and bulimia are related to low self-esteem or fear of becoming fat (Kite, 2011). Such drivers can already be found in girls as young as 5-7 (Dittmar et al., 2006).

With an increasing number of scholars and journalists providing proof for the negative effects of retouching models in magazines and advertisements, more and more companies are exposed to the criticism of stakeholders regarding such practices. There are plenty of examples of companies that have suffered from public scandals related to their retouching policies in the last years, such as Ralph Lauren, Ann Taylor's company (Donovan, 2012), or more recently H&M for its 2012 swimwear campaign showing supermodel Isabeli Fontana artificially and overly tanned (Daily Mail, 2012a).

1.1.3 Movements against Digital Manipulation

The "Photoshop phenomenon" has reached a high level of interest and criticism not only from scholars but also from governments, institutions, brand owners, retailers, media and models, which has resulted in various counter-movements.

Governments. Policy makers across many countries have taken a stand against digital modifications. Between 2009 and 2010, the Australian, French and British governments have started to emphasize the need for changes to current media imagery. Besides promoting more diversity in models' body size and shape, their proposals include stricter regulations, a reduction of digital manipulation or a notification of airbrushing (Australian Government, 2010; Liberal Democrats, 2009). In the United States too, consumers and parents in particular, push for anti-Photoshop laws. So far, however, the only government that has actually implemented a law is Israel, where in March 2012 the so-called "Photoshop law" was enacted. This law not only bans the use of underweight models in advertising but also forces any agency that digitally manipulates model pictures to disclose this in the ad (Haaretz.com, 2012).

In their study, Slater et al. (2012) prove that warning labels that inform viewers that the imagery in the ad has been enhanced indeed decrease body dissatisfaction among the viewers.

Besides regulations and lobbying against Photoshop, body image enhancement and eating disorder prevention programs have been considered a means to reduce the negative psychological effects related to digital manipulation. They shall equip consumers with the skills they need to rationally deconstruct media imagery and thereby learn about its unrealistic ideals and promises. Levine and Piran (2004), however, point out that such endeavors create only modest and short-term change at best.

Institutions. An early example of a newspaper that implemented an internal policy to prohibit digital manipulation of pictures to a certain extent was The Associated Press. Already in 1990 the newspaper expressed its standpoint that “[...] pictures, like words, must always tell the truth” and therefore limited the retouching of images to the removal of normal scratches and dust spots (Gross et al., 2003). In a more recent attempt the American Medical Association announced its policy against “false advertising”. Through this policy it encourages collaboration between advertising associations and organizations concerned with child and adolescent health. Together they shall develop guidelines for only retouching ad imagery in a way that does not create unrealistic expectations of an ideal body image (American Medical Association, 2011).

Brand owners. The negative effects related to thin advertising imagery have sparked a movement against idealized models, which instead of limiting the use of digital alteration focuses on using “real” women in advertising. Famous was for instance Lancome’s \$35 million advertising campaign “Get in touch with your inner beauty” that featured models who were not heavily retouched (Cohan, 2001). Perhaps one of the most well-known active stands taken against idealized decorative models is the one done by Unilever, through its international Dove campaign “Natural Beauty”, which first started in 2004. In this campaign, Unilever created advertisements and commercials in which average-looking female models of various age groups, body sizes and shapes and colors promoted Dove beauty products. In its annual review Unilever stated that the Dove campaign “has played a central role in the brand’s continued growth” (Unilever, 2006).

Retailers. An example of a company that has voluntarily adopted a “No Retouching Policy” in September 2010 is the Canadian fashion retailer Jacob (Jacob.ca, 2013). The retailer positions itself as a socially responsible company that “promotes a healthy image of the female body”. Due to its strong feelings about women's issues and respect towards its customers Jacob

decided it was time to "take a stand on retouching" and "reverse the trend in digital photo manipulation" (CBC, 2010). However, while Jacob completely stopped retouching the body shapes of its models, they admit that some minor digital alteration will always be necessary, for instance to make products colors look more appealing, to even out the tone of the models' skin or to erase obvious flaws such as tattoos or scars (CBC, 2010; Jacob, 2013).

Another example of a fashion company that has taken a strong stand against airbrushing is the UK-based department store Debenhams. According to the store's director of creative and visual the company wants to refrain from "bombarding them [customers] with unattainable body images". Besides making a moral standpoint Debenhams expects to save money for not retouching perfectly good images (Daily Mail, 2010b).

According to previous research, initiatives displaying average size models instead of extremely attractive or thin ones can indeed reduce body-focused anxiety (e.g. Anschutz et al., 2009; Halliwell et al., 2005).

Magazines and models. More and more magazines and models are changing their practices and perspective regarding digital manipulation. Magazine editors in the U.S., UK and Australia for instance, have adopted codes of conduct governing the way they retouch stars' imperfections (Cash & Smolak, 2011). Women magazines, such as Elle and Vogue, try to break fashion's taboo and point out their standpoint by having plus-size models on the cover (The Guardian, 2010). When it comes to models or celebrities themselves, an increasing number sees photoshopping as dangerous terrain. Kate Winslet and Brad Pitt are among several public figures that are clearly against a digital manipulation of their pictures (Huffington Post, 2011).

To sum up, there is an extensive database of academic papers, newspaper articles and blogs that debate the negative effects of digital manipulation. On the opposite side, there are advertisers and marketers that enhance the positive effects of digital manipulation and continue to use it as an instrument for storytelling, communication and brand attitude enhancement. The diverse and controversial discussions around the topic have led to this paper, which aims at finding justifications for or against the use of digital manipulation by examining whether the positive consumer responses marketers hope to achieve by retouching ads truly exist.

1.2 Problematicization

In the world of advertising marketers compete with each other to create the most appealing and persuasive advertisements by idealizing the models consumers are supposed to aspire to.

This is usually related to high advertising costs. In 2011, for instance, 35 U.S. companies, out of which five are in the Fast Moving Consumer Goods (FMCG) industry, spent more than 1 billion dollars on ads (Business Insider, 2012). This led to a 7.9% growth of the 2011 agency revenue compared to the previous year (Adage, 2012). In the UK too, the ad spend is constantly growing and is expected to reach a growth rate of 3.1% in 2013 compared to 2012 (The Advertising Association/Warc, 2013).

While the creation of idealized model images entails financial burden for companies, the exposure to unattainable beauty ideals has been proven to have negative effects for consumers. What is interesting is that while the literature body on negative psychological effects is extensive, there is only limited research on the reasons why marketers digitally modify models in their ads in the first place. There is reason to believe that marketers expect digital manipulation to affect consumer reactions, and consequently the effectiveness of their ads. However, even though some researchers (e.g. Mills & Aronson, 1965; Smith & Engel, 1968; Baker & Churchill, 1977) found links between model attractiveness and advertising effectiveness, as of now there is no research proofing that the untouched image of an already attractive model is perceived as less attractive than its retouched counterpart. In other words, to our knowledge there exists no empirical evidence that retouching models actually increases their perceived attractiveness.

During the process of modifying model pictures, many prettifying measures are taken. The idealization of female models tends to comprise modifications such as a stretching of the legs, a skimming of the waistline, a smoothening of the colors or a deletion of freckles, scars and wrinkles (Kee & Farid, 2011). Considering this complex endeavor, it is surprising that researchers who tested for the impact of model attractiveness on advertising effectiveness only manipulated one variable of the model's appearance in their experiments. This was for instance her body size or body shape (e.g. Aagerup, 2011; D'Alessandro & Chitty, 2011; Diedrichs & Lee, 2011; Dittmar & Howard, 2004a; Halliwell & Dittmar, 2004; Halliwell et al., 2005; Häfner & Trampe, 2009; Yu et al., 2011). Some researchers even confounded body size or shape with attractiveness (e.g. Irving, 1990). Other studies attempted to test for influences of model attractiveness by having only picture and no picture conditions (e.g. Chestnut et al., 1977; Smith & Engel, 1986 as in Joseph, 1982; Steadman, 1969), which did not allow for distinguishing whether the effects have been provoked by the model's attractiveness or rather her mere presence or absence. For most current experiments in this field different models that vary in attractiveness levels (high, average and low) are used. No research was found that uses a holistic approach where the same model is modified according to industry standard

procedures. We argue that such an approach could enhance literature by providing a more realistic and practice-oriented point of view.

Bridging these gaps in literature will shed a new light on how standard retouching procedures influence consumers' reactions and will hence make an invaluable contribution to the current discussions regarding Photoshop scandals and regulations.

1.3 Purpose and Relevance

The main purpose of this study is to make marketers, media agencies and companies' management aware of the actual effects retouching ads does or does not have on their target audience. More specifically, our research will investigate whether the retouching of female models in FMCG print advertisements will make a difference on consumers' recall ability, attitudes, evaluations, and intentions. The sub-purpose is to understand whether digital manipulation has an impact on how attractive a model is perceived by consumers. The main and sub-purpose have been incorporated in the main research question, which is:

Does the digital modification of female model images in print advertisements actually affect perceived model attractiveness and consumer reactions?

Perceived model attractiveness and consumer responses are two different things to measure. Furthermore, consumer reactions to communications can be multiple. Therefore, the main research question has been broken down into four sub-questions:

1. *Will the retouching of female models have an effect on perceived model attractiveness?*
2. *Will the retouching of female models have an effect on consumers' cognitive responses?*
3. *Will the retouching of female models have an effect on consumers' attitudes?*
4. *Will the retouching of female models have an effect on consumers' intentions?*

The research conducted to answer these questions will further examine potential differences related to whether the product is appearance-related or -unrelated.²

1.4 Expected Knowledge Contribution

This paper is expected to serve marketers, media agencies and companies' management in decision-making regarding the use of digitally altered human images in advertisements. Depending on the outcome, it will either provide them with evidence for justifying digital manipulation practices, or with critical insights inciting them to limit the use of such practices.

² An explanation of what was defined as appearance-related and -unrelated products can be found in chapter 1.6 Definitions and Clarifications.

In case of the latter, our study will make a contribution to promoting a more socially responsible type of ads, which might in turn reduce negative psychological reactions from consumers as well as avoid future brand image scandals. Our findings can for instance be used as a compelling argument to implement a “No Retouching Policy” and thereby position a company as socially responsible player as well as differentiate it from competitors. Besides, if the results speak against digital manipulation, millions of advertising dollars could be saved yearly (Daily Mail, 2010b). Accordingly, the expected contribution is not limited to marketing but might have effects on business in general and possibly even on society as a whole.

This study will be the first to explore whether consumers really consider idealized models to be more attractive than their already attractive untouched counterparts, and will therefore make a valuable contribution to existing research. Furthermore, since this study uses a holistic retouching approach, it will fill the gap in literature by testing more realistically modified human images rather than one single variable.

1.5 Delimitations

The scope of this study had to be limited due to limited money, time and human resources. First of all, every photograph is a distortion of reality of some kind, since it is affected by the decision of including or excluding certain segments of the scene (Salvo, 2008). In other words, unrealistic ideal images can be created in ways other than digital manipulation. Some researchers even argue that “the eye of the photographer” rather than photo-enhancement software is the real problem (ibid). Even though this is an interesting aspect to consider, our research will only deal with the effects created by digitally retouching photographs. Including other ways of manipulating pictures would have been difficult to execute as well as hard to distinguish from effects generated by digital manipulation.

Secondly, the focus of this paper is merely the digital manipulation of female full body images. It hence does not take into account male body images, product images or images showing only parts of the female body.

Thirdly, delimitations were made in terms of the medium chosen for the experiment. Consumers will be exposed to print advertisements only. It is thus not the goal of the study to illustrate consumer reactions to other media types.

Furthermore, the experiment will only display a female model. Consumer reactions to retouched male models are not examined in this study. To decrease the scope of the study even further, we will have a look at fast moving consumer goods (FMCG) only, more

specifically at one appearance-related product (razor) and one appearance-unrelated product (bottled vitamin water). Services or products of other industries will not be taken into account.

Finally, only the reactions of a female student convenience sample, age 18 to 35, who are currently enrolled at one of five selected Romanian universities, will be tested. The study neither looks at the reactions of male consumers nor at the reactions of non-students.³

1.6 Definitions and Clarifications

Throughout this paper some expressions will be used that the reader might not be familiar with. These expressions will be explained in the following. Furthermore, this section will provide a clarification of terms that are commonly used but have a multitude of definitions, by stating which of these definitions is used in this paper.

Appearance-related products are defined as products that directly affect a person's looks, such as fashion or beauty products. *Appearance-unrelated products* are understood as products that have no direct impact on a person's looks. In past studies this difference has also been described as "attractiveness-related versus -unrelated" (e.g. Kamins, 1990).

Consumer reactions are conceptualized as all cognitive, affective and behavioral responses that people develop as a consequence to exposure to an advertisement. However, here the term will be used as an umbrella term for cognitive response, attitude and intentions, since these are the focus areas of this paper.

A *decorative model* is "a model whose main characteristic is physical attractiveness" (Söderlund & Lange, 2006) and who is "unnecessary for the ad's display of the product" (Chestnut et al., 1977). S/he is anonymous "in the sense that his/her name is not stated in the ad, s/he claims nothing in explicit verbal terms, and s/he has no explicit identity." (Söderlund & Lange, 2006). A synonym used is functionless model (Joseph, 1982).

Photoshopping "means to digitally edit or alter a picture or photograph" (Donovan, 2012), by the means of computer programs like Adobe Photoshop or equivalents. It can comprise "altering size, cropping, removing unwanted elements, doing selective color changes, enhancing images, sharpening and softening images, retouching and repairing images, correcting image distortion, changing color depth, and adjusting crop and rotation" (ibid). In this paper the terms photoshopped, retouched and digitally manipulated/ altered are used.

³ Reasoning for the choice of product categories and sample can be found in chapter 3.3.1 Sample and Data Collection.

The term *product intentions* will be used as an umbrella term for product trial intention, purchase intention and intention to seek out a product or brand in-store.

A *spokesperson* is defined as a “celebrity or a well-known and respected individual who serves as a regular advocate of a cause or product and, over time, whose name becomes associated with the advocated item” (Businessdictionary.com, 2013). In contrast to a decorative model, s/he takes a more active role in ads (Joseph, 1982).

1.7 Thesis Outline

This paper is divided into five main chapters: (i) Introduction, (ii) Theory and Hypotheses Generation, (iii) Methodology, (iv) Results and Analyses and (v) Discussion and Conclusion.

Following the Introduction chapter, chapter two, *Theory and Hypotheses Generation*, will provide background information about the physical attractiveness phenomenon and other factors marketers control when creating ads: the role of the model and model-product congruence. In addition, this chapter will present a framework for measuring consumer reactions and hence advertising effectiveness. In the last part, hypotheses will be derived from existing literature.

Chapter three, *Methodology*, will first describe the general research approach. Then the chapter will elaborate in detail on the process and outcomes of the preparation phase as well as the sample and questionnaire used in the main survey. Chapter three concludes with a discussion about the research quality and a brief overview of the instruments used for analysis.

In chapter four, *Results and Analysis*, the reader will find details about all analyses performed and the findings gained from them. After each block of analyses the proposed hypotheses will be accepted or rejected.

Finally, in chapter five, *Discussion and Conclusion*, the results presented in chapter four will be discussed by linking them back to theory. Subsequently, the research question will be answered and managerial implications will be pointed out. In the last step, this study will be criticized and suggestions for future research will be given.

2 THEORY AND HYPOTHESES GENERATION

In this chapter the reader will be familiarized with theories related to the most common reasons of retouching model images. A strong emphasis hereby will be put on physical attractiveness studies. Then a theoretical framework will be proposed, which serves as structure for the remaining parts of this paper. Finally, ten hypotheses will be derived for each stage of the framework.

2.1 The Physical Attractiveness Phenomenon

It is not easy to define physical attractiveness because beauty is in the eye of the beholder. What is beautiful to one person might be perceived as neutral or even negative by another (Joseph, 1982). However, in most of children television and books the evil is portrayed as ugly and lonely, while the prince and the princess are charming, beautiful and surrounded by altruistic friends (Eagly et al., 1991). This shows the existence of stereotypes people have and how they are communicated to children from an early age on. Especially when it comes to women's beauty, there are plenty of stereotypes and rules of conduct that a woman believably has to follow to be considered feminine and beautiful. One of the often quoted authors, Simone de Beauvoir, stated in 1949 that "One is not born a woman – one becomes one" (Thesander, 1997). This statement implies that having a woman's body is not sufficient to be accepted as a woman; one has to meet the social demands of femininity first. These demands try to make women fit into feminine looks and behavioral ideals and lead to casting women in the role of aesthetic objects (ibid).

The current beauty ideal in Western cultures has been largely defined by two factors, facial appearance (Richins, 1991) and thinness (Borchert & Heinberg, 1996; Butler & Ryckman, 1993; Cohn & Adler, 1992; Forbes et al., 2001; Sue Lamb et al., 1993; Monteath & McCabe, 1997; Striegel-Moore et al., 1986), the latter usually measured by means of the body mass index (BMI) (e.g. Meier Jaeger, 2011). Perception research has shown that facial cues account for around 55% of a person's impact in any interaction or communication, followed by verbal and vocal cues with 7% and 38%, respectively (Mehrabian, 1972 as in Joseph, 1982). This implies that a source's attractiveness plays a major role in influencing consumers' reaction, especially in terms of perceptions and attitudes (Joseph, 1982). Coward (1985 as in Duncan, 1994) summarizes the Western woman ideal as tanned, slim, with no bumps or cellulite and with long and shiny hair, all resulting from hours of exercising, spa treatments and sometimes surgery.

In their review of the physical attractiveness stereotype, Eagly et al. (1991) outline that what attractive and beautiful people look like is defined by “direct observations of attractive and unattractive people in one’s social environment” and by “exposure to cultural representations of attractive and unattractive people” (cf. Adams, 1982 as in Miller, 1982; Feingold, 1992; Patzer, 1985). One of the consequences of these well-implemented stereotypes is that people who do not correspond to these increasingly tough beauty standards are seen as unattractive (Wooley & Wooley, 1979) and associated with more negative characteristics than attractive individuals. In a study by Dion et al. (1972) highly attractive people were for instance perceived as more sensitive, interesting, strong, sociable, sexually warm and outgoing than less attractive people. It has further been found that attractive women are more likely to get married in youth and to have a higher socio-economic status (Feingold, 1992).

2.1.1 Physical Attractiveness in Advertising

Advertising, probably more than any other marketing function, has embraced the Western beauty ideals and stereotypes. When it comes to stereotypes, it has been that women tend to be shown in traditional family roles, such as the supermom or housewife or, as decorative objects for sexual desire (Chestnut et al., 1977). This gender stereotyping has changed little over time even though the role women play in society has changed considerably in the last decades (Belch et al., 1998; Belkaoui & Belkaoui, 1976; Chestnut et al., 1977). What all these gender roles have in common is that the women portrayed tend to be highly attractive. Body size for fashion models decreased significantly during the 1980s and 1990s and there was a dramatic increase in the frequency with which the media depict the entire bodies of models from the 1960s to the 1990s (Sypeck et al., 2004).

These perfect images, often retouched with the help of digital altering programs, contribute to the development of a beauty standard that only a small percentage of the population can really obtain. In other words, “women’s advertising redefines attractiveness from something natural to an unattainable ideal” (Cohan, 2001) and creates “unreachable standards for women in every imaginable way” (Donovan, 2012). Nevertheless, advertising images of unrealistically beautiful female models communicate to women that to be considered beautiful, they have to look like these models (Dana Adomaitis & Johnson, 2008).

How effective the use of highly attractive models in advertising is has been inconsistently supported and questioned. Many researchers (e.g. Baker & Churchill, 1977; Kahle & Homer, 1985; Mills & Aronson, 1965; Petroschius & Crocker, 1989; Till & Busler, 2000) found a positive relationship between the perceived attractiveness of models and advertising effectiveness and

proved that attractive models are perceived as more favorable, effective and trustworthy. This has been proven to evoke more positive attitudes toward the ads and products as well as a higher willingness to buy (ibid), a phenomenon referred to as “transference effect” (Feingold, 1992). Other researchers, on the contrary, are convinced that models of average size and attractiveness are equally effective as thin or highly attractive models (e.g. Caballero et al., 1989; Diedrichs, 2011; Dittmar & Howard, 2004a; Halliwell et al., 2005) or even more effective (e.g. Tsai & Chang, 2007). Proof for this phenomenon can be found in the success of advertising campaigns that use naturally beautiful and normally attractive women. As previously mentioned, the skin and beauty care brand Dove by Unilever registered sales increases and increases in brand equity after its “Campaign for Real Beauty” (Unilever, 2006).

2.1.2 Consequences of the Exposure to Idealized Imagery

With the growing social importance of attractiveness more and more women compare themselves with the images of “physical perfection, beauty and thinness ideals found in advertising” (Bower, 2001). According to Tiggemann et al. (2009) two psychological effects can take place after one is exposed to idealized human images. The first one is known as social comparison process (people compare themselves with the model) and the second one is known as fantasy/aspiration processing (people identify with the model and want to be him/her).

Social comparison. The social comparison theory has been introduced for the first time by Leon Festinger (1954), as an explanation of how people self-evaluate through comparison with others. His theory has vastly been used and explored by other researchers, especially during the 1990’s. The underlying principle of the comparison theory is that people are more likely to compare, evaluate and compete with others who are similar to them and less likely to compare, evaluate and compete against others who are very different, much better or much worse than they are. This process happens also when people are being exposed to other people’s appearance through media channels.

According to the Art Director of Grafitti BBDO Romania (2013) the purpose of having beauty ideals in advertising is to enhance positive feelings in the audience and lead to actions that will help improve their appearance. In other words, the advertisement implies that the body image of the model is real and can be obtained through diet, exercise, proper clothing and make up. This goes in line with Paff Ogle and Thornburg (2003), but in their article these sort of implications are seen as a problem, as many times media implies that thinness is accessible through plastic surgeries and weight-management drugs as well. Basically, both in practice

and theory (Buunk et al., 1990; Collins, 1996; Mussweiler et al., 2004; Schwinghammer et al., 2006), there are two different types of effects the media representation can cause: (i) enhance individual's self-image and evoke positive feelings, such as hope and admiration (focus on similarities) or (ii) enhance contrast between the individual and the media image and experience negative feelings, such as frustration (focus on differences).

Aspiration processing. Aspiration theory is closely linked to the positive feelings toward the idealized human image. Richins (1995) uses an information integration framework to explain that „repeated exposures to idealized images raise consumers' expectations and influences their perceptions of how their lives ought to be, particularly in terms of their material possessions“. In addition, women that perceive a higher similarity to the models in advertising have shown to have more positive beliefs about the model's appearance, attractiveness and fashionability (Kozar, 2010). This perceived similarity, coupled with having something to aspire to, has been proven to have positive effects on purchase intention (ibid).

