BEAUTY AND ATTRACTIVENESS: IMPLICATIONS FOR ADVERTISING, SELF-EVALUATION AND PRODUCT CHOICE

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by

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ABSTRACT

The field of marketing communications continues to change rapidly as a consequence of advancing technology, changing consumer behaviour, and fragmentation of media. A key aspect of marketing communication is to understand how audiences are likely to interact with messages. This study investigates the role attractiveness plays in facilitating this connection. Source attractiveness becomes critical to persuasive impact to the extent that the receiver is motivated to enhance their sense of self, social reputation, or gratifying role relationships by identifying with admired sources and formulating their attitudes.

The study examines the dimensions of attractiveness, its advertising effectiveness, attitudes to personal care, fashion, technology, and nutritional products, and possible implications for public policy. It is proposed that gender, media, models, and culture influence perceptions of attractiveness which in turn has implications for advertising effectiveness, self evaluations of body image, and perceived benefits of attractiveness.

The research involved an online survey with a final sample of 1111 participants within Australia. The sample was composed of 600 females and 511 males, from broad age groups, and from various Caucasian, Asian, African and Polynesian backgrounds. A structured questionnaire comprising existing, modified and new scales was the primary means of data collection. It consisted of a self-reported section and a perceptual section with images of models and products. The questionnaire was placed on a website and participants were given a link and instructions for online completion. All scales were assessed for internal consistency, construct validity, and were found to have acceptable psychometric properties. Modified scales were assessed firstly via exploratory factor analysis to examine the dimensionality of the constructs, and then via confirmatory factor analysis to assess all the scales for convergent and discriminant validity.

Formative versus reflective measurement models were discussed and a framework for assessing reflective and formative models with theoretical and empirical considerations was examined. The study finds that beauty is a reflective measure and attractiveness is best conceptualised and operationalised as a formative measure.

The research propositions were investigated by examining the direct relationships between variables via the use of multiple regressions. This was then augmented by an analysis of

relationships through structural equation modelling to examine the direct, indirect and total effects of the independent variables on the dependant variables. Analysis of Variance (ANOVA) was also utilised as a test of measuring differences between groups within the population.

The regression analyses supported the proposed relationships between Attractiveness, Media, Models, Culture, Attitude to products, and Benefits of attractiveness. Overall, the regression analysis indicated support for the conceptual model. Attractiveness was found to be a function of the culture of the observer, the influence on the observer of media and the stereotypes of models to which the observer is exposed. Significant relationships were found between attractiveness and culture, media and model influence. Additionally, significant differences were found between males and females in their perceptions of culture, media and model influence, and attitudes to personal care, fashion, technology and nutritional products, as associated with attractiveness.

Self evaluation of body image was found to be a function of the culture of the observer, perceptions of attractiveness, the influence on the observer of media and the stereotypes of models to which the observer is exposed. Significant differences were found between people's evaluation of themselves before and after exposure to models. However, males were more favourably disposed to female models that were females. Regression analysis also revealed a strong association between attitude to products and consumer cultural background, perceived attractiveness, self evaluation of body image, perceived benefits of attractiveness, and media and model influence.

The study also explored whether there are significant differences in people perceived to have different combinations of beauty and attractiveness. This resulted in four groups. Some people are considered beautiful and attractive (HH) and others as not beautiful and not attractive (LL). However, the surprising finding was that there are people who are considered beautiful but not attractive (HL) and not beautiful but attractive (LH), suggesting that the two constructs are different. People who belong to these four groups were found to have different perceptions of benefits of attractiveness, self evaluations of body image, and influence of models.

For male and female evaluators those perceived to be HH or LH were strongly associated with search for competitive advantage significantly more than HL and LL. For females, those perceived to be HH, HL or LH were strongly associated with search for social acceptance

significantly more than LL. However, for males, those perceived to be HH or LH were strongly associated with search for social acceptance significantly more than HL and LL. The findings suggest that there are no differences between the four groups as evaluated by different genders in terms of their association with search for competitive advantage and social acceptance.

Moderation was also utilised to explore a number of relationships. The results indicate that a number of factors describe boundary conditions under which specific relationships hold. Those factors were found to be gender, body image, acculturation, media influence, and influence of models. Gender was found to moderate the relationship between perceptions of attractiveness and advertising effectiveness. The degree of acculturation and media influence was found to moderate the relationship between perceptions of beauty and attitudes to personal care, fashion, technology and nutritional products. Media influence moderates the relationships between perceptions of attractiveness and attitude to personal care, fashion, and technology products. Body image and models portrayed in the media were found to moderate the relationship between perceptions of beauty and perceptions of attractiveness and attitude to personal care, fashion, technology and nutritional products. The degree of acculturation and media influence moderate the relationship between perceptions of beauty and body image post exposure to images of models. Media influence moderates the relationship between perceptions of beauty and social acceptance. Models portrayed in the media moderates the relationship between perceptions of attractiveness and social acceptance. Body image and models portrayed in the media moderate the relationship between perceptions of beauty and perceived benefits of attractiveness.

Results of the structural equation modelling indicated that perceptions of attractiveness was found to have a significant positive direct effect on attitude to fashion and technology products, model and underwear combination, body image, competitive advantage, and social acceptance. An interesting finding is the significant negative direct effect on attitude to nutritional products and influence of models.

Perceptions of beauty was found to have a significant positive direct effect on attitude to personal care and nutritional products, competitive advantage, social acceptance, and influence of models. However, it was found to have a significant negative direct effect on body image. Media influence was found to have a significant positive direct effect on perceived advantage of

attractiveness, social acceptance, attitude to nutritional products, and models. However, a significant negative effect was found on body image.

The influence of models was found to have a significant positive direct effect on attitude to personal care, fashion, and technology products. Ethnic identity was found to have a significant positive direct effect on personal care, fashion, and nutritional products, perceived advantage of attractiveness, social acceptance, and model influence. An interesting finding was that the predicted direction for technology products was positive however a significant negative effect was found. Additionally, a significant negative direct effect was found on body image.

This thesis makes a number of academic, social and business contributions:

- **Attractiveness Research:** The differences identified in perception of beauty and attractiveness have implications for consumption of personal care and fashion products, technology products, and nutritional products.
- **Contributions to Methodology:** The impact of common method variance was examined on the magnitude and significance of correlations and the results indicated that CMV was not a problem. Additionally, a photo shoot was conducted with ten models and two product categories (male and female underwear and perfume). Advertisements with model and product combinations were designed to explore male and female perceptions of beauty and attractiveness and to examine advertising effectiveness. The study examined the whole physical person rather than just faces as is typical of beauty studies.
- **Implications of the Study for Public Policy:** This study urged the need for policy-makers to promote body image and attractiveness in framing their public policies that will positively impact on the health and nutrition of people across all age groups.
- **Implications for Business:** This research explored perceptions of attractiveness, consumer attitudes to personal care, fashion, technology and nutritional products, and the effects of advertising on body image. These insights are crucial in order to communicate appropriately to the designated market segments and to facilitate messages that resonate with the intended audiences.

DECLARATION

This thesis contains no material that has been accepted for the award of any other degree or diploma in any university or other institution, and to the best of my knowledge, contains no material previously published or written by another person, except where due reference is made in the text of this thesis.

Signed:……

PUBLICATIONS

The following publications have influenced the research presented in this thesis, and include aspects of the material and results presented herein.

Zubcevic, N. & Luxton, S. (2005), Time for Advancement: a Framework for Standardisation of International Advertising Strategy, *Broadening the Boundaries: Proceedings of the Australian & New Zealand Marketing Academy Conference.*

Zubcevic, N., Mavondo, F., & Reid, M. (2006), Intercultural accommodation: The portrayal of beauty in cross-cultural advertising, Doctoral Colloquim, Cross-cultural Advertising, *Australia & New Zealand Marketing Academy Conference.*

Zubcevic, N., Mavondo, F., & Reid, M. (2006), Beauty and the diversification in society: impact on communication effectiveness, *Advancing Theory, Maintaining Relevance: Proceedings of the Australian & New Zealand Marketing Academy Conference.*

Zubcevic, N., Mavondo, F., & Reid, M. (2007), Models, media and the perceptions of young women, Reputation, Responsibility, *Relevance: Australia & New Zealand Marketing Academy Conference.*

Zubcevic, N. & Luxton, S. (2009). A Comparison of Print Advertisements from Australia and Croatia, *Australasian Marketing Journal*, pending second review

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For my parents,

Antonija & Harry

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1 CHAPTER 1 – INTRODUCTION

1.1 Background to the Research

The field of marketing communications continues to be subject to rapid change as a consequence of the advances in technology, changing nature of consumer behaviour, and dissipation of audiences (Eagle & Kitchen, 2000; Menon, Morris, Chiu, & Hong, 1999). Such complexities of the environment make the nature of advertising much more challenging for advertisers. Making sure one is relevant to audiences is paramount, especially given the multicultural and global nature of many markets. A further complexity is due to consumers increasingly engaging in the co-creation of messages. Armed with new tools consumers want personalised interaction with the brands which results in the co-creation value (Payne, Storbacka, & Frow, 2008). Effective marketing communication has also become more challenging as audiences are regularly confronted with a barrage of messages (Sharma & Sheth, 2004). Consequently there is increasing pressure on advertisers as they seek to create effective messages, and strive to meet stakeholder expectations of both strategic and financial accountability. There is a need to continually gain advantage over competitors and to maintain/grow market shares and profits for the brands they manage, break through the clutter, reach audiences with interesting and persuasive messages that enhance brand equity and drive sales, and assure top management that the marketing investments yield an adequate return on investment (Lace, 2004). This is no easy feat when confronted with the rising costs and challenges of placing ads in traditional media (e.g., television, magazines). Shareholders are making demands while the informed and active stakeholders communicate what they do and do not want.

An additional challenge is keeping abreast of new insights, tools, opportunities, and challenges which are emerging as the 21st century progresses (Lace, 2004). The availability of media and the way it is used by the consumer is rapidly changing. This calls for better understanding of marketing and its effect on the consumer. Historically, advertisers have thought of themselves as top-down communicators, in control of what

information is released, to whom and when (Varey, 2003). Today's dynamic and fragmented environment no longer supports this type of 'one-way' communication with the well informed, often more educated, and cynical consumer. The market is about customisation and co-creation of messages with a strong emphasis on brand image, authenticity, and diversity. The relationship between marketer and consumer is very interactive with the consumer dictating what is appropriate (Lears, 2000).

It can be seen that the management of communication is an important component of marketing strategy which involves the strategies, tactics, and activities involved in delivering cogent marketing dialogue to intended target audiences. Marketers and social scientists have suggested that the effects of advertising extend beyond product awareness and product preferences to broader effects on the target audience's beliefs, values, attitudes, and behaviours about issues of relevance in our society (Duke, 2002; Pollay, 1986). One of the key elements used by marketers in targeting their products to consumers are images of highly attractive models in the hopes of increasing the advertisement's effectiveness. The anticipated result is customers adopting more favourable attitudes toward the advertised product or service. However, it is not clear what attributes are desirable for the model used in advertisements to possess (Priester & Petty, 2003).

Attractiveness is frequently used as a cue for inferring information about others and oneself (M. C. Martin & Kennedy, 1993; Patzer, 1985; Richins, 1991). Source attractiveness becomes critical to persuasive impact to the extent that the receiver is motivated to enhance their sense of self, social reputation, or gratifying role relationships by identifying with admired sources and formulating their attitudes (Kamins, 1990; C. K.-C. Lee, Fernandez, & Martin, 2002; W.J. McGuire, 1985; Priester & Petty, 2003; Solomon, Ashmore, & Longo, 1992). Additionally, a number of studies support the assertion that attractive people portrayed in advertising affect consumer's global perceptions of their own facial attractiveness (Grier, Brumbaugh, & Thornton, 2006; Richins, 1991) and body image (Groesz, Levine, & Murnen, 2002). However, researchers have undertaken little work specifically to understand how attractiveness is culturally

encoded, how it is internalised by consumers, how it is perceived in different mass media formats (eg., entertainment vs. advertising), or how the ideals propagated in mass media affect consumers' acquisition of products and services designed to attain these looks. Whilst the importance of physical attractiveness to consumers is widely acknowledged (Langmeyer & Shank, 1995; Sarwer, Magee, & Clark, 2004; Till & Busler, 2000), relatively little research has explored what attractiveness actually is, and how it should be defined (Englis, Solomon, & Ashmore, 1994).

1.2 Context of the Study

"...Economic numbers, which reflect the subjective importance of physical attractiveness in the modern, industrialized world, complement this scientific evidence. In December 2006, the cosmetic company L'Oréal was almost three times as valuable as the world largest car manufacturer General Motors" (Honekopp, 2006, p. 200) .

Attractiveness plays an important role in determining the effectiveness of persuasive communication (La Ferle & Lee, 2005). Consumers are inundated daily with brand messages coupled with images of attractive models. An average person is exposed to 5000 ads a day compared to 500 back in the 1970s (Johnson, 2006). Billboards, TV commercials, public transport, ambient advertising, and promotional staff at social venues are all mediums utilised as touch points to communicate with target audiences. Just standing at the check-out counter in supermarkets exposes one to a host of images in magazines. The headlines promote the latest diets and ways to enhance one's appearance, with extremely attractive models on the front cover. There are a number of important issues that require consideration when exploring the concept of attractiveness.

There has been a need recognised in the literature to define attractiveness and recognise the attributes that consumers associate with it (Bjerke & Polegato, 2006; Shepherd, 1989). The notion that attractiveness is a multidimensional construct rather than a simple bipolar continuum (attractive-unattractive) is intuitive, though this assumption is not consistent with most existing conceptualisations of attractiveness in either psychological

or marketing research (Englis, et al., 1994). Evaluations of attractiveness are usually derived from observations of target individuals made by raters who rate the target on a scale ranging from very attractive to very unattractive (Burns & Farina, 1992). This thesis takes into account both faces and bodies as representations of attractiveness. The inclusion of bodies is especially important as previous studies have mainly relied on faces in defining attractiveness (T. A. Brown, Cash, & Noles, 1986; Mueser, Grau, Sussman, & Rosen, 1984). In an advertising context, this approach assumes that attractive (vs. unattractive) models consistently are liked more, are perceived in more favourable terms, and have a positive impact on the products with which they are associated (Goldsmith, Lafferty, & Newell, 2000; Joseph, 1982; Kamins, 1990).

Cultural norms in western countries dictate the importance of being physically attractive, especially of being thin (Tiggemann & Ruutel, 2004). The emphasis on being physically attractive begins in infancy (Langlois, et al., 1987) and continues throughout childhood and adolescence (Collins, 1991; Dion, 1973; Langlois & Stephan, 1981). Girls tend to view their bodies as 'objects' and their physical beauty determines how they and others judge their overall value. Boys tend to view their bodies as 'process', and power and function are more important criteria for evaluating their physical self (Franzoi, 1995). These differences in body orientation results in girls paying attention to individual body parts and boys having a holistic body perspective (T. A. Brown, Cash, & Mikulka, 1990). Because the ideal of attractiveness for girls is more culturally salient (Franzoi, 1995), girls have a greater likelihood of being negatively affected by the feminine ideal than boys have of being negatively affected by the masculine ideal (Franzoi, 1995). This thesis also explores the differences in perceptions of attractiveness between males and females.

Media images that depict exceptionally thin female models in advertising are considered to contribute to body-image dissatisfaction, lower self-esteem, excessive dieting, anorexia, bulimia, and depression among girls and young women (Hankin & Abramson, 1999), lowered self-ratings of attractiveness (J. D. Brown, Novick, Lord, & Richards, 1992; Cash, Walker-Cash, & Butters, 1983), more negative mood states (Stice & Shaw, 1994), and diminished satisfaction with one's physical attractiveness (Richins, 1991).

Although advertising has changed somewhat in its depiction of women (Paxton, 2002), women in advertisements continue to be portrayed as below average in weight, as compared to the general population of women (Peck & Loken, 2004). Previous studies have also found similar results with males (Cash, 1997; Paxton, Sculthorpe, & Gibbons, 1994). Marketing as a discipline proposes to act ethically and this is supported by the increase in the field of social and ethical behaviour with conferences such as the 2009 Australian and New Zealand Marketing Academy, and Australian New Zealand Academy of Management conferences having a theme of sustainability. This is further evidenced by the extension of the 2004 AMA definition of marketing which proposes that marketing should not cause harm to society (Malhotra, Wu, & Allvine, 2006). For this to be supported it is important to understand the social impact of models on individuals.

This study also proposes that perceptions of attractiveness may vary notably across different cultures. Given cultural differences in the self, and also indirectly due to physical feature variation, members of various cultures may differ in the way they conceive their own attractiveness, have divergent attractiveness ideals, and ultimately experience different perceptions of attractiveness (McClelland, 2000; Monnier-McClure & Edleston, 2005).

Understanding how perceptions of attractiveness and the factors associated with it affect advertising impact and public policy is critical (Caballero & Pride, 1984; Joseph, 1982; Langmeyer & Shank, 1995; C. Law & Labre, 2002; Petty & Cacioppo, 1980; Rhodes, et al., 2005; Till & Busler, 2000). Attractiveness is an important universal concept, both in a marketing and in a social context. While physical attractiveness norms are conveyed through media images, these norms are also communicated through both direct and indirect social interactions. It is therefore a critical addition to the current body of knowledge to better understand consumer perceptions and the effects of attractiveness.

These issues form the basis of the research problem central to this study.

1.3 Research Problem

The research problem to be investigated is:

What are the dimensions of attractiveness, how is it related to body image, culture, and media, and what are the implications for advertising and public policy?

As a consequence, the questions to be explored to address this problem include:

1. **How do consumers define Beauty and Attractiveness?**
2. **Are there any differences in male and female perceptions of attractiveness?**
3. **What is the impact of media on consumers' perceptions of attractiveness?**
4. **What is the impact of models in the media on consumers' perceptions of attractiveness?**
5. **To what extent does culture moderate perceptions of attractiveness?**
6. **How do consumers' perceptions of attractiveness influence:**
    a. **Attitude to fashion products**
    b. **Attitude to personal care products**
    c. **Attitude to technology products**
    d. **Attitude to nutritional products**
    e. **Personal goals linked to being attractive**
    f. **Body image**

The objective of this study is to develop a theoretically derived, empirically tested model and measurement instrument of perceptions of Attractiveness with implications for advertising effectiveness and public policy.

1.4 Outline of thesis

Chapter 1 Introduction

Chapter One provides an introduction and background to the thesis.

Chapter 2 Conceptual Development

Chapter Two presents an examination of relevant literature associated with the research topic. Specifically, the discussion commences with a review of the dynamic and complex communication environment within which Attractiveness is a critical factor. Attractiveness as an issue is discussed followed by a discussion of the perceived benefits associated with attractiveness. This is then followed by an exploration of the relationship between attractiveness, culture, and media.

The other factors associated with Attractiveness are then introduced and explicated by a review of literature drawn from each of these areas. Outcomes of attractiveness are then explored to address the second part of the research proposition, which posits that attractiveness has an impact on advertising effectiveness and public policy. The chapter concludes with the presentation of a conceptual model, which identifies a number of variables derived from the literature review. The relationships identified in the literature review are then translated into a series of relevant hypotheses for further empirical testing.

Chapter 3 Methodology

Chapter Three provides a detailed plan of the methodology adopted to investigate the hypotheses. This includes a discussion of the procedures utilised, and commences with a justification for the research approach. The steps in the research process are then discussed including the rationale for the research instrument design and the adoption of a Total Design Method (TDM) approach (Dillman, 1978). Details of the administration of the survey are provided including the nature and size of sample and response rate. Design considerations are then outlined, including that for the detection of common method

variance. The chapter concludes with an outline of the data entry techniques and a description of the sample demographics.

Chapter 4 Operationalisation of Constructs

Chapter Four addresses construct measurement. The first section details how the constructs are operationalised and includes the presentation of the various measurement scales adopted with the source of each identified. The second section presents an evaluation of each construct in terms of reliability and validity by the examination of coefficient alphas, exploratory and confirmatory factor analysis and correlation analysis. New scales are tested to establish if they are formative or reflective.

Chapter 5 Results and Discussion

Chapter Five examines the hypotheses associated with the research problem that underpins this thesis. Regression analysis, ANOVA and structural equation modelling are utilised to examine the relationships between Attractiveness, Culture, Gender, Media, Models in media, and Advertising Effectiveness and Public Policy.

Chapter 6 Conclusions and Implications

Chapter Six discusses the key findings associated with the research problem and hypotheses. The theoretical and methodological contributions to academic knowledge are identified along with managerial implications. The limitations of the study are acknowledged together with opportunities for future research arising from this study.

1.5 Chapter Summary

This chapter presented an overview of the thesis outlining the background of the research, research problem, conceptual framework and subsequent propositions. An outline of the research methodology, scope and structure of the thesis was also presented. The next chapter reviews the relevant literature forming the foundation upon which the conceptual framework was derived, prior to discussing the Attractiveness concept and its relationship with gender, personal goals, body image, culture, media, and advertising effectiveness.

2 CHAPTER 2 – LITERATURE REVIEW

2.1 Introduction

Chapter One presented an overview of the thesis, including the broad field of study on which the research is based, the background and context to the research, and the subsequent research problem and hypotheses. This was followed by a statement of the anticipated contribution of the research, and an outline of the thesis methodology, scope and structure.

Chapter Two reviews the relevant literature forming the foundation from which the conceptual framework and research propositions are derived.

2.2 The Marketing Communications Environment

The 21st Century is considered an era of marked improvement in marketing approaches generally, with constantly advancing technology and considerable competition driving organisations to find new and better ways to operate (Eagle & Kitchen, 2000; Menon, et al., 1999). The increasing volume and diversity of competing communication messages is characteristic of the nature of the environment. The present climate in the communications industry is one of rapid change with the advent of powerful 'mega-agencies' by virtue of amalgamations, changing agency structures, greater focus on agency accountability (Lace, 2004), increasing international management and the dispersion of marketing communication messages across a proliferation of media channels (Gould, Gupta, & Grabner-Krauter, 2000).

Just as the communication environment has changed, so too have the expectations that are placed on its participants by key stakeholders, with an increasing emphasis on accountability and performance. Organisations continually strive to be heard above their competitors; an objective which generally requires significant financial investment. In

highly competitive markets, and with this increasing focus on accountability to stakeholders, organisations are becoming ever more focussed on bottom line results. Financial accountability and ROI has become a major consideration (T. Duncan & Caywood, 1996; Eagle & Kitchen, 2000; Gronstedt, 1996; Kitchen & Schultz, 1999b).

Furthermore, academic concern exists over the effectiveness of traditional communication techniques and has brought into question the effectiveness of traditional mass media communication programs (T. R. Duncan & Everett, 1993; Gronstedt, 1996; Jones, 1990). More specifically, explanations of the diminishing effectiveness of traditional mass media vehicles (T. Duncan & Caywood, 1996; Gronstedt, 1996; Kitchen & Schultz, 1999a; Reid, 2003; Swain, 2004):

1. Greater demands placed on marketing communications suppliers, such as agencies, to become more of a brand custodian or guardian than just a transaction based supplier of communications services (Kitchen & Schultz, 1999b; Wong & Merrilees, 2005).
2. Increased efforts to measure/improve communications 'return on investment' reflecting greater demands by both agency clients' and one's own senior management for accountability and measurement of alternative customer acquisition and relationship activities (Kitchen & Schultz, 1999b).
3. The increasing sophistication of consumers, leading them to be more critical of conflicting messages sent by an organisation (to the potential detriment of an organisation's brands) (Kitchen, Brignell, Li, & Jones, 2004).
4. The incidence of audience and media fragmentation. The development of alternate new communication vehicles has led to the dispersion of previously captive audiences, who being presented with an increasing number of information sources. Simultaneously the fragmentation of audiences has continued as the organisations' understanding of consumer segments becomes more sophisticated, in turn compelling organisations to tailor their communication strategies (Eagle & Kitchen, 2000; Kitchen, et al., 2004; Rust & Varki, 1996).

5. The growing intensity of competition and the associated proliferation of 'me too' products is saturating the market place with communication messages, causing interpretative confusion for consumers, and generating noise (or media clutter) which leads to the dilution of communications impact (Gronstedt, 1996; Kitchen & Schultz, 1999b).

In summary, marketing environments are changing and becoming increasingly more complex. Effective communication with target audiences is ever more challenging, and organisations face increasing pressure due to high levels of competition, and demands placed on them by key stakeholders. The maximisation of return on investment is increasingly more difficult. One approach considered to facilitate this maximisation of effectiveness is via the development of advertisements with appropriately matched products and models (Mikhailitchenko, Javalgi, Mikhailitchenko, & Laroche, 2009). However, to produce an appropriate advertisement obviously requires a shared understanding of what this really involves, and what resonates with consumer audiences.

In order to frame this study, the first consideration is the concept of attractiveness. Determining this will be critical for research design.

A key aspect of marketing communication is to understand how audiences are likely to interact with messages. The following discussion centres around this taking into consideration the role attractiveness plays in facilitating this connection (Grabe, Ward, & Hyde, 2008).

2.3 How Communication Resonates with its Audience and the Role of Attractiveness

Imagery can involve multisensory processing, which may lead to better recall of information (Babin & Burns, 1997). This has been studied extensively in the cognitive psychology field and has drawn increased interest among consumer researchers (Babin & Burns, 1997; Mendelson, Mendelson, & Andrews, 2000). The reliance on imagery has

grown sharply over recent decades for a number of reasons, including the drive for global marketing and the development of international brands, such as Coca-Cola, Nike, Pizza Hut, Pepsi, and Mercedes (Branthwaite, 2002). Rossiter and Percy (1980), and LaBarbera, Yorkston, and Weingard (1998) propose memory recall to be higher if associated with more intensive visual imagery activity rather than under conditions that are less imagery stimulating.

Cognitive responses, which refer to the thoughts and ideas evoked by advertisements and other types of persuasive messages, have long been viewed as critical determinants of consumer persuasion. Considerable prior research has shown that such thoughts often determine both immediate (Brock, 1967; Greenwald, 1968; Petty, Ostrom, & Brock, 1981; P. L. Wright, 1973) and long-term acceptance of persuasive communications (Chattopadhyay & Alba, 1988).

Advertising communicates through verbal and non-verbal elements, however, over the past two decades, researchers have realised the importance of analysing the visual nature of advertising, particularly as the marketing environment is in a new visual century (Constantinides, 2006; Kahan, 1992) where media rely on visuals to communicate in the cluttered, global media world. Images of models or spokespersons operate as symbols in a visual grammar that creates meanings understood by members of a culture (Warlaumont, 1993). In fact, these visuals are typically regarded as the most easily standardized element in global advertising because there is no translation of body copy required (De Mooij, 1998).

With the dynamic growth of cross-cultural marketing communications, marketers give more consideration to the selection of visual imagery communication tools. Marketers believe that ‘visual imagery-intensive carriers’ such as TV, magazines, and product packages are also the most powerful ones in terms of influencing brand recall. However, the efficiency of this, as well as other visual imagery evoking tools, differs depending on consumer memory-related factors, such as brand familiarity, product category experience, and degree of consumer involvement.

For decades, marketers have used attractive women to draw attention to and advertise a wide range of brands, products, firms, and industries. From an affect-transfer perspective, research suggests that these attractive spokespersons generate positive affect (Kallen & Doughty, 1984) that would be transferred to consumers' attitudes toward the brand or product, and result in greater purchase intentions (Baker & Churchill, 1977; Belch, Belch, & Villarreal, 1987; Joseph, 1982; LaChance, Lubitz, & Chestnut, 1977; Lutz, 1985; Perlini, Bertolissi, & Lind, 1999; G. H. Smith & Engel, 1968). Research also suggests that attractive models can affect consumers' price expectations about products. Tsao, Pitt, and Caruana (2005) report that when consumers lack direct experience with the product, they rely on advertising to form inferential price–quality beliefs.

Advertisers have long been interested in understanding the effects of attractiveness on product evaluations and self-judgments (Micu, Coulter, & Price, 2009). With regard to attitude toward the ad, product, and brand, as well as purchase intention, researchers have argued that the favourable impressions generated by an attractive model are transferred to ad and product evaluations via affect transfer (Lutz, 1985) or because their attractiveness characteristic may provide relevant information for attractiveness-relevant products, such as clothing and cosmetics (Kahle & Homer, 1985; Kamins, 1990).

Highly attractive models, however, do not always generate more favourable reactions than normally attractive or unattractive models (Bower & Landreth, 2001; Caballero & Solomon, 1984). Rather, as argued by the match-up hypothesis, they should be most effective when matched with attractiveness-relevant products (Kahle & Homer, 1985; Kamins, 1990). Bower and Landreth (2001), however, document that highly attractive models are more effective for beauty-enhancing products (e.g., lipstick), but are not more effective than normally attractive models for problem-solving products (e.g., dandruff shampoo) (Bloch, 1995). Similarly, if viewers believe a model in an ad possesses a physical characteristic (e.g., muscularity) that indicates the model has improved the appearance because of product use (e.g., exercise equipment), viewers may believe the associated product is responsible for the model's appearance (Micu, et al., 2009). Kamins

and Gupta (1994) also show that congruence between the spokesperson and the product advertised enhances product evaluations.

Advertising serves as a source of reflections and reinforcements of cultural meanings (K. T. Frith & Mueller, 2003). The creation of advertisements is a complex process with meticulous attention paid to the executional elements included in the promotional imagery such as the choice of scenery, background, colour, size and copy (Solomon & Greenberg, 1993). Among the many choices is who to utilise as a model and how to represent them in the advertisements. Thus, those involved in the creation of an advertisement play a critical role in defining, reinforcing, and sanctioning consumers' perceptions and definitions of beauty and attractiveness through advertising production decisions (Solomon, et al., 1992).

Utilising attractive models in advertisements has additional consequences. Social comparison theory presents a more complex effect of attractive models (Mussweiler, 2003; Wood, 1989). Specifically, depending on the comparison goal, the comparison process may serve self-evaluation, self-improvement, and self-enhancing goals (M. C. Martin & Gentry, 1997; Wood, 1989). Empirical studies in consumer behaviour and advertising, however, often link attractive models with negative self-judgments, including lower self-esteem and dissatisfaction with body image (M. C. Martin & Kennedy, 1993; Richins, 1991).

The following discussion will raise the issues associated with public policy and the need to be aware of the broader impact of advertising on society.

2.4 Public Policy and the Broader Impact of Advertising on Society

Pictures of people – models, celebrity endorsers, spokespersons, "average" consumers, managers and employees – make up a large part of marketing imagery (Schroeder & Borgerson, 2005). Serving as stimuli, signs, or representations that drive cognition, interpretation and preferences, images influence what consumers know and believe (Ang,

2000). There is support that media presentation of socially ideal body shapes (thin for women and muscular for men) generally leads to an upward comparison for most people. In other words, most people compare their current body shapes with the ideal body shape and feel as though they are lacking (Baird & Grieve, 2006). Such a comparison often leads to feelings of dissatisfaction (Choate, 2005).

The importance of physical attractiveness prompts men and women to compare themselves with the images of physical perfection. The effects on women are well documented with women comparing themselves with the images of thinness and beauty found in advertising (M. C. Martin & Gentry, 1997; M. C. Martin & Kennedy, 1993; Richins, 1991). A result of that comparison may lead to negative feelings such as frustration and anxiety. According to Richins (1991) exposure to idealised advertising images may change consumers' comparison standards for what they desire, or lower perceptions of their own performance on relevant dimensions leading to lowered satisfaction. Hence it can be seen that exposure to highly attractive images could have a negative effect on perceptions of attractiveness of self and others. Continual exposure to highly attractive images could lead to a negative body image, which, in turn could lead to eating disorders and mood disorders (Groesz, et al., 2002).

As Etcoff (2000) argues, the mass media do not create our standards of beauty, they just cleverly exploit them. Furthermore, different cultures often hold diverse standards of beauty. Whereas many North American women seek cosmetic surgery to increase their breast size and decrease their waist size, many South American women, particularly in countries like Brazil, use cosmetic surgery to decrease their breast size (Sarwer, et al., 2004).

Globalisation and transnational cultures are widespread in rapidly urbanising parts of the world (Haavio-Mannila & Purhonen, 2001). Along with the benefits of globalisation such as economic growth, the globalisation of physical body ideals are also spreading. In order to prevent further ill effects of stereotypical media images, today's media should be encouraged to use a broader spectrum of attractiveness rather than images of thin and in

most cases Caucasian models which have traditionally been portrayed (Irving, 1990). This move is also supported by Monteath and McCabe (1997), who believe that the media plays an important role in changing the physical stereotypes that exist today. Recent research has suggested that while media stereotypes do influence body image, the representation of an actual or more realistic body image has been shown to increase the likelihood of purchase to a greater extent than the use of unrealistic beauty stereotypes (Griffin, Viswanath, & Schwartz, 1994). Such outcomes were well illustrated by Dove's Campaign for Real Beauty. By using images of 'real women' Dove distinguished themselves from just another brand to a brand that generated sales, engaged with their audience by creating dialogue, received global publicity, increased awareness about self-esteem and won numerous awards (Milner, 2005). There thus remains not only a public interest for research in this area to continue but a financial imperative for organisations as well.

The broader impact of advertising on body image and self esteem is further in section 2.6 with a review of the major benefits and disadvantages of attractiveness in advertising.

2.5 Attractiveness as an issue

Concern with appearance is not just a reflection of modern western culture. Every period of history has had its own standards of what is and is not beautiful, and every contemporary society has its own distinctive concept of the ideal physical attributes. Periods of history have tended to be characterised by one specific ideal of beauty. As noted by historian Lois Banner (1983), history from 1800 to the 1960s can be characterised by a succession of dominant singular ideals of beauty. For example, in sharp contrast to today's emphasis on health and vigour, in the mid-1800s it was fashionable to appeal to very pale and delicate (ill by today's standards). This ideal evolved over time – into the voluptuous, lusty woman epitomised by Lillian Russell, the athletic Gibson Girl of the 1890s, and then the small, boyish flapper of the 1920s exemplified by Mary Pickford and Clara Bow. In more recent times, we have experienced the buxom Marilyn Monroe ideal of the 1950s, and then its antithesis in the

emaciated, flat-chested look of the 1960s. To appreciate how widely ideals of beauty can fluctuate in Western society, one needs only to contrast the plumpness of the nudes painted by Titian, Raphael, and Rubens to the stick figure exemplified by the eponymous Twiggy (K. Frith, Shaw, & Cheng, 2005).

Throughout history, the female body has been shaped to fit the norms of physical aesthetics (Fay & Price, 1994). For example, during the past 30 years, female fashion models and beauty pageant contestants have grown steadily thinner (Furnham & Alibhai, 1983; Till & Busler, 2000). This supports the earlier work of Gagnard (1986), who noticed that the ideal body type for females in the 1980s was considerably thinner than that of the 1940s and 1950s. The current feminine ideal has been described as a slender female or ectomorphic body shape (Butler, Ryckman, Thornton, & Bouchard, 1993; Cohn & Adler, 1992; Forbes & Wainwright, 2001). This is a change from the voluptuous and curved body shape to the angular and lean. Despite the 'thin ideal', the average weight of real women has increased thus widening the gap between the cultural norm and the biological reality (Stephens, Hill, & Hanson, 1994).

Male images on the other hand, have grown more muscular, leaning toward the mesomorphic body shape (Forbes & Wainwright, 2001; Neimark, 1994). The idealised male body image is now defined as an eroticized aesthetic showing a toned, young body (R. Gill, Hendwood, & McLean, 2005). These ideals have also lead to a discrepancy between the media representation and the body image of most males (Borchert & Heinberg, 1996).

Although it may have been possible historically to identify a popular figure who personified beauty (eg, Grace Kelley, Marilyn Monroe), consumers are today confronted with multiple ideals of beauty reflecting the proliferation of lifestyles, cultures, and ethnic groups that comprise culture (Englis, et al., 1994).

Although we resemble our ancestors and other cultures in our concern about appearance, there is a difference in *degree* of concern. Advances in technology and in particular the

rise of the mass media, has created normal concerns about how consumers look to become obsessions. The perception of the body within consumer culture is dominated by the existence of a vast array of visual images. By virtue of media exposure, western consumers in particular have become accustomed to extremely rigid and uniform standards of beauty. Exposure to TV, billboards, the internet and magazines means that consumers see 'beautiful people' all the time, making exceptionally good looks seem real, normal and attainable. However, standards of beauty have in fact become harder and harder to attain, particularly for women. The current media ideal of thinness for women is achievable by less than 5% of the female population (Cash & Henry, 1995).

Indeed the inner logic of consumer culture depends upon the cultivation of an insatiable appetite to consume images. The production of images to stimulate sales on a societal level is echoed by the individual production of images through photography (Sontag & Schlater, 1982). Christopher Lasch (1979, p. 47) noted the profound effect of photography on the perception of social life:

"Cameras and recording machines not only transcribe experience but alter its quality….Life presents itself as a succession of images, of electronic signals, of impressions recorded and reproduced by means of photography, motion pictures, television and sophisticated recording devices. Modern life is so thoroughly mediated by electronic images that we cannot help responding to others as if their actions, and our own, were being recorded and simultaneously transmitted to an unseen audience or stored up for close scrutiny at some later time."

Day-to-day awareness of the current state of one's appearance is sharpened by comparison, with one's own past photographic images as well as with the idealised images of the human body which proliferate in advertising and the visual media (Featherstone, 1991). Images invite comparisons: they are constant reminders of what consumers are and might, with effort, yet become. The desire for one's own body also becomes catered for, with one of the effects of the new camera technology (instant photographs, videotapes) being to further private narcisstic uses. Women in particular,

are trapped in the narcissistic, self-surveillance world of images, for apart from being accorded the major responsibility in organising the purchase and consumption of commodities their bodies are used symbolically in advertisements (Ben-Tovim & Walker, 1991).

The next section will address the concepts of Beauty and Attractiveness.

2.5.1 Perceptions of Beauty

Considerable evidence has accumulated in the social sciences and in marketing, that beauty sells and that beauty changes attitudes towards products, people, and places (Atkin & Block, 1983; Kamins, 1990; Ohanian, 1990). Research suggests that beauty really does matter. It pervades society and affects how one chooses loved ones (B. A. S. Martin, Lee, & Yang, 2004).

The question of what makes visual stimuli persuasive has a long tradition in theories of aesthetics. From as early as Plato and Aristotle, theoreticians have pondered what makes for evocative sculpture, good architecture, and appealing design (Winkielman, Halberstadt, Fazendeiro, & Catty, 2006). Most theories of aesthetics assume that beauty resides in the object of appreciation. This perspective gave rise to numerous attempts to identify objective features of beauty. Among the more prominent of these features are simplicity (Birkhoff, 1933), symmetry and balance (Gombrich, 1984), and certain proportions, such as the golden section (Fechner, 1876), clarity (Gombrich, 1984) and brightness contrast (Solso, 1997), as well as the prototypicality of the form (Winkielman, et al., 2006).

In marketing, aesthetics refers to an appreciation of a consumption experience valued intrinsically as a self-oriented end in itself (Wagner, 1999). The aesthetic experience encompasses the entire realm in which people feel interest, pleasure and emotion at the presence or absence of beauty (Langlois, et al., 2000). Central to this experience is the

aesthetic response which is primarily emotional and very personal, though there are also cognitive and behavioural elements (Bloch, 1995).

People have trouble defining beauty, but they know it when they see it, and, they actively look for it (Englis, et al., 1994). Consumers are constantly looking to acquire the latest products and services that will help them to attain this elusive quality. To capitalise on this desire, marketers compete fiercely to position their products and to design mass media communications so as to embody current ideals of beauty (Bloch, 1993).

A study by Langmeyer and Shank (1995) revealed that although initial evaluation of an unknown person appears to be based on physical appearance and attractiveness, real beauty goes beyond that part of the person that is physical. Values, habits, personality, and behaviour are the 'soul' of beauty. Few empirical studies have explored its impact, particularly within the context of marketing. Langmeyer and Shank (1995) suggest that research should investigate the positive and negative aspects of beauty; economic, social and psychological consequences of beauty; as well as male and female perspectives of beauty, as all are extraordinary and fascinating subject matter for prospective studies.

There have been a number of studies that explored the concept of beauty. Solomon, Ashmore and Longo (1992) identified six different types of looks from popular American magazines. Englis, Solomon, and Ashmore (1994) examined ideals of female beauty as represented in mass media vehicles of popular culture because firstly, there is a long history of using 'female beauty' to sell products to women as well as to men, and secondly, because mass media consistently reinforce assumed linkages between women's appearance and their feelings of self-worth (Bloch, 1995). They further explored the issue and supported the argument that a multiplicity of beauty ideals, each with its attendant aesthetic and consumption associations, exists in contemporary American pop culture. However, they noted that the results were not intended to generalise to dominant beauty ideals that may be present in European consumer culture, much less in non-Western cultures (Englis, et al., 1994).

More recent research has supported the notion that beauty does matter (Honekopp, 2006). The area of beauty research is not restricted to marketing communications. There has been a great deal of research in Psychology. Beauty was found not to reside in the object of appreciation but rather in the processing experience of the perceiver (Winkielman & Cacioppo, 2001; Winkielman, et al., 2006).

Although some social scientists have proposed the existence of innate reactions to selected aspects of appearance (D. S. Berry & McArthur, 1985; M. R. Cunningham, 1981), the cultural relativity of beauty norms, as well as their fluidity over time, suggests that answers to the question 'What is beautiful?' are culturally constituted as a result of common socialisation experiences (Banner, 1983; Englis, et al., 1994). If so, these standards are, at least to some degree, learned via mass media vehicles of popular culture.

Most people strive to attain a certain ideal of beauty currently prevalent in their culture. Ideals of beauty often are summed up in a sort of cultural short-hand: one may talk about a 'vamp,' 'girl next door,' or an 'ice-queen,' or one may refer to specific women who have come to embody an ideal, such as Cher, Marilyn Monroe, or Princess Di.

Confusion does exist with regard to a definition of beauty. This is exemplified by statements such as:

- there is more to 'beauty' than a simple good/bad judgement of attractiveness (Langmeyer & Shank, 1995);
- stars have to have something special and almost identifiable (Kaikati, 1987);
- 'Beauty' has been more typically defined as 'attractiveness' in advertising literature and research, and has been measured, almost invariably, on a single 'attractive/unattractive' dimension (Langmeyer & Shank, 1995).

It is clear from the above statements that the words beauty and attractiveness in the literature are used interchangeably. There have been attempts at defining a "beauty ideal." It is considered to be an overall 'look' incorporating both physical features (eg., pouty lips vs. thin lips, large breasts vs. small). This study defines beauty as characterised

by a person's head and shoulders. The reasoning behind this is that one can be perceived as beautiful but not necessarily attractive. Conversely, one can be perceived as attractive but not be considered beautiful. Reality television shows that are concerned with body image and losing weight such as 'The Biggest Loser' are a good example of this. The people chosen to be part of the show are quite beautiful but once they reveal their overall body, one could argue that they are not attractive as they are grossly overweight. This is supported by literature from Psychology (Rhodes, et al., 2005; Rhodes, Yoshikawa, Clark, Lee, & McKay, 2001).

This study will attempt to separate and clearly define beauty and attractiveness as two distinct concepts and the following discussion explores perceptions of attractiveness.

2.5.2 Perceptions of Attractiveness

Physical attractiveness is the most visible and most easily accessible trait of a person (Heinberg & Thompson, 1995). Physical attractiveness is also a consistently and frequently used informational cue. These factors may be the reason physical attractiveness is so important and its influence so pervasive in the lives of almost every person in society. Research on physical attractiveness has been conducted in a variety of disciplines. The findings reveal that physical attractiveness plays a dramatic role in an individual's personality development (La Ferle & Lee, 2005).

One of the most fundamental problems for any organism is mate selection (Winkielman, et al., 2006). It is vitally important that one is sensitive to the physical cues that honestly signal that one individual is more desirable (ie. fitter and with a better reproductive potential) than another, and use them to choose a partner who is most likely to enhance one's chances of successful reproduction (Tovee & Cornelisen, 2001). Physical characteristics of beauty play a significant role in the selection of human romantic and sexual partners (Sarwer, et al., 2004), thus attractiveness has a biological function.

Scientists have also found that the body's proportions play an important role in perceptions of attractiveness as well. A number of biological characteristics have been identified in the Psychology literature that are believed to reveal one's reproductive potential and therefore lead to higher ratings of attractiveness:

- **Youthfulness**

A youthful appearance signals reproductive potential. Ratings of youthfulness and facial attractiveness are highly correlated, with ratings of attractiveness typically declining with age, particularly for women. Consistent with evolutionary theories of sexual selection, standards of attractiveness for women are more connected to youth than they are for men (Sarwer, et al., 2004).

- **Pathogen resistance**

Men and women in cultures with high pathogen prevalence such as a weaker immune system (e.g. Nigeria, Zambia, and India) rated physical attractiveness as a more important trait in selection of their long-term mates as compared to men and women from cultures with low pathogen prevalence (e.g. West Germany, Sweden, and Norway) (Winkielman, et al., 2006).

- **Symmetry**

Bilateral symmetry is thought to be a phenotypic indicator of a pathogen-free organism. Under ideal developmental conditions, paired body features develop in synchronicity (Rhodes, et al., 2001). Evolutionary theorists believe that only the hardiest and healthiest of a given population possess the ability to develop symmetrically in harsh environmental conditions. Therefore, a person with a symmetrical face and body is likely to receive higher attractiveness ratings.

- **Waist-hip ratio**

Waist-hip ratio (WHR), which reflects the distribution of fat between the upper and lower body relative to the amount of abdominal fat, is also thought to signal physical beauty (Fan, Dai, Liu, & Wu, 2005). During childhood, males and females have comparable WHRs. During puberty, increased levels of oestrogen in females add fat deposits to the breasts and hips. In males, testosterone stimulates fat deposits in the abdominal region and inhibits fat deposits in the lower body. In general, men have a preference for women with low waist-to-hip ratios (WHRs), that is, more adipose is deposited on the hips and

buttocks than on the waist and perceive them to be more attractive, younger, healthier, and more feminine looking (Fan, et al., 2005; Singh, 1995). Research shows that women with high WHRs (eg., apple-shaped bodies with more weight around the waist) are more likely to suffer from health maladies, including infertility and diabetes.

- **Volume height index**

Volume height index (VHI) is defined as the total body volume divided by the stature height in litres per square metre (Fan, et al., 2005). VHI was found to be the most important visual cue to male body attractiveness of young Chinese participants among the many body parameters examined in the Fan et al (Fan, et al., 2005) study.

- **Averageness of appearance**

'Averageness' typically is not associated with beauty. Surprisingly, in studies of facial appearance, averageness is often characterised as attractive (Sarwer, et al., 2004).

- **Health**

Health is both a descriptive dimension of attractiveness and a potential outcome. As an independent variable, it relates to the functional and visual aspects of health (Winkielman, et al., 2006). The relationship of attractiveness to physical health is an important issue from several theoretical perspectives. An evolutionary psychological perspective, for example, suggests that facial attractiveness may provide information about underlying health (Shackelford & Larsen, 1999). Previous research indicates that more facially attractive people are perceived to be healthier. Cunningham (1986a) found that men judge women with more attractive faces as more fertile and as likely to experience fewer medical problems. Grammer and Thornhill (1994) documented that opposite-sex raters judge more facially attractive people to be healthier than less attractive people.

- **Visual Fluency**

The concept of visual fluency is based on the simple observation that the processing of any visual stimulus requires cognitive work. The amount of cognitive work needed is reflected in the speed and accuracy of visual processing as well as in the subjective experience of ease or difficulty (Jacoby, Kelley, & Dywan, 1989). A large number of variables can influence the ease with which a stimulus is processed. Some of these variables, like figure-ground contrast, clarity, presentation duration or previous exposure

to the stimulus facilitate processing through low-level perceptual processes and hence increase perceptual fluency (Winkielman, et al., 2006). Other variables, like exposure to semantically related concepts, facilitate processing through high-level interpretation processes and hence increase conceptual fluency (Whittlesea, 1993). Because perceptual and conceptual fluency have similar effects on the ease with which a visual stimulus can be processed, and show parallel influences on subsequent judgments both are subsumed under the summary term visual fluency. The fluency effect that is probably of most interest to consumer researchers is the observation that the ease with which a stimulus can be processed influences people's liking of the stimulus. The best known example of this phenomenon is the "mere-exposure" effect identified by Zajonc (1968). Repeated exposure to a stimulus, even without any reinforcement, leads to gradual increase in liking (Bornstein, 1989).

A person's physical appearance, along with his or her sexual identity, may be the personal characteristic most obvious to others in social interaction (Krugman, 1965). Perhaps because of this, physical attractiveness often serves as a basis for social stereotypes. Generally speaking, social stereotypes guide a perceiver's information processing and his/her subsequent interaction with an actor, even though people are not aware or are not willing to admit the influence of appearance on their responses (Byrne, 1971). The physical attractiveness stereotype is of relevance to marketers in their communication mix construction, particularly in advertising. Many advertisers use a male or female model with their product in the belief that these models will make the product more appealing to the potential customer.

Attractive communicators have proved to be more persuasive 'sources' than unattractive communicators, a finding not necessarily related to their perceived expertness (Horai, Naccari, & Fatoullah, 1974) or trustworthiness (Snyder & Rothbart, 1971). In general, attractive individuals are perceived in a highly positive light and reflect very favourably on the products they represent.

Some findings from seminal papers in the area of attractiveness are as follows:

- sex & physical attractiveness of an ad model do influence peoples' evaluation of the aesthetic qualities of an ad (Baker & Churchill, 1977);
- motives do play an important role - differential effects were found for changes in self-perceptions of physical attractiveness, self-perceptions of body image, and self-esteem (M. C. Martin & Gentry, 1997);
- attractiveness is a useful dimension on which to match celebrities and products, but studies to date have not been adequately designed to substantiate this (Till & Busler, 2000).