2.2 Factors Other than Physical Attractiveness Influencing Advertising Effectiveness

Increasing the attractiveness of models is not the only reason for retouching ads. According to industry practitioners, the purpose of advertising is to tell a story to consumers and altering a picture digitally is being done for underlying the contrasts in the ad. Although the retouched picture might end up portraying a more attractive model and communicating an unattainable beauty ideal, these are just unintended consequences thereof (Malaescu, 2013).

There are many factors besides perceived model attractiveness that have an impact on the effectiveness of an ad. Some of them, such as consumer involvement, depend entirely on the consumers and their characteristics and interests; others can be influenced by marketers. Two of the latter will be further explored in this chapter, namely (i) the role the model takes in the ad and (ii) model-product congruence.

2.2.1 The Role of the Model: Decorative Model Versus Spokesperson

Models in print advertisements can have different roles. They can be “decorative” models, also called functionless models, which have a passive role and are simply shown next to a product. Or, they can be portrayed as spokesmen, which puts them into the role of an active communicator who gives opinions or endorses a view (Joseph, 1982).

Previous research suggests that displaying a model in the role of a spokesperson enhances message acceptance since a spokesperson is perceived as more credible than a functionless model (Baker and Churchill 1977). Petty et al. (1983) tested the effect a model's celebrity status has on consumer reactions. They came to the conclusion "that for most people, the celebrity status of the endorser was irrelevant to an evaluation of the true merits of a disposable razor, but that because the celebrity endorsers were liked more than the average citizens, they could still serve as a positive peripheral cue".

2.2.2 Model-Product Congruence

Paying attention to the physical attractiveness of the model and his or her role in an ad is not enough. Findings from previous research (e.g. Kahle & Homer, 1985; Kamins, 1990; Kamins & Gupta, 1994) have shown that there is a need for model-product congruence. In other words, a model should not only be attractive but also should fit the product type. Kahle and Homer (1985) call this a "match-up" hypothesis. According to them, an attractive endorser will only enhance evaluations of the product and brand if the product characteristics fit the image conveyed by the model. In 1990, Kamins added that consumers perceive a spokesperson as more credible and develop more favorable attitudes toward the ad when the fit between model and product is high. He however mentioned that this only holds true for attractiveness-related products. While these two experiments (Kahle & Homer, 1985; Kamins, 1990) focused on celebrities, a later study (Kamins & Gupta, 1994) added differential effects of celebrity endorses versus non-celebrity endorses to the equation. It was found that for both types of spokesmen higher model-product congruence led to higher perceived attractiveness and credibility as well as to more favorable product attitudes.

2.3 A Framework for Evaluating Advertising Effectiveness

Advertising effectiveness is a term commonly used in marketing. However, its specific meaning has been discussed a lot. Some marketers state that advertising is only effective when a brand or product is sold. Others, on the contrary, are convinced that there are several stages of consumer responses preceding actual purchase that have to be taken into consideration when measuring advertising effectiveness (Barry, 1987). This is in coherence with the assumption that advertising does not only influence sales directly but can also have an indirect effect on sales by influencing the consumers' awareness, attitude and conviction-to-purchase (Johnson and Messmer, 1991). Over time many mental constructs, often referred to as hierarchy of effect (HOE) models, have been developed, the famous AIDA (attention → interest → desire → action) that was created in 1898 leading the way (Strong, 1925 as in

Vakratsas and Ambler, 1999). Since then several types of such models emerged. Cognitive information models assume that consumer decisions are rational and not influenced by advertising, and that the role of advertising lies in providing information and reducing search costs. Pure effect models, on the contrary, are based on the assumption that consumer preferences are formed by emotions and feelings that are induced by advertising (Vakratsas & Ambler, 1999). Most modern studies, however, recognize cognitive and affective elements and assume a certain underlying pattern.⁴ Finally, there is the category of integrative models that supports the view that the extent of cognition, affect and experience depend on the product category (ibid).

Due to time and scope restraints this study did not allow for letting consumers try the products in a natural setting and then getting back to them to (re)collect responses. In other words, it was impossible to take into account the experience dimension. The model used for this study therefore follows the traditional “learn-feel-do” sequence (cognition → affect → behavior). It was adopted from the communications model presented by Kotler and Keller (2006), and summarizes the six hierarchical stages that consumers go through from seeing an advertisement to acting on it. Kotler and Keller (2006) state that consumers (i) are exposed to the ad, (ii) receive or process it, (iii) respond with a certain knowledge, (iv) develop an attitude towards the ad as well as the product or brand promoted, (v) create intentions, such as purchase intention or word-of-mouth (WOM) intention and (vi) eventually act on their intentions. Each stage will be further explained below.

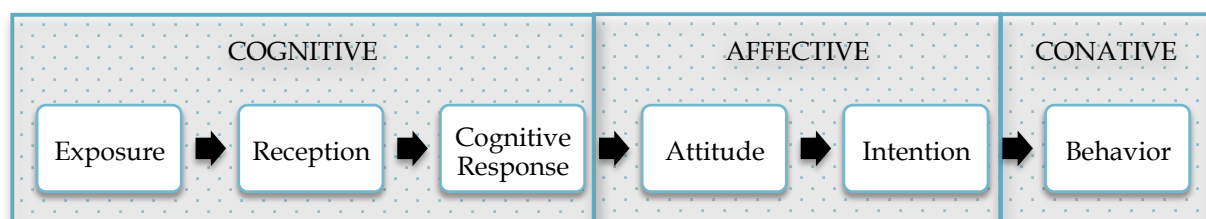


Figure 1: Communications model

Source: Kotler & Keller, 2006

Exposure. “Consumers do not jump from a stage of disinterest to that of convinced buyers” (Lavidge & Steiner, 1961) but go through several steps. First they are unaware of the existence of the product or service (ibid) and the first step in making them aware is exposing them to the product or ad (Kotler & Keller, 2006).

⁴ For instance, for so-called persuasive hierarchy models the assumed pattern is cognition (knowledge) → affect (feelings) → behavior (e.g. Aaker & Day, 1974; Lavidge & Steiner, 1961; Wright, 1973), whereas for so-called low-involvement hierarchy models it is cognition → experience (trial) → affect (e.g. Ehrenberg, 1994 as in Vakratsas & Ambler, 1999).

Reception. To move forward in the HOE consumers have to be receptive to what they are exposed to. According to an estimate of the American Association of Advertising Agencies average consumers only notice about 2.7% of the advertisements they are exposed to each day (Twitchell, 1996). If they do, they are in the middle of what Barry (1987) defines as cognition, a “mental processing that occurs when people are exposed to information”.

Cognitive response. The third step in Kotler and Keller’s (2006) communication model is the cognitive response that can be seen as “a response based on conscious knowledge or assumptions” (Percy, 2008). In other words, it is the remembering and forgetting of what has been mentally processed (Zielske, 1959).

One of the measures in this regard is recall, even though there are many discussions about its usefulness. Critics pointed out that recall is irrelevant to a change in attitude (Haskins, 1964 as in Barry, 1987) and shows weak links to persuasion (Gibson, 1983). Other researchers, however, found evidence that recall along with comprehension is strongly linked to persuasion (Stewart, 1986) and that recall scores are good predictors of attitude (Zinkhan & Gelb, 1986). The second proven measure is recognition. It was suggested that recognition plays a more important role for brand decisions in-store while recall is essential for choice at home (Bettman, 1979). Since the products chosen for the experiment were unknown to the respondents, we decided to only test for recall. Unaided product and brand recall will therefore be used as proxies for determining possible differences in cognitive consumer responses, depending on the ad condition they are exposed to.

Without recall or recognition the product or brand will most likely not advance to the next steps.

Attitude. After the cognitive phase consumers enter the affective phase, starting with the development or change of attitudes towards the ad, the brand and the product, based on what has been learnt in the cognitive stage. Attitude is defined as a combination of relatively enduring beliefs about an object or a situation (Rokeach, 1966) or even as a “mental state of readiness” (Smith & Swinyard, 1983). Attitudinal measures are very appealing and often used as advertising goals (Boyd et al., 1972), mainly because they showed a high ability to predict behavior and behavioral changes (Barry, 1987).

When it comes to measuring attitude, one can differentiate between the liking of the product, the brand and the ad. Liking is very powerful because it is an important step to accepting a brand or product in one’s consideration set, the sub-set of all top-of-mind brands that one

evaluates when making a choice (Hoyer & MacInnis, 2010). It is important to point out though that a positive attitude is a facilitator but no guarantee for behavior.

Intention. The intentions customers develop are significantly affected by the previous stages of the communications model, in particular by ad and brand attitudes (Notani, 1998). Besides purchase intention and willingness to pay a price premium WOM intention is a common measure of this communication step. Product intentions are to a large degree influenced by WOM intentions. The degree to which decision-making is influenced by recommendations from friends or family is not to be underestimated (Walker, 1995). Often the influence of “recommenders” is as high as 80% (Dichter, 1966). This is due to two reasons. Firstly, consumers are cluttered with 254 to 5000 advertising messages a day (Creamer & Klaassen, 2007) and therefore blank a majority of them out. Secondly, consumers’ skepticism toward advertising claims is high and keeps increasing, which leads to feelings of threat, ignorance or disbelief once they are exposed to direct advertising (Dichter, 1966). When talking to friends or relatives about a product they tried and trust, on the other hand, it is automatically assumed that their claims reflect the truth (ibid).

Behavior. Behavior, often measured by actual sales, is what many advertisers see as the major goal of marketing communications. In the HOE model presented many potential customers get lost along the way. All in all, the average consumer only acts to about 0.4% of the advertisements they consume daily, as estimated by the American Association of Advertising Agencies (Twitchell, 1996).

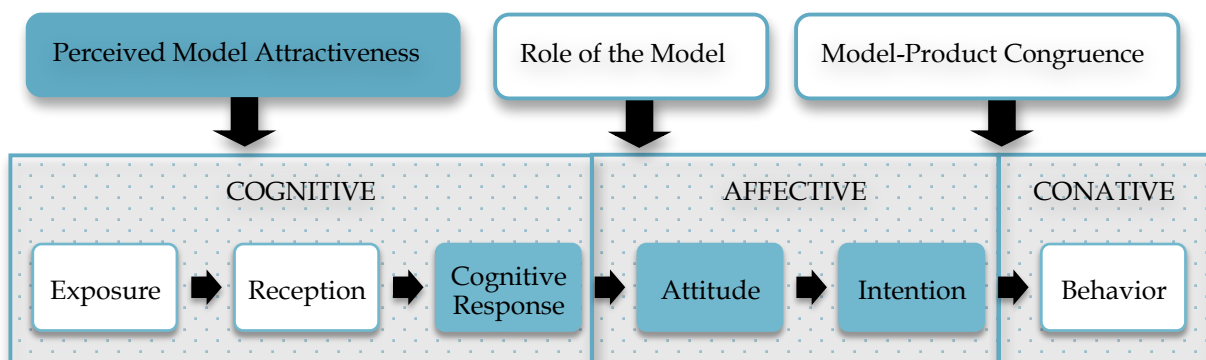


Figure 2: Proposed framework

Source: Adapted from Kotler & Keller, 2006

Only the stages and external factors marked in blue will be further investigated in this paper.

In this study consumers are exposed to ads as part of the experiment and neither exposure nor reception take place in a natural setting. Furthermore, their actual behavior will not be tested. Therefore, only the stages of *Cognitive Response*, *Attitude* and *Intention* will be further investigated. Since this framework serves as a structure for the paper, we added the

influencers discussed in the chapters 2.1 and 2.2 to the construct: *Perceived Model Attractiveness*, *Role of the Model* and *Model-Product Congruence*. Based on the theory previously discussed these factors can be expected to influence consumer reactions at one stage or another.

2.4 Hypotheses Generation

Based on the framework proposed above the following sub-chapters will provide a deeper insight into the dependent measures used for this study. The hypotheses for this paper are based on the current research and level of knowledge in the field. Due to the sometimes contradictory findings of past research regarding the impact of model attractiveness on consumer reactions, and more specifically the different effects of attractive models depending on product categories (cf. Caballero & Solomon, 1984; Caballero et al., 1989; Kamins, 1990), this study will explore the effects of retouching for each product type (appearance-related and -unrelated) separately.

2.4.1 The Relation Between Perceived Model Attractiveness and Retouching

Unattractive people do not seem to be suitable for being displayed in advertisements, where marketers try to convey images of physical perfection and attractiveness (Martin & Gentry 1997; Martin & Kennedy 1993; Richins 1991). Since (hardly) any real person corresponds to these "haunting images of perfection" (Richins, 1991) shown in advertisements, manipulative tools are used to enhance attractiveness. We therefore hypothesize that the main purpose and expected effect of digital manipulation in advertisements is to increase the attractiveness of the models. This seems obvious but (to the knowledge of the authors) has never been tested before.

H1: Retouching increases perceived model attractiveness in the case of

a: appearance-related products

b: appearance-unrelated products

As a basic assumption of most marketers and researchers, the support or rejection of H1 will be underlying to explaining the findings from H2-H10 and will therefore be thoroughly discussed in chapter 5.

2.4.2 The Impact of Retouching on Cognitive Response

Product and brand recall. As it is the case with overall advertising effectiveness, the opinions about the effects of decorative models on the cognitive stage are diverse. Baker and Churchill (1977) found that attractive models fail to produce cognitive acceptance of the message. Others (e.g. Chestnut et al., 1977), however, proved that decorative models in print advertisements

affect the memory of consumers, since they are “processed, stored and retrieved”. Even though Chestnut and his colleagues tested only for recognition, this statement implies that the overall cognitive response stage is affected in a positive way. Some years later, Kahle and Homer (1985) picked up this topic and tested for the impact of attractive versus unattractive spokespeople on brand and argument recall. Findings suggest that source attractiveness has a positive effect on both, brand and (product) argument recall. We therefore derived the following hypotheses:

H2: Retouching enhances product recall for

a: appearance-related products

b: appearance-unrelated products

H3: Retouching enhances brand recall for

a: appearance-related products

b: appearance-unrelated products

A study conducted by Caballero and Solomon (1984) further indicates that certain consumer responses to communications may be product specific and that highly attractive models may work better for some product categories (e.g. cosmetics) than for others. Expanding this view to a broader scope, we assume that there is a difference in recall depending on whether consumers are exposed to appearance-related or –unrelated products. The hypothesis derived from this assumption is:

H4: Retouching leads to a higher overall recall for appearance-related products than for appearance-unrelated products.

2.4.3 The Impact of Retouching on Attitude

As previously discussed, a number of studies have found various effects of the source’s physical attractiveness on consumer attitudes toward ad, brand and product.

Ad attitude. In many studies on the impact of attractive versus unattractive models it was found that ads displaying attractive models were rated higher in terms of ad liking (e.g. Baker & Churchill, 1977; Petroschius & Crocker, 1989). Therefore, we hypothesize that:

H5: Retouching creates more favorable attitudes toward the ad for

a: appearance-related products

b: appearance-unrelated products

Brand attitude. There was found to be a high correlation between brand and ad attitude, with consumers either liking or disliking both, the ad and the brand (Brown & Stayman, 1992; MacKenzie et al., 1986). This lets us conclude that if retouching creates more ad liking (H5), it

will also create more brand liking. This conclusion is further strengthened by results from research that focused on body size rather than attractiveness alone. Ads with thin models produced better brand liking ratings than those displaying average-sized women (e.g. Lunau, 2008 as in Aagerup, 2011). It is thus not surprising that marketers assume that the use of thin models will enhance brand attitudes (Yu et al., 2011).

It is important to point out that there are also critics of these findings. Some studies concluded that average models in terms of overall attractiveness (Caballero et al., 1989; Kamins, 1990) or body size (Dittmar & Howard, 2004a, 2004b; Halliwell & Dittmar, 2004; Halliwell et al., 2005; Yu et al., 2011) are as effective, or not significantly less effective, in shaping brand and ad attitudes as highly attractive or thin models. Some researchers even found them to create a more favorable ad attitude (e.g. Tsai & Chang, 2007). Keeping this in mind, we nevertheless base H5 and H6 on the traditional point of view and majority of findings, and hypothesize that:

H6: Retouching creates more favorable attitudes toward the brand for

a: appearance-related products

b: appearance-unrelated products

Product attitude. Chestnut et al. (1977) had a look at the effects of decorative models on products and concluded that, also on a product level, image and attitude are enhanced, even if only sub-consciously. Buunk and Dijkstra (2011) also found that the attitude toward the product is more positive when the model promoting it is attractive rather than moderately attractive. This is in accordance with findings that thin models, since they are perceived as more attractive, have a more positive impact on the products they promote than average-sized models (Joseph, 1982; Kahle & Homer, 1985; Simons et al., 1970). Possible underlying reasons are that attractive sources are liked more and therefore perceived in more favorable terms (Joseph, 1982) and that they hence induce a more positive attitude toward the advertised product (Trampe et al., 2010). The hypothesis derived for product attitude is hence:

H7: Retouching creates more favorable attitudes toward the product for

a: appearance-related products

b: appearance-unrelated products

2.4.4 The Impact of Retouching on Intentions

Besides the controversy around the effects highly attractive models do or do not have on attitude, there is also disagreement about their impact on purchase intention, willingness to pay and WOM intention.

Product intention. Numerous advertising companies are of the opinion that consumers will not only develop a more positive attitude but will also be more likely to buy their product when it is promoted by or associated with an attractive female model or celebrity (Saad, 2004). However, also in this context opinions are two-fold.

Most of the studies that found support for highly attractive or thin models leading to more favorable attitudes also found evidence for their positive effect on purchase intention (e.g. Baker & Churchill, 1977; Buunk & Dijkstra, 2011; Kahle & Homer, 1985; Petroschius & Crocker, 1989). On the other hand, researchers who pointed out that there are no statistically significant differences between average models and highly attractive or thin models in terms of ad, brand or product evaluations usually came to the same conclusion regarding purchase intention (Caballero et al., 1989; Dittmar & Howard, 2004a, 2004b; Halliwell et al., 2005; Halliwell & Dittmar, 2004; Kamins, 1990). Again, some researchers found the purchase intention created by average models to be even higher (Tsai & Chang, 2007). Similar to the attitude stage, it was decided to base the hypothesis on the traditional perspective and majority of findings, the view that attractive models lead to higher purchase intention. H8 therefore states that:

H8: Retouching increases product intentions for

a: appearance-related products

b: appearance-unrelated products

Willingness to pay a price premium. So far, only a handful of studies have tested the relationship between an attractive source and the consumers' intention to pay a price premium. One such study (Buunk & Dijkstra, 2011) showed that female shoppers were willing to pay a higher price for a product promoted by a highly attractive model when they were reminded of their gender. Participants who were not primed on being female, on the contrary, were willing to pay less. In our study gender priming was not explicitly taken into account even though one could argue that pointing out that our experiment was for female subjects only and obviously excluding male subjects present in the classroom, served as a reminder of gender. This led to the assumption that there might be a positive relationship between attractiveness, and hence retouching, and the willingness to pay a price premium.

In addition, Keller (1993) points out that "consumers with a strong, favorable brand attitude should be more willing to pay premium prices for the brand". As previously hypothesized (see H6), retouching is expected to have a positive effect on brand attitude. Along the same line, we therefore hypothesize that a strong brand attitude should increase willingness to pay a higher price. This leads to H9, which states that:

H9: Retouching increases the willingness to pay a price premium for

a: appearance-related products

b: appearance-unrelated products

WOM intention. WOM intention is likely to be higher when the product is liked. Since we hypothesized that retouching positively affects ad, brand and product attitudes (see H5-H7), it can be expected to also have a positive impact on WOM intention. H10 therefore assumes that:

H10: Retouching increases WOM intention for

a: appearance-related products

b: appearance-unrelated products

It is important for the reader to keep in mind that this study does not test for actual behavior and that the measures used only relate to people's expressed intentions, which does not necessarily reflect accurate purchase behavior.

2.5 Summary of Hypotheses

An overview of the hypotheses derived from attractiveness research can be found in the table below.

Main research question: Does the digital modification of female bodies in print advertisements actually affect perceived model attractiveness and consumer reactions?

Sub-research questions: Will the retouching of female models have an effect on ...

... perceived model attractiveness?	H1: Retouching increases perceived model attractiveness in the case of a: appearance-related products b: appearance-unrelated products
... consumers' cognitive responses?	H2: Retouching enhances product recall for a: appearance-related products b: appearance-unrelated products H3: Retouching enhances brand recall for a: appearance-related products b: appearance-unrelated products H4: Retouching leads to a higher overall recall for appearance-related products than for appearance-unrelated products.
... consumers' attitudes?	H5: Retouching creates more favorable attitudes toward the ad for a: appearance-related products b: appearance-unrelated products H6: Retouching creates more favorable attitudes toward the brand for a: appearance-related products b: appearance-unrelated products H7: Retouching creates more favorable attitudes toward the product for a: appearance-related products b: appearance-unrelated products
... consumers' intentions?	H8: Retouching increases product intentions for a: appearance-related products b: appearance-unrelated products H9: Retouching increases the willingness to pay a price premium for a: appearance-related products b: appearance-unrelated products H10: Retouching increases WOM intention for a: appearance-related products b: appearance-unrelated products

Table 1: Summary of hypotheses

3 METHODOLOGY

This chapter will provide an explanation of the research methods used in this paper. After an overview of the overall research strategy and scientific approach, the methodology used in the preparatory stages as well as the main experiment will be highlighted. In this part also the variables and measures chosen for the experiment will be presented. The chapter will conclude with a discussion of the validity and reliability of data.

3.1 Overall Research Strategy

This paper attempts to reveal the effects digitally altered human images have on consumer reactions and to explain the reasons for these effects by examining theories and testing hypotheses. It is therefore an explanatory study in nature (Cooper & Schindler, 2002).

With the exception of (i) initial qualitative interviews, where theory was generated, our research qualifies as a deductive approach. As such, hypotheses were deduced and measurement scales were elaborated based on existing knowledge, more precisely (ii) a thorough literature review. The hypotheses and measurements were then “subjected to empirical scrutiny” by means of (iii) a quantitative experimental study (Bryman & Bell, 2007).