The particular set of physical characteristics perceived as beautiful and desirable are a social construct that can vary dramatically across cultures and across time within a culture (Fay & Price, 1994). Nasal bones and lip plates in New Guinea, scarification and tattooing in Southern Africa, blond Aryanism in Nazi Germany shaven armpits and legs for women (and increasingly for men) in Australia and New Zealand, are examples of the imaginativeness of definitions of the ideal body. In European cultures, representations of the body, both male and female, have varied significantly through history. Among the cultural trends that have been linked to the development of the thin ideal are:

• health consciousness and fears about obesity (Johnson, 2006);

• a move by the social elite to separate themselves from the newly well-fed masses (Haavio-Mannila & Purhonen, 2001);

• the rejection by young women of body-controlling corsets and formed bras (Ewing, 1978);

• a move towards the glorification of youth as post-war babies moved into their teens and 20s (Behling, 1985);

• the linear phase of the fashion cycle of ‘curvaceousness’ (Silverstein, Perdue, Peterson, & Kelly, 1986);

• changing social roles of women (Beller, 1977).

There is a scarcity of formal research supporting the use of physically attractive models in advertising. In fact, much research in this area has been directed toward assessing the 'sexiness' of people in ads (usually operationalised as various stages of undress or pose and stance) rather than their physical attractiveness (Peterson & Kerin, 1977; Wise, King, & Merenski, 1974). Levels of attractiveness are generally obtained either by having naïve subjects rate facial photographs of the stimulus persons or by unobtrusively rating live stimulus persons on an attractive/unattractive scale (Caballero & Solomon, 1984). To move beyond a simple notion of attractiveness, all possible dimensions must be considered and explored. This is particularly necessary when using attractiveness to assess the goodness of a match-up between an endorser and a product.

As McCracken (1989, p. 312) observed that conventional research "…can tell us only that a celebrity is attractive, not what attractiveness is." Defining attractiveness theoretically is a topic of great interest and controversy. Until recently, empirical work proceeded without any conceptual or scientific definition of attractiveness: researchers simply defined people as attractive when raters agreed they were attractive (Langlois, et al., 2000).

This study defines attractiveness as the physical features of a person's body. It is argued that the physical body is related to sex appeal and mating which leads to an instantaneous recognition of whether one finds another person attractive or unattractive. As argued in 2.5.1, a person can be perceived as attractive but not beautiful.

From the literature it is clear that attractiveness is not a simple and unitary cognitive continuum but rather a complex multidimensional construct. Furthermore, the need to more precisely match the appropriate model with intended product imagery is important with the current trend toward lifestyle fragmentation, as evidenced by the proliferation and acceleration of finely-targeted media vehicles.

Studies to date were mostly restricted to facial photographs. Although faces are important contributors to overall beauty (Alicke, Smith, & Klotz, 1986; Furnham, Lavancy, &

McClelland, 2001), attractiveness of the body also matters. For the female face, the most comprehensive structurally based study is Cunningham (1986b). In a series of studies, he correlated various measured dimensions of female faces with attractiveness judgments and attributions of personal characteristics. His research provides excellent estimates of the importance of structural facial features to attractiveness judgments. For the body, Alicke et al.'s (1986) study provides excellent estimates of the importance of structural body features. They followed the general paradigm in physical attractiveness research by using pre-screened faces and bodies as stimulus figures and using different persons to represent three levels of facial attractiveness and three levels of body attractiveness. Their goal was to compare the relative importance of facial to body factors in attractiveness judgments. They found body and facial features were equally important influences on overall attractiveness judgments and that facial attractiveness is influenced by ethnic identity (Alicke, et al., 1986). This thesis will explore both beauty and attractiveness concepts.

The next section will address the influence of gender on the perceptions of attractiveness.

2.6 Attractiveness and Gender

With the recent advent of MRI technology, cutting edge studies around the globe are supporting the proposition that the female brain is wired very differently to that of a man. Studies have found that there are four times as many connections between the left and right hemispheres of the female brain, which leads researchers to conclude that women apply emotional memory and feelings to experiences (including pain and negativity) in ways that a man simply cannot. This is a contributing factor in how men and women might view an advertisement (Winkielman, et al., 2006).

The effects of both male and female models' physical attractiveness on male and female consumers was examined by Debevec and Kernan (1984). They found that advertisers attempting to persuade a male audience may be most effective when using an attractive female model than an attractive male model, average models, or advertisements void of a

model. Among females, however, results are not supportive of a similar cross-gender strategy when utilising male models.

An evolution of the socio-cultural standard of attractiveness for males over time was examined by Law and Labre (2002) through exploration of images in three popular magazines – GQ, Rolling Stone, and Sports Illustrated, during a thirty year period. Socio-cultural standards of beauty for males emphasise strength and masculinity, with the mesomorphic body type (well-proportioned, average build) being preferred over ectomorphic (thin) or endomorphic (fat) body shapes. Within the mesomorphic category, the muscular mesomorphic body type, a V-shaped body "characterised by well developed chest and arm muscles and wide shoulders tapering down to a narrow waist," was found to be the most desired shape for men.

This is noted by Mike Sell, an executive for an advertising agency that focuses on the youth market. The emphasis of men's magazines ten years ago was to stress fashion, but now these magazines focus on a new area of male preoccupation: body image (Gordon, 1995). Similar to women's magazines, magazines for men now are filled with articles that "concentrate on their reader's worries and inadequacies" (Gordon, 1995). As images of men became more prevalent in the media, a new socio-cultural standard of beauty for men seems to have emerged: "hypermasculine, muscled, powerfully shaped body – the Soloflex man, and the question is whether this standard will punish men as much as the super thin standard has punished women" (Neimark, 1994, p. 32). While physical attractiveness may remain more important to women than to men, some men may place their health at risk, as some women do, in order to attain the cultural ideal. Recently, the pressures on men to obtain and maintain a certain body type have been increasing (Baird & Grieve, 2006). Men are beginning to report being dissatisfied with their body appearance (Vartanian, Giant, & Passino, 2001) and wanting to gain approximately 13 kilos in muscle mass (Pope, Phillips, & Olivardia, 2000). Body dissatisfaction experienced through exposure to idealised images of men in the media is only the beginning of possible outcomes such as anabolic steroid use, eating disorders, and muscle dysmorphia (Baird & Grieve, 2006).

Kimmel and Tissier-Desbordes (1999) conducted a study with 30 French men in order to determine whether brands and consumption played an important part in their lives. The study suggested that men were uncomfortable with products that presented men as feminine. The participants in the study expressed overt homophobia towards images of men that were seen as too feminine or sexual. To date then, very little is known about how men react emotionally to the portrayal of male bodies in advertising.

While there has been extensive research on the body image of women, studies on the media's influence on the body satisfaction of males has been somewhat ignored. This is despite evidence that there is a growing use of idealised male body stereotypes by the media (R. Gill, et al., 2005). This has also been reflected in the increase in sales of male grooming products and continued growth of the health and fitness movement (Sturrock & Pioch, 1998).

Research from Psychology suggests that there may be significant differences in what men and women consider most attractive (C. Law & Labre, 2002). One commonly agreed aspect is that attractiveness is important to both men and women. Across 37 cultures, both males and females prioritise physical attractiveness over personality traits such as dependability, emotional stability, and maturity in their choice of mates (Sarwer, et al., 2004). Men seem to be particularly drawn to physical characteristics that signal reproductive potential. From a purely physiological perspective, the male's role in reproduction is time-limited – he simply needs to provide sperm in order to reproduce. Thus, males are more attracted to physical characteristics, like youthfulness and pathogen resistance, thought to be associated with fertility. Women are also attracted to these characteristics; however, they have different reproductive concerns. Their investment in reproduction is greater as they must carry the developing foetus during pregnancy and then provide for and protect the infant during the early years of life. Thus, females also must consider a mate's ability to both obtain resources and protect the female and the offspring. From a physical perspective, this suggests that females would find muscular, athletic males most attractive. In modern society, to a certain extent, physical strength has

been replaced by financial and/or social strength. In almost every culture studied, women valued financial strength over physical characteristics (Sarwer, et al., 2004).

Gender, ethnic, and age differences in body-shape dissatisfaction and in the amount of distortion in estimating the attractiveness preferences of the opposite sex were explored by Demarest and Allen (2000). As in Fallon and Rozin (1985) and Demarest and Langer (1996), the women in Demarest and Allen's (2000) study perceived their figures as heavier than their ideals and as heavier than the men's preferences. Among the women, the discrepancies reflected significant dissatisfaction with their figures and distorted perceptions of men's preferences. The men were generally satisfied with their own shapes, although their perceptions of the male bodies that the women would find most attractive were also distorted. Pope et al., (2000) found that across Austria, France and the US, the ideal body for men was 13kg more muscular than themselves and they estimated women preferred a male body about 14kg more muscular than themselves.

Thus, the observation that men are more swayed by beauty, and women by a mix of physical and financial attractiveness, may reflect fundamental biological differences with an evolutionary purpose, rather than gender differences which have developed as a result of socialization (Pope, et al., 2000).

2.7 The major benefits and disadvantages of Attractiveness

The following sections will address the personal and social advantages of attractiveness and the effects it has on self esteem and body image with implications for public policy.

2.7.1 Benefits of attractiveness

The mass media convey unmistakable images of the 'body beautiful,' coupled with thinly-veiled admonitions to conform to this ideal if one hopes to achieve happiness. The ideal is an arbitrary product of culture, yet consumers strive to attain it with diet, exercise,

makeup, hairstyling, clothing, and even cosmetic surgery, because to ignore consensual standards of physical attractiveness is to disengage from society. Americans spend nearly $40 billion each year trying to lose weight and, in 2001, they spent approximately $8 billion on surgeons' fees for cosmetic medical treatments (Sarwer, et al., 2004). Domzal and Kernan capture this by saying "An attractive body is one which we interpret that way, rather than one in whose presence we experience an involuntary, reflective reaction" (1992, p. 5).

Studies suggest that advertising may play a part in creating and reinforcing a preoccupation with physical attractiveness (Meyers & Biocca, 1992; Silverstein, et al., 1986) and influence consumer perceptions of what constitutes an acceptable level of physical attractiveness (M. C. Martin & Kennedy, 1993; Peterson & Kerin, 1977; Richins, 1991). This is significant because physical attractiveness is a central consideration in advertising (Furnham, et al., 2001) and has been shown to have a powerful influence on many aspects of social behaviour and judgement. One's physical attractiveness has important implications for many aspects of social life (Winkler & Rhodes, 2005). Attractive individuals are perceived in a more positive light (Dion, Berscheid, & Walster, 1972), often receive preferential treatment (Snyder, Tanke, & Berscheid, 1977), and attract the romantic interest of the opposite sex more than their less attractive peers (Winkler & Rhodes, 2005). Social psychologists have studied the effects of physical attractiveness on dating preferences (Stretch & Figley, 1980), the initiation of short and long term relationships (Singh, 1995), judgements of criminal responsibility (Brigham, 1980), and teachers' evaluations of students (Dion, 1973). These advantages can be split into competitive and social advantages:

2.7.1.1 Competitive Advantage

- *Physical appearance in childhood*

Children's self-perceptions are affected by their physical appearance (Sarwer, et al., 2004). Muldoon (2000) demonstrated the importance of physical attractiveness on self-esteem. At age eight, physical attractiveness and academic competence predicted 53% of

the variance in a child's self-esteem. By age 11, however, physical attractiveness alone explained 43% of the variance in self-esteem. Physical attractiveness also plays a significant role in the formation of childhood friendships. Children consider attractiveness a more important criterion than intelligence in the selection of friends. Moreover, students would prefer to work with attractive partners on school projects, regardless of their partners' academic competence.

- *Physical appearance and the school system*

Research indicates that teachers ascribe more positive attributions to attractive students than unattractive students (Langlois, et al., 2000). Teachers perceive beautiful students as possessing more social skills, popularity, and confidence, as well as intelligence and academic potential, than their unattractive counterparts (Ritts, Patterson, & Tubbs, 1992).

- *Physical appearance and employment*

Numerous studies have documented that physical appearance influences hiring decisions, promotions, and salary rates (Biddle & Hamermesh, 1998; Kyle & Mahler, 1996).

- *Physical appearance and the medical and legal professions*

Mental health professionals typically prefer working with YAVIS (young, attractive, verbal, interesting, and successful) clients (Hatfield & Sprecher, 1986). Physicians also prefer to work with more attractive patients and may treat them differently (Hadjistavropoulos, Ross, & von Baeyer, 1990). Additionally, more attractive individuals are perceived as less likely to commit a crime (Hatfield & Sprecher, 1986).

2.7.1.2 Social Acceptance

- *Physical appearance and romantic relationships*

Physical appearance obviously plays an important role in romantic relationships. Physical attraction probably ignites most romantic relationships. It is frequently the first bit of information one gathers about a potential romantic partner. If the spark of physical attraction does not exist, the relationship will most likely not flourish. Both men and

women desire a physically attractive romantic partner. Consistent with the evolutionary theory of physical appearance, men place a greater value on having an attractive mate as compared to women (Buss, Shackelford, Kirkpatrick, & Larsen, 2001).

- *Physical appearance and helping behaviours*

Physical beauty also influences who people help and who they ask for help (M. R. Cunningham, 1986b). Men are more likely to help an attractive woman than an unattractive woman with a variety of tasks (Wilson, 1978).

Overall, the evidence indicates that physical attractiveness is an important and pervasive source of influence in a variety of interpersonal situations. A common finding that emerges from these studies is the presence of a physical attractiveness stereotype – a tendency to consistently attribute more positive qualities to people who are physically attractive rather than unattractive. Evidently, advertisers believe that beautiful people are credible, and that physically attractive sources can contribute to a communication's effectiveness (Joseph, 1982). Some studies have shown that female receivers make more favourable evaluations of the ad as well as the product being advertised (Belch, et al., 1987; Joseph, 1982) when attractive models are used in the advertisement. Other research results concur by stating that attractive people are likely to be viewed "as more sensitive, kind, sociable, interesting, outgoing, strong, poised, and exciting than less attractive people" (Perlini, et al., 1999, p. 1).

2.8 Attractiveness and Body Image

Researchers have written extensively about the potential harmful consequences of portrayals of women in ads that represent unrealistic ideals. One of these harmful consequences is that a woman may become increasingly dissatisfied with her own body. The ideal body and resulting images of beauty for women has changed over time in our society (Seid, 1989; Wolf, 1991) as discussed earlier in section 2.5. Furthermore, analysis of both women's and men's use of media and eating disorders suggests larger negative effects for print (magazine) than for TV media (Harrison & Cantor, 1997). This could be

due to magazines featuring significantly more messages to stay slim and a greater number of images of airbrushed models which consumers can study in more detail and use to make self-evaluations.

Body image is the internal representation of a person's outer appearance, one's unique perception of his or her body (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). During the last three decades, body-image dissatisfaction has increased dramatically for women (Feingold & Mazzella, 1998). Large-scale survey studies reveal that appearance dissatisfaction has increased from 23% to 56% for women from 1972 to 1996 (Garner, 1997). Although the average woman has become larger, the average ideal body size has become thinner (Wiseman, Gray, Mosimann, & Ahrens, 1992). This creates a discrepancy between the ideal and actual weight of women. Although it may not be achievable for most women, the thin ideal has remained the epitome of beauty for the past 30-40 years (Cash & Henry, 1995; Striegel-Moore, Silberstein, & Rodin, 1986). Women's inability to achieve this aesthetic ideal has led to increased body-image disturbance.

In addition to its high prevalence, body-image disturbance is a main precursor and a diagnostic criterion of an eating disorder (APA, 1994). Researchers have examined antecedents and moderators that may place people at increased risk for body-image disturbance such as the demographic characteristics of gender, age, body mass index (BMI), and ethnicity. They have found that women are more at-risk for body-image disturbances than men (Feingold & Mazzella, 1998). Younger women are more susceptible to body-image disturbance than older women (Garner, 1997). Women from higher socioeconomic status are more likely to suffer from body-image disturbance than are women from lower socioeconomic status (Allaz, Bernstein, Rouget, Archinard, & Morabia, 1998). Over 50 studies have examined the effects of exposure to images of a thin physique on people's body image and mood. In their meta-analysis, Groesz, Levine, and Murnen (2002) reviewed 25 studies that evaluated the immediate effects of images of slender, ideal beauty on female body image. They reported that body satisfaction for women was significantly lower after viewing thin media images compared to viewing media images of average size models, overweight models, or controls. The effect was

stronger for participants who were less than 19 years old, participants with high body disturbance, and participants who viewed fewer than 10 stimuli. A study by Stice *et al.*, (1994) found that the amount of exposure females had to the media was predictive of symptoms associated with eating disorders.

Many different theories and models have been advanced to explain the development and maintenance of body-image disturbance. The socio-cultural model is the most empirically supported explanation for body-image disturbance (Thompson, et al., 1999). This model emphasises that the current aesthetic standard of a thin and toned physique for women (i.e., low percent body fat and physically fit) is omnipresent and virtually impossible for people to achieve without excessive dieting, exercise, or both (Cusumano & Thompson, 1997). Researchers examining the socio-cultural model have focused on the role that the mass media (e.g., print media, television, television) play in body-image disturbance (Irving, 1990; Thompson, et al., 1999). Correlational and laboratory-based experimental studies reveal that the media portrayal of the thin body as an ideal is associated with weight and shape dissatisfaction and disordered eating (Harrison, 2001). Furthermore, after viewing images of the ideal female physique, women report decreased body satisfaction (Posavac, Posavac, & Weigel, 2001), decreased self-esteem (Irving, 1990), increased body-size distortion (Hamilton & Waller, 1993), and increased mood disturbance (Cattarin, Thompson, Thomas, & Williams, 2000).

Social norms of the “ideal body” are portrayed in the mass media by the models, actors, and athletes. These mass media ideals have come to shape the standards for which young women believe they must achieve in their struggle for "true" beauty. Additionally, as discussed in the previous section, there are many compelling reasons, such as wealth, job opportunities, and social approval, why women accept the stereotypical concept of beauty.

2.8.1 Eating disorders

Eating habits are intrinsic parts of cultures and cultures are a strong driver of eating habits (Monnier-McClure & Edleston, 2005). Outside the United States, eating disorders

have been considered to be less prevalent. This has been associated with variations across cultures in the ideals of beauty that are admired as well as the socio-economic development of different nations. The following table is an overview of the state of eating disorders across different regions:

Table 2.1 Eating disorder studies by region

Region	State of eating disorders
Africa	Recent research suggests that the Black African population may also be trending toward unhealthy eating attitudes and behaviours. An earlier study in South Africa in the 1970s documented a 20-fold increase in admissions to eating disorders during the 5 years prior to the study (Norris, 1979). Yet another study of anorexia nervosa in Johannesburg, South Africa, found a prevalence rate of 2.9% (Ballot, et al., 1981). A recent study compared college students from several ethnic groups within South Africa and found that Black students scored significantly higher than Caucasian, Asian, and mixed ethnicity students on measures of abnormal eating attitudes (le Grange, Telch, & Tibbs, 1998)(Grange, Tech, and Tibbs, 1998).
Asia	The incidence of anorexia may be increasing in Hong Kong (Hsu & Lee, 1993). Several authors have also described a marked increase in the prevalence of anorexia nervosa and bulimia nervosa in Japan (Nakane & Umino, 1987). Cross-cultural comparisons of cases of eating disorders that have been identified have yielded some important findings. Asian countries that have a more Westernised culture such as Japan demonstrate weight phobia as a consistent feature of anorexia nervosa (Miller & Pumariega, 2001).
Australia	Studies have suggested that Australian adolescents have risk factor levels that are similar to those found in the United States (Paxton, et al., 1991). A recent study which included 3001 interviews from a community-based Australian sample found that 1.6% regularly fasted or used strict dieting, 0.3% met criteria for bulimia nervosa, 1% had binge eating disorder, 3.2% had regular episodes of binge eating, and 0.8% purged (Hay, 1998). Another study compared two groups of adolescent girls, from Anglo-Australian versus Greek Australian backgrounds, living in Australia for risk factors for eating disorders (Mildred, Paxton, & Wertheim, 1995). This study found that both groups of girls had similar patterns of disordered eating risk factors. This findings was of interest since Greek girls living in Greece have been reported to have low levels of eating disorders (Fichter, Elton, Sourdi, Weyerer, & Koptagel-Ilal, 1988); thus one hypothesis was that Greek Australian girls may have assimilated Anglo-Australian attitudes regarding ideal body size and eating behaviours, just as immigrant groups in the United Sates have been reported to develop higher risk for eating disorders as

	they acculturate (Miller & Pumariega, 2001).
Europe	Rates of eating disorders in European countries appear to be increasing over the last few decades just as they are in the United States. Several authors have studied rates of eating disorders in Sweden (Norring & Sohlberg, 1988; Theander, 1970), Germany, Switzerland, England, Scotland, and the Netherlands (Hoek, 1991). Estonia does not have a long history of exposure to commercialised Western-type media, which very commonly depict female beauty ideals as thin (Spitzer, Henderson, & Zivian, 1999). However, exposure to such material there is rapidly increasing (Tiggemann & Ruutel, 2004). Their results suggest that Estonians have adopted Western beauty ideals, and the results are consistent with what Lee and Joo (2005) described as "the transnational diffusion of fat concern." Estonians' having rated slimness more highly than did Australians might indicate that their society is more concerned with progress, modernity, and Western ideals in general (Tiggemann & Ruutel, 2004).
Fiji	Harvard Medical School psychiatrist Anne Becker, who was in Fiji in 1995 when the government announced that TV, including western programs, would be introduced. Fijians revere a body that is sturdy, tall and large, features that show that the body is strong, hardworking and healthy. Thinness and sudden weight loss was seen as some kind of social loss or neglect. In 1998, Becker returned to Fiji and found that this had all changed. Her studies showed that 29 per cent of the girls now had symptoms of eating disorders. Many said they vomited to lose weight. More than 80 per cent said that watching TV affected the way they felt about their bodies. Qualitative insights revealed the following: 'I watched the women on TV, they have jobs. I want to be like them, so I am working on my weight now.' In desperation to find role models as Fiji enters the global economy, the young women are altering their bodies to compete. Becker (2002), in a longitudinal study of Fijian women, found that the incidence of eating disorders increased five fold to 15% three years after the introduction of the only television station, which showed largely North American, British and Australian programming. These results suggest that the degree of western development and therefore exposure to mass media may also influence the level of satisfaction with body image.
Middle East	Western attitudes about weight and body form have become prevalent in this region. Neumark-Sztainer, Palti and Butler (1997), in a study of weight concerns and dieting behaviours in 334 Israeli adolescent girls, found high rates of past dieting (74%) and current dieting (47%), with no difference between girls from different countries of origin, including Arabic countries. However, maternal weight concerns about their daughters, was higher among mothers from Europe/America or born in Israel as compared to mothers born in North Africa or the Middle East.
South America	There have been few reports on the presence of eating disorders in Latin

	America and South America. Carlos (1972) reported almost no incidence of anorexia nervosa in Latin America. More recently, anorexic patients in Brazil have been described (Negrao & Cordas, 1996), as well as anorexic and bulimic patients in Chile (Pumarino & Vivanco, 1987). Rates of bulimia nervosa among high risk groups of young adult females have been studied in Buenos Aires, Argentina: 31.5% of dieters and 14.3% of exercisers were found to be bulimic compared with 2% of controls (Zuckerfeld, Fuchs, & Cormillot, 1988).

The research from the Table 2.1 suggests that body image may be one of the western world's ugliest exports. Image of thin women and muscular men are conveyed via television, magazines, movies and the Internet to the global market. As a result, cultures that used to regard bulk as a sign of wealth and success are now succumbing to a narrow western standard of beauty. And that, in turn, is leading to incidences of eating disorders in regions where anorexia and bulimia had never been seen before (McClelland, 2000). In South Africa, black women still use harmful skin-bleaching creams in the belief that whiter is prettier. A homogenisation and globalisation of beauty ideals is seen in the media and the result is that people come to identify less with their own cultures and more with an image in the media.

The following insight from Toronto immigration lawyer, Zahra Dhanani, reveals the effect of stereotypical imagery in the media on self esteem and body image:

When I was just seven years old, my mother put me on my first diet. My mother, a fat woman, daughter of another fat woman, thought if I was skinny, different from her, I would be happy. The diet, and many after, did not have the desired effect. By 13, I was sporadically swallowing appetite suppressants; at 17, I vomited and used laxatives to try to keep her weight under control. There were times when I wanted to die. I had so much self-hate. I couldn't look in the mirror without feeling revulsion. The hate reflected more than just weight. It was race. We moved to Canada from East Africa when I was 4. I was straightening my hair, doing anything to look white. My recovery only began when, at age 19, I started to identify with women in other cultures. I came to realise that there were people who revered large women of colour. I blame part of my earlier eating disorders on the images in western media. When you have no role models to counteract

the messages that fat is repulsive, it's hard to realise that you are a lovable human being (McClelland, 2000).

TV host Cheryl McConney felt a similar pressure:

Looking at Canadian television, I don't see many people who look like me on air. In 1998, I went on a six-month, high-protein, low-carbohydrate diet, hoping to look better in front of the camera. I shed 20 lb and felt good. People in the studio thought I looked great, but it wasn't easy to maintain. Within a year, I gained it all back. An industry insider jokingly told me that I would do better if I dyed my hair blonde. And just a few months ago, I was discouraged from applying for another on-air host position because of what the casting agents said they were looking for. They wanted the 'girl next door' and 'peaches-and-cream' pretty, not chocolate and cream. As to the girl next door part, I said it just depends where you live (McClelland, 2000)

Anorexia nervosa is less a culture-specific syndrome than a culture-change syndrome of communities that are modernising (DiNicola, 1990). According to this hypothesis, migrants and individuals in cultures that are changing are especially vulnerable to developing eating disorders (Miller & Pumariega, 2001). Pumariega (1986, 1997) has also proposed that acculturation to Western ideals of attractiveness and body size is an increasing phenomenon that has a particularly powerful impact on developing adolescents, who are in the midst of establishing their psychological and cultural identity.