3.1.1 Initial Qualitative Interviews

In order to gain a general understanding of the decision-making process regarding digital alteration as well as of the desired and expected effects of idealizing models, primary research was conducted. Initial qualitative interviews were held with Alexandru Malaescu, the Art Director of BBDO Bucharest and two Photoshop experts and Graphic Designers, Tudor Bercea and Andrei Stoica. The semi-structured form of the interviews allowed for a high degree of flexibility while eliminating the risk of forgetting essential questions (Bryman & Bell, 2007). An excerpt from selected parts of the interview with Mr. Malaescu can be found in Appendix I.

3.1.2 Literature Review

Since the topic of digital alteration of human images has not been developed in academic marketing literature, our approach was to review literature in related disciplines. This is in coherence with Cooper and Schindler (2002) who point out that due to the embedded nature of business studies and communication sciences it is often necessary to get acquainted with existing knowledge in adjacent fields. Since our expert interviews had confirmed that the main reason for digitally retouching human images is to make the models look more attractive and appealing, our literature review was mainly focused on academic research dealing with the

impact of model attractiveness on consumer reactions. The vast majority of these articles were published in renowned marketing and psychology journals, which were accessed through online databases. In addition, newspaper articles and online sources were reviewed to provide us with valuable updates on recent developments regarding Photoshop scandals and regulations. The literature review was invaluable to identify gaps in existing knowledge. Furthermore, existing theories were used to formulate hypotheses and identify proven measures that could be adopted for the main study.

3.1.3 Quantitative Experimental Study

Due to the nature of our main research question⁵ that deals with consumers' reactions to digitally altered advertisements a large sample was needed. According to Bryman and Bell (2007) this suggests using a quantitative approach. The quantitative research was conducted in form of an experiment, preceded by several pre-tests. The main reason for choosing an experimental design was that experiments tend to create trustworthy findings that are strong in terms of internal validity (Bryman & Bell, 2007). Since our experiment did not study a phenomenon in its true natural context it is categorized as laboratory experiment rather than a field experiment (ibid).

Experimental design. The experimental design chosen was 2x3, meaning that we used print advertisements of two different kinds of products (appearance-related and -unrelated) and three ad conditions (female model untouched, female model retouched and product only = control group). Participants were randomly assigned to one of the six experimental groups. After exposure to the respective ad they were asked to fill in a questionnaire that elaborated on their product and brand recall, brand, product and ad liking, product intentions (incl. their willingness to pay a price premium) and WOM intentions. Product type and ad condition were hence the independent variables, which were manipulated to determine whether they affect the dependent variables (brand, product and ad evaluation, and product and WOM intentions). Besides, the questionnaire tested for variables that might influence these factors, such as model attractiveness and individual differences regarding perceived similarity to the model or product involvement. Further details about the process and outcomes of the pre-tests and main study can be found in the following chapters.

⁵ As a reminder, our main research question is: *Does the digital manipulation of female bodies in print advertisements actually affect perceived model attractiveness and consumer reactions?*

3.2 Preparatory Work

Before the experimental main study several pre-tests and other preparations were necessary. We (i) determined potential product categories, (ii) pre-selected models, and (iii) conducted a pre-test regarding model attractiveness and model-product fit. Then we (iv) selected brands and made sure they were largely unknown by the sample, (v) created ads for both brands, (vi) pre-tested the ad and (vii) pre-tested the questionnaire.

3.2.1 Pre-selection of Product Categories

There is reason to assume that consumer reactions differ depending on whether a product is related or unrelated to body/appearance/attractiveness (e.g. Bloch & Richins, 1992; Bower, 2001; Bower & Landreth, 2001; Kamins, 1990; Kahle & Homer, 1985). In our experiment we will therefore differentiate between appearance-related and -unrelated products and examine whether there are different effects depending on whether or not the product is perceived to have a direct impact on consumers' looks.

It was decided to focus on fast moving consumer goods (FMCG) that are typically bought by young women. A razor for women and tanning body lotion were selected as two potential appearance-related products. One reason was that both products are associated with the whole body or several parts of it rather than just one body part, as opposed to e.g. make-up, which allowed for displaying and manipulating the full body of the model. Furthermore, since ads for products that enhance physical attractiveness should feature a physically attractive model (Kahle & Homer, 1985) it was important to select product categories in which this is the case. Razors have been tested by Kahle and Homer (1985) as attractiveness-enhancing products that fulfill this criterion. For tanning lotion, our interview partner from BBDO confirmed that ads usually display good-looking individuals.

Bottled vitamin water and coffee were chosen as possible appearance-unrelated products. The main reason for selecting beverages was that like appearance-related products they tend to be promoted by pretty models, which was again confirmed by our expert from BBDO. The actual decision for the product categories was taken based on the model-product-fit determined by the pre-test questionnaire (see chapter 3.2.3 Pre-test 1: Model and product category).

3.2.2 Pre-selection of Models

The Canadian fashion retailer Jacob gave us permission to use all model pictures published on their website. Due to Jacob's no retouching policy this gave us access to a pool of 244 model

pictures that had not been digitally altered. To limit the number of potential models for our ads, we developed the criteria described in the following paragraphs.

First of all, we wanted to encourage comparison and identification among the respondents. Since the experiment was held in Romania and the vast majority of Romanians have dark hair, it was decided not to use blondes or redheads. This was also in accordance with our expert Alexandru Malaescu who pointed out that most models in Romanian FMCG commercials are brunettes and that a blonde or red-haired model might therefore draw too much attention away from the product. In terms of age, it was important to select a young looking model because previous research showed that women are most likely to prefer and identify with decorative models that are slightly younger than themselves (Wray & Hodges, 2008).

Secondly, it was essential that clothes and body language of the models were suitable for FMCG ads. Therefore only models wearing clothes appropriate for promoting any common FMCG (i.e. no pajamas or underwear only) were selected. In addition, it was made sure that the gesture of the models was neutral enough to place them next to basically any product.

Thirdly, the models had to be suitable for digital manipulation. Based on recommendations from our Photoshop experts (Alexandru Malaescu, Tudor Bercea and Andrei Stoica), models wearing clothes with patterns or too wide clothes that did not clearly show their body shape were excluded. The same accounted for models not shown from the front, not facing the camera or wearing glasses, hats or other distracting accessories.

These criteria enabled us to limit the pool from 244 to 14 models. Subsequently, both Photoshop experts were consulted to help us rank the remaining models according to their Photoshop potential. The average top five were then used for the pre-test questionnaire.

3.2.3 Pre-test 1: Model and Product Category

The pre-test questionnaire consisted of the pictures of the five models, where each picture was followed by three questions. An example of one random block (model picture plus three questions) can be found in Appendix II.

Since all participants got to see all five model pictures, there was a risk of them comparing the models. This risk was mitigated in two ways. First, in the short introduction the respondents were explicitly asked to not compare the models but to give them an objective rating. Second, each block was displayed on a separate page and the option of going back was removed. In addition, to avoid order bias, the order in which the five blocks appeared was randomized.

Between February 3 and 6 2013, the questionnaire was posted on several Facebook groups of the authors. The sample was hence a convenience sample. It consisted of 125 individuals that were kept in the dark about the purpose of the main study. Of these 125 answers 30 had to be excluded because they were only partially filled in. Since only 59 (62.1% of the respondents) were female and only 34 respondents were Romanian women, it was decided to run independent sample t-tests to find out if there are statistically significant differences in responses (i) between men and women and (ii) between Romanian women and women from other countries. This analysis seemed appropriate since we assumed that the data would follow a normal distribution and since each group consisted of more than 30 observations (Hinton et al., 2004).

The results showed that there were statistically significant differences between men and women regarding the attractiveness of model 1 and statistically significant differences between Romanian women and women of other nationalities regarding the attractiveness of models 1, 3, 4 and 5. It was therefore decided to continue analyzing the pre-tests with female Romanian respondents only, since this group is best comparable to the participants of the experiments. All 34 respondents were between the age of 18 and 29.

The final choice of model and products was based on two criteria: (i) model attractiveness and (ii) model-product congruence.

(i) **Model attractiveness.** Caballero and Solomon (1984) suggest selecting attractive individuals for studies by having their photographs rated by naive subjects, on an *attractive-unattractive* scale. Such a scale was adopted in our pre-test questionnaire, asking respondents to rate each model's attractiveness on a scale from one to ten. In many studies dealing with the effects of varying attractiveness levels on consumers' reactions, individuals scoring the highest and lowest are used in the experiment (e.g. Baker & Churchill, 1977; Blass et al., 1974; Chaiken, 1979; Horai et al., 1974; Kahle & Homer, 1985; Kamins, 1990; Mills & Aronson, 1965; Petroschius & Crocker, 1989; Snyder & Rothbart, 1971; Widgery & Ruch, 1981). More recent studies prefer using moderately attractive persons with mid-range scores, as opposed to highly attractive individuals (e.g. Bower & Landreth, 2001; D'Alessandro & Chitty, 2011; Diedrichs & Lee, 2011; Dittmar & Howard, 2004a; Halliwell & Dittmar, 2004; Halliwell et al., 2005; Tsai & Chang, 2007; Yu et al., 2011).

As previously mentioned, we considered it important that the sample can identify with the models. At the same time, however, we wanted to make sure that the model already has an above-average level of attractiveness without digital manipulation. Therefore the score we

looked for was around 7.5. A control question was included by having participants rate the models on a ten-point bi-polar scale, from *ugly* (1) to *beautiful* (10). Model 1 was ruled out because of a too high attractiveness score (8.26 out of 10; see Appendix III, Table 18), which entailed a risk of not being able to create distinctive differences in looks between the original and the retouched model version. The models that were the closest to the desired score of 7.5 were model 3 and model 5, with a deviation of 0.18 and 0.21, respectively.

Another concern was that the model in our ads should not look thin in an unhealthy way. Therefore one of the questions required respondents to rate each model on a ten-point bi-polar scale, from *unhealthy* (1) to *healthy* (10) and - to ensure our understanding of this rating - from *thin* (1) to *fat* (10). All models were rated within acceptable ranges (as judged by the experimenters) on both dimensions.

(ii) Model-product congruence. The second criterion for selecting model and product categories was how well those two fit together. The underlying reason for including model-product congruence in our study was that, as previously mentioned, a fit between model and product has proven positive effects on the believability of product claims, consumers' attitudes toward product and ad (Kahle & Homer, 1985; Kamins, 1990; Kamins & Gupta, 1994). To find out about the perceived model-product fit, respondents were asked how likely they think the respective model is to promote the following products: bottled vitamin water, razor, coffee, and tanning body lotion, on a scale from 1 to 10. In terms of appearance-unrelated product categories, bottled vitamin water reached a higher fit than coffee with all remaining models (see Appendix III, Table 19). Similar results were found for the razor as opposed to the tanning body lotion in the appearance-related product categories. Therefore the product categories chosen were the bottled vitamin water and the razor.

After having ruled out model 1 in terms of attractiveness, the fit of the remaining four models with the selected product categories (bottled vitamin water and razor) was examined. Model 3 showed the best fit for bottled vitamin water, and the second best fit for the razor (after model 5). Model 5, on the other hand, had the highest congruence with the razor and the second highest congruence with the bottled vitamin water. This led to the question of whether to use two different models for two different products (i.e. model 3 for the bottled vitamin water and model 5 for the razor) or one model for both products. The decision was made in favor for the same model for both product advertisements due to two reasons. First, the probably biggest advantage that comes with a one-model-decision is that it allows for cross-comparison. Second, having the same model rules out the bias of participants better liking the looks of one

model over the looks of the other, which could have led to different results in terms of product, brand or ad evaluations as well as intentions. We were however aware that this would limit the generalizability of our findings.

The model selected was model 3 due to two reasons. First, her attractiveness score was closer to the 7.5 score we looked for than the one of model 5 (\bar{x} model 3 = 7.68; \bar{x} model 5 = 7.29). Second, the mean of her combined bottled vitamin water and razor fit scores were higher than the ones of model 5 (\bar{x} model 3 = 6.91; \bar{x} model 5 = 6.77).

3.2.4 Pre-test 2: Brands

For each of the chosen products (bottled vitamin water and razor) an existing brand was selected for the experiment. The choice of brands was based on the availability of high-quality pictures online and the potential of adapting product-related texts. The latter included for instance the translation of product claims, which was necessary to make the ad suitable for the Romanian market. Based on these criteria the choice fell on the wellness water brand Vitamin Water and a distributor's own brand (DOB) by the online pharmacy 1-800 for the razor.

It was important to ensure that the brands were relatively unknown to the sample to minimize possible biases due to prior brand experience or preconceptions (Kamins, 1990). Therefore a small pre-test was conducted, with an online convenience sample of fourteen young Romanian women. They were exposed to the pictures of both products and asked whether they were familiar with it. Whereas the 1-800 Pharmacy razor was not recognized by any of the subjects, one woman stated to have seen Vitamin Water during a stay abroad. This result was considered satisfactory and the selected brands were kept for the main study.

3.2.5 Ad Creation

Mock advertisements were designed for the two brands chosen. Since the razor was a DOB, a brand name had to be invented for the ad. A brand name should be simple, familiar and meaningful and thus easily memorable while at the same time unique (Keller, 2003). Considering these criteria we came up with the arbitrary brand name "Foxy".

The ads for both products were created in three versions. Ad version one displayed an attractive untouched female model next to the product, ad version two showed the digitally manipulated counterpart of the very same model next to the product, and ad version three did not include a model but only the product picture. The latter served as control group.

In terms of ad design it was made sure that the model was unnecessary for the display of the product, meaning that the model was shown on the left side of the A4-sized ad and the product picture and ad text next to it, without overlaps. This idea was taken over from studies dealing with attractiveness-related experiments (e.g. Chestnut et al., 1977) and aimed at making sure that the similarity between the ads was kept as high as possible. Therefore also the size of the model was identical across all conditions that displayed the female model. Since there were no models displayed in the control group ads, however, in this condition the size of the products was increased and the product picture was moved to the middle to make the ad look more realistic. The background of both product ads was rather neutral and adapted to the product type (water and bubbles for the bottled vitamin water ad and an abstract background for the razor). In all three ad conditions the background, logo and text size were identical. Ad texts were written in Romanian and described the main benefits of the respective product.

The product characteristics and claims communicated in the ad text were typical for the product categories chosen, in order to avoid that participants' cognition, attitudes and intentions are influenced by outstanding features rather than the manipulation variable. For the bottled vitamin water, subjects were made aware of its freshness and vitamins for maintaining and improving health, and for the razor they were informed about the detachable blades and hydrating serum for smooth and beautiful legs. The ad texts concluded with what looked like a personal statement of the model: "Feel good with Vitamin Water!/Look good with Foxy! I'm loving it ... you're going to love it too!". According to Söderlund and Lange's (2006) definition of a decorative model, one of the characteristics are that s/he "claims nothing in explicit verbal terms". Even though our model makes an explicit verbal statement, we argue that she is nevertheless a decorative model due to three reasons. First, her major function is being pretty (Söderlund & Lange, 2006). Second, she is not known by the subjects and the advertisements do not communicate personal information about her to make subjects feel they know her. Therefore she does not have an explicit identity (ibid). Third, our model does not touch the product and is hence functionless (Joseph, 1982), or unnecessary for the display of the product (Chestnut et al., 1977). For the product-only condition "I'm loving it ..." was omitted.

Tudor Bercea, our expert and Graphic Designer who has worked with digitally modifying pictures for more than 10 years, agreed to digitally modify the model picture for the retouched ad condition. The program version used was Photoshop CS6. In contrast to most attractiveness studies that modify only the body size or shape of the models, this study used a holistic approach. This means that our model received an "overall treatment", as it is common in the

advertising industry. More specifically, the treatment consisted of the following modifications: slimmer waistline, bigger breasts, longer legs, elimination of freckles, a smoother skin tone, whiter teeth and redder lips. An example of the retouched ad can be found in Appendix IV.

3.2.6 Pre-test 3: Ad

Having the ads created by an expert, it could be assumed that they corresponded to industry standards, in terms of e.g. design, placement of model and product pictures and font size. However, to be on the safe side we also showed all six ad versions to a second Photoshop expert, Andrei Stoica, as well as to the Art Director of BBDO Bucharest, Alexandru Malaescu. According to expert opinions, the ads are not only realistic but also show clearly visible differences between the ad conditions with the unretouched versus the retouched model.

3.2.7 Pre-test 4: Questionnaire

A draft of the questionnaire was sent to our advisor for feedback. After changing the order of some questions due to a risk of bias as well as narrowing down the number of questions, the questionnaire was pre-tested with a sample of twelve Romanian women aged 20 to 24, two for every ad condition. According to them, all questions were clear and easy to understand even for non-English natives. The only thing that still needed changing was the first question that tested for product and brand recall, since we realized that the respondents looked back to the ad for answering. Therefore a small instruction saying “Please do not look back to the ad for this question!” was inserted.

3.3 Main Survey

The following sub-chapters will give the reader an overview of the experiment, more precisely (i) the sample and data collection process and (ii) the structure and content of the questionnaire, which served as main survey instrument.

3.3.1 Sample and Data Collection

Our sample consisted of 422 female students pursuing their university education in Romania. The average age of the participants was 22 years and a vast majority of them (82.7%) stated that they are single, whereas single was defined as “not married”. 96.7% were of Romanian nationality and 94.5% described their ethnicity as Caucasian. 77.1% of the sample was enrolled in a bachelor’s program and the remaining 22.9% in a master’s program.

The experiment was carried out in two Romanian cities, Bucharest and Iasi. The questionnaires were handed out during 15 university classes at five different universities,

which focus on different fields of studies (The Bucharest University of Economic Studies, Bucharest National School of Political Sciences, Bucharest University of Agronomic Science and Veterinary Medicine, Faculty of Economics and Business Administration Iasi and Grigore T. Popa Faculty of Medicine Iasi). In each class and university all six ad conditions were distributed. It was paid attention to handing out approximately the same number of each version in each experiment session. Female students were randomly allocated to one of the six groups. This aimed at avoiding biases related to place, university, study program, study level as well as day and time. A detailed overview of the questionnaire allocation can be found in Appendix V.

In total, 219 responses (51.9%) were collected in Bucharest and 203 (48.1%) in Iasi. Independent t-tests and one-way ANOVAs performed in SPSS showed several statistically significant differences in responses between Bucharest and Iasi, between bachelor and master students and between study fields. However, thanks to the questionnaire distribution method chosen (all ad conditions in each session), these differences are not of concern. For more details see chapter 4.1.2 Sample Homogeneity/Heterogeneity Checks.

The overall time frame for the conduction of the experiment was two weeks, 4-7 March 2013 in Bucharest and 11-15 March 2013 in Iasi. It was paid attention that these weeks did not include any holiday or payday since this could have influenced the participants' mood and hence attitudes and stated intentions.

Reasons for choosing the sample. Since the plan was to include one appearance-related product in the experiment, it was reasonable to limit the participants to one gender. The choice of using a female sample only was made during the phase of literature review. It was found that mainly girls and young women suffer from the negative effects related to idealized advertising imagery. They are influenced by thin models, which results in negative effects on their health and self-esteem (Stephens et al., 1994). The effect of idealized images on men's body dissatisfaction, on the contrary, has been proven to be less severe (Muth & Cash, 1997; Hargreaves & Tiggemann, 2004). Moreover, most Photoshop scandals of the past were associated with female models and products typically bought by female consumers, such as bikinis (H&M), designer clothes for women (Ralph Lauren) or cosmetic products (Lancôme). Since, depending on the results, our study might have the potential to contribute to a movement toward more responsible advertising, a focus on women was seen as adequate.

Furthermore, girls and young women tend to have a higher exposure to fashion media, and hence to print advertisements in such media. They also engage in greater comparison with

models and invest more money and time in physical appearance (Milkie, 1999; Cash and Pruzinsky, 2002; Hargreaves & Tiggemann, 2004). In addition, women are the main buyer group of FMCG. Preston (1998) has shown that women account for most of the household spending and for around 80% of individual consumer spending. In the U.S., female buyers are responsible for about 70% of all retail sales (Preston, 1998).

Reasons for choosing the locations. It was decided to hold the experiment in one country, in order to rule out possible differential effects due to cultural issues. Romania was chosen because the experimenters had the best contacts there for conducting the experiment. The responses were gathered in Bucharest and Iasi because these are the two Romanian cities with the largest student population. Furthermore, with students from all over the country attending universities in Bucharest and Iasi, we argue that a sample from both places combined is representative for the female Romanian student population.

3.3.2 Questionnaire

For most of the questions that required a scale, 10-point scales were used rather than common five- or seven-point scales. This decision was based on three main reasons. First of all, more scale points provide more options and therefore more precise responses (Dawes, 2008). Second, as opposed to odd scales, the common respondent behavior of selecting the middle is avoided (Grover & Vriens, 2006). Third, many people are familiar with rating “out of ten”. According to a meta-study by Matell and Jacoby (1972), internal consistency, test-retest stability, concurrent validity and proportion of the scale used are not affected by the number of response categories provided. Some researchers (e.g. Dawes, 2008) point out that one disadvantage of 10-point scales is that only the end points of the scale can be verbally defined since the gradations of the ten stages become too fine to be expressed in words. Cummins and Gullone (2000), however, state that a verbal definition of each stage “detracts from the interval nature of the derived data”. Furthermore, to facilitate data analysis negative items were placed on the left side, positive items on the right side.

Many questions and measures were adopted from existing studies. One thing to keep in mind about semantic differential scales is that most researchers used five- or seven-point scales. We, however, decided to stick to our 10-point scales throughout the questionnaire, due to consistency reasons.

Introduction. Before handing out the questionnaires, participants were given a short introduction in Romanian. The actual purpose of the study was hereby not revealed. Respondents were simply told that the questionnaires tested for the effectiveness of ads

among female Romanian consumers. It was pointed out that there were no right or wrong answers and that they could approach us in case of any questions or problems understanding the questions due to language barriers.

The questionnaires were handed out in printed form, with an empty page as a cover, followed by the ad on the second page and the questions on the front and back of page three.

Unlike in other studies (e.g. Kamins, 1990) where subjects were instructed to review an ad for a timed period, our subjects were told to review the advertisement in a way they usually do in magazines. The goal was to not impose an unnatural behavior on them.

Dependent variables. *Product and brand recall.* Two open questions were used to test the respondents' product and brand recall ability: *What product category was the advertisement for?* and *Which brand was the advertisement for?* According to Bryman and Bell (2007) this type of question is best when testing for existing knowledge and understanding, since it does not suggest any kinds of answers. Since the questionnaire contained both, the ad and questions, there was the risk of respondents looking back to the ad for finding the answers, which had proved to be a problem in the pre-testing phase. Therefore, to mitigate this risk, a short instruction "Please do not look back to the ad for answering this question" was added. For the analysis, the responses were categorized into "right", "wrong" and "unknown". Since the product used in the bottled vitamin water advertisement displayed the name "Vitamin Everyday" on the package, it was decided to count this wording as well as the actual brand name ("Vitamin Water") as right answers.

Ad, brand and product evaluations. Participants were asked to describe their reactions to and feelings towards the advertisement, the brand advertised and the product. For all three categories Chandrashekar's (2004) product involvement scale (*dislike-like, bad-good, unpleasant-pleasant, negative impression-positive impression*) was used, mainly due to the fact that it is uni-dimensional and has been reported to produce very high internal consistency.⁶ Furthermore, this scale was proved to have a high correlation to Zaichkowsky's (1985) measure of enduring involvement, one of the most popular involvement measures used in consumer research.

To elaborate on possible reasons for ad liking, some proven dimensions were adopted from Baker and Churchill's study (1977). These authors differentiated between affective, cognitive and conative when determining the effectiveness of ads. Since our study measures product

⁶ According to Chandrasekaran (2004) the scale produced an alpha of 0.91.

intentions (i.e. the conative part) in a separate question, only affective (e.g. *not-appealing-appealing* or *not eye-catching-eye-catching*⁷) and cognitive measurements (e.g. *unclear-clear*) were included at this point. In addition, one dimension (*ineffective-effective*) was adopted from Bower and Landreth (2001).

Furthermore, in terms of product evaluation it was determined how *ordinary* or *distinctive* respondents find the product itself. This question was adopted from Baker and Churchill (1977) and should help determine potential reasons for valuations as well as product and WOM intentions.

Product intentions, willingness to pay a price premium, and WOM intentions. Our product intentions section started off with the standard question of *How likely is it that you would buy this product?* According to Baker and Churchill (1977) it is, however, essential to tackle the conative question of product intentions on three dimensions: the willingness to try the product, to buy the product and to investigate or seek out the product in-store. This split-up has also been adopted by more recent studies (e.g. Bower, 2001; Bower & Landreth, 2001). For this reason, it was decided to include such questions in our questionnaire and to use the same formulations (e.g. *I intend to try this brand*) as Bower and Landreth (2001).

Moreover, the questionnaire elaborated on the participants' willingness to pay a higher price. For this purpose, two subsequent questions were asked. The first one was adopted from Dittmar and Howard (2004a) and asked respondents to state their likeliness to buy the brand if it cost the same as the brand they usually buy, whereas the second question determined the likeliness to purchase if the brand cost more.

When it comes to WOM intention, the most common measure is the intention to recommend a product to a friend (Reichheld, 2003). However, this is not the best predictor in any case (ibid). Due to the reason that in our study subjects had never heard of, seen or tried the brand, the question seemed a little abstract. Hence *I would tell a friend about this brand*, measured on a scale from *strongly disagree* (1) to *strongly agree* (10), was used as a proxy for WOM intention instead.

Control questions. It was found necessary to include some control questions in the survey that allow for a cross-check with findings from the pre-studies.

Model attractiveness. The same question and measurement as in the pre-test was used, where participants had to rate the model on a scale from 1-10 (*unattractive-attractive*). This question

⁷ *Not eye-catching-eye-catching* was renamed to *boring-eye-catching* in this study, since these terms were found to be more comprehensible by the non-native sample targeted (as judged by the experimenters).

was considered very reliable since it has been used in many studies over many years (e.g. Bruner, 1998; Petroschius & Crocker, 1989; Yu et al., 2011).

Model-product fit. One question was added to find out how the attractiveness of this model compares to models the respondents usually see in bottled water/razor advertisements (*far below average-far above average*) to double-check the perceived congruence between the model and the chosen product category. This question was slightly adapted from Bower (2001).

Product claims. One factor that might influence the dependent variables, especially purchase intention, is whether the product is seen as distinctive or ordinary. In this context ordinary is defined as very similar to the products put out by other manufacturers. It was tried to keep the product design and claims as ordinary as possible, to mitigate the chance that product differentiation rather than the ad condition (original, retouched or product-only) evokes consumer responses. Having respondents rate the product on a *distinctive-ordinary* scale shall check for this. Furthermore, asking them to what extent they expected to obtain improvements on their wellness/health (bottled vitamin water) or their looks (razor) will indicate to what extent they believe in the product claims presented. The measures used (*insignificant-significant*, *unachievable-achievable* and *unnoticeable-noticeable*) were adopted by Bower (2001).

Explaining variables accounting for individual differences. It could be assumed that responses differ based on individual differences among participants. For this reason, two measures were used: product involvement and perceived similarity to the model (Bower & Landreth, 2001).

Involvement. In terms of involvement, the respondents were asked how often (*never-daily*) they consume bottled water or use a razor, depending on the product in the advertisement they saw. Subsequently, they had to rate how important and of how much concern the use of the product (drinking bottled water or shaving) and the main product claim advertised (feeling healthy or looking beautiful) are to them. To go beyond importance, measures of interest and discard regarding the product were added. These included for instance *not fun-fun* or *useless-useful* and were adopted from McQuarrie and Munson (1992), whose research is based on but overcomes shortcomings of Zaichkowsky's (1985) product involvement scale.

Perceived similarity to the model. In the first part of this section participants had to agree or disagree to the statement "*Me and the model in the advertisement are very much alike.*" which was adopted from Bower and Landreth (2001) and shall initiate direct comparison to the model. In the second part, a projective view was included ("*I think most of my female friends would compare themselves to the model in the ad*"). According to Bower (2001) this is the best way to check

whether the model is really someone individuals would compare themselves to. This is in accordance with Baker and Churchill (1977) who state that people are in general reluctant to admit that their reactions are influenced by anything, including the physical attractiveness of the other party.

Negative effects. Moreover, we considered it useful to take into account potential negative effects the looks of the model might have on individuals. Therefore the statement “*This ad makes me satisfied with my appearance.*” was included for agreement or disagreement. A similar measure has been used by Bower (2001).

Cultural and ethnic influences. Since attractiveness research has been criticized for not taking into account culturally different standards of beauty (Crago et al., 1996) and cultural and ethnic differences have been proven to have different effects on body image (e.g. Abrams & Stormer, 2002; Casper & Offer, 1990; Desmond et al., 1989; Fisher et al., 1994; Powell & Kahn, 1994; Rosen et al., 1987; Rucker & Cash, 1992), participants were asked for nationality and ethnicity.

Further clarifications. Changes for the product-only condition. The control group only displayed the picture of the product, no model. Hence questions about model attractiveness, perceived model-product congruence and perceived similarity were eliminated.

Reasons for not including certain questions. Since respondents were given a fake purpose in the beginning, it was found unnecessary to add a question about the guessed purpose in the end of the study, as done by many researchers (e.g. Dittmar & Howard, 2004a; Green, 1999).

3.4 Research Quality

Since the major part of our study is characterized by quantitative research, the common quality assessment of this research type was examined. According to Bryman and Bell (2007), two prerequisites are crucial for quantitative research, (i) reliability in terms of internal consistency and stability and (ii) validity of the data and process.

3.4.1 Reliability

“Reliability is concerned with the question of whether the results of a study are repeatable” (Bryman & Bell, 2007). Internal consistency and stability are the most common factors to be examined when assessing the reliability of a study.

Internal consistency. To receive reliable and consistent results it is indispensable to apply stable measures. Therefore mainly proven measures from previous research were adopted in

this study. If there were several measures, the most appropriate measures for the purpose of this study were chosen. This sometimes meant combining elements of several studies.

Another endeavor aimed at increasing the reliability of our findings was the inclusion of control elements. For instance, important assumptions (e.g. the level of appearance-relation of the products) were controlled for in the experiment. Furthermore, very important questions (e.g. model attractiveness) were posed in the pre-study as well as in the main study.

To further increase internal consistency within and across questions, items were tested using Cronbach's alpha. No score lower than 0.8, which according to Bryman and Bell (2007) is considered an acceptable level, was accepted. The scores in this study are even above 0.9.

Stability. A study high in stability produces stable results over time (Bryman & Bell, 2007). In our experimental study this was attempted by pre-testing our questionnaire to make sure all questions are understood the right way. Understanding is after all the prerequisite for getting the same results if the experiment and survey are repeated. However, it has to be mentioned that real stability can only be reached if the experiment is re-conducted in the future, an endeavor that is out of scope for this study.

All in all, we judge the reliability of our study to be rather high.

3.4.2 Validity

"Validity is concerned with the integrity of the conclusions that are generated from a piece of research" (Bryman & Bell, 2007). Any study should aim for high internal and external validity.

Internal validity. When assessing a study in terms of internal validity, one has to determine whether the effects on the dependent variables (product and brand recall; product, brand and ad attitude; product and WOM intention) were actually caused by the manipulation of the independent variable (digital modification). There is always a risk that the effects are provoked by other external factors (Bryman & Bell, 2007). In order to mitigate this risk, several attempts for controlling the external environment were made. First, all participants filled in the questionnaire in a similar environment, a classroom of a Romanian university, in the beginning of the class. Second, the allocation of questionnaires was randomized and all six ad conditions were handed out in every class. Third, at least one of the experimenters was present throughout the experiment. This guaranteed that all participants handed in the filled in questionnaires right away and had no time to look up information about the products through any external source. Fourth, the brands used were unknown to the Romanian market (as determined in the pre-test) to rule out that respondents had existing knowledge of or

attitudes towards the brands. Fifth, a limited number of short and simple questions were used to avoid interruptions.

Another attempt for increasing internal validity was a pre-test of the model-product fit, aimed at mitigating the risk that the results are affected by an inconsistency in congruency rather than digital modification. Furthermore, some responses that might affect internal validity were excluded. These included responses that did not meet certain quality criteria (e.g. where all options on the left, in the middle or on the right side of the scale were ticked), responses that indicated that the individual never used such a product or had an overall negative attitude towards the product category.

Even though Bryman and Bell (2007) point out that experiments tend to be strong in terms of internal validity, it is essential to know that it is impossible to control for all external factors.

External validity. When talking about external validity one examines to what extent results can be generalized beyond the research context (Bryman & Bell, 2007).

Our study tested for two different types of products, one that is related to appearance (razor) and one that is not (vitamin water). The reason for testing consumers' reactions on two product ads rather than one was to increase the generalizability, and hence external validity, of the findings.

As previously discussed, this study uses a convenience sample, more specifically a student sample. Student samples and convenience samples in general are often criticized because there might be differences between the sample chosen and the general population (Cunningham et al., 1974), which poses a threat to the external validity of a study (Beltramini, 1983). We however argue that having a look at female undergraduate and graduate students aged 18⁸ to 35, who represent a sub-group of the population with homogeneous characteristics will increase the internal validity of our study. This has been confirmed by Calder et al. (1981) who point out that a homogeneous sample increases internal and statistical conclusion validity by decreasing error variance. Furthermore, Oakes (1972) stated that higher generalizability of results does not necessarily result in higher external validity but that external validity depends on "the interaction of subject characteristics and the particular behavioral phenomenon with which one is concerned". Concluding, it seems to be more important to use a sample that is relevant for the phenomenon studied than to focus on external validity only, a criterion that our experiment clearly fulfills.

⁸ 18 was decided to be the lowest acceptable age since the questionnaire contains questions related to social comparison, which can be seen as sensitive.

It is further important to mention that being approached during university lectures the participants of our study neither were typical volunteers, nor were they given incentives to participate. According to Rosnow and Rosenthal (2007) a non-volunteer sample as opposed to a volunteer sample can be expected to be more robust since volunteer samples were found to be reliably different from the general population in terms of demographics and characteristics.⁹

What limited the external validity of the experiment results were the decisions to use only one female model for both product ads, to use print media only, and to conduct the experiment in one country.¹⁰

All in all, we argue that the validity of our study is rather high.

3.5 Instruments and Methods of Analysis

The data were manually entered in a Qualtrics questionnaire for which the function of having only one answer per IP address was deactivated. The manual data entry allowed for a simultaneous quality check. No “strange” questionnaires following convenience patterns were identified. Therefore there was no need to exclude whole questionnaires. However, some absurd answers on the product and brand recall questions were ignored for further analyses.

In the next step, the data were analyzed with SPSS version 21 and used to either confirm or reject our hypotheses. The methods used for analysis included frequency tests and different mean analyses. More precisely, independent sample t-tests were used as instruments for comparing the means of two groups and one-way and two-way ANOVAs were used for mean comparisons of the dependent variables across the six experiment groups.

In addition, as mentioned above, Cronbach’s alpha was performed to control for internal consistency.

⁹ For instance, volunteers tend to be younger, from smaller towns, better educated, more sociable, unconventional and altruistic, of higher social class status and higher need for social approval than the general population (Rosnow & Rosenthal, 2007).

¹⁰ How these flaws could have been mitigated as well as what this implies for future researchers will be discussed in detail in chapters 5.8 Critique of the Study and 5.9 Suggestions for Future Research.

4 RESULTS AND ANALYSES

After a short discussion about sample homogeneity/heterogeneity and control questions, the results from the independent t-tests and the ANOVAs will be presented for each dependent variable. Thereby the framework proposed in chapter 2.3 will serve as structure. Based on the findings of the analyses the hypotheses will then be accepted or rejected.

4.1 First Steps

4.1.1 Sample Homogeneity/Heterogeneity Checks

Independent samples tests have been performed to verify if there are statistically significant differences in the answers given by the respondents based on the cities and universities in which the responses were collected. The independent samples t-test reveals that there is no statistically significant difference between responses in Iasi or responses in Bucharest regarding overall purchase intention ($p = .651$), trial intention ($p = .400$), intention to seek out the product in-store ($p = .637$), WOM intention ($p = .911$) and perceived attractiveness of the model ($p = .411$). However, the test shows statistically significant differences between Iasi and Bucharest regarding involvement in the product category ($p = .006$) and purchase intention if the brand had the same price as their current brand ($p = .002$).

A one-way ANOVA based on the universities in which the survey was conducted shows statistically significant differences between groups. A Tukey post-hoc test reveals that the overall purchase intention, trial intention, seek out intention and WOM intention are statistically different based on universities ($p < .05$). However, no statistically significant differences were found when it comes to involvement in the product category ($p = .133$) and perceived attractiveness of the model ($p = .074$). The results table is shown in Appendix VI.

Concluding, the sample for our survey is homogenous in terms of perceived attractiveness of the model and heterogeneous in terms of product category involvement and product intentions. Heterogeneity should however not bias results, since the questionnaires were randomly distributed and all participant groups, regardless of city or university, were exposed to all six experiment versions.

4.1.2 Control Questions

In the next step the control questions were analyzed to confirm assumptions.

Model attractiveness. A comparison of the model attractiveness ratings of pre-test and main study showed that the untouched model was perceived as slightly less attractive in the main

survey than in the pre-test (\bar{x} pre-test = 7.68; \bar{x} main study = 6.59). The score is, however, still in the range of “above average but not unattainably attractive”.

Model attractiveness	\bar{x}	N	Std. Dev.
Pre-test	7.68	34	1.512
Main study	6.65	283	2.225

Table 2: Control question: Model attractiveness of untouched conditions

The mean presents answers to the question: On a scale from 1-10, how attractive do you find this model? (1 = Not attractive at all, 10 = Highly attractive)

Model-product congruence. The pre-test already tested for the fit between the untouched model and the product. In the main study respondents were once again asked for perceived congruence. Like with model attractiveness ratings, scores for both products were lower in the main study (\bar{x} water = 6.26; \bar{x} razor = 5.88) than in the pre-test (\bar{x} water = 7.76; \bar{x} razor = 6.06), as can be seen in the table below.

Model-product fit	\bar{x}	N	Std. Dev.		\bar{x}	N	Std. Dev.
Vitamin water				Razor			
Pre-test	7.76	34	2.161	Pre-test	6.06	34	2.870
Main study	6.26	76	2.169	Main study	5.88	67	2.293

Table 3: Control question: Model-product fit of untouched conditions

The means present answers to the question: Compared to other female models you normally see in bottled water (razor) advertisements, how attractive do you find the model? (1= Far below average; 10 = Far above average)

Taking into account ratings of the retouched condition as well, an independent t-test shows no statistically significant difference in model-product fit rating between the untouched (\bar{x} = water 6.26; \bar{x} razor = 5.88) and the retouched (\bar{x} water = 6.68; \bar{x} razor = 6.12) condition.

Product claims. Several questions were asked to see how important the product claims presented were to the respondents and to what extent they found them believable. Mean results show that the product claims of the vitamin water were perceived as more distinctive (\bar{x} water = 6.43) than those of the razor (\bar{x} razor = 2.47), however not on a statistically significant level. Taking into account ad conditions (untouched, retouched, product-only), no statistically significant differences were found either.

In the next step, the extent of improvement subjects expect to gain from using the product was analyzed. Mean comparisons show that the expected improvement ratings for both products are above average, which indicates a rather high credibility of what the ad texts promise. Results can be seen in the table below. Differences between product types are not statistically significant, and neither were differences between ad conditions.

Product claims	Vitamin water			Razor		
	\bar{x}	N	Std. Dev.	\bar{x}	N	Std. Dev.
Distinctiveness of the product	6.43	216	2.344	5.31	204	2.475
Expected improvement	6.63	148	2.37	6.69	134	2.48

Table 4: Control question: Product claims

The mean “ordinary to distinctive” presents answers to the question: How do you feel this product compares to similar products put out by other manufacturers? (1 = ordinary; 10 = distinctive). The mean “expected improvement” presents answers to the question: If you would buy this product, what is the extent of improvement on your own wellness/health (looks), you would expect to obtain? (The variables insignificant-significant, unachievable-achievable and unnoticeable-noticeable were indexed together. 1 = low expected improvement; 10 = high expected improvement)

4.2 Physical Attractiveness

H1 assumes that the perceived attractiveness of a model in a printed ad will be higher if the model has been digitally retouched. Mean results show that the respondent ratings of attractiveness were similarly high for both products. For the appearance-related product, respondents perceived the model to be more attractive when she was untouched ($\bar{x} = 6.66$) than when she was retouched ($\bar{x} = 6.56$). For the appearance-unrelated product, on the contrary, subjects perceived the model as more attractive when her body was retouched ($\bar{x} = 6.85$) than when it was not ($\bar{x} = 6.54$). Both differences are, however, not on a statistically significant level.

A two-way ANOVA was conducted to compare the effect of product type and ad condition on the perceived attractiveness of the model in the stimulus pictures. A significance level of $\alpha = .05$ was used throughout the analysis.¹¹ The omnibus F-test for the effect of product type and ad condition on model attractiveness was not found to be statistically significant, $F(3, 279) = .287, p = .835$. A main effects analysis shows no statistically significant difference in the perceived attractiveness of the model, neither based on ad condition, $F(1, 279) = .156, p = .693$ nor based on product type, $F(1, 279) = .104, p = .748$. The omnibus F-test for the interaction effect of product type and ad condition on perceived attractiveness of the model is not statistically significant either, $F(1, 279) = .582, p = .446$, as shown in the table below.

¹¹ Unless otherwise mentioned, a significance level of $\alpha = .05$ was used for all analyses. The expression “statistically significant” therefore implies a 5% significance level and 95% confidence interval.

Descriptives: Two way ANOVA Attractiveness				Tests of between subjects effects			
Ad condition	Product type	\bar{x}	N	Source	df	F	Sig.
Untouched	Vitamin water	6.54	76	Corrected model	3	.287	.835
	Razor	6.66	67	Ad condition	1	.693	.693
Retouched	Vitamin water	6.85	72	Product type	1	.748	.748
	Razor	6.56	68	Ad condition*Product type	1	.582	.446
				Error	279		

Table 5: ANOVA results: Physical attractiveness (H1)

Thus, there are no statistically significant differences in respondent ratings of model attractiveness based on the product type (water, razor) or type of ad (original, retouched) the respondents were exposed to. In other words, the retouching of the model had no significant effect on the perceived attractiveness of the model. Therefore, H1 is rejected.¹²

H1: Retouching increases perceived model attractiveness in the case of

a: appearance-related products **REJECTED** *b: appearance-unrelated products* **REJECTED**

4.3 Cognitive Response

4.3.1 Product Recall

H2 states that product recall will be higher when the model has been digitally retouched. Responses were categorized in right, wrong and unknown and then analyzed by means of a frequency analysis. Interestingly, results show that for both product types combined more respondents recalled the brand correctly when the model was untouched (85.3%) than when she was retouched (82.9%). Breaking down the frequency results based on product categories, the correct recall for the appearance-related product was higher in the untouched ad condition (89.6%) than in the retouched condition (82.4%). For the appearance-unrelated product, the opposite was true, with a lower correct brand recall in the untouched condition (81.6%) than in the retouched condition (83.3%). Results are shown in the table below.

Descriptives: Product recall							
Ad condition	Product type	N	Product recall (%)	Ad condition	Product type	N	Product recall (%)
Untouched	Vitamin water	76	81.6	Retouched	Vitamin water	72	83.3
	Razor	67	89.6		Razor	68	82.4
	Total	143	85.3		Total	140	82.9

Table 6: Frequency analysis results: Product recall (H2)

¹² Unless otherwise mentioned, the hypotheses are supported or rejected on a 5% significance level.

Thus, for the appearance-unrelated product (water) product recall was higher when the advertisement was digitally retouched, while for the appearance-related product (razor), digital alteration led to a lower product recall. Therefore, H2 is partially supported for the appearance-unrelated product category.

H2: Retouching enhances product recall for

a: appearance-related products **REJECTED** *b: appearance-unrelated products* **SUPPORTED**

4.3.2 Brand Recall

H3 assumes an increase of brand recall for appearance-related and -unrelated products through digital manipulation of the model. The brand recall variable was also categorical and therefore analyzed by a frequency analysis. Similar to product recall, results show that for both product types combined more respondents recalled the brand correctly when the model was untouched (69.2%) than when she was retouched (65%). Breaking down the frequency results based on product categories, the correct brand recall for the appearance-related product was higher in the untouched (86.6%) than in the retouched condition (72.1%). For the appearance-unrelated product, the opposite was true, with a lower correct brand recall in the untouched (53.8%) than in the retouched condition (58.3%). Results are shown below.

Descriptives: Brand recall							
Ad condition	Product type	N	Brand recall (%)	Ad condition	Product type	N	Brand recall (%)
Untouched	Vitamin water	76	53.9	Retouched	Vitamin water	72	58.3
	Razor	67	86.6		Razor	68	72.1
	Total	143	69.2		Total	140	65

Table 7: Frequency analysis results: Brand recall (H3)

Concluding, for the appearance-unrelated product (vitamin water) the brand recall was higher when the advertisement had been digitally retouched, while for the appearance-related product (razor), digital alteration led to a lower brand recall. Therefore, H3 is partially supported for the appearance-unrelated product category.