2.8.2 Body Image Dissatisfaction - a Public Health Problem

Body image dissatisfaction is increasingly being recognised as an important target for public health action (Paxton, 2002). Research evidence links body dissatisfaction to physical and mental health concerns, especially, but not exclusively, in women. In Australian women, body dissatisfaction mainly focuses on concerns about weight, even in underweight and healthy weight individuals (Ben-Tovim & Walker, 1991) and is reflected in unhealthy weight loss practices (crash dieting, fasting, laxative misuse,

vomiting) across all weight ranges (Wertheim, Paxton, Maude, & Szmukler, 1992). In males, body image dissatisfaction is less widespread but is more likely to take the form of desiring to be larger and more muscular in addition to being thinner (Ricciardelli, McCabe, & Banfield, 2000). Diagnostic and Statistical Manual of Mental Disorders (APA, 1994) states that a disturbance in perception of body shape is an essential feature of eating disorders.

Australian and New Zealand research has documented body dissatisfaction and weight loss behaviours in adolescent girls and boys. In high school girls, approximately 75% chose an ideal figure thinner than their own (Tiggemann & Pennington, 1990), and over half have tried to lose weight, while only a relatively small proportion of girls are overweight. In one study of adolescent boys, a third wished to be thinner while over a third desired to be larger than their current size (Paxton, et al., 1991).

While there is little Australian adult data specifically related to body image, in the United States a recent survey found 56% and 43% of women and men respectively reported body dissatisfaction (Cash, 1997). In a community sample of Australian adults, 47% and 24% of healthy weight women and men respectively believed themselves to be overweight (Paxton, et al., 1994). In a sample of young Australian women (Kenardy, Brown, & Vogt, 2001) found only 24% of healthy weight women were satisfied with their weight.

- **Body Image and Mental Health**

Body image dissatisfaction and extreme dieting is associated with depression in adolescents and adults (Paxton, Schutz, Wertheim, & Muir, 1999). Longitudinal studies also indicate that body dissatisfaction predicts the later development of depression, anxiety and low self esteem (Stice & Bearman, 2001).

- **Body Image and Physical Activity**

Body image dissatisfaction can make participation in enjoyable and sustainable physical activity difficult. Avoidance of physical activity can stem from concerns about exposing one's body in public, feeling "too fat" (Owen & Bauman, 1992) or feeling that one has to achieve a certain look before they can participate (Paxton, 2002).

Investigation of the anorexia-advertising link, though considerably less developed than that for tobacco and health, has provided evidence that (Paxton, 2002):

• there is much advertising which is concerned with dieting, slimming and body control;

• over the 1970s and 1980s the volume of this advertising increased;

• advertising images of women have become images of very thin women;

• it is usual and normal for adolescent girls and young women to compare their bodies with media images;

• to a greater extent than non-sufferers, anorexics say they are influenced, and their self-esteem diminished, by advertising images. This is commensurate with the low self-esteem and insecurity of sufferers of other addictive conditions.

Strong relationships between body self-esteem and global self-esteem (Mendelson, et al., 2000) imply that many people suffer severely from the thought that they are physically unattractive. Naturally, the notion that taste is largely shared must aggravate such worries, whereas the idea of beauty being predominantly in the beholder's eye must alleviate them. Although authors on facial attractiveness have often given the impression that taste is largely shared, no data existed to support this claim. Little and Perrett (2002) insist that researchers should recognise inter-individual differences in attractiveness judgments as potential field of investigation and should not simply overlook them.

The ideal dictated by the mass media is a homogenous, Caucasian, thin, physique that is imposed on a heterogeneous audience. Few studies, however, have examined the role that ethnicity plays as a moderator in body-image disturbance. Martin, Lee and Yang (2004) found that ethnic minority consumers are more likely than ethnic majority consumers to self-reference ads containing ethnic minority models. While accurate stereotypes can act as useful cues for consumers in low-involvement situations, their analyses revealed that atypical portrayals result in greater self-referencing by both Asians, and whites when exposed to an Asian model. This has strong implications for future research but also for the design of advertisements.

Finally, there have been no studies of body image, media effects, and ethnicity. Body image concerns are influenced by cultural and ethnic factors, yet most research on the media and disordered eating has focused on Caucasians (Irving, 2001). Thus, research on ethnicity and media response is needed.

The next section will address the issue of Attractiveness and Culture.

2.9 Attractiveness and Culture

"*If advertising is a mirror of society, it is a distorted mirror*" (Gulas & McKeage, 2000, p. 17).

Communication is problematic. One cannot assume that all consumers share a similar definition of the situation, messages, and conversational rules. These problems may be even more extreme when consumers do not share the same ethnic culture. Culture provides many of our "givens," and when a common culture does not exist communication is even more problematic. Effective communication is required to successfully manage these issues and achieve positive outcomes.

Culture is often defined in cognitive terms as the beliefs, values, and norms of a specific social group, and a culture is often defined in social terms as the group of people that shares and perpetuates this knowledge (Resnick, 1991). As such, the content of culture, the knowledge shared and perpetuated by members of the group, may be thought of as a collection of schemas that are learned from socialization and participation in a cultural group (Whittler, Calantone, & Young, 1991). These widely shared schemas, or cultural models (Quinn & Holland, 1987), are available and accessible to members of the cultural group that shares them. In contrast, these cultural models are not available to people outside the cultural group. Thus, cultural group membership is defined by the collective body of knowledge that is shared. Although individual differences in access to and expertise with cultural models exist (Strauss & Quinn, 1992), it is presumed by members of the cultural group that others in the group share the body of knowledge that comprises

the culture (D'Andrade, 1987). Seemingly, there is agreement in the marketing literature that culture greatly influences the way consumers perceive and behave (Stayman & Deshpande, 1989). The dramatic demographic shifts that are occurring around the globe serve as a catalyst to the study of how intra-country cultural differences affect consumption behaviour (Wellner, 2002).

Some of the most comprehensive coverage of the issue of ethnic groups as consumer subcultures can be found in the work of Hirschman (1981, 1983) who reviewed the bases for ethnicity as commonalities of descent, shared metaphysical beliefs and values, and shared history. She provided evidence that the differences in value systems and cultural norms among ethnic groups lead to differences in consumption behaviour. Research has found significant differences in ethnic group media consumption (Becker, et al., 2002). In the USA, ethnic buying power is growing especially the Latin Americans, and there is a wide range of social and economic diversity within the groups (W. Gill, 1992).

However, in today's media, exclusion of minorities is quite common. Exclusion indicates the likelihood of not representing particular people in marketing communications. In other words, it marks an absence. Although this seems unlikely in an era of increasingly focused target marketing, some people, such as minorities, the poor, or otherwise 'different' individuals, have been traditionally underrepresented (or excluded entirely) from marketing images. Companies such as BMW, Timberland, Tommy Hilfiger, and Abercrombie and Fitch have come under fire from minority groups for not reflecting them as consumers or for excluding them from the brand's identity, by not including diversity within advertising, catalogue imagery, and web sites (Berger, Cohen, & Zelditch, 1972). Lee and Joo (2005) found that despite some improvement in the frequency and scope of representation, the presence of Asian Americans is still limited to narrowly defined stereotypical roles. By excluding – to varying degrees – certain representations, possible meanings, interpretations, and understandings are limited in ways that may negatively influence certain individuals, groups, scenarios, and even geographic locations (Schroeder & Borgerson, 2005).

A long-held view in the social sciences is that standards of beauty are arbitrary cultural conventions (G. Berry, 2000). Even Darwin favoured this view after observing large cultural differences in beautification practices (Etcoff, 2000).

Bjerke and Polegato (2006) dealt with cross-cultural comparisons across five European cities (Madrid, Milan, Paris, London, and Hamburg) and focused on the perceived differences of the meaning of two words (healthy and beautiful), two beauty types (women' faces), and two products (water and perfume). Their results indicated that it is difficult to achieve sameness of meaning for even international products and beauty types. The data from five European cities showed that there are cross-cultural differences in the meanings of 'healthy' and 'beautiful' as conveyed in words, beauty types, and products (Bjerke & Polegato, 2006). Not only were differences among the cities identified for the three components studied, but there were also differences in the extent to which the three components reinforced each other in terms relevant to consumers within each of the five cities. Effectiveness in the use of marketing communication resources would be limited by cross-cultural differences, especially when one considers that most global advertisements are mainly visual with reinforcing verbal components (Domzal & Kernan, 1990).

Another extensive study compared Black women living in Canada, America, Africa and the Caribbean. They found that black women overall prefer a more voluptuous and robust body shape; the women seem to correlate this with wealth, stature and fitness across cultures (Ofosu, Lafreniere, & Senn, 1998). Differences in definition are also a common cross-cultural difference. Lake, Staiger and Glowinski (2000) explored the differences in body image perception, eating habits and self esteem levels between Asian women and Asian women who had been exposed to Western ideals and Australian born women. Judgments of body shape varied distinctly. Australian women were much less satisfied with their body images than the Chinese women (Lake, et al., 2000). The key difference came from the definition of the word smaller. For Asian women this seems to mean more petite, but for Caucasian women it means thinner.

Culture appears also to affect body esteem in general and body satisfaction in particular. The dissatisfaction with one's body shape due to a perceived obesity is predominantly a western, Caucasian, and female phenomenon. In many non-western societies, however, plumpness (especially among women) used to be considered attractive, and in some societies, such as Ghana, mainland China, and Jamaica, this is still the case, probably as an indication of higher status, good health, and fertility (P. J. Brown & Konner, 1987; Cogan, Bhalla, Sefa-Dedeh, & Rothblum, 1996).

Each culture has a set of general beliefs about what constitutes femininity and beauty. According to Wood (1989), to be feminine in the United States is to be attractive, deferential, unaggressive, emotional, nurturing, and concerned with people and relationships. According to Hofstede (1997), in Confucian cultures, femininity is associated with virtue and modesty. The script for femininity is written into a culture and is transmitted over time through family, peers, teachers, and the media. In western societies, women may think it is mainly their bodies that get noticed by men, whereas in Asia, women may think it is their faces that are most important (Berger, et al., 1972).

The following section will explore ethnic identity.

2.9.1 Ethnic Identity

Almost 25% of Americans identify themselves as "something other than white alone," and this growing group controls nearly $900 billion in annual consumer spending (Raymond, 2001). In Australia, 61.3% of the population is something other than Australian (ABS, 2006). Due to the growth in number and attractive disposable income, advertisers have begun to fine tune their strategies at targeting ethnic minority groups (Holland & Gentry, 1999). During the past two decades, ethnic-oriented and in-language media outlets have also been slowly increasing, along with the frequency of ethnic representation in the general media and in advertisements (Kim & Kang, 2001).

Ethnic identity is subjective (Minor, 1992) and is a self-designation which relays a person's commitment and strength of association to a particular group (Chung & Fischer, 1999). Ethnic identity is defined as perceived membership in an ethnic group. This perception of membership, often called identification, is what distinguishes the construct of ethnicity from the more biological term, race (V. P. Collier & Thomas, 1989). There is a general agreement that the term ethnic identity refers to people who perceive themselves as constituting a community because of common culture, ancestry, language, history, religion, or customs (Riggins, 1992).

Ethnic identity has both an interpretive function and an emergent quality, serving as a psychological basis for interpreting self and others (Schank & Abelson, 1977), and emerging as part of social behaviour (Burke & Reitzes, 1981). Thus one may conceptualise identity as both a psychological state/meaning structure and an aspect of expressed behaviour. The psychological state is represented in research as a general "awareness" of identity (J. D. Brown, et al., 1992).

This view sees the modern day immigrant as well as the third or fourth generation descendant as searching to maintain expressive symbols of ethnicity and cultural traditions, while at the same time adapting or renegotiating them to fit into present day society. It is not a passive process, but one that involves the creative energy of the ethnic group members to choose what is most important from their cultural past and to maintain and adapt it to meet current needs. This can be seen in African-Americans returning to an "African" identity that they never knew, or, in the case of Native Americans, an increasing willingness to claim ethnicity once abandoned. For example, between 1980 and 1990 census, the number of self declared American Indians increased by 38% (Frost, 1991).

Ethnographers have long held that cultures differ widely in their attitudes towards obesity and body shape (Popenoe, 2004), and a number of psychological studies have since confirmed the existence of cross-cultural differences in what constitutes a desired or desirable body size (Swami & Tovee, 2005, 2006). Culture appears to affect body image

in general and body esteem in particular (Kowner, 2002). Ideally, for advertising messages to be resonant with a target audience, marketing theory holds that ads would need to reflect the social norms and cultural values of a given society (Belk, Bryce, & Pollay, 1985; Cheng, 1994). Ideally, advertisements would be created by members of a particular society and consumed by members of the same society. However, globalisation alters this process. Standardised campaigns can be created in the head offices of advertising agencies in the U.S. and Europe and run in foreign countries with only simple modifications such as translated headlines. Foreign branch offices of the big multinational agencies often follow western styles when creating campaigns (Griffin, et al., 1994). In addition, the creative people in these branch offices have often received their training in U.S. and British universities or have interned in western advertising agencies. The result is that the forms of representation, particularly of women, can take on a globalised or transnational look.

The research on marketing to ethnic groups can be broadly summarised in three eras. Prior to the 1960s, ethnic groups were largely ignored. Ethnic groups were not considered to be viable market segments and there was no effort to target them or conduct research in this area (Kassarjian, 1969). The second era began roughly in the mid-1960s and continued until about 1980. During this period, societal changes caused a re-evaluation of the role of previously ignored consumer groups. As far as ethnic groups were concerned, marketers and researchers focused almost exclusively on African-Americans. Research during this period was characterised by descriptive analyses of the differences between Black and White consumers in their consumption patterns, media habits, and reactions to advertising (Sturdivant, 1973). Little attention was paid to other ethnic groups, or more fundamental questions such as why differences in consumption may exist, or what values may influence ethnic consumer's reaction to marketing stimuli (Hirschman, 1981). The third era of marketing and ethnic groups began in the early 1980s and continues today. Research studies examine a variety of ethnic groups and attempt to look at differences in culture which may drive consumption patterns (Holland & Gentry, 1999; Webster Jr, 1992).

Under distinctiveness theory which claims that an individual's distinctive traits in relation to other people in the environment will be more salient to the individual than will more common traits, has been usefully utilised in past ethnicity research (Deshpande & Stayman, 1994; Forehand & Deshpande, 2001), and ethnic identity has been posited as a key dimension of self-concept (William J. McGuire, 1978). It predicts that distinctiveness in a social environment acts as a determinant of perceptual selectivity. In terms of advertising, the judgements that consumers make when exposed to ads regarding similarities and dissimilarities, and the ability to picture oneself relative to the ad portrayal, are forms of self-referencing (Debevec & Iyer, 1988).

Research has shown ethnic identification to be a contributing cultural variable in consumers' purchase behaviour (Donthu & Cherian, 1992; Hirschman, 1981; Webster Jr, 1994), media use (Deshpande, Hoyer, & Donthu, 1986), and evaluation of advertisements (Green, 1999; Whittler, 1989). Researchers believe that advertisements targeting minorities (e.g., blacks) appeal to the target audience more when race-specific cultural cues are used in the advertisements (Pitts, Whalen, O'Keefe, & Murray, 1989). This may be particularly the case for minorities with strong ethnic identities.

As posited by other scholars (Bouchet, 1995; Firat, Dholakia, & Venkatesh, 1995), the renewal of interest in ethnic heritage increasingly takes a consumer form (Askegaard, Arnould, & Kjeldgaard, 2005). Previous research has suggested that targeting minority consumer groups using ethnic cues (such as an ethnically similar spokesperson) can result in increased favourability towards the advertisement and the brand (Appiah, 2001; Callow & McDonald, 2005; Whittler, et al., 1991; Wooten, 1995). Identification theory (Kelman, 1961) maintains that people automatically assess their level of similarity with a source during an interaction and make similarity judgments (Hovland & Weiss, 1951). This process drives individuals to prefer models based on perceived similarities between themselves and the model (Basow & Howe, 1980; Kelman, 1961). Self-referencing, a processing strategy where an individual processes information by relating a message, such as an advertisement, to his or her own self-structure (Burnkrant & Rao, 1995), has been found to result in increased levels of message elaboration (Burnkrant & Rao, 1995;

Meyers-Levy & Peracchio, 1996). From this perspective, an ad containing self-relevant information encourages elaboration and recall, as this information is more easily associated with previously stored information (Markus, 1977). In line with this, it follows that when consumers of a particular ethnic minority perceive an ethnic similarity between themselves and an advertising model of a similar ethnicity, this judgment will result in self-referencing and ethnic minority consumers are more likely than ethnic majority consumers to self-reference ads containing ethnic minority models (Torres & Gelb, 2002).

Whereas most theories of interethnic communication effectiveness have been derived from a variety of approaches (Gudykunst & Hammer, 1984; Ruben, 1989), researchers have only recently begun to incorporate perspectives of participants from groups other than mainstream culture (M. J. Collier, 1988, 1989; V. P. Collier & Thomas, 1989). Therefore, most of our understanding of interethnic communication is based on a European American (i.e., white American) perspective of what constitutes effectiveness, and research has used this group's definition as a starting point. The move to include perspectives is particularly important because definitions of effectiveness may vary with cultural perspectives.

A primary reason that has been offered for a lack of ethnically diverse faces in marketing stimuli is a fear of negative attitudes from the majority white population or a 'white backlash' (Rossiter & Chan, 1998). So despite the growth of ethnic minority groups in many societies, most advertisers have failed to reflect today's realities and have tended towards excluding or minimising ethnic minorities from their advertising mix (Taylor & Stern, 1997). Rossiter and Chan (1998), however, with their cross-ethnic orientation, found that using ethnic minority models raised the attitudes and purchase intentions of audiences of the same ethnicity without decreasing the attitudes and purchase intentions of the majority ethnic group.

Even as the world's business and consumer firms try to become more global, there remain strong inhibiting forces (Douglas & Wind, 1987) and ethnicity is one of them.

Further, the rise in immigration and tourism to countries like the United States, China, and Australia has stimulated increasing research needs and interest in understanding the influence of ethnicity on seller-buyer behaviour and in consumer behaviour (Rossiter & Chan, 1998). Yet the influence of ethnic identity remains under researched. Ethnic identity – actual or perceived – is an obviously relevant causal construct and is so manifestly important in business and consumer behaviour that it cannot be neglected as an area of scientific study (Rossiter & Chan, 1998). Additionally, persuasion may be mediated by different cognitive processes across cultures (Shavitt, Nelson, & Yuan, 1997). Advertising practitioners need to understand how cultural differences may influence the way individuals process ads and form attitudes.

Strong or high ethnic identifiers are associated with display of attitudes and behaviours that are consistent with the core cultural values (e.g., customs, language, dress, foods, religion, product use, and media use) of their ethnic group, which conceivably should thereby lead to a preference for advertisements and other media that depict these cultural values (Chung & Fischer, 1999; Holland & Gentry, 1999; Phinney, 1992)(Chung and Fischer, 1999; Holland and Gentry, 1999; Phinney, 1992). In contrast, consumers who maintain weak or low ethnic identities would be expected to display attitudes and behaviours that are less consistent with traditional cultural values and closer to those of the dominant culture.

2.9.2 Acculturation

Redfield, Linton and Herskovits (1936, p. 149) define acculturation as "…those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original cultural patterns of either or both groups". While changes may occur in either the dominant culture, the subculture, or both groups, according to Berry (2000), in practice acculturation tends to produce more substantial change in one of the groups.

Consumer acculturation is a subset of acculturation and socialisation. While acculturation is more general, consumer acculturation is specific to the consumption process. Consumer acculturation is a socialisation process in which an immigrant consumer learns and accepts the behaviours, attitudes and values of a culture that are different from their culture of origin (K.-Y. Lee & Joo, 2005).

According to Yinger (1985), assimilation within new immigrant groups includes changes in four dimensions: structural, cultural, psychological, and biological. Structural change refers to the degree to which the immigrant has integrated the associations and institutions of the host culture. Cultural change refers to the degree to which values and norms of the immigrant group come to match those of the host. Psychological change is a change in an individual's self-identification with one's ethnic group. The fourth change, biological change, involves the genetic mutation of an immigrant group so that the physical differences between the immigrant and host group are diminished.

Members of a dominant cultural group are socialised into one culture (the dominant culture) and therefore have only one set of cultural models that may be activated and acted on (stored in dominant cultural models). However, members of subcultures are socialised into both the dominant culture, through media and their interactions with majority members and institutions, and their own subculture. Like members of the dominant culture, they have learned widely held dominant cultural models through their participation in the dominant culture. In addition, they have learned the knowledge of their subculture (stored in sub cultural models) through socialisation in that subculture. Where knowledge of the dominant culture and knowledge of the subculture do not differ, members of the dominant culture and members of a subculture share a single cultural model (the dominant cultural model) for a given topic, concept, or idea. Where knowledge differs, however, it is assumed that members of the subculture have two schemas available for activation, the dominant cultural model and the sub cultural model (Brumbaugh, 2002).

Assimilation occurs when one's ethnic identity is given up in lieu of identification with the host culture. Therefore the subject has a negative response to cultural maintenance but a positive response to contact and participation. Integration occurs when the desire to maintain one's ethnic identity is coupled with an interest in contact and participation with the host culture. Therefore, the subject has a positive response to both cultural maintenance, and contact and participation. Acculturation as a sub-process of ethnic change, is itself widely believed to be multidimensional (Mendoza, 1989), implying that changes in various spheres of cultural activity are likely to occur at different rates (Laroche, Kim, & Hui, 1997). Congruent with this view is the concept of 'selective acquisition' of new cultural traits, the common tendency of immigrants and ethnic minorities to adopt certain strategic traits, particularly those that will improve their economic status more quickly than others (Keefe & Padilla, 1987).

Separation, on the other hand occurs when there is a little or no interaction with the host culture and there is a strong desire to maintain one's ethnic identity. Therefore there is a positive response to cultural maintenance but negative response to contact and participation. When there is little or no interest in either ethnic or host culture, marginalisation occurs. Therefore there is a negative response to both cultural maintenance and contact and participation (Ghuman, 2000).

This degree of acculturation is useful in explaining some studies concerning body image between different cultural groups (Furnham & Alibhai, 1983). In a study of Kenyan and British women, it was found that a group of Kenyan women, who had lived in Britain for at least four years, had accepted thinner British body shape ideals, unlike those who remained at home who were more accepting of a more realistic, culturally appropriate body shape. In this instance, the Kenyan sample appeared to have assimilated with the stereotypes of British and western culture. Similarly, Heesacker et al., (2000) found less body dissatisfaction amongst non-Westernised samples than westernised samples of Israeli college women in America. Therefore, it can be assumed that people who engage in an assimilation or integration strategy would be highly acculturated and therefore suffer from body dissatisfaction associated with Western body shape ideals (Lake, et al.,

2000). Conversely, separation or marginalisation strategies would lead to more positive feelings about body shape.

Increasingly, culture is being recognised as a strong power in the making of an economic society. Social and political scientists tend to agree that there will be no global culture or converging values Huntington (Huntington, 1996). People may desire to think globally but as a result of globalisation actually become aware of their specific local values. People increasingly identify with their local or regional communities (De Mooij, 1998; Gannon, 1994; Hall, 1976; Hofstede, 1991).

Contrary to expectations implicit in the image of the "melting pot" that ethnic distinctions could be eliminated in society, the resurgence of ethnic nationalism in the United States and around the world has prompted social scientists to rethink models of ethnicity rooted in assumptions about the inevitability of assimilation. Instead, the resilience of cultural, linguistic, and religious differences among populations has led to a search for a more accurate, less evolutionary means of understanding not only the resurgence of ancient differences among peoples, but also the actual emergence of historically new ethnic groups (Nagel, 1994). This has caused negative attitudes and rejection of mainstream English language media (La Ferle & Lee, 2005), as groups become more aware of their self or group identity on the basis of their ethnic background (Costa & Bamossy, 1995; K.-Y. Lee & Joo, 2005). Both globalisation and American primacy evoke cultural backlash. But the character and magnitude of this reaction differ greatly depending on the societies in which they occur. Moreover, this reaction takes very different forms in the West and in other modern societies than in the developing world (Lieber & Weisberg, 2002).

In spite of the increasing interest in the role of culture, the majority of studies on body image have been conducted in North America and West Europe (Cash & Pruzinsky, 1990). Only a few studies have examined body image or bodily preferences in other regions, and made a direct comparison of two or more cultures or subcultures (Davis & Katzman, 1998).

The international marketing literature contains numerous studies concerning behavioural differences in consumers across nations (Husted, 2000; Ogden, Ogden, & Schau, 2004). Although this research has made significant contributions toward understanding differences between nations, there appears to be a gap in the literature about sub-cultural differences within national boundaries, or intra-national differences (Andreasen, 1990; Heslop, Papadopoulos, & Bourk, 1998). Ogden, Ogden and Schau (2004) in the Academy of Marketing Science identified several gaps related to ethnicity and acculturation in consumer behaviour research:

1 Need for more intra-micro-cultural research
2 A lack of integrative research in relation to consumer acculturation studies

In terms of marketing, there is currently a pressing need in many industries to determine how best to advertise to ethnic minorities (Bernstel, 2000; C. K.-C. Lee, et al., 2002). Yet media advertising has traditionally assumed that a market with a white ethnic majority and other ethnic minorities can be reached simultaneously (C. K.-C. Lee, et al., 2002). It is not likely that culturally distinct segments can all be successfully targeted using the same marketing and advertising strategies which succeeded when society was a uniform, Anglo-dominated market (Kim & Kang, 2001; Rossman, 1994).

Activating widely shared cultural models may be a way in which marketers induce self-referencing and its associated positive outcomes (Sujan, Bettman, & Baumgartner, 1993). Therefore, including cues in ads that activate highly internalised cultural models may favourably affect ad attitudes via activation of self-relevant cognitions stored in personal models.

An understanding of demographic shifts underscores the need for intra-national cultural research. As subcultures, also referred to as micro-cultures, increase in size, marketers need to develop knowledge of consumer characteristics and group-level preferences to more effectively deploy resources (both human and capital) to meet and exceed the growing needs of these markets. Recent trends indicate that the new immigrants no

longer desire to be fully assimilated. Instead, many want to maintain their cultural identities (Alba & Nee, 1997; Dittgen, 1997).

This study will explore the relationship between culture and the perceptions of attractiveness, utilising images of models and participants from different cultural backgrounds.

2.10 Consequences of idealised imagery

2.10.1 Media and social influence

Physical attractiveness has been traditionally offered as an appropriate match-up factor (Kahle & Homer, 1985; Kamins, 1990). The behaviour of advertisers is consistent with a review article (Eagly, Ashmore, Makhijani, & Longo, 1991) in which the researchers conducted a meta-analysis of 76 studies and found that, in general, physically attractive people are viewed more favourably on a variety of personality traits such as social competence, intellectual competence, concern for others and integrity. Given that attractive people are imbued with a host of other positive traits, it is natural that advertisers would wish to associate their products with attractive individuals (Till & Busler, 2000). Both Patzer (1983) and Petroshius and Crocker (1989) found that physically attractive models used in advertising led to more favourable attitudes toward the ad and stronger purchase intentions.

Social comparison theory (Festinger, 1954) holds that people have a drive to evaluate their opinions and abilities, which can be satisfied by 'social' comparisons with other people. Pompper and Koenig's (2004) study expanded social comparison theory by examining magazine use along dimensions of gender, age, and ethnicity. Findings suggest that respondent groups aged 18-35 and those 36 and older both compare their body image to magazine standards, but behavioural effects vary.

People have a drive to evaluate their abilities and opinions which can be satisfied by social comparisons with other people (Festinger, 1954). This comparison can occur consciously or sub-consciously (Festinger, 1954; M. C. Martin & Gentry, 1997; Richins, 1991). Comparisons apply to the evaluation of abilities and opinions (Festinger, 1954) and personal traits such as physical attractiveness (Wood, 1989).

Ideally, people seek to satisfy the need of self-evaluation by comparing themselves with people who share the same characteristics as themselves (Irving, 1990). However, in the absence of similar people for comparison, models in ads act as benchmarks for individuals. With this in mind, the images of the media again provide a focal point for individuals searching for physical standards to emulate and by which to judge themselves (Irving, 1990). Several studies have proven that individuals compare their level of attractiveness with that of models in ads (Irving, 1990; M. C. Martin & Kennedy, 1993; Richins, 1991). This lack of similar comparison person or the use of models as targets sometimes leads to inaccurate and unstable self-evaluations (Richins, 1991).

Advertisements legitimise and confirm societal pressure to be thin and offer means of attempting to achieve this ideal (Fay & Price, 1994). The loudest and most aggressive purveyors of images and narratives of ideal slender beauty are the mass media, with current theories emphasising visual media such as magazines and television (Groesz, et al., 2002).

Following Pollay's call (1986) for research into the social consequences of magazine advertising, Hogg, Bruce, and Hough (1999) contributed to the understanding of the effects of ideal advertising images on British women consumers aged 24-50. They examined the important role of the goal of social comparison in determining the selection of comparison targets and comparison standards within the social comparison process; and how readers actively and selectively create and interpret the meaning of idealised images represented in advertising stimuli. By demonstrating that consumers' idealised responses to idealised images varied according to the goal of the social comparison process (self-evaluation, self-enhancement, self-improvement), the research showed how

older British women consumers sometimes raised their comparison standards and sometimes lowered their self-perceptions of attractiveness in response to idealised images in advertising.

Research has shown that 70% of women who regularly read fashion magazines consider them to be an important source of beauty and fitness information (Rabak Wagener, Eickhoff Shemek, & Kelly Vance, 1998). Furthermore, 25% of these women are reported to have a strong interest in imitating fashion models (Rabak Wagener, et al., 1998). Thus, body shape ideals promoted by the media are pervasive, and seem to have a significant impact on the formation of cultural ideals of attractiveness. If these ideals are not achievable then it is possible that repeated exposure to media constantly portraying these stereotypes may lead to a more negative perception of body image.

Fashion magazines represent a traditional print medium that is directly concerned with beauty and which is an important media vehicle for advertisers who seek to link their products to a particular beauty ideal. Fashion magazines have a long history and they are widely read. These magazines essentially provide prescriptions for becoming more beautiful – through artful use of make-up, exercise, and clothing selection. Fashion magazines target distinct taste cultures - the sophisticated, haute couture emphasis in Vogue in contrast to the deep cleavage look of Cosmopolitan cover girls. Thus, fashion magazines are a potent means of socialising young consumers about beauty and fashion and for advertising beauty and fashion related products.

Given the theoretical relationship between mass media images of beauty and eating disorders and body image problems, the potential influence of these ideals on young women in particular is of great concern to many mental health professionals. Many people argue that the mass media (magazines, movies, television, and the Internet) are influential promoters of beauty ideals. Others contend that the media simply reflect public preferences. Even if the thin ideal did not originate in the media, many believe that the media promote the message that thinness equates with success and popularity.

Regardless of how one understands the relationship between the mass media and these images, the images themselves are inescapable.

This section discussion leads to the following hypotheses:

2.10.2 Model relevance

Consumers relate ad content to personal memories and experiences (Burnkrant & Rao, 1995). An ad containing self-relevant information encourages elaboration and recall, as this information is more easily associated with previously stored information (Markus, 1977). The judgements that consumers make when exposed to ads regarding similarities and dissimilarities, and the ability to picture oneself relative to the ad portrayal, are forms of self-referencing (Debevec & Iyer, 1988). Ideally, people seek to satisfy the need of self-evaluation by comparing themselves with people who share the same characteristics as themselves (Irving, 1990). Thus, a relevant ad is one which includes a model with comparable levels of attractiveness and ethnic identity.

The mass media convey unmistakable images of the 'body beautiful,' coupled with thinly-veiled admonitions to conform to this ideal if one hopes to achieve happiness. The ideal is an arbitrary product of culture (it is instructive to peruse historical standards of beauty), yet people strive to attain it with diet, exercise, makeup, hairstyling, clothing, even cosmetic surgery, because to ignore consensual standards of physical attractiveness is to disengage from society, to pretend that social criteria do not exist or that one is oblivious to them.

Results show that targeted ads are effective not only because they make targeted viewers feel a link with similar sources pictured in the execution as previously investigated, but also because they contain cues that activate shared knowledge stored in cultural models. Activating cultural models that are closely linked to the self leads to self referential processing that, in turn, enhances ad attitudes (Alden, Mukherjee, & Hoyer, 2000).

Negative affect that occurs as a result of self comparison with attractive models in advertisements, refers to negative emotions, moods, feelings and drives (Batra & Ray, 1986). The consequences of such negative affect are posited by Bower (2001) to result in reduced advertising effectiveness due to reduced product and model evaluations that in turn caused reduced intention to purchase.

People are likely to define or think of themselves in terms of a given personal characteristic that is unique or distinguishable in one's social environment. Distinctiveness theory suggests that a person's own distinctive traits (e.g., African-American, red-headed, left-handed) will be more salient to him or her than more prevalent traits (e.g., Caucasian, brunette, right-handed) possessed by other people in his or her environment (Appiah, 2001). Studies examining ethnic minority groups' responses to mass communication support distinctiveness theory.

Exposure to thin, idealised body images in the mass media affects women adversely and contributes to the prevalence of body dissatisfaction and eating disorder symptomatology (Botta, 1999; Mills, Polivy, Herman, & Tiggemann, 2002). The effects of exposure to media-portrayed idealised body images on self-evaluation are frequently conceptualised in terms of contrast effects' a tendency to evaluate more negatively one's own appearance after viewing highly attractive individuals (Thornton & Moore, 1993). Exposure to highly attractive, thin female images is thought to produce a high 'adaptation level' and result in lowered assessments of the attractiveness of more realistic, 'average' women, including oneself (Mills, et al., 2002). However, viewing a highly successful target similar to oneself can evoke a salient possible self that is integrated into one's current self-image (Bower, 2001).

Models in the media have an effect on body-shape and weight dissatisfaction, which are strongly associated with reports of dieting (Hill, 2002). Sometimes dieting leads to more extreme weight-loss practices such as skipping meals, fasting, using diet pills, and vomiting (French, Story, & Perry, 1995). Contento *et al.*, (1995) asked a large group of female and male adolescents to rate twenty foods on nine attributes (taste, healthy, eaten

by friends, etc) and correlated these with actual food choices from a food-frequency scale. There was an apparent influence of the rater's body weight as an independent variable. The authors concluded that the subjects were demonstrating a 'psychology of dieting', involving wanting to be thinner and then making food choices believed to accomplish this goal. Mills *et al.,* (2002) support this notion showing that restrained eaters are susceptible to a 'thin fantasy' brought about by viewing ideal body images. Restrained eating (i.e., dieting) can be defined as an attempt to restrict one's food intake with the intent of decreasing or maintaining one's weight (Mills, et al., 2002). Dieting often has significant adverse health effects, including increased emotional instability, lowered self-esteem, preoccupation with food, susceptibility to binge eating, weight fluctuations, and eating disorders (Polivy & Herman, 1995).

Viewing a highly attractive model that is personally relevant to oneself may have inspirational effects on an individual, resulting in a positive shift in self-perception (Mills, et al., 2002). If the image makes one feel that a more attractive version of the self is possible, the consumer is more likely to perceive the model as attractive.

Women, and increasingly men, are being exposed to a rapidly increasing number of images of idealised beauty via the mass media. Since the 1950s, when Festinger first posited his social comparison theory, media images have exploded in quantity and availability. According to Festinger, one can avoid comparison with oneself to ideas or opinions that are different from one's own by rejecting the people in the group who hold those differing opinions, but this is possible only when a group has a range of opinions. However, for example, if thinness for women and a lean and muscular body for men are prevailing socio-cultural standards of beauty and if the mass media portray only a narrow range of this cultural ideal, it may not be possible to reject these images (C. Law & Labre, 2002).

Considering the referent power wielded by celebrities, it is reasonable to assume that consumers wishing to emulate such a cultural icon may use this information as input to an idealised self-image – how they would 'ideally like to be, look, act' (Agrawal &

Kamakura, 1995). The idealised media images of attractive people act as prototypes that are used by audiences to evaluate their own looks (Richins, 1991) and to guide their own consumption activities.

When the objective truth of a statement is difficult to evaluate, people often draw on social consensus information to arrive at a judgment (Festinger, 1954): When many others believe it, it is presumed to be true. Thus, we may distrust some information when we hear it for the first time, but when we hear it repeatedly from different sources, we may eventually accept it. In fact, Allport and Lapkin (1945) observed in a classic study of rumour transmission that the strongest predictor of belief in wartime rumours was simple repetition. Consistent with this logic, research demonstrated that a given statement is more likely to be judged "true" the more often it is repeated. This "illusion of truth" effect (Begg, Anas, & Farinacci, 1992) has been obtained with trivial statements or words from a foreign language (Gilbert, 1991) as well as advertising materials (Hawkins & Hoch, 1992). As expected, a given statement was more likely to be judged "true" when it was easy rather than difficult to read. Thus, the ease of visual processing results in an illusion of truth, presumably because perceptual fluency elicited a feeling of familiarity. This is consistent with communication theories which hold the premise that repeated exposure to media content leads viewers to begin to accept media portrayals as representations of reality (J. S. Brown & Duguid, 2002; Gerbner, et al., 2002). This has implications for advertising content and the effect on consumers. The media's consistent depiction of a thin ideal female leads women to see this ideal as normative, expected, and central to attractiveness (Grabe, et al., 2008).

2.10.3 Model characteristics

Authentic images in advertising are not airbrushed and touched-up. They are images of real women and men. Additionally, they have a 'fit', that is, an extremely thin model would not be paired up with a food product. Limited research has been conducted in the area of authenticity (Beverland, 2005; K. Frith, et al., 2005). However, there is evidence of a consumer preference for authentic images over air-brushed figures. An example of

an attempt at an authentic campaign is the current Dove campaign using ‘real women’ to represent ‘real’ beauty (Milner, 2005).

The production of beauty in advertisements, when produced from a more universal realist perspective, would seem to require less airbrushing of (alleged) imperfections because airbrushing would not be used to obscure the humanness of the model. From this perspective, what is often termed ideal beauty in some advertising is not impossible beauty but simply a human beauty. So-called advertising experts are often unaware of this aspect of beauty, particularly with respect to female beauty (Englis, et al., 1994). Cindy Crawford’s facial mole was considered a liability by some experts early in her career as a model and it is now considered her trademark, or to be more precise, her particularising and individuating beauty mark (Vacker & Key, 1993).

The de-contextualisation of beauty also leads to the de-characterisation of the human face, especially in some advertisements wherein the particularising features of the face are so obviously airbrushed over in the attempt to represent an exclusively youthful beauty, as if a more aged face necessarily is a decline in beauty. A culture of individuals subscribing to such a view of facial beauty would, it seems, be more concerned with trying to hold back time than with purposively developing understanding, insight, emotional maturity, and all the things necessary for a distinctly human beauty. As a consequence, a plethora of services and facial products have emerged in the market to satisfy the demand to hold back time. However, such efforts are less likely to be healthy if beauty is understood in terms of pertaining only to appearance. This understanding and the de-contextualisation of beauty and de-characterisation of the face works together with various other cultural factors to create a culture in which the face is often looked at and not into (Etcoff, 2000). It would seem that there is at least a certain percentage of the population, perhaps increasing, that is focused on repairing the inherited instead of creating the earned. Such a superficial understanding of beauty would appear to be detrimental to such individuals and the culture in which they live.

A real disconnect exists between advertisers' perceptions of women's lives after 50 and what their lives actually look like (Milner, 2005). Women over the age of 50 want advertising that appreciates the wisdom and maturity that comes with age. Images portrayed in communications should reflect radiant, confident, diverse and active women celebrating life with friends and families. Dove is experiencing great success with its Campaign for Real Beauty (Milner, 2005). Started in the United Kingdom, this campaign helped Dove sales increase by 700 percent during the first half of 2004. The campaign has used multiple "real women" but started with older women asking the question: What do you think? Wrinkled or Wonderful? Grey or Gorgeous? Flawed or Flawless? Oversized or Outstanding? The Dove campaign has been so successful that others, such as the youth obsessed Nike are using their own real women advertising (K. Frith, et al., 2005).

2.11 Communication Effectiveness

Communication effectiveness is the degree to which the consumer understands or remembers the message content (Solomon, et al., 1992). There exists a long tradition in communication research of exploring the relationship between consumer personality and response to communication (P. L. Wright, 1975). Understanding the consumer psyche has always been the cornerstone of effective communication (LaBarbera, et al., 1998). According to Holland and Gentry (1999), an understanding of how consumers react to targeted marketing would allow successful communication which would be of benefit to both the consumer and marketer.

Examining the effectiveness of models is important for practitioners and academics (Kaikati, 1987; Till & Busler, 2000). Over the years there have been a number of studies that have examined under what conditions models are appropriate for products (Agrawal & Kamakura, 1995; Atkin & Block, 1983; Freiden, 1984; Kamins, 1989; Kamins, Brand, Hoeke, & Moe, 1989; Ohanian, 1991; Tripp, Jensen, & Carlson, 1994).

Marketers and social scientists have suggested that the effects of advertising extend beyond product awareness and product preferences to broader effects on the target audience's beliefs, values, attitudes, and behaviours about issues of relevance in our society (Duke, 2002; Pollay, 1986). Media images that pervasively show exceptionally thin female models in advertising have been viewed as contributing to body-image dissatisfaction, lower self-esteem, excessive dieting, anorexia, bulimia, and depression among girls and young women (Hankin & Abramson, 1999). Although advertising has changed somewhat in its depiction of women (Gagnard, 1986), women in advertisements continue to be portrayed as below average in weight, as compared to the general population of women.

Advertisers regularly pursue strategies designed to attract attention to their communication and to distinguish their product from competing products with the hope of influencing purchase (Kamins, et al., 1989). They search for a way to break through clutter and draw attention to their messages. It appears that the way in which a message is conveyed, both pictorially and verbally, has a significant effect on the processing of information in an advertisement, and that these differences in processing can affect consumer's attitudes toward the advertisement, the product, and their purchase intentions (Severn, Belch, & Belch, 1990).

A recent approach in measuring the evaluation of specific advertisements is Attitude toward the advertisement (Aad) (Forehand & Deshpande, 2001; Hazlett & Hazlett, 1999). This approach puts more emphasis on the measurement of the attitude construct, in terms of cognitive or affective reactions, and relations with attitude to the product (Aproduct) (Smit, Van Meurs, & Neijens, 2006). Attitude toward the ad (Aad) is a predisposition to respond in a favourable or unfavourable manner to a particular advertising stimulus during a particular exposure occasion (Lutz, 1985). It is therefore proposed that one's perceptions of attractiveness will impact the *Attitude to Product, Attitude to Model, and Attitude to Product/Model combination.*

Physical attractiveness has been an important topic of research in social science (Berscheid & Walster, 1974) including attitude change research. Most studies have shown that a physically attractive source facilitates attitude change (Caballero & Pride, 1984; Joseph, 1982; Petty & Cacioppo, 1980). But not all research has found that physical attractiveness increases attitude change (Kahle & Homer, 1985). The emotional response of the viewer has been shown to influence attitude toward the ad, increase attention to the ad and increase brand recall (Hazlett & Hazlett, 1999). Research indicates that targeted ads are effective and that activating cultural models that are closely linked to the self leads to self referential processing that, in turn, enhances attitudes towards an ad (Brumbaugh, 2002).

2.12 Conceptual Model

The literature review identified how the constructs of Gender, Ethnic Identity, Degree of Acculturation, Body Image, Media and Model are related to Attractiveness.

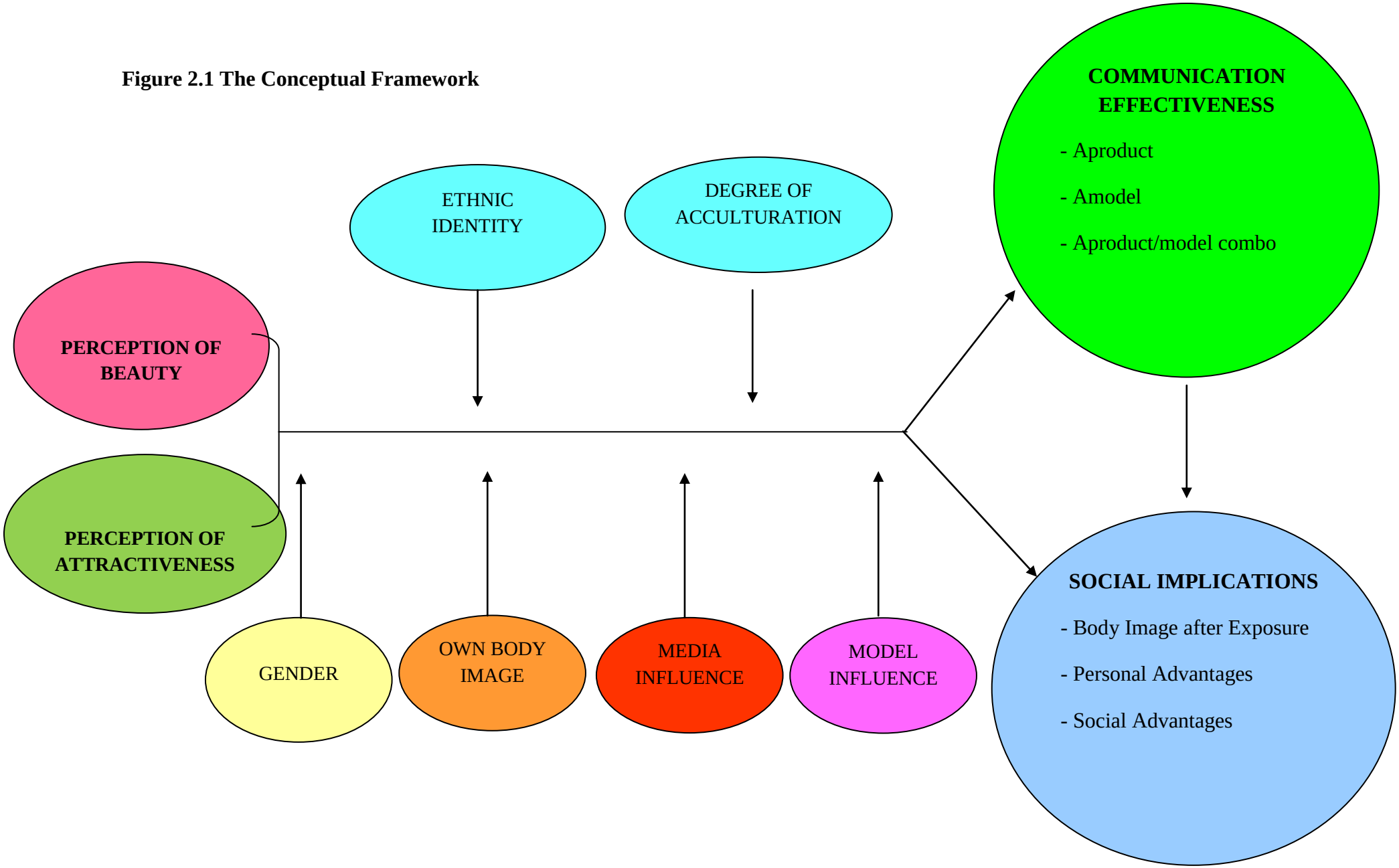
The key aspect of marketing communication is how it resonates with its audience and a key ingredient used in marketing communication is attractive models. Attractive communicators have proved to be more persuasive 'sources' than unattractive communicators. There have been questions raised over what attractiveness is, what impact it has on brand related performance, and what its implementation actually involves (Englis, et al., 1994; Kahle & Homer, 1985; Kamins, 1990; La Ferle & Lee, 2005; Langmeyer & Shank, 1995).

Utilising attractive models in advertisements has additional consequences. Empirical studies in consumer behaviour and advertising, often link attractive models with negative self-judgments, including lower self-esteem and dissatisfaction with body image (M. C. Martin & Kennedy, 1993; Richins, 1991). This has implications for the effects of perceptions of attractiveness on public policy.

There are additional factors that play a part in the perceptions of attractiveness. Research suggests that there may be significant differences in what men and women consider attractive (C. Law & Labre, 2002). Additionally, a long-held view in the social sciences is that standards of beauty are dependent on ones' cultural background (G. Berry, 2000). Furthermore, images and narratives of ideal slender beauty in the mass media have an impact on the perceptions of one's own and others' attractiveness (Groesz, et al., 2002).

The following conceptual model presented as Figure 2.1, sets out an interpretation of the literature review and presents the proposed relationships, which will be tested in this research.

Figure 2.1 The Conceptual Framework



2.13 Research Problem and Hypotheses

The review of the literature resulted in the identification of the following research problem:

What are the dimensions of attractiveness, how is it related to body image, culture, media, and what are the implications for advertising and public policy?

2.13.1 Research Hypotheses

In response to the research problem, the propositions and hypotheses are as follows:

Proposition 1: Attractiveness is a function of the culture of the observer, the influence on the observer of media and the stereotypes of models to which the observer is exposed.

H1.1: *There is a significant relationship between Attractiveness and:*

H1.1a: *Culture,*

H1.1b: *Media, and*

H1.1c: *Models.*

H1.2: *Females will have significantly higher scores than males in their perceptions of factors associated with attractiveness:*

H1.2a *Culture,*

H1.2b *Media Influence,*

H1.2c *Influence of Models*

H1.2d *Attitude to Fashion products,*

H1.2e *Attitude to Personal care products,*

H1.2f *Attitude to Technology products, and*

H1.2g *Attitude to Nutritional products.*

Proposition 2: Self evaluation of body image is a function of the culture of the observer, perceptions of attractiveness, the influence on the observer of media and the stereotypes of models to which the observer is exposed.