H3: Retouching enhances brand recall for

a: appearance-related products **REJECTED** *b: appearance-unrelated products* **SUPPORTED**

4.3.3 Relationship between Product and Brand Recall

H4 states that retouching leads to a higher product-brand (overall) recall for appearance-related products than for appearance-unrelated products. The Chi-square test was used to

determine whether the two categorical data, product recall and brand recall, are related. As shown in the table below, Pearson Chi-Square Sig. has a value below .001, which means that there is a statistically significant relationship between the product recall and brand recall for appearance-related and appearance-unrelated product categories. Moreover, Phi and Cramer's V show that the variables have a strong positive association.

Chi square test				Symmetric measures		
	Product Type	Value	Asymp. Sig.		Value	Approx. Sig.
Pearson Chi-square	Vitamin water	32.067	.000	Phi	.385	.000
				Cramer's V	.272	.000
	Razor	26.852	.000	Phi	.362	.000
				Cramer's V	.256	.000

Table 8: Chi square test results: Relationship between product and brand recall (H4)

Having a closer look at product categories (see Table 9), results for the appearance-related product show that more respondents recalled product and brand correctly when the ad was untouched (79.1%) than when it was retouched (66.2%). When exposed to the retouched picture, 11.8% recalled the product correctly but did not remember the brand, while for the untouched ad the percentage was only 7.5%. Moreover, only 1.5% of the respondents had no recollection of either the brand or the product after exposure to the untouched ad, compared to 8.8% after exposure to the retouched ad.

For the appearance-unrelated product, slightly fewer respondents recalled product and brand correctly when the ad was untouched (48%) than when it was retouched (51.4%). Moreover, in the case of respondents exposed to the retouched picture 26.4% recalled the product correctly but did not remember the brand, while for untouched ads the percentage increased to 29.3%. Interestingly, only 2.7% of the respondents had no recollection of either the brand or product when exposed to the untouched ad, compared to 8.3% when exposed to the retouched ad.

Brand recall (%)			Product recall (%)	Brand recall (%)		
Untouched razor ad				Retouched razor ad		
Unknown	Wrong	Right		Right	Wrong	Unknown
7.5%	3.0%	79.1%	Right	66.2%	4.4%	11.8%
0.0%	1.5%	1.5%	Wrong	1.5%	0.0%	1.5%
1.5%	0.0%	6.0%	Unknown	4.4%	1.5%	8.8%
Untouched water ad				Retouched water ad		
Unknown	Wrong	Right		Right	Wrong	Unknown
29.3%	4.0%	48.0%	Right	51.4%	5.6%	26.4%
4.0%	4.0%	1.3%	Wrong	5.6%	1.4%	0.0%
2.7%	0.0%	6.7%	Unknown	1.4%	0.0%	8.3%

Table 9: Relationship between product and brand recall (H4)

The percentages show a clearly higher overall recall for the appearance-related product (razor) than the appearance-unrelated product (water). Therefore, H4 is supported.

H4: Retouching leads to a higher overall recall for appearance-related products than for appearance-unrelated products **SUPPORTED**

4.4 Attitude

4.4.1 Ad Attitude

H5 states that retouching creates more favorable attitudes towards the printed ad for both categories tested. Attitudes towards the advertisement were measured with eight statements on a 10-point Likert scale. These measures were tested for internal consistency by performing a Cronbach's alpha.¹³ The reliability analysis showed an alpha of .939, indicating high internal consistency. The eight statements were therefore indexed together and the means were calculated. For the questionnaires that were incomplete in answers to the eight statements, the mean was computed based on the number of statements completed.¹⁴ Mean results show that for the appearance-related product (razor) the ad attitude was higher when the model was digitally retouched ($\bar{x} = 6.83$) than when she was not ($\bar{x} = 6.52$). The same holds true for the appearance-unrelated product (vitamin water) (\bar{x} retouched = 6.89; \bar{x} untouched = 6.52).

A two-way ANOVA was conducted to compare the effect of product type and ad condition on ad attitude. The omnibus F-test for the effect of product type and ad condition on ad attitude is not statistically significant, $F(3, 279) = .739, p = .530$. A main effects analysis shows no

¹³ When talking about internal consistency, Cronbach's alpha was the default analysis used.

¹⁴ This was the case throughout all analyses.

statistically significant difference in ad attitude based on ad condition, $F(1, 279) = 2.173$, $p = .142$ or based on product type, $F(1, 279) = .012$, $p = .913$. The omnibus F-test for the interaction effect of product type and ad condition on ad attitude is not statistically significant either, $F(1, 279) = .015$, $p = .903$, as shown in the table below.

Descriptives: Ad attitude				Tests of between subjects effects (excl. product-only)			
Ad condition	Product type	\bar{x}	N	Source	df	F	Sig.
Untouched	Vitamin water	6.52	76	Corrected model	3	.739	.530
	Razor	6.52	67	Ad condition	1	2.173	.142
Retouched	Vitamin water	6.89	72	Product type	1	.012	.913
	Razor	6.83	68	Ad condition*Product type	1	.015	.903
				Error	279		

Table 10: ANOVA results: Ad attitude (H5)

Thus, there are no statistically significant differences in ad attitude based on the product type (water, razor) and type of ad (original, retouched) the respondents were exposed to. In other words, the retouching of the model had no significant effect on the ad attitude. Therefore, H5 is rejected for both product categories.

H5: Retouching creates more favorable attitudes toward the ad for

a: appearance-related products **REJECTED** *b: appearance-unrelated products* **REJECTED**

4.4.2 Brand Attitude

H6 assumes that retouching creates more favorable attitudes towards the brand displayed in the printed ad for appearance related and appearance unrelated products. Brand attitude was measured with four statements on a 10-point Likert scale. Due to high internal consistency ($\alpha = .922$) the statements were indexed together and the means were calculated. Mean results show that for the appearance-related product the brand attitude was higher when the model was digitally retouched ($\bar{x} = 6.94$) than when she was not ($\bar{x} = 6.19$). The same holds true for the appearance-unrelated product (\bar{x} retouched = 6.75; \bar{x} untouched = 6.59).

A two-way ANOVA was conducted to compare the effect of product type and ad condition on brand attitude. The omnibus F-test for the effect of product type and ad condition on brand attitude is not statistically significant, $F(3, 279) = 1.465$, $p = .224$. A main effects analysis shows no statistically significant difference in ad attitude based on ad condition, $F(1, 279) = 1.106$, $p = .079$ or based on product type, $F(1, 279) = .162$, $p = .687$. The omnibus F-test for the interaction effect of product type and ad condition on ad attitude is not statistically significant either, $F(1, 279) = 1.317$, $p = .252$, as shown in the table below.

Descriptives: Brand attitude				Tests of between subjects effects (excl. product-only)			
Ad condition	Product type	\bar{x}	N	Source	df	F	Sig.
Untouched	Vitamin water	6.59	76	Corrected model	3	1.465	.224
	Razor	6.19	67	Ad condition	1	3.106	.079
Retouched	Vitamin water	6.75	72	Product type	1	.162	.687
	Razor	6.94	68	Ad condition*Product type	1	1.317	.252
				Error	279		

Table 11: ANOVA results: Brand attitude (H6)

Hence, no statistically significant differences in brand attitude were found, neither based on the product type (water, razor) nor on the type of ad (original, retouched). This proves that the retouching of the model had no significant effect on the brand attitude, which rejects, H6.

H6: Retouching creates more favorable attitudes toward the brand for

a: appearance-related products **REJECTED** *b: appearance-unrelated products* **REJECTED**

4.4.3 Product Attitude

H7 states that retouching creates more favorable attitudes towards the product promoted in the printed ad. Product attitude was measured with five statements on a 10-point Likert scale. Due to high internal consistency ($\alpha = .916$) the statements were therefore indexed together and the means were calculated. Mean results reveal that for both products product attitude was higher when the model was digitally retouched (\bar{x} razor = 6.58; \bar{x} water = 7.31) than when she was not (\bar{x} razor = 6.20; \bar{x} water = 6.86).

A two-way ANOVA was conducted to compare the effect of product type and ad condition on the product attitude. The omnibus F-test for the effect of product type and ad condition on product attitude is statistically significant, $F(3, 279) = 3.536, p = .015$. A main effects analysis shows no statistically significant difference in product attitude based on ad condition, $F(1, 279) = 2.819, p = .094$. However, there is a statistically significant difference in product attitude based on product type, $F(1, 279) = 7.908, p = .005$. The omnibus F-test for the interaction effect of product type and ad condition on product attitude was not statistically significant, $F(1, 279) = .021, p = .885$, as shown in the table below.

Descriptives: Product attitude				Tests of between subjects effects (excl. product-only)			
Ad condition	Product type	\bar{x}	N	Source	df	F	Sig.
Untouched	Vitamin water	6.86	76	Corrected model	3	3.536	.015
	Razor	6.20	67	Ad condition	1	2.819	.094
Retouched	Vitamin water	7.31	72	Product type	1	7.908	.005
	Razor	6.58	68	Ad condition*Product type	1	.021	.885
				Error	279		

Table 12: ANOVA results: Product attitude (H7)

Statistically significant differences in product attitude were found based on the product type (water, razor) but not based on the type of ad (original, retouched) subjects were exposed to. In other words, the retouching of the model had no statistically significant effect on consumers' attitude toward the product. Therefore, H7 is rejected.

H7: Retouching creates more favorable attitudes toward the product for

a: appearance-related products **REJECTED** *b: appearance-unrelated products* **REJECTED**

4.5 Intention

4.5.1 Product Intentions

H8 assumes that product intentions increase if the model in a printed ad has been digitally retouched. Product intention was measured with four statements on a 10-point Likert scale. As previously mentioned, these statements were related to purchase intention, trial intention and intention to seek out a product in-store. Due to high internal consistency ($\alpha = .936$) the statements were indexed together and the means were calculated. Mean results show that for the appearance-related product intention was higher when the model was digitally retouched ($\bar{x} = 5.67$) than when she was not ($\bar{x} = 5.40$). However, for the appearance-unrelated product the combined product intention score was lower when the ad was digitally retouched ($\bar{x} = 5.72$) than when it was not ($\bar{x} = 5.85$).

A two-way ANOVA was conducted to compare the effect of product type and ad condition on product intention. The omnibus F-test for the effect of product type and ad condition on purchase intention is not statistically significant, $F(3, 279) = .457, p = .712$. A main effects analysis shows no significant difference in purchase intention based on ad condition, $F(1, 279) = .063, p = .802$ or based on product type, $F(1, 279) = .791, p = .374$. Moreover, the omnibus F-test for the interaction effect of product type and ad condition on purchase intention is not significant, $F(1, 279) = .527, p = .468$, as shown in the table below.

Descriptives: Product intentions				Tests of between subjects effects (excl. product-only)			
Ad condition	Product type	\bar{x}	N	Source	df	F	Sig.
Untouched	Vitamin water	5.85	76	Corrected model	3	.457	.712
	Razor	5.40	67	Ad condition	1	.063	.802
Retouched	Vitamin water	5.72	72	Product type	1	.791	.374
	Razor	5.67	68	Ad condition*Product type	1	.527	.468
				Error	279		

Table 13: ANOVA results: Product intentions (H8)

Moreover, a two-way ANOVA was conducted to compare the effect of product type and ad condition on purchase intention alone, since this measure is often used as only indicator for product intentions. The omnibus F-test for the effect of product type and ad condition on purchase intention is not statistically significant, $F(3, 279) = .408, p = .747$. A main effects analysis shows no significant difference in purchase intention based on ad condition, $F(1, 279) = .146, p = .703$ or based on product type, $F(1, 279) = .579, p = .447$. Moreover, the omnibus F-test for the interaction effect of product type and ad condition on purchase intention is not significant, $F(1, 279) = .523, p = .470$, as shown in the table below.

Descriptives: Purchase intention				Tests of between subjects effects (excl. product-only)			
Ad condition	Product type	\bar{x}	N	Source	df	F	Sig.
Untouched	Vitamin water	5.91	76	Corrected model	3	.408	.747
	Razor	5.46	67	Ad condition	1	.146	.703
Retouched	Vitamin water	5.81	72	Product type	1	.579	.447
	Razor	5.79	68	Ad condition*Product type	1	.523	.470
Product-only	Vitamin water	6.17	69	Error	279		
	Razor	6.10	70				

Table 14: ANOVA results: Purchase intention (H8)

Concluding, there are no statistically significant differences in product intention or purchase intention alone based on the product type (water, razor) and type of ad (original, retouched) the respondents were exposed to. This proves that the retouching of the model had no statistically significant effect on consumers' product intention. Therefore, H8 is rejected.

H8: Retouching increases product intentions for

a: appearance-related products **REJECTED** *b: appearance-unrelated products* **REJECTED**

4.5.2 Willingness to Pay a Price Premium

H9 states that the willingness to pay a price premium increases if the model in a printed ad has been digitally retouched. Although mean results are below 5, there is nonetheless evidence of this effect. When exposed to the appearance-related product, respondents expressed a

higher willingness to pay a price premium when the model was digitally retouched ($\bar{x} = 4.31$) than when she was not ($\bar{x} = 3.94$). The same holds true for the appearance-unrelated product (\bar{x} retouched = 4.86; \bar{x} untouched = 4.76).

A two-way ANOVA was conducted to compare the effect of product type and ad condition on the willingness to pay a price premium. The omnibus F-test for the effect of product type and ad condition on willingness to pay a price premium is not statistically significant, $F(3, 278) = 2.021, p = .111$. A main effects analysis shows no statistically significant difference in willingness to pay a price premium based on ad condition, $F(1, 278) = .624, p = .430$. However, the difference is statistically significant when it comes product type, $F(1, 278) = 5.279, p = .022$. The omnibus F-test for the interaction effect of product type and ad condition on willingness to pay a price premium is not statistically significant, $F(1, 278) = .213, p = .645$, as shown below.

Descriptives: Price premium				Tests of between subjects effects (excl. product-only)			
Ad condition	Product type	\bar{x}	N	Source	df	F	Sig.
Untouched	Vitamin water	4.76	76	Corrected model	3	2.021	.111
	Razor	3.94	67	Ad condition	1	.624	.430
Retouched	Vitamin water	4.86	72	Product type	1	5.279	.022
	Razor	4.31	67	Ad condition*Product type	1	.213	.645
				Error	278		

Table 15: ANOVA results: Price premium (H9)

Thus, there are statistically significant differences in the willingness to pay a price premium based on the product type (water, razor). However, there are no such differences when it comes to the type of ad (original, retouched). This shows that retouching had no statistically significant effect on the consumers' willingness to pay a higher price. Therefore, H9 is rejected.

H9: Retouching increases the willingness to pay a price premium for

a: appearance-related products **REJECTED** *b: appearance-unrelated products* **REJECTED**

4.5.3 Word of Mouth Intention

H10 assumes that consumers are more likely to tell a friend about the product if the model in a printed ad has been digitally retouched. A comparison of the means shows that this is not the case. On the contrary, for both, the appearance-related product as well as the appearance-unrelated product, WOM intention was lower when the model was digitally retouched (\bar{x} razor = 4.59; \bar{x} water = 5.17) than when she was not (\bar{x} razor = 4.71; \bar{x} water = 5.33).

A two-way ANOVA was conducted to compare the effect of product type and ad condition on WOM intention. The omnibus F-test for the effect of product type and ad condition on WOM intention is not statistically significant, $F(3, 271) = 1.043, p = .374$. A main effects analysis shows no statistically significant difference in WOM intention based on ad condition, $F(1, 271) = .167, p = .683$ or based on product type, $F(1, 271) = 2.950, p = .087$. The omnibus F-test for the interaction effect of product type and ad condition on WOM intention is not significant either, $F(1, 271) = .004, p = .951$, as shown in the table below.

Descriptives: WOM				Tests of between subjects effects (excl. product-only)			
Ad condition	Product type	\bar{x}	N	Source	df	F	Sig.
Untouched	Vitamin water	5.33	72	Corrected model	3	1.043	.374
	Razor	4.71	66	Ad condition	1	.167	.683
Retouched	Vitamin water	5.17	71	Product type	1	2.950	.087
	Razor	4.59	66	Ad condition*Product type	1	.004	.951
				Error	271		

Table 16: ANOVA results: WOM intention (H10)

Hence, there are no statistically significant differences in WOM intention based on the product type (water, razor) or type of ad (original, retouched), meaning that the retouching of the model had no statistically significant effect on WOM intention. Therefore, H10 is rejected.

H10: Retouching increases WOM intention for

a: appearance-related products **REJECTED** *b: appearance-unrelated products* **REJECTED**

4.6 Summary of Hypotheses Support/Rejection

The degree to which our ten hypotheses have been supported is summarized in the table below.

Main research question: Does the digital modification of female bodies in print advertisements actually affect perceived model attractiveness and consumer reactions?

Sub-research questions: Will the retouching of female models have an effect on ...

... perceived model attractiveness?	H1: Retouching increases perceived model attractiveness in the case of	
	a: appearance-related products	REJECTED
	b: appearance-unrelated products	REJECTED
... consumers' cognitive responses?	H2: Retouching enhances product recall for	
	a: appearance-related products	REJECTED
	b: appearance-unrelated products	SUPPORTED
	H3: Retouching enhances brand recall for	
	a: appearance-related products	REJECTED
	b: appearance-unrelated products	SUPPORTED
	H4: Retouching leads to a higher overall recall for appearance-related products than for appearance-unrelated products.	SUPPORTED
... consumers' attitudes?	H5: Retouching creates more favorable attitudes toward the ad for	
	a: appearance-related products	REJECTED
	b: appearance-unrelated products	REJECTED
	H6: Retouching creates more favorable attitudes toward the brand for	
	a: appearance-related products	REJECTED
	b: appearance-unrelated products	REJECTED
	H7: Retouching creates more favorable attitudes toward the product for	
	a: appearance-related products	REJECTED
	b: appearance-unrelated products	REJECTED
... consumers' intentions?	H8: Retouching increases product intentions for	
	a: appearance-related products	REJECTED
	b: appearance-unrelated products	REJECTED
	H9: Retouching increases the willingness to pay a price premium for	
	a: appearance-related products	REJECTED
	b: appearance-unrelated products	REJECTED
	H10: Retouching increases WOM intention for	
	a: appearance-related products	REJECTED
	b: appearance-unrelated products	REJECTED

Table 17: Summary of hypotheses support/rejection

4.7 Further Analyses

Due to the fact that most of our hypotheses were rejected, a multiple regression analysis was conducted to help predict the value of consumer product intention based on the variables previously discussed in this chapter. In other words, we wanted to see which variables influence product intentions. The dependent variable chosen was product intention and the independent variables selected were ad condition (untouched, retouched), product type (appearance-unrelated or -related), ad attitude, brand attitude, product attitude, product value (from ordinary to distinctive), purchase intention (if the brand has the same price as the brand usually bought), willingness to pay a price premium, model attractiveness, model-product fit, involvement (from never to daily) and respondents' perceived similarity to the model.

The results, presented in Appendix VII, indicate that the model proposed is significant and a good fit for the data. The independent variables and the dependent variable show a high degree of correlation (adjusted R square = .679). More than that, 69.3% of the overall product intentions can be explained by the chosen independent variables, which significantly predict the dependent variable.

While not significant, the regression results show that the product attitude, the product value (from ordinary to distinctive), the model-product congruence and the involvement in the product category (from never to daily) have a positive influence on product intentions. On the other hand, the ad condition (untouched, retouched), attractiveness of the model and perceived similarity to the model and the consumer were found to have a negative influence on product intentions.

Concluding, the variables that have a significant positive effect on product intentions are the type of product, ad attitude, brand attitude, and the price of the product. In other words, an increase in attitude toward the ad and the brand as well as the price of the product will have a positive effect on product intentions. Also, whether the product is perceived as ordinary or distinctive can have a significant positive impact on product intentions. Basically, the more distinctive the product is, the higher product intentions will be.

5 DISCUSSION AND CONCLUSION

This final chapter discusses the findings presented in chapter 4 Results and Analyses by relating them to theories previously discussed in this paper. In the next step, a conclusion will be derived in order to answer the research questions. Then managerial implications and points of criticism toward the study will be pointed out. Finally, the paper will be concluded with recommendations for future research.

Previous studies have explored the effectiveness and effects of decorative models in advertising. Lately, a high degree of attention has been paid to the digital manipulation of female models in advertisements. This research contributes to the discussion by exploring the link between retouched female images in print ads and consumers reactions. The latter were measured along the HOE, with a special focus on consumers' cognitive response, attitudes and expressed intentions. This study is the first to explore whether the retouching of models increases perceived attractiveness ratings. Furthermore, it is among the first to investigate differential effects of attractive female models for appearance-related and -unrelated products.

5.1 Retouching Only Matters on a Superficial Level

The positive effects of retouching can be seen throughout this study, even though their extent was not statistically significant. Therefore our results criticize the assumption that creating an ideal image of a female model in the ad significantly increases advertising effectiveness, as proposed by Lunau (2008 as in Aagerup, 2011) and Yu et al. (2011). We can however see the benefits using attractive models in advertisements (e.g. being perceived as more favorable, effective and trustworthy) as discussed by Baker and Churchill (1977), Kahle and Homer (1985), Mills and Aronson (1965), Petroschius and Crocker (1989), Till and Busler (2000). More specifically, for the appearance-unrelated product, where the model was perceived as more attractive when she was retouched, the results for ad attitude, brand attitude, product attitude, and willingness to pay a price premium were numerically higher, yet not at a statistically significant degree. This leads to the overall conclusion that retouching matters only on a superficial level, thus not leading to statistically significant differences in consumer reactions.

Furthermore, our findings support Cash and Pruzinsky (1990), Grogan (1999), and Lennon et al. (1999) who emphasize that media can influence the attitude toward one's own body and appearance through comparison with ideals portrayed in the media. However, they point out that women have become more critical about unrealistic media images of thinness, as discussed by Grogan (1999) and Milkie (1999), which is seen as one reason for the decreasing effectiveness of such advertisements.

5.2 Retouching Does Not Increase Perceived Attractiveness

In their attempt to create “haunting images of perfection” (Richins, 1991), marketers use manipulative tools to enhance model attractiveness. However, we argue that these assumptions and expectations are unrealistic and over-estimated. The findings of our study show no statistically significant differentiating effects in perceived model attractiveness depending on whether the ad was retouched or not. This held true for both product types, appearance-related and -unrelated products.