H2a*: The self evaluation of people will be significantly lower after exposure to models than before exposure to models.*

H2b*: Model exposure will have a higher impact on females than males.*

Proposition 3: There is a strong association between attitude to products and:

H3a*: Cultural background,*

H3b*: Perceived attractiveness,*

H3c*: Self evaluation of body image,*

H3d*: Benefits of attractiveness,*

H3e*: Media Influence, and*

H3f*: Influence of Models.*

Proposition 4: People who belong to the four segments of the beauty-attractiveness matrix are expected to have different perceptions of:

H4a*: Benefits of attractiveness*

H4b*: Self evaluations of body image*

H4c*: Influence of models*

and the differences are expected to be HH>HL>LH>LL

Proposition 5: There are significant gender differences with females scoring higher than males on:

H5a*: Benefits of attractiveness*

H5b*: Self evaluations of body image*

H5c*: Influence of models*

H6**:** Gender moderates the relationship between Perceptions of Attractiveness and Advertising effectiveness

H7a**:** Body image moderates the relationship between Perceptions of Beauty and Attitude to:

- personal care and fashion products

- technology products
- nutritional products

***H7b*:** Body image moderates the relationship between Perceptions of Attractiveness and Attitude to:

- personal care and fashion products
- technology products
- nutritional products

H7c: Body image moderates the relationship between Perceptions of Attractiveness and Benefits of attractiveness

H8a: The degree of Acculturation moderates the relationship between Perceptions of Beauty and Attitude to:

- personal care and fashion products
- technology products
- nutritional products

***H8b*:** The degree of Acculturation moderates the relationship between Perceptions of Beauty and Body Image post exposure to images of models

***H9a*:** Media influence moderates the relationship between Perceptions of Beauty and Attitude to:

- personal care and fashion products
- technology products
- nutritional products

***H9b*:** Media influence moderates the relationship between Perceptions of Beauty and Social acceptance

H9c: Media influence moderates the relationship between Perceptions of Attractiveness and Attitude to:

- personal care and fashion products
- technology products

H9d: Media influence moderates the relationship between Perceptions of Attractiveness and Body image post exposure

H10a: Influence of Models moderates the relationship between Perceptions of Beauty and Attitude to:

- personal care and fashion products
- technology products
- nutritional products

H10b**:** Influence of Models moderates the relationship between Perceptions of Beauty and Benefits of attractiveness

H10c: Influence of Models moderates the relationship between Perceptions of Attractiveness and Attitude to:

- personal care and fashion products
- technology products
- nutritional products

H10d**:** Influence of Models moderates the relationship between Perceptions of Attractiveness and Social acceptance

2.14 Chapter Summary

Literature from relevant marketing domains has been reviewed to provide a coherent picture of what Attractiveness entails, what its antecedents might be, and what associations exist with communication effectiveness. This review found consensus that attractiveness is deemed important, however, prior empirical studies have not provided any conceptual or scientific definition of attractiveness: researchers simply defined people as attractive when raters agreed they were attractive.

Discussion commenced with a representation of the changing environment within which Attractiveness in communication must operate, with factors such as increased competition and the pressure for greater accountability in marketing communication activities leading to an increasing focus on maximising returns on this aspect of marketing. The focus is really about the need to be more effective which is enhanced by 'appropriate' representation which resonates with target audiences.

The proposed key constructs associated with Attractiveness were then explored and conceptualised on the strength of the literature reviewed. Linkages conceptually, and potentially operationally, were identified among the constructs. It is proposed that Ethnic Identity, Degree of Acculturation, Media Influence and Self esteem are moderators in the relationship between Attractiveness, Beauty and Communication Effectiveness and Public Policy. Next, the issue of communication effectiveness was addressed, with key constructs Attitude to Model, Attitude to Product and Attitude to Model/Product combination identified.

The chapter concludes with the presentation of a conceptual model depicting the proposed relationships associated with Attractiveness. A series of hypotheses are then presented which will form the basis for addressing the research problem. Chapter Three will present a detailed discussion and rationale on the research methodology to be employed.

3 CHAPTER 3 METHODOLOGY

3.1 Introduction

The previous chapter presented an examination of the relevant literature, culminating in the development of a conceptual model of the Perceptions of Attractiveness, Culture and Advertising Effectiveness, with the underlying premise that perceptions of attractiveness impact advertising effectiveness.

The review in Chapter Two also facilitated the identification of the key constructs and relationships to be investigated, and led to the establishment of a series of hypotheses. Chapter Three outlines the research methodology employed to test these and facilitate development and administration of a measurement instrument. The research design and unit of analysis is explicated followed by a discussion of the exploratory and conclusive research stages. The scale development process is discussed including measures of reliability and validity.

3.2 Research Design

The fundamental purpose of research is to formulate questions and find answers to specific problems, and the initial goal of any project is to identify a strategy for determining what research design is most appropriate, which in turn indicates what actions are necessary for the most suitable collection of data required to address the research problem (Emory & Cooper, 1991; Parkhe, 1993; Sekaran, 2003). Consequently, the nature of the problem under investigation in this particular study determined the research method adopted.

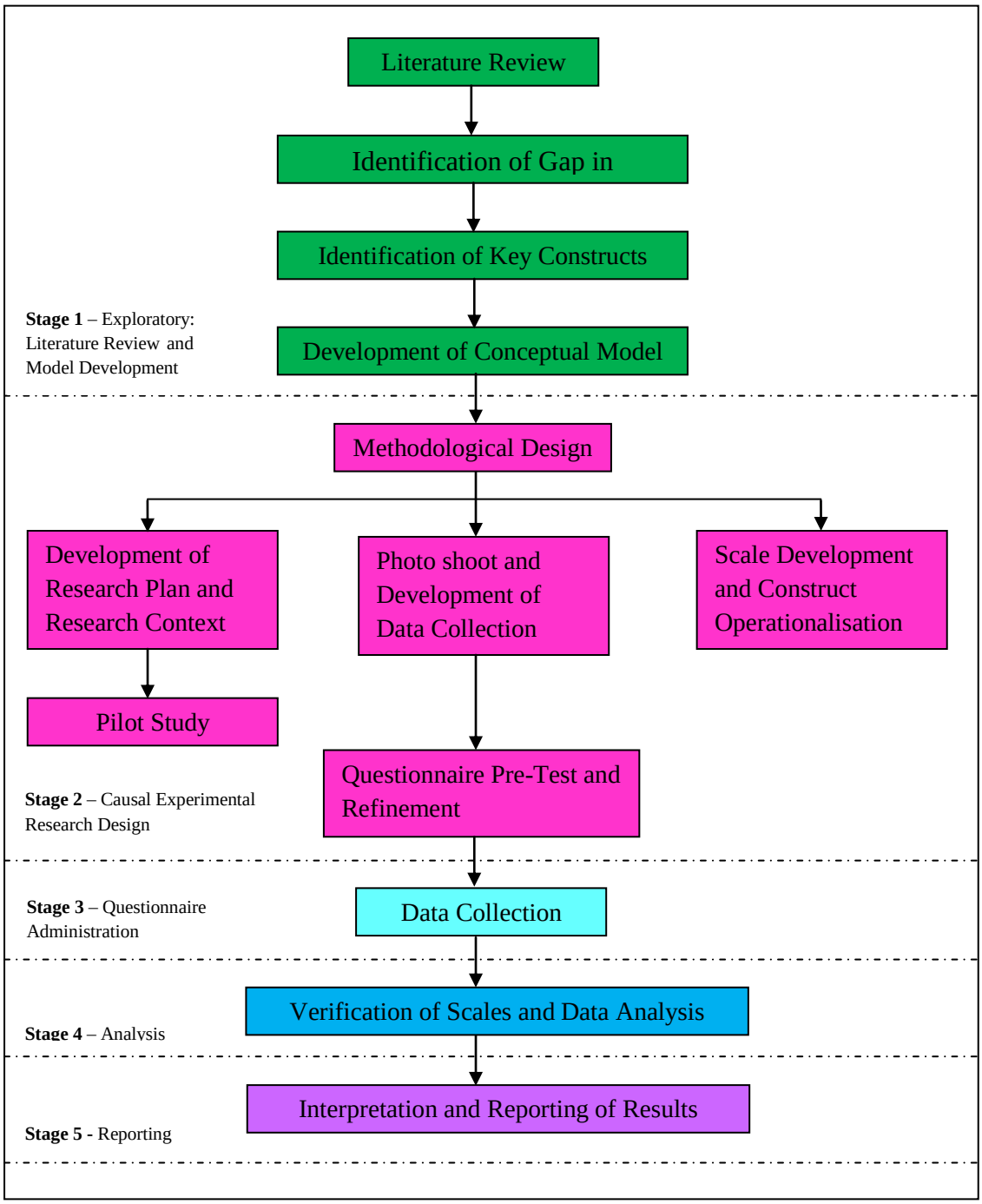
The research design for this study began with exploratory research followed by conclusive descriptive research. An outline of the research design is provided in Figure 3.1. The process began (stage 1) with an extensive review of marketing, consumer behaviour, psychology, anthropology, sociology and sensometrics literature. The objective of the first stage was to provide insights, establish research problems and to provide direction towards which the research should be approached (Malhotra, Hall, SHaw, & Oppenheim, 2004). Key dimensions of Beauty, Attractiveness, Communication Effectiveness, and Public Policy were

identified in the literature review (Chapter 2). A number of potential relationships were proposed, which as yet appear not to have been explored. This review led to the identification of the key constructs that were hypothesized to either contribute to or moderate the relationship between perceptions of attractiveness, communication effectiveness and public policy. This led to the development of the conceptual framework, followed by the research propositions and hypotheses. In addition, an examination was undertaken in Stage 1 of the research design to determine which constructs had existing measures and which had not been fully operationalised in previous studies.

Stage 2 began with the preliminary design of the questionnaire, which formed the primary research tool. Constructs were operationalised and a scale to measure the concept of Attractiveness was developed. A photo shoot was conducted to represent the concepts of Beauty and Attractiveness visually. A sampling frame was then designed to identify an appropriate research population. The Internet-based questionnaire was then pre-tested and subsequent refinement and modification was undertaken for data collection in Stage 3.

Stage 3 involved descriptive research via the administration of an online survey as the major primary data collection. This was considered the most appropriate technique. The survey was conducted across Australia to a large sample of a broad cross section of cultures. It was specified to the research company that the sample must represent males and females, and the major cultural groups in Australia. The conclusive phase possessed the core characteristics of conclusive research; specifically, the objective was to test hypotheses and examine relationships. The information was clearly defined and the process was formal and structured, with a large and representative sample and data analysis was quantitative with conclusive findings (Malhotra, Wu, et al., 2006). Finally, stages four and five covered data entry, analysis and discussion of the results presented later in Chapters 5 and 6.

Figure 3.1 Research Design



3.3 Unit of Analysis

The unit of analysis refers to the level of investigation upon which the study focuses. Individuals, dyads and groups are all various units of analysis. It is critical to define the unit of analysis during the early phases of the research as it directly influences the conceptual framework, sampling frame and data collection techniques (Zikmund, 2003). This ensures that data is captured from appropriate respondents to address the research propositions (Dane, 1990; Sekaran, 2003). This research investigates perceptions of beauty and attractiveness. The unit of analysis are individuals aged 18 and above. They are males and females representative of the population within Australia from a broad range of cultural backgrounds. Rather than splitting the sample by race, this research based on the literature review, looks at the participant's ethnic background. The sample represents the major regions represented in Australia including Africa, Asia, Europe, Middle East, and North and South America.

3.4 Quantitative Research

3.4.1 Development of Online Instrument

The major component of the thesis involved quantitative research in the form of a cross-sectional survey. The questionnaire was undisguised and standardised for all respondents. This approach supports the reliability of the study by providing respondents with clarification and a point of reference (Malhotra, Wu, et al., 2006). The data collection could potentially have utilised one of four alternative techniques: mail/fax, internet, telephone, or face to face (Sekaran, 2003).

An online based data collection strategy was seen as the most manageable and cost effective option based on the benefits that this widely employed method offers (Cross & Kommers, 2002; G. B. Cunningham & Rivera, 2001; Kurtinaitiene, 2005; Meuter, Ostrom, Roundtree, & Bitner, 2000). It was also anticipated that the absence of an interviewer would encourage respondents to be more candid in their response as there is an increased sense of anonymity (Dillon, Madden, & Firtle, 1993). Additionally, an online questionnaire provided respondents with greater flexibility in responding to the questionnaire at a convenient time, which improves the accuracy of the data (Churchill, 1999).

Given that time is of the essence in a three-year project, an online questionnaire offers instantaneous dissemination of the instrument and immediate collection of data. The user-friendly interface also cuts down on the time taken to complete each questionnaire. It eliminates further effort as all that is required is to click on a submit button. Additionally, respondent error in the form of incomplete or dual entry is eliminated through design logic. Another benefit is that electronic questionnaires are more efficient in data management as they eliminate manual and multiple data entry. Data collected by the electronic questionnaire is stored in a consolidated database which is compatible with the statistical package, SPSS (Statistical Package for Social Sciences – an analytical programme used for business statistical analysis). Data conversion is conducted by exporting the data file across programmes, thus eliminating human data entry errors (Ilieva, Baron, & Healey, 2002).

Other advantages of an online survey include wide geographical coverage, and flexibility in systematic scenario presentation (Ilieva, et al., 2002).

The online questionnaire was created using InstantSurvey where the questionnaire was also hosted. InstantSurvey allows complete control of the research process including the creation, distribution, management, and analysis of online surveys. Respondents were directed to the online questionnaire through a specific URL (Uniform Resource Locator – a global address of the document of the World Wide Web). The online questionnaire design was based on two central themes: 1) *user-friendliness* and 2) *database efficiency* (Roman, 1999).

User-friendliness refers to the graphical user interface (or GUI) that is designed for simple navigation and operation of the web site. In this case, it refers to the ease-of-use in the completion of the questionnaire. User-friendliness is essential in the design of online questionnaires as it influences respondents' participative interest and reduces operation fatigue. Some of the key user-friendly design features include 1) usage of space for clarity, 2) restriction of seven questions per page to prevent clutter, 3) use of a progress bar to indicate the percentage of the questionnaire completed, and 4) minimalistic design for straightforward navigation.

Key components of the questionnaire are essential to the accurate completion of the survey are highlighted using special graphics such as bold font and bright colours that inform

participants that readings the highlighted section is crucial to answering subsequent questions.

Database efficiency involves the design of data management processes to minimise or eliminate error (Roman, 1999). Such error may originate from the respondents (e.g. data entry error and technical faults) or the database system (e.g. data loss, data storage, data conversation, and data compatibility across linked programmes). With these two central themes in mind, the online questionnaire is designed with the following features:

1) **Concurrent operation of questionnaire –** the server is capable of handling up to 5,000 respondents operating the online questionnaire at any one time. This is necessary to prevent the system from crashing as a result of usage overload. The preventive feature ensures that no data is lost, and also ensures that all potential respondents are able to successfully complete the questionnaire within the give time frame.
2) **Programme codes security –** this feature is designed to prevent unauthorised alteration of the survey. After the questionnaire is loaded to the server, only authorised personnel (web designer and researchers) can make changes to the document. Respondents have only restricted access to the survey where apart from providing information to the required fields, modifications of the online questionnaire cannot be made.
3) **Recognition of unique user identification number –** as each respondent is provided with an unique user identification number (more details to be provided later), this feature is designed to prevent the same respondent from completing and submitting the questionnaire twice.
4) **Error control –** error control mechanisms are set up to prevent three main types of error in the data collection:
    a. *Error 1, Multiple entries* – design feature allows only one option to be selected for each question
    b. *Error 2, Incomplete question* – respondents are required to complete each question before moving onto the next page.
    c. *Error 3, Incomplete questionnaire* – respondents are required to complete every question prior to submission. In other words, there is no missing data throughout the collection process.

d. *Error 4, Backward navigation* – the questionnaire is designed to prevent data loss through accidental clicking of the "Back" or "Refresh" button on the Internet browser (Roman, 1999).

3.4.2 Photo shoot

3.4.2.1 Model Selection

The researcher met with Managing Directors from two leading modelling agencies in Melbourne, Australia prior to the selection of models to discuss characteristics sought in a model and characteristics considered to be unattractive. The researcher was shown images of attractive male and female models from both agencies. From these discussions, 10 models (6 women: 2 Caucasian, 1 Asian, 1 Polynesian, 1 African/Indian and 1 Middle Eastern; 4 men: 2 Caucasian, 1 Asian, 1 African) between the ages of 21 and 28 years were picked.

3.4.2.2 Procedure

Models were found through personal contacts and told that the pictures would be used in a study on attractiveness. The models had some previous modelling experience but would be unknown to the public. Overall, it was easy to find willing models. The models were promised gift packs that included clothing, jewellery, personalised lollies and vouchers from local Melbourne businesses. All the models in the photographs signed a model release form (see Appendix X). This form indicted their informed consent to participate as models in this study. The images were designed to reveal front, side and profile views of the models. The models were introduced to the task in the same way and required to pose in the same way (Honekopp, 2006).

All photographs were taken by a professional photographer in a studio before a bright, neutral background, using a Nikon D3 (digital SLR with 12.87 mega pixel). Shooting distance was 1-1.5 m. The models were required to arrive with natural makeup and hair. They were given the same clothing (women: jeans and white singlet; underwear; men: jeans and white t-shirt; underwear) to wear which they kept following the photo shoot as a thank you for participating. The same lighting was used for all models. Models posed with a neutral facial expression and a slight smile and faced the camera in requested positions: front view, back view and side views. The men were beardless and were required to be clean shaven.

The photographs were uploaded in JPG format to a PC. They were viewed in Adobe Photoshop and small adjustments (cropping and colour) were made to ensure consistency across models.

3.4.3 Sampling and Data Collection Procedure

The population consisted of an Australian database of respondents from a marketing research firm that specialises in online consumer surveys. The database comprised of participants who signed up and consented to complete online surveys in exchange for points which can be redeemed for incentives. The survey instrument was placed on the website for two weeks, and members were randomly invited to participate in the study. Participants' unique membership ID was recorded which provided a mechanism to prevent participants from filling out the survey multiple times and to prevent 'outsiders' who found the website by chance.

One limitation of this sampling method is that respondents who subscribe to an Internet-based marketing research firm may have a skewed demographic profile in terms of being more tech-savvy, younger in age and higher in education. It is however anticipated that this will not have a significant impact on the outcome of the study due to the nature of the independent variables (Goleman, 1996). To ensure a good spread in participants' level of cognitive resources, both objective and self-assessment questions regarding beauty and attractiveness were used. The data was also screened to test for assumptions of normality, linearity, and homoscedasticity (discussion to follow).

3.4.4 Sample Size

A sample size greater than 30 and less than 500 is suggested to be appropriate for most research in the behavioural sciences (Malhotra, et al., 2004). Loehlin (1992) suggests that a sample size under 200 may mean parameter estimates are unstable and there may be a lack of power in significance tests. Sawyer and Ball (1981) however, argue that a large sample size (>100) is necessary for greater statistical power and reduction of Type I (rejecting a null hypothesis when it is true) and Type II (accepting a null hypothesis when it is false) errors.

The final number of useable responses was 1111 participants, which is adequate to sufficiently address the research questions for this study at a 95% confidence level. It was deemed acceptable for the development of a model comprising the dimensions of Attractiveness and the other constructs to which it is posited to have a relationship in the conceptual model. As discussed earlier, it was requested that the sample be of equal male and female numbers with a broad cross-section of cultures within Australia.

3.4.5 The Survey Design

Overall design of the research instrument includes the presentation style and accompanying information, specifically; the cover letter and the actual questionnaire. In accordance with Dillman's (1978) approach and to present a professional and credible impression, an official Monash University "Department of Marketing" logo was utilised.

The cover letter was reviewed along with the final version of the questionnaire by several academics and students to ensure use of the most appropriate wording.. In addition, the design conformed to the Monash University's Ethics Committee protocol, including:

- Introduction of the researcher and supervisor
- Overview of the project
- Significance of the project
- Assurance of confidentiality and anonymity
- Detailed instructions for completion of the survey
- Offer of a summary of the research findings
- Contact details for:
  - The researcher
  - Main supervisor
  - Monash University Standing Committee on Ethics in Research on Humans

Every effort was made to ensure the finished design would be well received by potential respondents. Design experts were consulted to ensure the questionnaire was both eye catching and professional in appearance. Double spacing and double siding was employed.

A copy of the questionnaire is attached as Appendix I. Details of the development of the measurement instrument will be the focus of the next section.

3.4.6 Pre-Testing the Survey

Pre-testing the questionnaire on a small sample of respondents is essential to identifying and eliminating potential problems (Hunt, Sparkman, & Wilcox, 1982). Pre-testing was conducted in two stages. The first was to examine the content of the questionnaire, while the second was to test for faults or programming errors in the online questionnaire design.

The first stage of the pre-test involved an assessment of the survey instrument by a sample of 200 students using hard copies of the questionnaire. The questionnaire was also pre-tested by the research supervisors. All aspects of the questionnaire contents were tested including wording, sequence, form, layout, question difficulty and instructions (Sekaran, 2003). The purpose of Stage 1 was to identify any questionnaire design shortcomings, and to verify that the constructs and items were seen as appropriate for testing the hypothesised relationships. The participants were given an explanation and rationale for the research. The sample was requested to respond to the following questions following the completion of the questionnaire:

1) Is the questionnaire well structured? If not, how could it be improved?
2) Are the questions and alternative answers clear? If not, please indicate which questions or answers are unclear and why.
3) Is the language appropriate in all questions and answers? If not, please indicate language is inappropriate and why.
4) Are there any questions that could be interpreted in more than one way (ie. with more than one meaning)? If yes, please indicate which questions are problematic and how you think they should be changed.
5) Are the questions pertinent given the objectives of the study? If not, please elaborate
6) Is the construct of Attractiveness adequately captured in your view? If not, what changes are required?
7) How long did it take you to complete the questionnaire (minutes)?
8) Do you have any other feedback on the general appearance, structure, and / or design of the survey instrument please?

The feedback led to some modifications to both the design layout and structure, and also to the wording of some questions. A number of 'double-barrel' questions were identified in existing scales and duly modified. The participants were also in an ideal position to trial the length of time it would take to complete the questionnaire.

On the advice of participants in the pre-test, some sentence structure, and language was simplified, but on the whole, the response was very favourable to the survey design. The estimated completion time was 30 minutes which was considered to be reasonable.

The second stage of the pre-test was conducted by 32 participants (fellow researchers, colleagues and acquaintances). Participants completed the questionnaire and submitted them continuously via the Internet over one hour. The main objective was to identify any programming errors with the electronic questionnaire, specifically in the loading and downloading of the database and handling of the server. Additional objectives were survey presentation, colour scheme, wording, sequence and length.

Minor adjustments were made following the second stage of the pre-test including font changes, spacing, and spelling. The estimated completion time was 20-30 minutes and the response was favourable to the overall presentation and design.

3.5 Questionnaire Design

The questionnaire was designed to capture information about Beauty, Attractiveness, and Culture and the relationships to Advertising Effectiveness. This section will cover the intellectual development of the survey instrument, including choice of scaling and measurement, and questionnaire structure and sequencing.

3.5.1 Scaling and Measurement

All variables were measured on seven-point Likert-type scales. Consistent with a number of studies (Churchill & Peter, 1984; Malhotra, Peterson, & Kleiser, 1999; Narver & Slater, 1990) the Beauty and Attractiveness items were anchored at 1, "not important", and 7, "extremely important". Similarly, the Ethnic Identity and Model influence items were anchored at 1, "strongly disagree" and 7, "strongly agree". The Acculturation items were

anchored at 1, “totally different” and 7, “Identical”, the Advertising influence on purchase behaviour items at 1, “not at all” and 7, “to a great extent”, and the Body Image items were anchored at 1, “strongly negative” and 7, “strongly positive”. Likert-type scales are commonly used in empirical studies (Narver & Slater, 1990), and are recommended when using structural equation modelling (Hair, Anderson, Tatham, & Black, 1998; Schumacker & Lomax, 1996). They are relatively easy to construct and administer, and are readily understood by respondents, making them suitable for an online questionnaire.

The main disadvantage of such scales is that they take longer to complete than other itemised rating scales, as respondents have to take the time to read and comprehend each statement (Malhotra, et al., 2004). A seven-point scale was used in this research in an endeavour to improve reliability (Churchill, 1979; Pitt, Caruana, & Berthon, 1996), and because it provides a wider dispersion of responses thereby facilitating a greater degree of accuracy. Furthermore, utilising an odd number of response options provides a midpoint for respondents who are neutral, thus eliminating any anxiety that may be caused by forcing respondents to select an answer.

Given the limited number of empirical studies on Beauty and Attractiveness and the lack of a commonly used scale, and also the adapted Ethnic Identity and Acculturation scales, the questionnaire was pre-tested, as previously discussed, to further ensure that appropriate meanings were ascribed to items and constructs, and that the constructs effectively captured the requisite concepts.

3.5.2 Common Method Variance

Cross sectional studies of attitude-behaviour relationships have come under close scrutiny particularly in recent years because of the potential impact of common method bias (due to common method variance CMV) (Malhotra, Kim, & Patil, 2006; Mittal & Kamakura, 2001; P. A. Podsakoff, MacKenzie, & Lee, 2003; Slater & Atuahene-Gima, 2004). Method variance is described as the variance which is attributable to the measurement *method* rather than to any variance attributable to the actual construct (P. A. Podsakoff, et al., 2003). That is, common method variance is where having the questions asked of the same respondents, in the same manner, at the same time causes the answers to vary together, whether or not the underlying constructs vary together. For example, a relationship has been hypothesised in this

thesis between, Attractiveness and Communication Effectiveness. It is expected therefore that the measures of Attractiveness would be correlated with the measures of Communication Effectiveness. However, if the measures of Attractiveness and the measures of Communication Effectiveness also share common methods, those methods might cause a systematic effect on the observed correlation between the measures. As a consequence, common method bias potentially creates a competing explanation for the correlation observed between the measures.

It is worth noting that there is little consensus regarding the extent of common method biases, with some authors proposing that the problem is overstated (Crampton & Wagner, 1994; Lindell & Whitney, 2002; Spector, 1994, 2006). Furthermore it has been suggested that the impact varies according to specific research areas (Crampton & Wagner, 1994; Malhotra, et al., 2004; P. A. Podsakoff, et al., 2003), with certain variables more likely to be potentially biasing variables, such as those that are socially sensitive (Spector, 2006). The proposition is that when measures are difficult or ambiguous, respondents may tend to interpret them in a relatively subjective manner, which may in turn increase the likelihood of random responding or increase the probability that respondents will rely more on their own systematic response tendencies (e.g. central tendency and leniency biases).

Common Method Bias is nonetheless an important consideration and there are no easy solutions. Podsakoff *et al*. (2003) suggest that common methods biases may be attributed to one or more of the following:

1. **Respondent characteristics**: where there is a 'common source or rater' (i.e. where all questions are answered by the same respondent). This can potentially lead to several biases with the respondent's answers such as wanting to appear consistent and rational in all their answers, possessing assumptions about the co-occurrence of rated items and how they should be answered, the need for social approval and acceptance in their answers, leniency in rating some people such as work superiors, the tendency to agree or disagree with all attitude statements, regardless of content, respondents positive or negative dispositions or simply their mood on the given day.
2. **Item characteristics**: Such as social desirability which may also be a property of the items in a questionnaire (e.g. respondents self-reporting on their use of various methods of conflict handling techniques correlating strongly with the rated social desirability of each alternative

(Thomas & Kilmann, 1975), over complex or ambiguous items (e.g. technical jargon, colloquialisms) may cause respondents to make their own meaning or sense of such items, similar scale anchors (e.g. strongly agree vs. strongly disagree) may increase the possibility that some of the co-variation observed among the constructs may be the result of the consistency in the scale properties rather than the content of the items, negatively worded items may produce a bias especially if respondents fail to recognise that some are reverse-coded items.

3**. Item context**: This relates to the potential interpretation that a respondent might ascribe to an item solely because of its relation to other items making up the questionnaire e.g. asking questions about their perceptions of attractiveness may make other aspects about the concept of attractiveness more salient to respondents than they would otherwise have been, cognitive 'carry-over effect from questions answered previously.

4**. Measurement context**: such as time (e.g. whether short or long term memory is accessible), location (may provide contextual cues for answering in certain ways) and media used to measure the constructs (e.g. face to face tends to induce more socially desirable responses).

3.5.3 Design Considerations for Detection of Common Method Variance

Common method variance refers to the amount of spurious covariance shared among variables because of the common method used in collecting data (Malhotra, Kim, et al., 2006). There two primary ways to control for Common Method Bias (P. A. Podsakoff, et al., 2003); a) research procedure, and/or b) statistical procedures. The research design was undertaken with a view to managing the procedural remedies associated with Common Method Variance, whilst still ensuring scale validity. For example, repeated assurances of anonymity, avoidance of ambiguous questions, variation in scale anchors, online rather than face-to-face for anonymity and removal of direct influence to respond according to social desirability.

As the data for this research was conducted via an online questionnaire, there were four available versions which were allocated randomly. This meant that each respondent would not receive the same questionnaire with the same images of models or sequence of questions. Furthermore, items have been devised that are based on the concepts derived from the literature to ensure the respondents' salient beliefs are assessed, and acquiescence has been

reduced by reverse scoring a small number of items, and finally, the overall length was kept as short as possible to avoid the latter items being susceptible to common method variance due to fatigue and boredom.

The impact of common method variance was examined on the magnitude and significance of correlations (Malhotra, Kim, et al., 2006) using the following formula:

$$r_A = \frac{r_U - r_M}{1 - r_M},^2 \qquad (1)$$

$$t_{\alpha/2,\, n-3} = \frac{r_A}{\sqrt{(1 - r_A^2)/(n-3)}}. \qquad (2)$$

The results are presented in Table 3.1.

Table 3.1 Common Method Variance Adjustments

		Adjusted estimates			
	Uncorrected estimates	**Marker variable (r_M=0.038)**	**t-values**	**Marker variable (r_M=0.095)**	**t-values**
r(ATT, HT)	0.761	0.752	37.958	0.736	36.212
r(ATT, SA)	0.663	0.650	28.473	0.628	26.859
r(ATT, CT)	0.261	0.232	7.939	0.183	6.217
r(ATT, SMI)	0.335	0.309	10.814	0.265	9.163
r(ATT, BA)	0.366	0.341	12.084	0.299	10.456
r(ATT, AP)	0.361	0.336	11.876	0.294	10.245
r(ATT, LT)	0.324	0.297	10.374	0.253	8.714
r(ATT, IM)	0.285	0.257	8.851	0.210	7.154
r(ATT, MC)	0.149	0.115	3.870	0.060	1.992
r(HT, SA)	0.703	0.691	31.872	0.672	30.218
r(HT, CT)	0.282	0.254	8.736	0.207	7.036
r(HT, SMI)	0.327	0.300	10.494	0.256	8.836
r(HT, BA)	0.422	0.399	14.505	0.361	12.910
r(HT, AP)	0.341	0.315	11.056	0.272	9.411
r(HT, LT)	0.276	0.247	8.507	0.200	6.801
r(HT, IM)	0.313	0.286	9.939	0.241	8.269
r(HT, MC)	0.200	0.168	5.692	0.116	3.892
r(SA, CT)	0.291	0.263	9.082	0.217	7.391
r(SA, SMI)	0.329	0.302	10.573	0.259	8.918
r(SA, BA)	0.410	0.387	13.970	0.348	12.370
r(SA, AP)	0.359	0.334	11.793	0.292	10.161
r(SA, LT)	0.303	0.275	9.547	0.230	7.868
r(SA, IM)	0.318	0.291	10.136	0.246	8.471
r(SA, MC)	0.148	0.114	3.835	0.059	1.954
r(CT, SMI)	0.208	0.177	5.982	0.125	4.193
r(CT, BA)	0.278	0.249	8.583	0.202	6.879
r(CT, AP)	0.162	0.129	4.331	0.074	2.473
r(CT, LT)	0.143	0.109	3.658	0.053	1.770
r(CT, IM)	0.163	0.130	4.366	0.075	2.510
r(CT, MC)	0.155	0.122	4.082	0.066	2.214
r(SMI, BA)	0.487	0.467	17.583	0.433	16.011
r(SMI, AP)	0.514	0.495	18.970	0.463	17.403
r(SMI, LT)	0.526	0.507	19.611	0.476	18.045
r(BA, IM)	0.336	0.310	10.854	0.266	9.205
r(BA, MC)	0.095	0.059	1.978	0.000	0.000
r(BA, AP)	0.352	0.326	11.505	0.284	9.867
r(BA, LT)	0.332	0.306	10.694	0.262	9.040
r(BA, IM)	0.306	0.279	9.664	0.233	7.988
r(BA, MC)	0.195	0.163	5.511	0.110	3.704
r(AP, LT)	0.688	0.676	30.536	0.655	28.899
r(AP, IM)	0.386	0.362	12.928	0.322	11.314
r(AP, MC)	0.038	0.000	0.000	0.000	0.000
r(LT, IM)	0.478	0.457	17.136	0.423	15.562
r(LT, MC)	0.127	0.093	3.096	0.035	1.179
r(IM, MC)	0.203	0.172	5.800	0.119	4.005

Notes. r_M = shared correlation resulting from CMV; ATT = Attractiveness; HT = Healthy; SA = Sex appeal; CT = Culture; SMI = Social and Media Influence; BA = Benefits of attractiveness; AP = Attitude to product; LT = Lifestyle; IM = Influence of models; MC = Model characteristics.

When the second lowest correlation was used, only one correlation (LT, MC) became non significant out of the 45 correlations. This clearly indicates common method variance is not a problem in this study (Spector, 2006).

3.5.4 Structure and Sequencing

The questionnaire was comprised of five sections, and each section commenced with a relevant explanation / instruction to the respondent. Following the precedence of earlier studies (Bridson & Evans, 2004), sequencing was designed to establish a logical flow of thought to make the survey completion more straightforward. Operationalisation of the constructs will be discussed in Chapter Four, and as an introduction to this, each section is now overviewed.

Section A: Beauty and Attractiveness

The first section focussed on the perceptions of beauty and attractiveness. Constructs included the Face, Upper Body, Lower Body, Sex Appeal, Musculature, Youthfulness, and Personality. The collection of data peculiar to the perceptions of attractiveness may add to the descriptive and explanatory power of the thesis. For example, there may be a distinct difference between the concept of Beauty and Attractiveness. Such considerations will be addressed in the final stage of interpretation and reporting of results.

Section B: Ethnic Identity and Acculturation

The next section sought to capture data about Ethnic Identity and Acculturation. Again, this section was designed to capture an understanding, of what attitudes were exhibited with respect to the participants' association with their ethnic group including customs and traditions, and how different or similar they felt to mainstream Australia.

Section C: Impact of Attractiveness

The central component of this thesis is the exploration of the concept of Attractiveness and its impact on various aspects of life. This section required respondents to indicate how they feel about themselves in terms of attractiveness, to reveal to what extent the media influences their perceptions of attractiveness, to what extent they associate attractiveness with competitive advantage, to what extent models influence their purchase of products from the Personal care, Fashion, Technology and Nutritional categories, and to what extent models portrayed in the media have an effect on their fitness and benchmark of attractiveness. The

aim was to capture the degree to which attractiveness and models used in advertising have an effect on people's perceptions of their own and others' attractiveness.

Section D: Perceptual Section and Advertising Effectiveness

Questions in this section were designed to illicit information about attractiveness using visual stimuli. Each participant was exposed to four models (2 females and 2 males) and two product categories (male and female perfume; male and female underwear). This was followed by a series of questions which required them to indicate once more how they feel about themselves in terms of attractiveness following exposure to the images of models.

Section E: Demographics

The final section of the questionnaire identified demographic information about the respondent such as age, education level, height and weight, annual income and ethnic background. There was an additional question for the female participants which required them to reveal what stage of the menstrual cycle they were at as studies have shown that women's perceptions change according to their menstrual cycle (Saad & Gill, 2000). This question was not made compulsory as it was identified that some participants may not wish to reveal this information. It is both logical and standard practice to locate personal questions at the end of a questionnaire as they may invoke a degree of discomfort and lead to non completion of the questionnaire if located at the start (Malhotra, Kim, et al., 2006).

3.5.5 Data Preparation

The data preparation process involved several steps including questionnaire checking, editing, coding, cleaning and planning for the data analysis strategy (Malhotra, et al., 2004). Through the use of online questionnaires, it was possible to either streamline or remove some stages in the data preparation process expediting the research process. For instance, the programming logic in place prevents participants from skipping questions and the submission of incomplete questionnaires. As such, there were no missing values in the dataset. The programming logic also prevents incorrect or out of range values to be entered in the data set (e.g. entering 9 on a 7-point Likert scale). This feature eliminates the need to clean the data for erroneous values.

All questionnaires were screened for unsatisfactory responses – questionnaires that display anomalous repetition of answers – for instance, repetition of the same answer across ten or more questions consecutively. These irregular questionnaires were compared with the rest of the dataset to determine the authenticity of the responses to questions. Given that participants were rewarded by the recruiting company through a point system, there was a possibility that participants would enter mock answers to complete the questionnaire without active participation. No questionnaires with unsatisfactory responses were found.

Coding is the assignment of a code to numerically represent a specific response to a specific question along with the data record and column position that code will occupy (Malhotra, et al., 2004). As there were no unstructured questions in the questionnaire, the coding was quite straightforward. All non-metric data was coded on an ascending scale consistent with the design of the question. For example, in the field where respondents were to indicate gender given the options of "male, "female" and "other", the code assigned to the response was "1", "2" and "3" respectively. The same logic was extended to other fields concerned with non-metric data.

3.5.6 Data Analysis Procedure

The data analysis procedure was designed to address the main research questions and hypotheses of the study. Data analysis was conducted in two stages:

1) Exploratory factor analysis (EFA) is used as a tool to consolidate items that are correlated and is used predominantly in the early stages of research. The aim of EFA is to summarise the patterns of correlation among items and to reduce a large number of items into a smaller set (Tabachnick & Fidell, 2001). EFA was used initially as most of the measures employed were new. Multi-item scales for reliability were tested using the split-half reliability technique employing Cronbach's alpha and validity and unidimensionality were tested using confirmatory factor analysis (CFA). A detailed discussion of this stage is presented in Chapter 4.
2) The conceptual model and the relationships between the variables were tested. A number of analytical techniques were employed which were dependent upon the nature of the data (metric or non-metric) and hypothesised relationships. Independent t-tests, Analysis of Variance (ANOVA) and multiple regression were used to

determine the significant difference between the mean score of variables. Issues concerning analytical techniques such as the assumption of homogeneity of covariance, collinearity, normality and homoscedasticity will be discussed in the report of findings in Chapter 5.

3.5.7 Ethics and Confidentiality

As indicated in section 3.5.5, the guidelines provided by the Monash University Standing committee on Ethics in Research on Humans were strictly adhered to. As part of the Monash University research policy, all research projects involving human subjects must be approved by the Standing Committee on Ethics in Research on Humans (SCERH). The SCERH bases its policies on the guidelines provided by the Australian National Health and Medical Research Council. Approval for this research was granted by SCERH on 6th December, 2007 (project number: 2007002164). SCERH's main consideration with general research projects involving human subjects is concerned with anonymity, confidentiality and exploitation of subjects.

Adhering to SCERH guidelines, anonymity of the participants was upheld as no form of information that identified the respondent was requested in the questionnaire. Only a unique user ID which allowed the tracking by the marketing research firm was requested for the purpose of compensation by the marketing research firm and response control (to prevent multiple entries by the same respondent). The researchers had no access to the marketing research firm's database.

All essential information regarding the study was provided in the cover letter of the electronic questionnaire regarding the purpose of the study, participation of the respondents and information about the researcher (Appendix I). Respondents were advised that all information that they provided was strictly confidential and that only the researcher and the supervising authority had access to the data. The following statement was included in the covering letter included with each online survey:

"Should you have any complaints concerning the manner in which this research is conducted, please do not hesitate to contact The Standing Committee on Ethics in Research Involving

humans at the following address: Human Ethics Officer, The Standing Committee on Ethics in Research Involving Humans, Bldg 3E, Room 111, Research Office, Monash University, Victoria 3800, Telephone (03) 9905 2052, Fax (03) 9905 1420, Email: SCERH@adm.monash.edu.au."

3.6 Chapter Summary

Having presented the conceptual underpinnings and research focus of this thesis in earlier chapters, this chapter set out to provide a detailed plan of the methodology adopted to investigate the hypotheses. An online survey was identified as being the most appropriate vehicle for the major stage of data collection. The strengths and weaknesses of this approach were acknowledged. A pre-test was conducted with student and academic informants to fine tune the research design. Students were then asked to complete the questionnaire to ensure the language was appropriate, the questions and alternative answers were clear, and the completion time acceptable. This led to a final refinement of the questionnaire prior to it being administered in the field. Details of the administration of the survey were provided including composition of sample and subsequent response rate. A rationale was presented for the questionnaire structure and sequencing, with design considerations included for the detection of common method variance. Data entry techniques were identified, and finally a description of composition of the sample was provided.

The previous chapters have concentrated on providing an explanation of the conceptual background of the research, the theoretical foundations for the propositions, hypotheses and research questions, and the research methodology adopted. As one of the key contributions of the study is the conceptualisation and operationalisation of the attractiveness construct, this will be discussed in detail in Chapter 4. The reliability and validity of the measures used to capture all of the key constructs will also be discussed.

4 CHAPTER 4 CONSTRUCT MEASUREMENT

Section I: Operationalisation of Constructs

4.1 Introduction

The purpose of Section I of Chapter Four is to explain how the constructs in the theoretical model introduced in Chapter Two were operationalised. The operationalisation of the constructs involves the configuration of measures such that the constructs can be quantified (Rossiter, 2002). Given that often more than one measure of a construct exists, the most appropriate measurement scales for this study were identified and justified. In developing measures for the study, where available, existing scales were adopted and where appropriate were modified to fit the context of the study. However, to cater to the needs of this study, new measures of Beauty and Attractiveness were developed from extant literature.

The central focus of the study is the concept of Attractiveness, however as indicated in Chapter Two, there is as yet no well tested measurement scale published and consequently measurement items have had to be drawn from a range of sources. The justification for this selection is discussed in detail, followed in Section II by explication of reliability and validity measures of all the scales utilised. This procedure follows the recommendations of Churchill (1979) and where appropriate new developments in formative measures (Diamantopoulos, Riefler, & Roth, 2008). As mentioned above, other components of the measurement instrument were predominantly drawn from existing scales. In line with standard research procedure, where minor modifications were made to the existing scales, care was taken to ensure that each measurement scale maintained its original meaning. This was validated in a pre-test with academics and practitioners at least to establish face validity.

The development of the measurement instrument was informed by the review of literature pertinent to each construct. The final version of the questionnaire was also informed by feedback from the pre-test. It was considered important to ensure the overall questionnaire remained of ‘acceptable’ length to minimise respondent fatigue and boredom, but at the same time, not jeopardising the integrity of the instrument. The aim was to keep the completion time to 20-30 minutes (see Chapter Three for discussion of Dillman’s (1978, 1991), Total Design Method). Consequently, although the focus was to ensure that the underlying

elements of each construct were completely captured, the total number of items was kept to a reasonable minimum but generally was not less than 5 items per construct (Bagozzi, Yi, & Singh, 1991; Churchill, 1979; Kohli, Jaworski, & Kumar, 1993). The use of multiple item measures will be discussed further in Section 4.11.1 on Reliability. The following sections outline the approach taken to operationalise each construct.

4.2 Beauty and Attractiveness

In attractiveness research, evaluations of attractiveness are usually derived from observations of target individuals made by raters who rate the target on a scale ranging from very attractive to very unattractive (Englis, et al., 1994). No study thus far has attempted to define the dimensions of attractiveness. Therefore, as attractiveness is an emerging concept, no existing scale has been developed to measure this construct. Consequently, the operationalisation of this construct was based on several sources to facilitate a measure of Beauty and Attractiveness according to its constituents as identified earlier. The participant's response to perceptions of attractiveness were operationalised on four dimensions: 1) authenticity, 2) relevance, 3) aspiration, and 4) biological characteristics. The development of the scale adhered to guidelines by Malhotra (2006) and Smith (1999).

Table 4.1 presents a summary of published scales identified as relevant to this study. For some of the scales sub-headings have been created for the table to indicate the general focus of each set of items.

Given this is a new scale, it was considered important to include a substantial number of items for each dimension to account for items which may perform poorly and hence need to be eliminated. The final scale is therefore comprised of a total of 58 items with three to nine items used to measure each construct. It was deemed reasonable for this part of the measurement instrument to be longer than the other sections, given that Beauty and Attractiveness are the central focus of this thesis.

Table 4.1 Measure for Beauty and Attractiveness

STUDY	MEASURES
(Alicke, et al., 1986)	Ratings of 27 stimuli as to the physical attractiveness, intelligence, sociability, and morality (high/medium/low)
(Caballero & Solomon, 1984)	Model attractiveness: Attractive/Not attractive
(Cash, et al., 1983)	Magazine photos: Attractive/Not attractive
(Crouch & Degelman, 1998)	Magazine photos: Self attractiveness scale
(M. R. Cunningham, 1986b)	Personal characteristic scale
(Davison & McCabe, 2006)	Self rated attractiveness: participants rated their physical attractiveness in terms of general appearance, facial attractiveness and looks: extremely unattractive/extremely attractive
(DeSarbo & Harshman, 1985)	Celebrity Endorser: expertness, attractiveness, trustworthiness
(Englis, et al., 1994)	Major American fashion magazines were content analysed in order to determine different types of beauty: exotic, trendy, classic, girl-next-door, sex kitten, cute
(Gulas & McKeage, 2000)	Self-perceived physical attractiveness
(M. C. Martin & Gentry, 1997)	Physical attractiveness – 2 questions
(Ohanian, 1990)	Celebrity Endorser Credibility Scale: attractiveness, trustworthiness, expertise
(Osborne, 1996)	Personal characteristic scale adapted from Cunningham (1986): very dull/very bright, very unsociable/very sociable, very submissive/very assertive, very vain/ very modest, have many medical problems/have very few medical problems, very fertile/very sterile, very likely to have extramarital affair/very unlikely to have affair, extremely attractive/extremely unattractive, very sexy/very unsexy.
(Richins, 1991)	Physical attractiveness of models
(Santor & Walker, 1999)	Self-report and observer ratings. a) how physically attractive do you consider yourself to be and b) how much more or less physically attractive are your friends than you. Questions were answered on a scale not very attractive/very attractive.
(Swami, Greven, & Furnham, 2007)	Images of men; posed the question: "how physically attractive is the person in the photograph?" 1 least attractive – 9 most attractive.

As mentioned in Chapters 1 and 2, there has been a lack of studies that looked at facial and body attractiveness in a combined manner and also that looked at specific dimensions of attractiveness. Research in Psychology has found that biological characteristics such as symmetry, health, and youthfulness play an important role in the perception of attractiveness

(Winkielman, et al., 2006). Therefore, it was considered important to break beauty and attractiveness into specific face and body characteristics in order to investigate if it is possible to define beauty and attractiveness in terms of importance of body characteristics as indicators of attractiveness.

Attractiveness studies concentrate on 'physical attractiveness' (Baker & Churchill, 1977; Belch, et al., 1987; Solomon, et al., 1992). Even when multiple items are used to measure perceived attractiveness (eg., as in Ohanian's (1990) scale of source credibility), the items tend to be physically-based adjectives such as attractive, classy, beautiful, elegant, sexy, and so forth. 'Beauty' has been more typically defined as 'attractiveness' in advertising literature and research, and has been measured, almost invariably, on a single 'attractive/unattractive' dimension (Langmeyer & Shank, 1995). The Beauty and Attractiveness scale developed in this study is a fusion of key components identified in Psychology and Marketing literature. It breaks down key characteristics of human physique (face and body) and asks the participant to rate them on a 7 point Likert scale where 1indicated Not important and 7 indicated Extremely important. For this study, a seven-point scale was selected because it offered greater reliability over a five-point scale (Churchill, 1979; Pitt, et al., 1996) and it provided a sufficient range to allow variances in response necessary for statistical analysis (Tabachnick & Fidell, 2001). The scale is presented in Table 4.2 and Table 4.3.

Table 4.2 Measure for Beauty Construct

Please indicate how important each of the following is to you as an indicator of beauty: **Face**		Not important		Neither unimportant nor important			Extremely important	
A1	Nose	1	2	3	4	5	6	7
A2	Lips	1	2	3	4	5	6	7
A3	Ears	1	2	3	4	5	6	7
A4	Chin	1	2	3	4	5	6	7
A5	Eye shape	1	2	3	4	5	6	7
A6	Eye colour	1	2	3	4	5	6	7
A7	Cheeks/cheekbones	1	2	3	4	5	6	7
A8	Face shape	1	2	3	4	5	6	7
A9	Smile	1	2	3	4	5	6	7
A10	Other - please state:	1	2	3	4	5	6	7

Table 4.3 Measure for Attractiveness Construct

Please indicate how important each of the following is to you as an indicator of attractiveness:	
Upper body	
A11	Prominence of muscles
A12	Width of shoulders
A13	Arms
A14	Hands
A15	Chest or breasts
A16	Appearance of stomach
A17	Waist-to-hip ratio
Lower body	
A18	Waist
A19	Thighs
A20	Buttocks
A21	Hips
A22	Legs
A23	Feet
Sex appeal	
A24	Large breasts
A25	Femininity
A26	Masculinity
A27	Sensuality
A28	Youthfulness
A29	Healthy appearance
A30	Revealing clothing
A31	Erotic appeal
A32	Voice
A33	Mystery
A34	Dress sense
A35	Footwear
A36	Overall appearance
Musculature	
A43	Muscular strength
A44	Muscle size
A45	Muscle tone
Youthfulness	
A46	Appearance of fitness
A47	Physical coordination
A48	Physical stamina
A49	Agility

To what extent do you associate the following characteristics with attractive	
A50	Extraverted
A51	Confident
A52	Communicative
A53	Optimistic
A54	Intelligent
A54	Fun
A55	Trendy
A56	Charming
A57	Sincere

Overall look									
A37	Tall	1	2	3	4	5	6	7	Short
A38	Not hairy	1	2	3	4	5	6	7	Hairy
A39	Youthful appearance	1	2	3	4	5	6	7	Mature
A40	Skinny	1	2	3	4	5	6	7	Voluptuous
A41	Natural appearance	1	2	3	4	5	6	7	Artificial
A42	Subtle body scent	1	2	3	4	5	6	7	Noticeable body scent

4.3 Self evaluations of body image

Over 50 studies have examined the effects of exposure to images of a thin physique on people's body image and mood. In their recent meta-analysis, Groesz, Levine, and Murnen (2002) reviewed 25 studies that evaluated the immediate effects of images of slender, ideal beauty on female body image. They reported that body satisfaction for women was significantly lower after viewing thin media images compared to viewing media images of average size models, overweight models, or controls. The effect was stronger for participants who were younger than 19 years old, participants with high body disturbance, and participants who viewed fewer than 10 stimuli. A study by Stice *et al.*, (1994) found that the amount of exposure females had to the media was predictive of symptoms of eating disorders.