There might be several reasons why the respondents did not perceive a growth in attractiveness after the digital manipulation of the model. One explanation could be that, while for the experts consulted (see chapter 3.2.6 Pre-test 3: Ad Pre-test) there were clear differences between the untouched and the retouched model, these differences in the model’s appearance were not clearly visible to ordinary people. This assumption is strengthened by the fact that while experts were exposed to both model conditions at the same time, respondents were exposed to only one advertisement (untouched or retouched), which made a direct comparison impossible.

Another reason might be that one of the model’s attributes influenced perceived attractiveness. For example, Felson and Bohrnstedt (1979) showed evidence that people possessing academic or athletic attributes are perceived as good-looking and attractive. Even though we used the same model in both ads, it is possible that the retouched model, being slimmer, tanned and wearing lip gloss was perceived to have fewer athletic or academic abilities than the untouched model.

Another possible explanation for the lack of difference in the perceived attractiveness of the untouched and retouched model is the comparer theory discussed by Brickman and Bulman (1977 as in Wheeler & Myake, 1992) and Bower (2001). According to the authors, a decreased evaluation of the model can occur when consumers do not perceive the model as credible. In the case of the appearance-unrelated product, it is possible that the health claims communicated by the vitamin water were not clearly emphasized by the looks of the model. This assumption is strengthened by the model-product fit, which was only slightly above average (\bar{x} water = 6.26; \bar{x} razor = 5.88). Furthermore, the mean result for expected improvement (measured as significant, achievable and noticeable) on the respondents wellness/health was 7. In other words, it was hard to see whether the model is healthy and feels good, as she was claiming to in the ad text.

Brickman and Bulman (1977 as in Wheeler & Myake, 1992) and Bower (2001) further say that in the case of appearance-related products, female consumers will negatively evaluate a female model in an advertisement if they perceive the model's look as hard to inherit. According to Brickman and Bulman (1977 as in Wheeler & Myake, 1992) "the more easily improved a body part is perceived to be, the less likely a comparer is to feel negatively as a result of the comparison". Basically, as long as the comparer (consumer) perceives herself as progressing toward a superior state, the comparison will have positive results. Although we selected a model that is only slightly above-average when it comes to attractiveness in order to incite comparison, it is possible that the experiment timing influenced results. In other words, the tanned skin of the model could have been seen as unrealistic for beginning of March. Respondents might have been affected by the unrealistic seasonal looks of the model and scored the model's attractiveness lower than they would have for instance in July.

5.3 Retouching Effects on Recall Are Product-Specific

Chestnut et al. (1977) proved that decorative models, since they are "processed, stored and retrieved", affect cognition in a positive way. Kahle and Homer's (1985) findings too suggest that the attractiveness of the model has a positive effect on both, brand and product recall.

Our findings suggest that this is not true for all product types. While for the appearance-unrelated product ad this common theory held true (i.e. product and brand recall were higher when the model was retouched and rated higher in attractiveness than when she was untouched and rated lower in attractiveness). For the appearance-related product, on the contrary, product and brand recall were lower when the model's body was digitally manipulated. The results of this study are therefore in line with Caballero and Solomon (1984) who indicate that certain consumer responses to communications may be product-specific and that highly attractive models may work better for some product categories than for others. For the appearance-related product, our findings further confirm Baker and Churchill (1977) who found that attractive models sometimes fail to produce cognitive acceptance of the message.

Moreover, we can take our findings one step further and agree with O'Donohoe (1994) who suggests that the active, reward-seeking consumer, represented by the age category studied in this paper, challenges traditional models of advertising effectiveness. Basically, a well-designed, creative ad coupled with a suggestive and comprehensive brand name has the opportunity to lead to high product and brand recall, breaking through the clutter. This is in line with Alexandru Malaescu, Art Director at BBDO, who explained that the kind of

advertising awarded at events such as the Cannes Lions International Advertising Festival are ads that sell products creatively and awaken positive feelings in people.

Moreover, this study proves that retouching leads to higher overall recall for appearance-related than -unrelated products. This finding strengthens the conclusions of Till and Busler (2000), Kahle and Homer (1985), and Kamins (1990) who studied the “match-up” hypothesis. According to the authors, an attractive model will be more compatible with the promotion of a product used to enhance one’s attractiveness (an appearance-related product). However, the expertise of the endorser is probably a more important match-up factor than his/her attractiveness when it comes to appearance-unrelated products (ibid). Based on these findings we argue that in our study the attractiveness of the model was not sufficient to trigger a cognitive response in the consumers for the appearance-unrelated product category.

Concluding, this study suggests that there are product types for which decorative models do not enhance the cognitive response as advertisers would expect. High mean results for the product-only conditions further indicate that creating an ad where the product is shown without a model can be enough to trigger the consumer need for the product and lead to recall.

5.4 Retouching Only Has a Minor Effect on Attitude

Our results regarding ad attitude, brand attitude and product attitude show higher yet not statistically significant ratings of liking, clearness, favorableness and appeal.

Ad attitude. In terms of ad attitude, our findings support Baker and Churchill (1977) regarding the fact that ads displaying attractive models are rated higher in terms of ad liking. An interesting finding is that while the retouched model ad got the highest ad attitude scores for both products, the product-only ads scored higher than the untouched-model ads for both product categories. Since respondents gave an average score of 7 to both products when asked for the expected improvement on their wellness and looks, we argue that the model probably did not convey enough credibility. According to Lutz et al. (1983), and Lafferty and Goldsmith (1999) credibility is one of the most important determinants in creating a positive ad attitude, and therefore the product-only ads were perceived as more credible.

Brand attitude. Brand attitude is formed based on previous experiences with the brand and with the model endorsing the brand (Anderson 1976, 1983), and by repeating the pairing of the model with the brand, the two become part of each other’s association set (Till & Busler, 2000). In this study, respondents had no previous experience with the brands or the model.

Furthermore, repeated exposures did not occur, which means that brand attitude was formed based on a single exposure to an unknown model and brand. Therefore brand attitude results will be discussed looking at the match-up factor. Kahle and Homer (1985) argue that the brand attitude will be more favorable when the appearance-related product is paired with an attractive model. Our findings support their view, however, only on a statistically insignificant level. More than that, this study suggests that also for appearance-unrelated products brand attitude scores are higher (at a statistically insignificant level) when the ad is retouched.

Product attitude. Our findings regarding product attitude support Joseph (1982), Kahle and Homer (1985), and Simon et al. (1970), who argue that thin models, since they tend to be perceived as more attractive, have a more positive impact on the endorsed product than average-sized models. However, our results contradict the findings of Smith and Engel (1968 as in Joseph, 1982), which show that a product is perceived as more appealing when it is presented next to an attractive model as opposed to no model at all. In this study, the product-only conditions scored better in terms of product attitude than the untouched-model ads, for both products.

Overall, this study also confirms that there is a high correlation between brand and ad attitude, as discussed by MacKenzie et al. (1986) and Brown and Stayman (1992). Even more so, our findings prove that there is consistency in consumer attitudes toward ad, brand and product.

The failure of the retouched model to increase ad, brand and product attitude is surprising taking into consideration the attractiveness literature discussed in this paper. One of the possible reasons why the attractive model failed to produce the expected results could be the fact that students, in general, are more advertising savvy and therefore skeptical regarding advertising claims. Perhaps an older or less educated population may be less defensive when put into this kind of evaluative situation, as Baker and Churchill (1977) also suggest.

5.5 Retouching Does Not Increase Consumers' Intentions

Product intentions. Numerous marketers believe that consumers will develop a more positive attitude and, as a consequence, will be more likely to buy their product when it is associated with an attractive model (Saad, 2004).

In this study, product intention scores were rather low for all add conditions (between 5.40 and 6.26), showing slightly but statistically insignificantly higher (for the appearance-related product) or lower (for the appearance-unrelated product) intention levels when the model was

retouched. This questions the findings of many researchers who found support for the positive effects of highly attractive or thin models on purchase intention (e.g. Baker & Churchill, 1977; Buunk & Dijkstra, 2011; Kahle & Homer, 1985; Petroschius & Crocker, 1989). We argue that these findings do not hold true for all product types and that the effects might not be statistically significant.

For both product categories, the product-only ad produced the highest purchase intention. Therefore our findings suggest that consumers are not more likely to buy a product when it is promoted by a model, independent from her attractiveness, which contradicts Saad (2004).

An explanation for this phenomenon could be that respondents did not perceive themselves as similar to the model in the ad. Caballero and Solomon (1984) found that when customers experience negative emotions of inferiority, this tends to lead to a decreased credibility of the model and product argument. Consumers are therefore more responsive to advertising models perceived as similar to themselves (e.g. male customers are more responsive to male models). Respondents of this study perceived the similarity to the model to be 5 on average, which indicates a rather low score, thus strengthening Caballero and Solomon's findings.

Another explanation provided by the same authors could be the fact that the attractiveness of the model in the ads may have generated a decreased awareness of the overall display, impeding the product claims to reach the respondents. This explains the high intention scores of the product-only ads. Since there was no model distracting attention from the products, the respondents were able to focus more on observing and analyzing the product claims.

Taking into consideration the relatively low overall scores of all three advertisement types regarding product intentions, one of the underlying causes could be price sensitivity. In the multiple regression analysis performed in chapter 4.7 Further Analyses, price sensitivity was indicated as a factor positively influencing product intentions.

Willingness to pay a price premium. For a price-sensitive student sample it is somehow natural that the willingness to pay a price premium received scores below 5. As before, the product-only ad generated the highest willingness to pay a price premium, emphasizing the fact that when it comes to the price of the products advertised, the functionality and the benefits gained by using the product play the most important role in the decision-making process.

The results of this paper also show that respondents were more willing to pay a price premium for the appearance-unrelated product than for the appearance-related product. One

possible reason is that the health benefits communicated by the vitamin water are of more importance to the consumers than the improved looks benefits communicated by the razor.

WOM intention. WOM intention was expected to be the highest for the retouched model ads. The WOM score given by the respondents were rather low overall (between 4.59 and 5.72) and for both products the product-only ad scored the highest, followed by the untouched model ad and the retouched model ad. Even if the differences were not significant, we can again refer to the comparer theory and the match-up hypothesis previously discussed in this chapter. Potential negative emotions toward the model might have kept them from spreading the word about model ads. This explains why the product-only ads scored the highest on WOM.

In our study, the appearance-unrelated vitamin water got higher WOM intention scores than the appearance-related product. This can be explained by the fact that vitamin water is a category not yet established in the Romanian market and people are more likely to spread the word about a new than an already known product. For the appearance-related product, the name of the brand triggered interest and a positive attitude, which positively affected the WOM intention score. Some of the respondents specifically stated the brand name Foxy as a reason for telling a friend about the brand.

5.6 Conclusion

5.6.1 Will the retouching of female models have an effect on perceived model attractiveness?

This study has proven that retouching a female model's appearance according to beauty ideals, by idealizing her body shape, skin tone and lips color, will have no significant positive results on how consumers perceive her attractiveness. Therefore, enhancing a model's appearance through digital manipulation will have no effect on perceived model attractiveness.

5.6.2 Will the retouching of female models have an effect on consumers' cognitive responses?

The impact that digital idealization of female models has on consumers' cognitive responses depends to a large degree on the product type. Recall will not be affected when the product promoted is appearance-related. For appearance-unrelated products, however, a positive effect can be expected, meaning that the retouching of the model's body will lead to higher product and brand recall leaving it untouched.

5.6.3 Will the retouching of female models have an effect on consumers' attitudes?

As previously discussed, retouching a female model has a superficial positive effect on ad, brand and product attitude. This means that even though consumers' attitudes might be slightly more favorable after exposure to the idealized model, this minor difference cannot be expected to be statistically significant. Therefore, enhancing a model's appearance through digital manipulation will have no significant effect on consumers' attitudes.

5.6.4 Will the retouching of female models have an effect on consumers' intentions?

This study has found no proof for higher consumers' product intentions, willingness to pay a price premium or word of mouth intentions due to the retouching of the female model in the advertisements. Consumers' intentions rather gravitate around the qualities of the products advertised and their value for money. Therefore, against the hypotheses generated, the retouching of female models will have no effect on consumers' intentions.

Concluding, this study provides strong evidence that the digital modification of female bodies in print advertisements does not affect perceived model attractiveness and has only minor effects on consumer reactions. Statistically significant effects will only exist when the product promoted is appearance-unrelated and when the effectiveness measure used is recall.

5.7 Managerial Implications

The findings of this study serve marketers, media agencies and companies' management in decision making regarding the use of digitally altered human images in advertisements. Critical valuable insights reveal that the effects of retouching are often over-estimated and hence provoke practical implications for these groups.

Using attractive, idealized female models in advertisements is counter-productive in several ways. First, companies invest enormous amounts of money on marketing communication every year (Adage, 2012; Business Insider, 2012). A large portion of these financial resources is dedicated to the creation of the advertisement. However, as the findings in this study prove, retouching the female model does not necessarily increase the effectiveness of the ads. A practical implication marketers and businesses in general should derive from this is that retouching an already attractive model is, in most cases, a waste of financial resources. We advise them to rather dedicate these resources to product differentiation and brand building, since our findings (compare 4.7 Further Analyses) showed that product intentions are driven by the perceived distinctiveness of the products. In addition, we argue based on the high

scores product-only ads got along the HOE, that for an advertising to be effective one might not need a model at all.

Second, the fact that most marketers use highly attractive, flawless models in their advertisements does not support their company's efforts to break through the clutter. Caballero et al. (1984) found that for low involvement products, for instance, unattractive models produced more actual sales than highly attractive models. Decision makers might want to consider using unusual model types that stick out of the crowd or presenting model and product in more creative ways. In addition, they could use "No retouching policies" as a means of differentiation from competitors and a way of breaking through the clutter.

Third, communication strategies have to be consistent (Percy, 2008) and retouching practices can lead to inconsistencies, when they are not in line with the overall company or brand strategy. For companies promoting natural products or a sustainable image, for instance, it is essential to use naturally beautiful models. An important implication of our findings is that companies can now do so, without the fear that untouched (or hardly retouched) models will decrease advertising effectiveness or will be perceived as less attractive.

Finally, our findings will provide marketers, Chief Marketing Officers (CMOs) and business managers with justifications for reducing or eliminating retouching practices. In addition, they might give them enough confidence to challenge the current norms and stereotypes used in advertising and to dare advertising their products in yet "unconventional" way. For those still critical about the evidence provided in this paper, we suggest implementing key indicators for measuring advertising effectiveness and then experimenting with different levels of digital manipulation and seeing for themselves.

5.8 Critique of the Study

In this section we will discuss some critical points regarding the research conducted for this study. Minor points of criticism include that respondents might define attractiveness in different ways (e.g. sexy, classic) (Solomon et al., 1992), that subjects were influenced by personal preferences when evaluating attractiveness (Baudouin & Tiberghien, 2004), or that the model's clothes or body language might have influenced the results. This section will, however, focus on the main points of criticism. These were found to be (i) the convenience sample, (ii) the location chosen, (iii) the industry and product categories and, (iv) model used for the experiment as well as (v) the HOE framework used, (vi) the experiment setting and (vii) the fact that only expressed behavior intentions rather than actual behavior were tested.

Sample. The convenience sample consisting of young female Romanian students is probably the point that is most vulnerable to criticism. Our focus on university students very likely biased the sample towards young individuals with an above-average education and rather high socioeconomic status. Higher education might have incited more critical attitudes toward ethics in advertising among respondents. The socioeconomic status, which is often correlated with income, could have led to more positive ratings on willingness to pay or overall purchase intention, as opposed to subjects from lower or average status. We suggest conducting future research to elaborate on this issue.

Location. The fact that the experiment was held in Romania further decreases the external validity of the findings. While we argue that due to its history, culture and economic development the Romanian market is representative for Eastern Europe, consumer reactions most probably differ in other parts of the world because beauty ideals vary across countries and cultures. In their study comparing the body image of Americans and Israelis, Heesacker et al. (2000) found that body image stereotypes were influenced by culture, sub-culture and economic development. For instance, in countries where there is an overabundance of food, people strive for a thin body because thinness is considered as a sign of being able to maintain self-control (Thesander, 1997). In countries where food is limited, on the contrary, fatness is what determines beauty, health and high status (Robertson, 1992 as in D'Alessandro, 2011). Extending this study to other regions with different beauty ideals was however out of scope.

Industry and product categories. This experiment tested for two product types, both being FMCGs. Another point of criticism is therefore that the findings cannot be expected to be transferable to other industries, including the service industry. This could have been avoided by using products from different industries. However, considering that most Photoshop scandals are related to FMCG ads, this industry seemed to be the obvious choice. Another point of criticism is that the product category of vitamin drinks is not yet common in the Romanian market. This could have influenced the findings, especially when it comes to product recall or product involvement. We argue that both are probably higher in markets where the respective product category is well established. In a replication of this study we would take into account product category lifecycles.

Model. Our study displayed the same female model in all ad conditions. Using two different models instead of one would have increased the generalizability of the findings and would have allowed for a more perfect model-product congruence. An even higher fit could have then increased the model's credibility and perceived attractiveness and influenced the

consumers' attitude toward the ad (Kamins, 1990; Kamins & Gupta, 1994). One way of reaching a stronger fit would have been to determine the personality of the brand and the perceived personality of the model, which were proven to be strongly connected (Kressmann et al., 2006), and match them up accordingly. In addition, having two models of different attractiveness levels (highly attractive and moderately attractive) would have provided an insight in the effects of retouching depending on how attractive the untouched source is. It would have also enabled us to more clearly confirm or contradict findings of authors who used this attractiveness differentiation in their experiments (e.g. Baker & Churchill, 1977; Bower & Landreth, 2001; Buunk & Dijkstra, 2011; Caballero & Solomon, 1984; Tsai & Chang, 2007; Widgery & Ruch, 1981). Furthermore, this study, like most research in the fields of physical attractiveness and decorative models, has used female models only. Including a male sample would have increased the generalizability of the findings. However, it would have been more difficult to compare to past research that focused on women only.

Framework. The reader might also criticize the HOE framework used, since it is more appropriate for high-involvement purchases. For low-involvement purchases, which our products more likely fall into, the order of the different stages tends to be different (i.e. attitudes being formed after actual purchase). Since this study however did not explore the relation between the stages and the framework served more as a structural guide, the stage order is not seen to influence the findings in any way.

Experiment setting. Further points of criticism are that in our study participants were exposed to the ads in a classroom, which is not typically a place where people are confronted with print ads, and that they were incited to look at the ad. Even though the subjects were asked to view the advertisement as they would do in a magazine, people's behavior in reality might differ. Conducting this experiment again, we would opt for a more natural setting, such as the waiting room of a doctor's practice, where magazines are readily available. Integrating the experiment advertisement in an existing magazine along with other advertisements would help account for clutter. Furthermore, approaching magazine readers after they have looked through the magazine can be expected to better reflect how much or little attention they pay to the ad.

Measures. Another point that could be criticized about this study is that it only tested for expressed intentions, not for actual behavior. Without including a behavioral element, such as observing the sample at the point of sales (POS) or screening their online and offline social conversations, we cannot be 100% sure whether the consumers' intentions result in sales or

WOM, respectively. One way of making expressed intentions more binding would have been to make participants commit to buying the product in the future.

Summarizing, external validity could have been increased by using a wider sample in terms of age range, gender or occupation, or by extending the geographical spread. Moreover, the reliability of the findings could have been improved by selecting a more realistic experiment setting and by including an actual behavior measure.

5.9 Suggestions for Future Research

Based on critical points and a lack in current literature this chapter recommends several fields that could be of interest to future research.

Including a male sample and/or using male models and model constellations. For future studies it would be highly interesting to not only focus on female subjects but to include a male sample. When it comes to advertising effectiveness, male subjects were found to be more difficult to persuade (Chaiken, 1979). Besides, hardly any research was found that focuses on the differentiating consumer responses of a male sample as opposed to a female sample. This topic therefore provides lots of potential for future research.

Only a small percentage of studies experimented with male models only or used gender as independent variable in determining advertising effectiveness (e.g. Baker & Churchill, 1977; Caballero & Solomon, 1984; Caballero et al., 1989; Chaiken, 1979; Petroschius & Crocker, 1989; Reid & Soley, 1983; Tsai & Chang, 2007). Baker and Churchill (1977), for instance, revealed that ads displaying a model of the different sex resulted in higher affect scores. Whether this translates into higher behavioral intention ratings is contradictory. While Caballero et al. (1989) found this to be true, others found that this is not the case (Baker & Churchill, 1977; Petroschius & Crocker, 1989). Furthermore, the sex of the model was proven to affect perceived product quality, with products promoted by male models being rated higher in distinctiveness and quality (Petroschius & Crocker, 1989). It would be interesting to further investigate such gender effects, either of male models displayed alone or of model constellations consisting of models of both genders. Moreover, since no study could be found that explicitly focuses on the digital manipulation of male models, researchers might want to move into this direction.

Exploring cultural differences. Adding culture as a variable is another interesting direction for future research. Exposure to a beauty ideal that does not correspond with your own seems to mediate the effects of idealized imagery. Duke (2002) proved that there are considerable differences in aspiration to Euro-centric idealized images in magazines between white and

African American magazine readers. While white girls responded to the improved version of reality, African American girls perceived feminine ideals as not real and preferred their real world experience. All these studies, however, focus on the effect of model attractiveness on consumers' psychological state. No research has been found that investigates the attitudes of different cultural beauty ideals on retouching practices. This could be easily done by replicating this study with one adjustment: conducting the experiment in several regions with different beauty ideals. When doing so, it would be interesting to see how the regression model (compare chapter 4.7 Further Analyses), which has been found to be valid and significant, changes once culture is involved.

Investigating effects of a well-known spokesperson. As argued in chapter 3.2.5 Ad Creation, the model used in our ads was a decorative model. An interesting direction for future research would be to look into digital manipulation of well-known models or celebrities who are displayed in the more active role of a spokesperson. The higher familiarity of the communicator might lead to higher liking (Zajonc, 2001) or, on the contrary, seeing a familiar source untouched could evoke negative emotions and result in lower perceived attractiveness and lower evaluations and expressed intentions.

Exploring products targeting the other gender, and services. The appearance-related product used in our experiment was female-oriented (pink razor), meaning that the participants were assumed to be typical buyers and users. It would be interesting to see whether there are differences in consumer reactions to the ads if the product is not targeted towards the participants (i.e. male-oriented products for female participants or vice versa). Moreover, future research could explore other industries or product categories. As of now, no attractiveness research could be found that examines customer reactions to ads where the model promotes a service rather than a product. This would be an interesting starting point for future research.

Using visual media other than print. In a majority of research in this field, consumer reactions were tested for print advertisements only. Tiggemann (2003) found that the influences of watching TV commercials differ considerably from the influences of reading magazines. Further research suggests that TV is more compelling than print media (Lippert, 1996) and that reactions to images in TV commercials are stronger than reactions to images in print media (Green, 1999). All these studies only measured negative psychological effects provoked by the exposure to idealized model images. It would be interesting to investigate how the retouching of images influences advertising effectiveness.

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Interviews and e-mail conversations

Malaescu, A., Art Director of BBDO Bucharest (31 January 2013, 17:00 to 18:30). Personal semi-structured interview in Bucharest.

Stoica, Andrei, Graphic Designer. Telephone interviews on 23 January 2013, 14:30-14:50 and 24 January 2013, 10:00-10:20).

Bercea, Tudor, Graphic Designer. Telephone interview on 23 January 2013, 14:50-15:20. Email conversations on 24 February 2013, 13:00, on 1 March 2013, 10:30 and on 4 March 2013, 13:00.

APPENDIX I: EXCERPTS FROM THE EXPERT INTERVIEW

Personal interview with Alexandru Malaescu, Art Director of BBDO

Bucharest, 31 January 2013, 17:00 to 18:30

Alexandru: The whole idea with an ad is to tell a story. With Photoshop you don't alter the image to make it more beautiful, but to make sure you get the contrasts and to make sure you do have a story to tell. You need to have a plot and a conclusion in your story and you use Photoshop to create that plot and to make consumers understand better your story.

Question: If for example, you want to sell a dress and you alter the image, you do want to tell a story, you do want to sell the dress, but what about the person who goes and buys the dress afterwards? She has the expectation of looking like the model after seeing the ad and after she buys the dress she'll see she doesn't look like the model.

Alexandru: That person should think before buying the dress. She should think ahead whether that dress would fit her or not.

Question: So does that mean that that dress is only for women who look like models?

Alexandru: Yes and on the market there are other dresses that fit people like her.

Question: I have a friend who is a model and she told me that when she was posing for an online shop, they sowed the dress on her to fit her; so that's strictly lying to the consumer, not even on a perfect girl, that dress doesn't look good.

Alexandru: Of course. For example when I shoot a commercial or an ad for ice cream or beer, I do the same thing. A better example is the beer. You won't have the beer foam for the photo shooting. In the glass, we'll have shaving foam, mixed with some type of azote, nitroglycerine and some other things, for it to resist during an entire photo shooting. Natural beer foam disappears fast, you don't have time to take the pictures you need, and you can't model the natural foam (we need it to stay in a certain shape). But there's reality in that picture. One moment in reality, when you pour the beer in your glass, you'll have the foam you see in the ad. In conclusion, the ad is not a lie. The ad is just surprising the perfect moment.

Question: What about when you do this with people?

Alexandru: You see when you talk about people, you present the ideal way of making clothes. The ideal way of creating clothes is creating them on ideal people (90-60-90); that is how designers do it. You want to sell that product ultimately. I can't sell the product if it is an ugly product. If it is a beautiful product, I can sell it and the product will be beautiful only if it is created based on those norms, in this case 90-60-90 model. Otherwise nobody would like that product. And like I was saying before, nobody wants to be 120 kg, people want to be 90-60-90, and so you always have to show the people something that they aspire to and want. If you already have something, you wouldn't want that something anymore, you would want more and better. It's the human nature. And we give people what they need. The smart people know that we portray the ideal. They know that someone can look like that.

Question: Even though it's out of our topic of discussion, there are those examples like Lancôme and Julia Roberts with extreme airbrushing. What is your opinion on those kinds of ads?

Alexandru: Yes, I personally don't understand why they do that. I mean, I never do that with people. I never airbrush them until they have no more wrinkles or face expression. These kinds of ads are made for cheesy magazines. If you want to sell a product you don't do this kind of photoshopping. And, I don't know what kind of an example of ad you could give me, except fashion, where they do this kind of photoshopping?

Question: Who asks for the model to be photoshopped? For example, if Unilever comes and wants to make an ad for Dove; does Unilever say I want a campaign with natural beauty so don't Photoshop the model or do you say that and Unilever just says we want an ad for Dove?

Alexandru: No, they give us a brief in which they tell us: we have this product, we want to communicate the product to these people and we give you the following mandatory constraints, such as the size of the Unilever logo, the model to be between 25-35 years old etc.

Question: And do they say we want the model to be 90-60-90?

Alexandru: Sometimes they really do, sometimes they don't have this kind of requirement. The thing is that if you (the media agency) have a different idea or different criteria, you are going to make a proposal to the client. I mean you make proposals on brief (because you have to) and proposals off brief, which usually are the best proposals and usually are rejected by the client.

Question: Do you just sketch the idea? Or do you make the photo shooting and the ad itself?

Alexandru: No, just sketches and simulations. It costs too much to do the actual ads. A photo shooting can cost you between 5000 EUR (for beer or ice cream) and 50000 EUR (for 3D things, and photos which you can edit and post produce).

Question: Ok, so they give you this brief. I'm interested in female models, so let's say it's a brief for Dove, you do the photo shooting and then you do the post-production, right? You say let's make this girl skinnier, with bigger breasts, more tanned etc.? What's the level of modification/alteration that you do?

Alexandru: Usually, you do a casting for these things. You say I need a model with breasts this size, tanned/not tanned etc. I mean you don't waste time doing this in post-production, because you can have a casting for that. I'm not going to take an old lady, take a picture of her and then transform her in a 20 years old beauty. It makes no sense; it's adding unnecessary work. So you solve these things in casting. In post-production, you solve things like light imperfections, issues that have to do with layout integration, extra shadows etc. For example if I would take a picture of you and I would have too much light, then I would have to add some shadows to your face, to sculpt your cheekbones. It's like a make-up session. It's the same thing; the only difference is that you do it in Photoshop. But these are fine tunings.

Question: Do you have any limits as guidelines that you use? For example, this spring there was an issue with H&M swimwear campaign because of too much tan and the cancer society in Sweden sued them etc. So, do you have a guideline? A limit of Photoshopping you use? Or is it just personal common sense?

Alexandru: I think that this kind of a law suit can only happen in countries which are hyper intoxicated with the liberty of opinions and suing for everything. I see this reason for a lawsuit a made-up reason. I mean, seriously now, the model was tanned, but this is not an encouragement for you to be as tanned as she is. If I show you (there are plenty of ads like this) an ad with Superman flying I'm not inviting you to jump from a high building and check if you can fly. I mean, don't get me wrong, I understand there are constraints. For example I make ads for beer. I am not allowed to make an ad which could be appealing for children. I

find that very good and correct. By no means am I allowed to show a teddy bear in my ad, because it might be appealing for children and they might want a sip of beer and so I need to avoid these kinds of effects. But these are reasonable constraints. A child is a child; he can interpret an ad in any way. But from this point until thinking that the model is tanned and you think it would look better a bit more tanned, and then you get sued for promoting skin cancer, that seems to be science fiction.

Question: True, but on the other hand, this trend exists. Women think that if they're not tanned during summer they don't look good and I've seen plenty of women lying on the beach between 12-16, when the sun is extremely dangerous, just to get that dreamy tan.

Alexandru: Yeah, probably these secondary effects do exist. I, maybe I should have started with this; I don't see fashion advertising as real advertising. As an advertiser, if you respect and want to do this job, you have to tell stories; you have to tell stories in a beautiful way, which will drive people's interest and which will do them good. For example there are people who buy yogurt because they think it does them good. It is a placebo effect. In fashion advertising rarely, except for wonder bra maybe, there is a story told; you just have a model and a product, that's no story and therefore, no advertising. It's not an actual ad and it's not advertising, it's just pictures. And, to answer your question, the people who get hurt from this kind of "advertising" probably have different problems. They probably have a misfortunate background; you can't suffer for seeing these pictures unless you are not ok with yourself.

Question: Right, but you can't blame them, can you?

Alexandru: No, you can't, but you can't blame the advertisers, or the photographers or the models because they look the way they look either. That picture is a reality on a certain level; that model with the right make-up and clothes can and does look like that. And if you are ok with yourself, you look at that picture, you think that girl looks really good/hot and you think I should exercise more. And you do exercise and you feel good. If you don't take that picture in a healthy way and you get bulimia or other eating disorders, it means that you already had some psychological problems. To put it differently, if there's a girl who reads a magazine and before she sees that ad her friend comes and takes away her magazine and tells her "we should not eat 15 days to look perfect" and she didn't get the chance to see the ad and she says "yes, good idea, let's not eat 15 days". Then what? She's not influenced by the ad; she's influenced by her friend. Are you going to sue her friend? Do you see my point? A guy may eat 20 hamburgers in a night. It's not McDonald's fault for making the hamburgers available to him. McDonald's didn't force him to eat those hamburgers. McDonald's wrote on the package how many kcal the hamburger has.

Question: We read that in France they introduced a law in which every photoshopped ad has to mention in the ad what was modified and on which scale.

Alexandru: Very good. If it helps anyone, then they should do it. If the people we advertisers talk to are stupid and don't realize we tell a story, then yeah sure, write on the ad, so it's clear for everyone.

Question: And don't you think this will affect the power of your ad? If you write I modified her nose by 3% and I made her slimmer by 2% etc.

Alexandru: Not necessarily. As I told you, those people who do that they're not real advertisers. Real advertisers want to make you think. They want you to say "oh, I had that in mind, but I didn't know how to picture it; this ad made me reach a conclusion"; this is advertising. This is the advertising that receives awards. In the end, at Cannes, which is the ultimate award for an advertiser, it's like getting an Oscar; they don't award that kind of ads.

For example, Romania won 7 Cannes awards for the campaign for ROM chocolate. They (McCann) did a thing that helped the Romanian nationalism/patriotism through a chocolate. They awakened something in the people. So it was good, it was a win-win situation. So, you need to tell people something interesting, even if you're selling make-up. Why when you sell make-up you need to put that kind of pictures, extremely photoshopped? I'm not telling a story this way. This way I am saying this women in the picture looks like that with this make-up on.

Question: No, you're saying this foundation has illuminating properties and I buy it, I don't get the same effects and I'm disappointed.

Alexandru: Ok, but why don't you say this in your make-up ad? Look at this picture. To look this way you need 3 things: no wrinkles deeper than whatever degree etc. Can you imagine how much this kind of ad would sell? Of course no client would accept this kind of ad, but I bet it would sell extremely well. Wouldn't you buy a product that is honest with you? Your foundation speaks with you. The people who made this foundation are being honest with you: if you think you have x,y,z , buy this foundation because you will be more beautiful; don't listen to the other people around you. I think this tagline would sell. Honesty is so unusual, that people would be positively impressed by such a company.

Alexandru: We usually have 2 big "fights" with an ad. The first one is with the client to accept our ad and the second one is with our budget. You have no idea how much work is behind an ad. Let me give you an example. If you want to film a jar of pickles in the refrigerator you need to have a food artist, a cut through fridge, you need to have a room behind the fridge so that someone can open the fridge, you need 5 meters from the fridge to the camera, so that the camera man can use a big lens and create a focus on the jar and then on the face of the one who opens the fridge. So there are a lot of things to think of and you work a whole day for a clip that lasts 3 seconds.

Question: The objective of an ad is to create brand recall and recognition. Does it have any sales objective?

Alexandru: Not necessarily. It depends on the brief from the client. Some want recall or brand awareness, some want volumes.

Question: And if they want volumes, do you approach the ad differently?

Alexandru: If they want volumes, they usually make promotions. This is valid especially for seasonal products, such as beer, ice-cream or sun screen. And the client comes and says that's our season, we want to sell more of our product, so do something on promotions. Or you can have a brief without promotions, but in which they ask for volumes, especially for seasonal products. If there is a new product that is just being launched, then you can have 2 objectives, one to create awareness and one to boost sales of the new product. That's the trickiest kind of brief, because you need to have an entertaining ad which will also drive volumes.

Question: Do you pre-test these ads?

Alexandru: Yes, they are being pre-tested through focus groups or more complicated tests, in which they can measure people's reactions and where the people look when they see the ad. We call these focus groups the death of creativity; because you gather some people who apparently are representative and you ask them to give their opinion on something that is not finished, because you show them sketches, and you ask them to picture the ad or the commercial. These are people who have no experience in advertising and they can't put things together and imagine how the ad will look like. There are big agencies or companies who have

huge budgets and they test on focus groups the actual commercial. In my opinion that's a waste. If you made a clip or an ad anyway you can just spread it in the media; you'll get some effects than just send it to death. Making 2 or 3 versions of commercial costs a lot of money, so we make them imagine, and that's irrelevant for the results. For example last year I worked on a commercial and in the focus group it scored really high. When we met with the client we told him, you should use another commercial, because the women who scored this ad have no idea about an ad's potential. But the client didn't want to hear us, so he chose the one who scored well in the focus group and the actual results were pretty low.

Question: How do you make sure that you diminish the negative effects that may appear after an ad?

Alexandru: With common sense and information. You can't be a good creative if you're not very well informed and know every little thing that has appeared somewhere. I guess the best tool ever invented for creative was the Internet, and shortly after that, YouTube. Besides that you also have a brand manual who tells you dos and don'ts. You basically just think about it and then the client service will check your ad and if the client service thinks it's ok, then the client will say something and if the client says nothing, then CNA will say something (*CNA is the national audio visual commission).

Question: Who decides the ideal image of a model in an ad?

Alexandru: The art director makes the proposal and the client decides if it's ok or not. Knowing the brand and all the paradigms and the background of clichés, I make a proposal. You meet in the pre-production meeting and you make proposals and together with the client you choose the elements to be present in an ad. It's practically a negotiation between the agency and the client. You choose a model based on the target of the product, the model has to reflect the target audience. For example, women between 35-55 years old buy detergent and decide in the household what kind of detergent to buy.

Observation: Yes, but everyone buys detergent.

Alexandru: It doesn't matter. When you sell a product, ideally I address the one who I know it will buy the product. People are entering and leaving my target all the time and I can't keep those, but I have a steady target that I can keep constantly. The student guy will not trust a detergent which pictures a young model who does laundry and polishes her nails. He will trust in a commercial in which his mother is portrayed, because you know, moms know better. So these stereotypes are true and they give to the consumer something that they can recognize.

Question: So, if we want to ask in my experiment if they will buy detergent after they see an ad with a young model, I will find that the ad will have absolutely no effect.

Alexandru: Yes and you can even do worse. If you put a model in a detergent commercial, your core target, which brings you volumes, will not buy your detergent anymore. But there's a positive example with Ariel. Ariel was usually picturing restaurant owners, successful people who use the detergent in their business. So it was addressing a sort of a premium audience for people with incomes that are high enough to buy this detergent. But they wanted to increase their market share. Now they used the guy who won the Top Chef show, which is a successful Chef and has his restaurant, but a lot of women have been watching the show, they know this guy and now Ariel has gained a new target audience. So, this guy is premium but is also aspirational for housewives, so the brand got an upgrade. I bet that some hundreds women in Bucharest stopped buying Dero and started buying Ariel. But there's also Jacobs (Kraft foods coffee), who used Maya Morgenstern in their commercial (*she is an Oscar

nominated Romanian actress) and because she is so premium, Jacobs lost their mainstream, because people thought their coffee will get more expensive.

Question: So what kind of products should we make our models sell?

Alexandru: The idea is to show people someone/something aspirational but something that is reachable. For example in all beer commercials you see workers that have red in their cheeks, they're happy and so on, you don't see anyone coughing or having a cirrhosis, or 5 kids and no money, because these people if they would make their lives beautiful they would look like those workers. Advertising and Photoshop mean cosmeticizing the reality. There's a huge parallel between Photoshop and the makeup you put on before a meeting. If you go to a meeting after a night of drinking, without wearing makeup, with tired eyes and messy hair no one would want to talk to you. But if you have a good night sleep, you wake up in the morning, dress nicely, put on some makeup, that guy would say, I want to do business with her.

Alexandru: Why do people buy a product?! They buy it because they identify themselves with the product. The product satisfies a real or an imagined need. I honestly believe that the topic of your thesis should be "Advertising makes you better".

Question: We have no blondes or red headed models in our portfolio. I understood that red heads have a bigger impact on consumers?!

Alexandru: On men yes, I'm saying this from experience. In photos, brunettes have the smaller impact because always in a picture you will be attracted by contrasts.

Question: So if we want the attention on the product, we shouldn't use a model that withdraws attention and we should have a brunette.

Alexandru: Exactly.

Question: What products should we make the models sell?

Alexandru: You should use products that consumers absolutely need, such as pills, water etc.

The whole interview transcript is available upon request.

APPENDIX II: PRE-TEST QUESTIONNAIRE SAMPLE

Thank you for your help in selecting a model for our master thesis experiment.
Please do not compare the models but try to give them an objective rating!

Thank you,
Andrea & Madalina

On a scale from 1-10, how attractive do you find this model?



	1 = Not attractive at all	2	3	4	5	6	7	8	9	10 = Highly attractive
Click to write Statement 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How would you describe this model?

Fat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Thin
Unhealthy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Healthy
Ugly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Beautiful

Imagine this model is part of an advertising campaign. How likely is it that she promotes the following products?

	1 = Very unlikely	2	3	4	5	6	7	8	9	10 = Very likely
Bottled vitamin water	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Razor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coffee	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tanning body lotion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following untouched models were used in the pre-test questionnaire:

Model 1:



Model 2:



Model 3:



Model 4:



Model 5:



APPENDIX III: SELECTION OF MODELS AND PRODUCTS

Model attractiveness	\bar{x}	N	Std. Dev.	Dev. from Desired 7.5 Score	Conclusion
Model 1	8.26	34	1.333	0.76	EXCLUDED
Model 2	7.97	34	1.446	0.47	
Model 3	7.68	34	1.512	0.18	CLOSEST to 7.5
Model 4	7.85	34	1.351	0.35	
Model 5	7.29	34	1.715	-0.21	2nd CLOSEST to 7.5

Table 18: Model attractiveness as judged by Romanian women

The mean presents answers to the question: On a scale from 1-10, how attractive do you find this model? (1 = Not attractive at all, 10 = Highly attractive)

Model-product congruence	\bar{x}	N	Std. Dev.	Conclusion
Model 2 & Bottled vitamin water	7.09	34	2.527	EXCLUDED
Model 2 & Coffee	6.94	34	2.558	
Model 3 & Bottled vitamin water	7.76	34	2.161	HIGHEST SCORES FOR BOTH
Model 3 & Coffee	7.18	34	2.736	
Model 4 & Bottled vitamin water	7.29	34	2.493	EXCLUDED
Model 4 & Coffee	6.18	34	3.261	
Model 5 & Bottled vitamin water	7.41	34	2.401	2nd HIGHEST SCORES FOR BOTH
Model 5 & Coffee	7.09	34	2.678	
Model-product congruence	\bar{x}	N	Std. Dev.	Conclusion
Model 2 & Razor	5.53	34	3.268	EXCLUDED
Model 2 & Tanning body lotion	3.97	34	2.887	
Model 3 & Razor	6.06	34	2.870	2nd HIGHEST SCORE RAZOR
Model 3 & Tanning body lotion	5.29	34	2.769	HIGHEST SCORE LOTION
Model 4 & Razor	5.35	34	2.880	EXCLUDED
Model 4 & Tanning body lotion	4.56	34	3.037	
Model 5 & Razor	6.12	34	2.683	HIGHEST SCORE RAZOR
Model 5 & Tanning body lotion	4.41	34	3.016	3rd HIGHEST SCORE LOTION

Table 19: Model-product congruence, as perceived by Romanian women

The mean presents answers to the question: Imagine this model is part of an advertising campaign. How likely is it that she promotes the following products? (1 = Very unlikely, 10 = Very likely)

APPENDIX IV: MAIN STUDY QUESTIONNAIRE SAMPLE



A woman with long brown hair, wearing a black lace dress, stands next to a large bottle of Vitamin Everyday water. The bottle is white with a green label that reads "VITAMIN EVERYDAY" and "VITAMIN B/C/E ACID FOLIC+MAGNESIUM CU AROMA DE MAR VERDE". The bottle is 500 ml. The background is a dynamic splash of blue water.

Apa Vitamin Water hidrateaza si hraneste corpul tau. Combinatia unica de apa proaspata de izvor imbogatita cu vitamine te ajuta sa iti mentii si imbunatatesti conditia fizica.

Simte-te bine cu Vitamin Water! Mie imi place...si tie iti va placea la nebunie!

1. Try to remember the advertisement you just saw. (Please don't look back to the ad for answering this question).

- What product was the advertisement for?
- Which brand was the advertisement for?

2. How would you describe the advertisement?

	1	2	3	4	5	6	7	8	9	10	
dislike											like
bad											good
unpleasant											pleasant
negative impression											positive impression
ineffective											effective
not appealing											appealing
boring											eye catching
unclear											clear

3. What is your initial reaction to the brand described in the ad?

	1	2	3	4	5	6	7	8	9	10	
dislike											like
unfavorable											favorable
not appealing											appealing
boring											fun

4. What do you think about the water?

	1	2	3	4	5	6	7	8	9	10	
dislike											like
bad											good
unpleasant											pleasant
negative impression											positive impression

5. How do you feel this product compares to similar products put out by other manufacturers?

	1	2	3	4	5	6	7	8	9	10	
ordinary											distinctive

6. How likely is it that you would buy this product?

	1	2	3	4	5	6	7	8	9	10	
not likely at all											Very likely

7. To what extent do you agree to the following statements? (1 – strongly disagree, 10 – strongly agree)

	1	2	3	4	5	6	7	8	9	10
I intent to try this brand										
I would consider purchasing this brand										
I would seek out this brand in-store										
I would tell a friend about this brand										

8. If Vitamin Water costs the same as the water brand that you usually buy, how likely would you be to buy Vitamin Water on your next shopping trip?

	1	2	3	4	5	6	7	8	9	10	
not likely at all											very likely

9. How likely is it that you would be willing to pay a higher price for Vitamin Water than for regular bottled water?

	1	2	3	4	5	6	7	8	9	10	
not likely at all											very likely

10. On a scale from 1-10, how attractive do you find the model in the advertisement?

	1	2	3	4	5	6	7	8	9	10	
not attractive at all											highly attractive

11. Compared to the other female models you normally see in bottled water advertisements, how attractive do you find the model?

	1	2	3	4	5	6	7	8	9	10	
far below average											far above average

12. How often do you consume bottled water?

	1	2	3	4	5	6	7	8	9	10	
never											daily

13. Drinking bottled water is:

	1	2	3	4	5	6	7	8	9	10	
unimportant to me											important to me
of no concern to me											of concern to me
boring											exciting
not fun											fun
useless											useful
not beneficial											beneficial
undesirable											desirable

14. Feeling healthy is:

	1	2	3	4	5	6	7	8	9	10	
unimportant to me											important to me
of no concern to me											of concern to me

15. If you would buy this product, what is the extent of improvement on your own wellness/health, you would expect to obtain?

	1	2	3	4	5	6	7	8	9	10	
insignificant											significant
unachievable											achievable
unnoticeable											noticeable

16. To what extent do you agree to the following statements? (1 – strongly disagree, 10 – strongly agree)

	1	2	3	4	5	6	7	8	9	10	
Me and the model in the ad are very much alike.											
I think most of my female friends would compare themselves to the model in the ad.											
This ad makes me satisfied with my appearance.											

17. Demographics

- Gender
- Age
- Nationality
- Ethnicity
- Family/marital status
- Household income

APPENDIX V: QUESTIONNAIRE ALLOCATION

	Place		Specialization	
	Bucharest	Iasi	Bachelor	Master
Water - Original #	40	36	56	20
Water - Retouched #	41	31	56	16
Water - Product-Only #	37	32	53	15
Razor - Original #	35	32	52	14
Razor - Retouched #	30	38	54	14
Razor - Product-Only #	36	34	53	17
Water - Original %	18.3	17.7	17.3	20.8
Water - Retouched %	18.7	15.3	17.3	16.7
Water - Product-Only %	16.9	15.8	16.4	15.6
Razor - Original %	16	15.8	16	14.6
Razor - Retouched %	13.7	18.7	16.7	14.6
Razor - Product-Only %	16.4	16.7	16.4	17.7
Total #	219	203	324	96
Total %	51.9	48.1	77.1	22.9

	Specialization				
	Business	Marketing	Medicine	Law	Veterinary Medicine
Water - Original #	30	24	12	5	5
Water - Retouched #	30	18	13	5	6
Water - Product-Only #	27	19	13	4	5
Razor - Original #	24	16	16	4	6
Razor - Retouched #	23	16	22	4	3
Razor - Product-Only #	25	20	14	7	4
Water - Original %	18.9	21.2	13.3	17.2	17.2
Water - Retouched %	18.9	15.9	14.4	17.2	20.7
Water - Product-Only %	17	16.8	14.4	13.8	17.2
Razor - Original %	15.1	14.2	17.8	13.8	20.7
Razor - Retouched %	14.5	14.2	24.4	13.8	10.3
Razor - Product-Only %	15.7	17.7	15.6	24.1	13.8
Total #	159	113	90	29	29
Total %	37.9	26.9	21.4	6.9	6.9

Table 20: Questionnaire allocation: Place, level and specialization

APPENDIX VI: TUKEY POST-HOC TEST

Multiple Sample Comparisons based on Universities								
Dependent Variable				Mean Differenc e (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
AdVal_1_DislikeLike	Tukey HSD	1.00	2.00	-1.237 [*]	.254	.000	-1.93	-.54
			3.00	-.894 [*]	.279	.012	-1.66	-.13
			4.00	-.032	.444	1.000	-1.25	1.19
			5.00	-.700	.410	.431	-1.82	.42
		2.00	1.00	1.237 [*]	.254	.000	.54	1.93
			3.00	.343	.297	.777	-.47	1.16
			4.00	1.205	.456	.064	-.04	2.45
			5.00	.537	.422	.709	-.62	1.69
		3.00	1.00	.894 [*]	.279	.012	.13	1.66
			2.00	-.343	.297	.777	-1.16	.47
			4.00	.863	.470	.354	-.42	2.15
			5.00	.195	.437	.992	-1.00	1.39
		4.00	1.00	.032	.444	1.000	-1.19	1.25
			2.00	-1.205	.456	.064	-2.45	.04
			3.00	-.863	.470	.354	-2.15	.42
			5.00	-.668	.558	.753	-2.20	.86
		5.00	1.00	.700	.410	.431	-.42	1.82
			2.00	-.537	.422	.709	-1.69	.62
			3.00	-.195	.437	.992	-1.39	1.00
			4.00	.668	.558	.753	-.86	2.20
AdVal_7_BoringEyeCatching	Tukey HSD	1.00	2.00	-1.466 [*]	.317	.000	-2.33	-.60
			3.00	-1.135 [*]	.340	.008	-2.07	-.20
			4.00	.467	.530	.904	-.99	1.92
			5.00	-.635	.514	.731	-2.04	.77
		2.00	1.00	1.466 [*]	.317	.000	.60	2.33
			3.00	.331	.365	.894	-.67	1.33
			4.00	1.933 [*]	.546	.004	.44	3.43
			5.00	.831	.530	.520	-.62	2.28
		3.00	1.00	1.135 [*]	.340	.008	.20	2.07
			2.00	-.331	.365	.894	-1.33	.67
			4.00	1.602 [*]	.560	.036	.07	3.14
			5.00	.500	.545	.890	-.99	1.99
		4.00	1.00	-.467	.530	.904	-1.92	.99
			2.00	-1.933 [*]	.546	.004	-3.43	-.44
			3.00	-1.602 [*]	.560	.036	-3.14	-.07
			5.00	-1.102	.680	.485	-2.96	.76
		5.00	1.00	.635	.514	.731	-.77	2.04
			2.00	-.831	.530	.520	-2.28	.62

			3.00	-.500	.545	.890	-1.99	.99
			4.00	1.102	.680	.485	-.76	2.96
ProductInt_1_Overall PurchInt	Tukey HSD	1.00	2.00	-.928*	.291	.013	-1.73	-.13
			3.00	-.603	.312	.301	-1.46	.25
			4.00	.911	.478	.315	-.40	2.22
			5.00	-1.089	.478	.153	-2.40	.22
		2.00	1.00	.928*	.291	.013	.13	1.73
			3.00	.325	.334	.868	-.59	1.24
			4.00	1.839*	.492	.002	.49	3.19
			5.00	-.161	.492	.997	-1.51	1.19
		3.00	1.00	.603	.312	.301	-.25	1.46
			2.00	-.325	.334	.868	-1.24	.59
			4.00	1.514*	.505	.024	.13	2.90
			5.00	-.486	.505	.872	-1.87	.90
		4.00	1.00	-.911	.478	.315	-2.22	.40
			2.00	-1.839*	.492	.002	-3.19	-.49
			3.00	-1.514*	.505	.024	-2.90	-.13
			5.00	-2.000*	.621	.012	-3.70	-.30
		5.00	1.00	1.089	.478	.153	-.22	2.40
			2.00	.161	.492	.997	-1.19	1.51
			3.00	.486	.505	.872	-.90	1.87
			4.00	2.000*	.621	.012	.30	3.70
ProductInt_2_Trial	Tukey HSD	1.00	2.00	-.856	.313	.050	-1.71	.00
			3.00	-.487	.336	.596	-1.41	.43
			4.00	1.330	.509	.070	-.07	2.73
			5.00	-1.291	.509	.085	-2.69	.10
		2.00	1.00	.856	.313	.050	.00	1.71
			3.00	.370	.359	.842	-.62	1.35
			4.00	2.186*	.525	.000	.75	3.63
			5.00	-.434	.525	.922	-1.87	1.00
		3.00	1.00	.487	.336	.596	-.43	1.41
			2.00	-.370	.359	.842	-1.35	.62
			4.00	1.817*	.539	.007	.34	3.29
			5.00	-.804	.539	.569	-2.28	.67
		4.00	1.00	-1.330	.509	.070	-2.73	.07
			2.00	-2.186*	.525	.000	-3.63	-.75
			3.00	-1.817*	.539	.007	-3.29	-.34
			5.00	-2.621*	.661	.001	-4.43	-.81
		5.00	1.00	1.291	.509	.085	-.10	2.69
			2.00	.434	.525	.922	-1.00	1.87
			3.00	.804	.539	.569	-.67	2.28
			4.00	2.621*	.661	.001	.81	4.43
ProdInt_3_PurchInt	Tukey HSD	1.00	2.00	-.628	.296	.214	-1.44	.18
			3.00	-.401	.320	.721	-1.28	.48
			4.00	1.611*	.484	.008	.29	2.94

			5.00	-.630	.484	.689	-1.96	.69
	2.00	1.00	.628	.296	.214	-.18	1.44	
		3.00	.227	.342	.964	-.71	1.16	
		4.00	2.239*	.498	.000	.87	3.60	
		5.00	-.003	.498	1.000	-1.37	1.36	
	3.00	1.00	.401	.320	.721	-.48	1.28	
		2.00	-.227	.342	.964	-1.16	.71	
		4.00	2.011*	.512	.001	.61	3.42	
		5.00	-.230	.512	.992	-1.63	1.17	
	4.00	1.00	-1.611*	.484	.008	-2.94	-.29	
		2.00	-2.239*	.498	.000	-3.60	-.87	
		3.00	-2.011*	.512	.001	-3.42	-.61	
		5.00	-2.241*	.628	.004	-3.96	-.52	
	5.00	1.00	.630	.484	.689	-.69	1.96	
		2.00	.003	.498	1.000	-1.36	1.37	
		3.00	.230	.512	.992	-1.17	1.63	
		4.00	2.241*	.628	.004	.52	3.96	
ProductInt_4_SeekOut	Tukey HSD	1.00	2.00	-.912*	.327	.044	-1.81	-.01
			3.00	-.645	.351	.353	-1.61	.32
			4.00	1.332	.530	.090	-.12	2.78
			5.00	-.082	.530	1.000	-1.53	1.37
		2.00	1.00	.912*	.327	.044	.01	1.81
			3.00	.267	.377	.954	-.77	1.30
			4.00	2.244*	.547	.000	.74	3.74
			5.00	.830	.547	.552	-.67	2.33
		3.00	1.00	.645	.351	.353	-.32	1.61
			2.00	-.267	.377	.954	-1.30	.77
			4.00	1.977*	.562	.004	.44	3.52
			5.00	.563	.562	.854	-.98	2.10
		4.00	1.00	-1.332	.530	.090	-2.78	.12
			2.00	-2.244*	.547	.000	-3.74	-.74
			3.00	-1.977*	.562	.004	-3.52	-.44
			5.00	-1.414	.688	.242	-3.30	.47
		5.00	1.00	.082	.530	1.000	-1.37	1.53
			2.00	-.830	.547	.552	-2.33	.67
			3.00	-.563	.562	.854	-2.10	.98
			4.00	1.414	.688	.242	-.47	3.30
WOMInt	Tukey HSD	1.00	2.00	-1.747*	.337	.000	-2.67	-.82
			3.00	-1.354*	.360	.002	-2.34	-.37
			4.00	1.133	.546	.233	-.36	2.63
			5.00	-2.350*	.546	.000	-3.85	-.85
		2.00	1.00	1.747*	.337	.000	.82	2.67
			3.00	.393	.386	.847	-.66	1.45
			4.00	2.880*	.564	.000	1.34	4.42
			5.00	-.603	.564	.822	-2.15	.94

		3.00	1.00	1.354*	.360	.002	.37	2.34
			2.00	-.393	.386	.847	-1.45	.66
			4.00	2.487*	.578	.000	.90	4.07
			5.00	-.996	.578	.421	-2.58	.59
		4.00	1.00	-1.133	.546	.233	-2.63	.36
			2.00	-2.880*	.564	.000	-4.42	-1.34
			3.00	-2.487*	.578	.000	-4.07	-.90
			5.00	-3.483*	.709	.000	-5.43	-1.54
		5.00	1.00	2.350*	.546	.000	.85	3.85
			2.00	.603	.564	.822	-.94	2.15
			3.00	.996	.578	.421	-.59	2.58
			4.00	3.483*	.709	.000	1.54	5.43
PurchInt_SamePrice	Tukey HSD	1.00	2.00	-.730	.325	.165	-1.62	.16
			3.00	-.522	.349	.564	-1.48	.43
			4.00	1.751*	.533	.010	.29	3.21
			5.00	-.283	.533	.984	-1.74	1.18
		2.00	1.00	.730	.325	.165	-.16	1.62
			3.00	.208	.373	.981	-.81	1.23
			4.00	2.481*	.549	.000	.98	3.99
			5.00	.447	.549	.927	-1.06	1.95
		3.00	1.00	.522	.349	.564	-.43	1.48
			2.00	-.208	.373	.981	-1.23	.81
			4.00	2.274*	.564	.001	.73	3.82
			5.00	.239	.564	.993	-1.31	1.78
		4.00	1.00	-1.751*	.533	.010	-3.21	-.29
			2.00	-2.481*	.549	.000	-3.99	-.98
			3.00	-2.274*	.564	.001	-3.82	-.73
			5.00	-2.034*	.693	.029	-3.93	-.14
		5.00	1.00	.283	.533	.984	-1.18	1.74
			2.00	-.447	.549	.927	-1.95	1.06
			3.00	-.239	.564	.993	-1.78	1.31
			4.00	2.034*	.693	.029	.14	3.93
PurchInt_HigherPrice	Tukey HSD	1.00	2.00	-.999*	.306	.010	-1.84	-.16
			3.00	-.903*	.328	.048	-1.80	-.01
			4.00	.787	.501	.517	-.59	2.16
			5.00	-1.695*	.501	.007	-3.07	-.32
		2.00	1.00	.999*	.306	.010	.16	1.84
			3.00	.095	.351	.999	-.87	1.06
			4.00	1.786*	.517	.005	.37	3.20
			5.00	-.697	.517	.661	-2.11	.72
		3.00	1.00	.903*	.328	.048	.01	1.80
			2.00	-.095	.351	.999	-1.06	.87
			4.00	1.691*	.530	.013	.24	3.14
			5.00	-.792	.530	.567	-2.24	.66
		4.00	1.00	-.787	.501	.517	-2.16	.59

			2.00	-1.786*	.517	.005	-3.20	-.37
			3.00	-1.691*	.530	.013	-3.14	-.24
			5.00	-2.483*	.652	.002	-4.27	-.70
	5.00		1.00	1.695*	.501	.007	.32	3.07
			2.00	.697	.517	.661	-.72	2.11
			3.00	.792	.530	.567	-.66	2.24
			4.00	2.483*	.652	.002	.70	4.27
Attractiveness	Tukey HSD	1.00	2.00	-.830	.334	.097	-1.75	.09
			3.00	-.384	.351	.809	-1.35	.58
			4.00	.512	.563	.893	-1.03	2.06
			5.00	-.454	.538	.917	-1.93	1.02
		2.00	1.00	.830	.334	.097	-.09	1.75
			3.00	.446	.379	.765	-.59	1.49
			4.00	1.342	.581	.144	-.25	2.94
			5.00	.376	.557	.962	-1.15	1.91
		3.00	1.00	.384	.351	.809	-.58	1.35
			2.00	-.446	.379	.765	-1.49	.59
			4.00	.897	.591	.551	-.73	2.52
			5.00	-.070	.567	1.000	-1.63	1.49
		4.00	1.00	-.512	.563	.893	-2.06	1.03
			2.00	-1.342	.581	.144	-2.94	.25
			3.00	-.897	.591	.551	-2.52	.73
			5.00	-.967	.718	.663	-2.94	1.00
		5.00	1.00	.454	.538	.917	-1.02	1.93
			2.00	-.376	.557	.962	-1.91	1.15
			3.00	.070	.567	1.000	-1.49	1.63
			4.00	.967	.718	.663	-1.00	2.94
Involvement_DailyNe ver	Tukey HSD	1.00	2.00	.614	.352	.408	-.35	1.58
			3.00	-.355	.378	.881	-1.39	.68
			4.00	.290	.576	.987	-1.29	1.87
			5.00	-.124	.576	1.000	-1.70	1.45
		2.00	1.00	-.614	.352	.408	-1.58	.35
			3.00	-.969	.404	.118	-2.08	.14
			4.00	-.324	.594	.982	-1.95	1.30
			5.00	-.738	.594	.726	-2.36	.89
		3.00	1.00	.355	.378	.881	-.68	1.39
			2.00	.969	.404	.118	-.14	2.08
			4.00	.645	.610	.828	-1.03	2.32
			5.00	.231	.610	.996	-1.44	1.90
		4.00	1.00	-.290	.576	.987	-1.87	1.29
			2.00	.324	.594	.982	-1.30	1.95
			3.00	-.645	.610	.828	-2.32	1.03
			5.00	-.414	.749	.982	-2.47	1.64
		5.00	1.00	.124	.576	1.000	-1.45	1.70
			2.00	.738	.594	.726	-.89	2.36

3.00	-.231	.610	.996	-1.90	1.44
4.00	.414	.749	.982	-1.64	2.47

*. The mean difference is significant at the 0.05 level.

* 1 (Bucharest Academy of Economic Studies), 2 (Iasi Faculty of Economics and Business Administration), 3 (Iasi Grigore T.Popa Medical School), 4 (Bucharest National School of Political Sciences), 5 (Bucharest Veterinary Medicine)

Table 21: Tukey post-hoc test results, based on universities

APPENDIX VII: MULTIPLE REGRESSION ANALYSIS

Model Summary ^b										
Model	R		Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change	Durbin-Watson
	R	Square				F Change	df1	df2		
1	.833 ^a	.693	.679	1.33421	.693	47.442	12	252	.000	2.215

a. Predictors: (Constant), Comp_1_Me, AdConditionCode, ProductCode, AdAttitude, Involvem_1_DailyNever, Attractiveness, ProductVal_5_OrdinaryDistinctive, PurchInt_SamePrice, PurchInt_HigherPrice, Fit, BrandAttitude, ProductAttitude

b. Dependent Variable: PurchaseIntention

Table 22: Multiple regression analysis: Model summary

ANOVA ^a					
Model		Sum of Squares	df	Mean Square	F
1	Regression	1013,427	12	84,452	47,442
	Residual	448,588	252	1,780	
	Total	1462,015	264		

a. Dependent Variable: PurchaseIntention

b. Predictors: (Constant), Comp_1_Me, AdConditionCode, ProductCode, AdAttitude, Involvem_1_DailyNever, Attractiveness, ProductVal_5_OrdinaryDistinctive, PurchInt_SamePrice, PurchInt_HigherPrice, Fit, BrandAttitude, ProductAttitude

Table 23: Multiple regression analysis: ANOVA

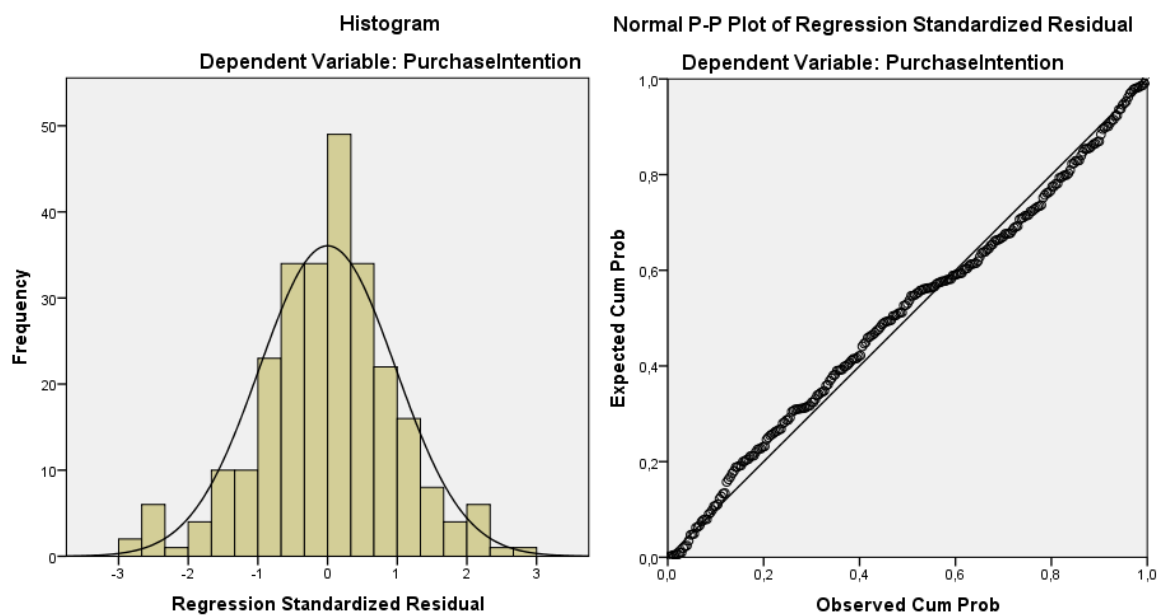


Figure 3: Multiple regression analysis: Graphs

For the histogram: $\bar{x} = 2.30$, Std. Dev. = 0.977, N= 265

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.760	.411		-1.851	.065
AdConditionCode	-.059	.167	-.012	-.351	.726
ProductCode	.542	.183	.115	2.964	.003
AdAttitude	.140	.067	.117	2.083	.038
BrandAttitude	.126	.060	.116	2.102	.037
ProductAttitude	.009	.070	.008	.130	.897
ProductVal_5_Ordinary	.101	.054	.106	1.861	.064
1 Distinctive					
PurchInt_SamePrice	.323	.043	.372	7.588	.000
PurchInt_HigherPrice	.286	.048	.306	5.972	.000
Attractiveness	-9.881E-005	.053	.000	-.002	.999
Fit	.045	.056	.042	.810	.419
Involvem_1_DailyNever	.017	.032	.021	.540	.590
Comp_1_Me	-.013	.042	-.013	-.298	.766

a. Dependent Variable: PurchaseIntention

Coefficients ^a							
Model	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	-1.570	.049					
AdConditionCode	-.387	.270	.024	-.022	-.012	.966	1.035
ProductCode	.182	.903	-.036	.184	.103	.803	1.245
AdAttitude	.008	.273	.554	.130	.073	.385	2.597
BrandAttitude	.008	.245	.576	.131	.073	.399	2.509
ProductAttitude	-.129	.147	.612	.008	.005	.310	3.226
1 ProductVal_5_Ordinary	-.006	.208	.611	.116	.065	.374	2.673
Distinctive							
PurchInt_SamePrice	.239	.407	.706	.431	.265	.507	1.972
PurchInt_HigherPrice	.192	.380	.699	.352	.208	.464	2.155
Attractiveness	-.105	.105	.466	.000	.000	.498	2.010
Fit	-.065	.155	.499	.051	.028	.454	2.201
Involvem_1_DailyNever	-.046	.081	.223	.034	.019	.772	1.295
Comp_1_Me	-.096	.071	.464	-.019	-.010	.597	1.674

a. Dependent Variable: PurchaseIntention

Table 24: Multiple regression analysis: Coefficients