This study looked at various self-esteem scales including three subscales from the Eating Disorder Inventory (EDI) (Garner, Olmsted, & Polivy, 1983) used for the dimensions of body image disturbance. The EDI has been extensively tested and is commonly used to determine eating-disorder symptomatology among individuals (Garner, et al., 1983). The EDI includes several dimensions, including: body dissatisfaction (α=0.89), drive for thinness (α=0.93), bulimia action tendencies (α=0.80), and personal ideal (Botta, 2000). These four were chosen because they represent the main components for body image disturbance (perception, attitude, and behaviour), particularly as they are seen to be related to media (Botta, 2000).

Additionally, the Current Thoughts Scale (Heatherton & Polivy, 1991) used to measure current appearance, social, performance, and total state self-esteem was looked at. These scales measure body image disturbance and self-esteem, however, they pose direct and confrontational questions such as “I feel inadequate” and “I think that my thighs are too large.” Having already asked them to state which characteristics they consider important in terms of beauty and attractiveness, single-item questions were used. The single-item measure simplifies the questionnaire and is effective in capturing the crux of the attribute without having to assess the secondary response categories (Rossiter, 2002). The use of single-item questions is recommended by several proponents that advocate a need to reassess the prevailing paradigm of measurement development in marketing literature (Finn & Kayande, 1997; Rossiter, 2002; A. M. Smith, 1999). Introduced in the early eighties by advocates such as Churchill (1979) and Peter (1979), this dominant logic in measurement development is based on adopted methods used in the psychometric literature to develop multi-item measures in marketing. Rossiter (2002) terms these constructs *concrete attribute* which are singular objects that raters are unanimously clear towards which characteristics the attribute represents.

The scale presented in Table 4.4 was used prior to exposure to images of models and following exposure.

Table 4.4 Measure for Self Evaluation of Body Image Construct

Please indicate how you feel about each of the following with respect to your body:	
C1	Face
C2	Upper body
C3	Lower body
C4	Sex appeal
C5	Overall look
C6	Muscle tone
C7	Youthfulness
C8	Personality

4.4 Ethnic Identity and Acculturation

Ethnographers have long held that cultures differ widely in their attitudes towards obesity and body shape (Popenoe, 2004), and a number of psychological studies have since confirmed the existence of cross-cultural differences in what constitutes a desired or desirable body size (Swami & Tovee, 2005, 2006). Culture appears to affect body image in general (Kowner, 2002).

4.4.1 Ethnic Identity

Ethnic identity has both an interpretive function and an emergent quality, serving as a psychological basis for interpreting self and others and emerging as part of social behaviour (Burke & Reitzes, 1981). Thus one may conceptualise identity as both a psychological state/meaning structure and an aspect of expressed behaviour.

The Stayman and Deshpandé (1989) ethnic identity scale was adopted for this thesis. It looks at how strongly a subject identifies with their ethnic group on a 5-point scale anchored from very strongly to very weakly. The scale asks subjects to rate the strength of their ethnic identity (Deshpande & Stayman, 1994; C. K.-C. Lee, et al., 2002; Nwankwo & Lindridge, 1998; Stayman & Deshpande, 1989). For this study, the scale was modified to a 7 point Likert scale and a total of eight items included as shown in Table 4.5.

Table 4.5 Measure for Ethnic Identity Construct

Ethnic Identity	
B1	I am most active in social groups that include mostly members of my own
B2	I take pride in my ethnic background
B3	I have a clear sense of what my ethnic background means to me
B4	I am happy that I am a member of the group I belong to
B5	I enjoy preparing food from my culture
B6	I enjoy music from my culture
B7	I have a deep respect for my customs and traditions
B8	I feel a strong attachment towards my own ethnic group

4.4.2 Acculturation

Adaptation is a bi-level or multicultural process (Mendoza, 1989). Underlying this approach is the notion that "both the relationship with the traditional or ethnic culture and the relationship with the new or dominant culture must be considered, and these two relationships may be independent" (Phinney, 1992, p. 501). The acculturation scale depicts a multicultural

perspective on immigrant adaptation which, in turn, acknowledges that it is possible for immigrants to maintain their ethnic identity while developing a strong sense of belonging in their new country (Lambert & Taylor, 1990). It applies to Dohrenwend and Smith (1962) who postulated two dimensions or levels of cultural change: (1) maintenance or loss of traditional culture; and (2) gain of new cultural traits.

Mendoza (1984) proposed six premises concerning the process of acculturation:

1. Acculturation involves the interaction of at least two cultures, so theoretical and empirical formulations must measure and describe the degree of retention of native cultural customs.
2. There are 4 typological patterns of acculturation: *cultural resistance* (active/passive), against the acquisition of alternate cultural norms while maintaining native customs; *cultural shift,* a substitution of alternate cultural norms for native customs; *cultural incorporation,* an adaptation of customs from both native and alternate cultures; and *cultural transmutation,* an alteration of native and alternate cultural practices to create a unique sub-cultural entity.
3. In addition to being a multicultural process, acculturation is multidimensional.
4. Immigrant individuals are generally multifaceted with respect to the various types and dimensions of acculturation.
5. Acculturation reflects not only changes that occur as a function of passage of time, exposure to an alternate culture, and other social and psychological factors but also changes in context.
6. Acculturation measures based on demographic factors such as generation level, socioeconomic status, and educational level, are good predictors of group trends, but they are not sensitive indicators of individual differences.

These six theoretical and methodological premises are incorporated in a self-report measure, the Cultural Life Style Inventory that assesses the type and degree of acculturation. Internal consistency, temporal stability, and equivalency were computed Cronbach's alpha (alpha = .89), test-retest ($r = .91$, $p<.001$), and parallel forms ($r=.80$, $P<.001$). These indicate that the instrument has acceptable levels of reliability (Mendoza, 1989). The various tests concerning the Cultural Life Style Inventory indicate that the instrument possesses adequate content and construct validity (Mendoza, 1989).

The Cultural Lifestyle Inventory was adapted for this thesis and is presented in Table 4.6.

Table 4.6 Measure for Acculturation Construct

Acculturation: To what extent do you consider yourself different/similar in the following characteristics to mainstream Australia	
B9	culture
B10	the way you dress
B11	the types of food you eat
B12	your family values
B13	your interest in sport
B14	your attitude to romantic relationships
B15	your attitude to weight and weight loss
B16	your use of the English language at work
B17	your use of English language at home
B18	your use of media

4.5 Social and Media Influences

One's physical attractiveness has important implications for many aspects of social life (Winkler & Rhodes, 2005). Attractive individuals are perceived in a more positive light (Dion, et al., 1972), often receive preferential treatment (Snyder, et al., 1977), and attract the romantic interest of the opposite sex more than their less attractive peers (Winkler & Rhodes, 2005).

Abundant research evidence attests to the marketing consequences of employing attractive rather than unattractive spokespersons and models (Kamins, 1990; C. K.-C. Lee, et al., 2002; Solomon, et al., 1992). Recent evidence supports the assertion that attractive people portrayed in advertising affect consumer's global perceptions of their own facial attractiveness (Grier, et al., 2006; Richins, 1991) and body cathexis (Groesz, et al., 2002).

Pictures of people – models, celebrity endorsers, spokespersons, "average" consumers, managers and employees – make up a large part of marketing imagery (Schroeder & Borgerson, 2005). Serving as stimuli, signs, or representations that drive cognition, interpretation and preferences, images influence what people know and believe (Ang, 2000; Zaltman, 2002).

There is a scarcity of formal research supporting the use of physically attractive models in advertising. In fact, much research in this area has been directed toward assessing the 'sexiness' of people in ads (usually operationalised as various stages of undress or pose and stance) rather than their physical attractiveness (Peterson & Kerin, 1977; Wise, et al., 1974). Additionally, the mentioned studies, measured the impact of physically attractive models only in terms of the subject's expressed attitudes rather than actual behaviour toward the product itself.

Given the theoretical relationship between mass media images of beauty and eating disorders and body image problems, the potential influence of these ideals on young women in particular is of great concern to many mental health professionals. Many people argue that the mass media (magazines, movies, television, and the Internet) are influential promoters of beauty ideals. Taking this into consideration, a series of measures were developed to capture the media and personal interaction factors which influence perceptions of attractiveness, the influence of models on attitudes to products, food and exercise, social expectations and perceptions of self and others. The measures also looked at the importance and relevance of models and the types of models consumers would like to see in advertisements. The measures are presented in Tables 4.7, 4.8, 4.9, 4.10, and 4.11.

Table 4.7 Measure for Social and Media Influence Construct

To what extent are your perceptions of attractiveness influenced by:	
C9	friends
C10	people you see at work/school
C11	what you see on TV
C12	what you see at the cinema
C13	what you see in magazines
C14	what you see on the Internet
C15	what you see on billboards
C16	what you see on public transport
C17	other (please specify)

Table 4.8 Measure for Benefits of Attractiveness Construct

To what extent do you associate attractiveness with the following:	
C18	socialising and making friends
C19	better prospects of promotion at work
C20	finding partners for romantic relationships
C21	better treatment by teachers in school
C22	receiving superior customer service
C23	better doctor/patient relationships
C24	lighter punishment for criminal behaviour
C25	receiving help from strangers in difficult situations

Table 4.9 Measure for Attitude to Product Construct

To what extent do models used in advertising influence your purchase of:	
Personal Care	
C26	perfume
C27	cosmetics
C28	skincare products
C29	beauty services
C30	hair products
C31	solariums
Fashion	
C32	clothing
C33	shoes
C34	jewelry
C35	bags
C36	watches
C37	other accessories
Technology	
C38	mobile phones
C39	music players
C40	game consoles
C41	cameras
Nutritional	
C42	food
C43	vitamins
C44	weight-loss products
C45	bottled water

Table 4.10 Measure for Influence of Models Construct

Models portrayed in the media have an effect on my:	
Food and exercise	
C45	eating habits
C46	dieting
C47	exercise
C48	choice of foods
Social expectations	
C49	desire to emulate models
C50	fitting into the suggested social expectations
C51	self-esteem
C52	standards of beauty
Perceptions of self and others	
C53	my body image
C54	perceptions of my attractiveness
C55	perceptions of others' attractiveness
C56	my desire to look more like the models in advertisements
C57	my comparison to models
Please indicate why models portrayed in the media are relevant to people:	
C58	people identify with models
C59	it is possible for many people to achieve model appearance
C60	they are the standard by which attractiveness is judged
C61	their attractiveness cuts across cultures
C62	they represent what the opposite gender likes
C63	they are representative of the general population
C64	they represent a healthy looking image
C65	they look natural
C66	they inspire people to look better
C67	they encourage people to improve their appearance
C68	they encourage people to buy products they advertise
C69	they inform about products available on the market
C70	people aspire to look like models
C71	people change their appearance to look like models

Table 4.11 Measure for Desired Model Characteristics Construct

Which of the following model characteristics would you like to see portrayed in the media?	
C72	natural looking females
C73	natural looking males
C74	models from diverse cultures
C75	healthy looking models
C76	people who are good role models
C77	realistic looking models
C78	animated images
C79	other: please specify

4.6 Advertising Effectiveness

The perceptual section of the questionnaire consisted of images of models and corresponding questions. The items modified to assess participants' attitude to the model, product and ad were taken from attitudinal scales: attitude to ad, attitude to model and attitude to product (Forehand & Deshpande, 2001; Hazlett & Hazlett, 1999; Lutz, 1985; Smit, et al., 2006).

Lee, Fernandez, and Martin (C. K.-C. Lee, et al., 2002) investigated the role of self-referencing as a mechanism for explaining effects which the ethnicity of the model in an advertisement has upon consumers. They used attitudinal measures to investigate attitude to the ad, model and product. Attitude towards the ad was measured on four 5-point scales anchored by good–bad, likeable–not likeable, unpleasant–pleasant and enjoyable–not enjoyable (α = 0.88). Attitude towards the model was measured on four 5-point scales anchored by likeable–not likeable, not trustworthy–trustworthy, credible–not credible, high overall effectiveness– low overall effectiveness (α = 0.76). Attitude towards the product was measured on four 5-point scales with the anchors good–bad, like–dislike, unpleasant–pleasant and poor quality–good quality (α = 0.68).

In the perceptual section of the questionnaire, attitudinal measures were adapted to measure attitudes towards the model, attitudes towards the product, and attitudes towards a model/product combination. The model was judged on beauty (an image of the head and shoulders) and attractiveness (an image of the entire body). The product (underwear and perfume) was judged on its own and then in combination with the model. Once again, a 7-point Likert scale was employed. The measures are presented in Tables 4.12, 4.14, 4.14, and 4.15.

Table 4.12 Measure for Attitude to Model Beauty Construct

For this particular model, to what extent do you find the following feature beautiful:	
D1	Face

Table 4.13 Measure for Attitude to Model Attractiveness Construct

For this particular model, to what extent do you find the following features attractive:	
D2	Upper body
D3	Lower body
D4	Sex appeal
D5	Overall look
D6	Muscle tone
D7	Energy level
D8	Personality

Table 4.14 Measure for Attitudes to Product Construct

Product	
D9	This product is relevant to me
D10	I would purchase this product
D11	This advertisement is effective

Table 4.15 Measure for Attitudes to Model/Product Construct

Model and Product Combination	
D12	I feel that this model is attractive
D13	I feel that this model is persuasive
D14	I feel that this model is very likeable
D15	I feel that this advertisement is pleasant
D16	I feel that this advertisement is likeable
D17	I feel that this advertisement is appealing
D18	I feel there is a good fit between the model and product
D19	This model/product combination is effective
D20	This model/product combination is attractive
D21	This model/product combination is credible

4.7 Demographics

Standard demographic data was collected such as age, education level and income. Additional data was also collected such as the height and weight (for measuring the body mass index), nationality and ethnicity (for ethnic identity and acculturation) and for females, the stage of their menstrual cycle (studies have shown that women's perceptions change according to their menstrual cycle (Saad & Gill, 2000; P. Wright & Crow, 1973). The measures are detailed in Table 4.16.

Table 4.16 Demographic Data

SECTION E: Respondent Demographics									
E1	Gender	Male ❑ Please go to E3		Female ❑	Other ❑				
E2	Studies have shown that women's perceptions change according to their menstrual cycle. What stage of the menstrual cycle are you at?				Currently have my period ❑	1-6 days until my period ❑	7-10 days until my period ❑	11-17 days until my period ❑	18-25 days until my period ❑
E3	Age	under 20 ❑	20-24 ❑	25-30 ❑	31-35 ❑	36-40 ❑	41-45 ❑	46-50 ❑	51 and above ❑
E4	What is your education level?			Secondary ❑	Diploma ❑	Degree ❑	Masters ❑	Higher ❑	
E5	What is your approximate height?			Please specify:					
E6	What is your approximate weight?			Please specify:					
E7	What is your annual personal income?			$10,000 & below ❑	$10,000-$20,000 ❑	$20,000-$30,000 ❑	$30,000-$40,000 ❑	$40,000-$60,000 ❑	$60,000 & above ❑
E8	What country are you in?								
E9	What is your nationality? (please specify)								
E10	What is your country of birth? (please specify)								
E11	What is your Ethnicity (please specify)								
E12	Where did you hear about this study?								

4.8 Section Summary

The preceding section discussed the operationalisation of the key constructs, in light of the literature used to inform the measures used or developed for each scale. Tables representing the various scales were then presented and discussed, with the source of measures identified. The next section discusses the reliability and validity of each of the measures, prior to the results and discussion being presented in Chapter 5.

Section II: Reliability and Validity of Constructs

4.9 Introduction

Section II of this chapter reports the analysis undertaken to assess the reliability and validity of the measurement instruments**.** The dominant method of developing multi-item scales in marketing is influenced by the early work of Peter (1979) and Churchill (1979). Peter (1979) provided a comprehensive review of the traditional psychometric approach to reliability and identified the approach as being of potential interest to marketing scholars. Churchill (1979) adopted methods already being used in the psychometric literature to present a paradigm for the development of better multi-item measures in marketing. Reliability is firstly explored via coefficient alphas. Exploratory analysis is used to establish dimensionality, and confirmatory factor analysis is used to establish measurement fit to the data. The chapter concludes with a review of the various measures of validity.

4.10 Measurement models

The appropriate definition of the measurement model in variance-based and covariance-based approaches is of pivotal importance because the misspecification of the direction of causality between a latent variable and its indicators can lead to inaccurate conclusions about the relationships within the structural model even with reasonable goodness-of-fit statistics (Chin, 1998; Jarvis, MacKenzie, & Podsakoff, 2003).

The choice between the formative and reflective measurement model should be based on thorough considerations concerning the causal relationships between the latent variable and its respective indicators in order to avoid misspecifications (Diamantopoulos, et al., 2008; Diamantopoulos & Siguaw, 2006).

The measurement model of the current study is described as well as tested for its goodness-of-fit. While reflective models can be evaluated based on classical test theory applications, formative models have to be evaluated in a different way. Nevertheless, both reflective and formative measurement models are assessed.

4.10.1 Reliability

Prior to testing any hypothesised relationships, it is essential to assess the reliability of the instrument, to ensure that one can have confidence in the findings. To determine this, a test was applied which indicates the degree to which variations in scores are attributable to random chance or error. In other words, a reliability test determines the proportion of the variance attributable to the underlying trait (Bagozzi & Yi, 1991; Churchill, 1979; Peter, 1979; Venkatraman, 1989). For studies administered to subjects at one point in time, this involves correlating subsets of items within the scale using Cronbach's (1951) method for calculating coefficient alpha to test for internal consistency. Many marketing research studies employ scales of the type which Cronbach alpha was designed to evaluate. It is the most commonly accepted approach for assessing the reliability of a measurement scale with multi-point items (Hair, et al., 1998).

The value of alpha α ranges from 0 to 1, where the closer the value is to 1, the stronger the indication of reliability. A low alpha score implies that there are either too few items or that the particular set of items do not adequately capture the construct or attribute (Churchill & Iacobucci, 2005). Some authors suggested that an acceptable coefficient alpha is between 0.5 and 0.6 (Nunally & Bernstein, 1994; Venkatraman & Ramanujam, 1986) while others have observed that an alpha score of 0.7 is generally considered to be adequate (Cortina, 1993; de Vaus, 1985).

4.10.2 Multi-item measures

Churchill (1979) advocates the use of multi-item research measures of constructs as opposed to single item measures, arguing that the latter possess a degree of specificity in that each item tends to demonstrate a low correlation with the construct measured and may also correlate with other constructs. Using multi-item scales provides an opportunity through aggregation, to average out this specificity thereby enhancing reliability. Furthermore, Edwards (2001) suggests that the determination of a multidimensional construct is necessary to demonstrate theoretical utility, reliability and validity. A unidimensional construct describes a single theoretical concept which is conceptually made up of several distinct but related dimensions (K. S. Law, Wong, & Mobley, 1998). It is important to distinguish the concept of multidimensional constructs from *unidimensionality*. The latter refers to the

assumption that the set of indicators to a factor model shares only a single underlying factor (Anderson & Gerbing, 1991; Gerbing & Anderson, 1988).

4.10.3 Factor Analysis

Factor analysis enables the compression of a large set of indicators into smaller more manageable dimensions or factors (Hair, et al., 1998). There are two approaches to factor analysis; confirmatory or exploratory. Exploratory factor analysis is primarily used in the early stages of scale development, or when confirmatory factor analysis does not produce a good fitting model (Hurley, et al., 1997). Confirmatory factor analysis is more complex and is used in the analysis process to test specific hypotheses associated with a set of indicators. If the measurement model has a strong underlying theory, then assessment using confirmatory factor analysis is often the most appropriate (Tabachnick & Fidell, 2001). The scales utilised in the theoretical model, were assessed firstly via exploratory factor analysis to examine the dimensionality of the constructs, and then confirmatory factor analysis to assess convergent and discriminant validity (Hurley, et al., 1997; Nunally, 1978), and facilitate the development of a structural equation model (Schumacker & Lomax, 1996).

The main steps in undertaking exploratory factor analysis include assessment of the data for suitability, factor extraction, and factor rotation and interpretation (Tabachnick & Fidell, 2001). The size of the sample is important to consider at this point. Further to the sample size discussion in Chapter Three, Section 3.6.3, Nunally (1978) recommends that ideally there should be 10 cases for each item to be factor analysed, whilst others suggest 5 cases is sufficient (Baumgartner & Homberg, 1996), and therefore the sample size of 1111 obtained in this study was more than adequate for all the measures. The most common method of factor extraction is the one applied to this study, namely principal components analysis, and to support the decision on how many factors to retain, two criteria were utilised. The first is Kaiser's criterion or the eigenvalue (or latent root) rule where only factors with an eigenvalue greater than 1.0 are retained for further investigation (Tabachnick & Fidell, 2001).

The second technique applied was the scree test (Cattell, 1966) whereby the eigenvalues are plotted on a graph to identify the point at which the shape of the curve changes direction and becomes horizontal. This is the point (and number of factors) before the amount of the unique

variance begins to dominate the common variance structure, which contributes the most to the explanation of the variance in the data set (Hair, et al., 1998).

The varimax rotation method was used in the exploratory factor analysis. This is reportedly the most widely used orthogonal technique because it simplifies the factor matrix and facilitates interpretation (Churchill, 1999; Hair, et al., 1998). The technique operates to minimise the number of items that have high cross loading on several factors (Hair, et al., 1998). To test the suitability of the data for factor analysis, both the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity were employed (Tabachnick & Fidell, 2001). The KMO test compares the size of the observed correlation coefficients to the size of the partial correlation coefficients, and a figure of .60 or greater indicates the sample is factorable. Tables 4.17 to 4.26 indicate excellent KMO scores ranging from .758 to .948 with the exception of sex appeal femininity (KMO = .500) and social influence (KMO = .500) as they only had two items each. The Bartlett's Test of Sphericity tests for the presence of correlations among the variables. This test should be significant ($p<.05$), and again, reference to the following tables demonstrates a favourable result with each scale scoring $p<.001$. The results of the exploratory factor analysis were positive with items loading very strongly at well above the recommended .40 level (Tabachnick & Fidell, 2001).

The confirmatory factor analysis outcomes are presented in Figures 4.17 to 4.26.

Table 4.17 Factor Analysis and Reliability for Beauty Scale

CONSTRUCT	ITEMS	FACTOR		TESTS
		1	2	
Face – centre	A3 ears	.846		KMO = .889
	A1 nose	.822		Bartlett = 4.705E3
	A4 chin	.796		Significance = .001
	A2 lips	.636		Cronbach alpha = .862
Face - extremities	A8 face shape		.833	KMO = .889
	A7 cheeks/cheek bones		.809	Bartlett = 4.705E3
	A5 eye shape		.773	Significance = .001
	A6 eye colour		.769	Cronbach alpha = .854
	A9 smile		.550	

Table 4.18 Factor Analysis and Reliability for Attractiveness Scale

CONSTRUCT	ITEMS	FACTOR			TESTS
		1	2	3	
Upper body - extremities	A11 width of shoulders	.878			KMO = .868
	A12 arms	.860			Bartlett = 4.232E3
	A10 prominence of muscles	.798			Significance = .000
	A13 hands	.713			Cronbach alpha = .886
Upper body - middle	A16 waist-to-hip ratio		.888		KMO = .868
	A15 appearance of stomach		.866		Bartlett = 4.232E3
	A14 chest or breasts		.790		Significance = .000
					Cronbach alpha = .885
Lower body	A20 hips	.935			KMO = .913
	A18 thighs	.932			Bartlett = 5.001E3
	A17 waist	.901			Significance = .000
	A21 legs	.888			Cronbach alpha = .933
	A19 buttocks	.872			
	A22 feet	.658			
Sex appeal - appearance	A27 sensuality	.824			KMO = .827
	A29 healthy appearance	.806			Bartlett = 1.662E3
	A28 youthfulness	.751			Significance = .000
	A32 voice	.710			Cronbach alpha = .805
	A26 masculinity	.657			
Sex appeal - dress	A34 dress sense		.861		KMO = .770
	A35footwear		.816		Bartlett = 2.204E3
	A36 overall appearance		.756		Significance = .000
	A33 sense of mystery		.736		Cronbach alpha = .811
	A30 revealing clothing		.595		
Sex appeal - femininity	A24 breast size			.929	KMO = .500
	A25 femininity			.929	Bartlett = 836.132
					Significance = .000
					Cronbach alpha = .842
Musculature	A44 muscle size	.945			KMO = .758
	A43 muscular strength	.938			Bartlett = 2.169E3
	A45 muscle tone	.920			Significance = .000
					Cronbach alpha = .927
Youthfulness	A49 physical stamina	.936			KMO = .847
	A47 physical coordination	.930			Bartlett = 3.286E3
	A46 agility	.922			Significance = .000
	A48 appearance of fitness	.882			Cronbach alpha = .937
Personality – interaction	A53 sincere	.893			KMO = .879
	A55 intelligent	.860			Bartlett = 4.676E3
	A52 fun	.827			Significance = .000
	A58 communicative	.655			Cronbach alpha = .896
	A57 charming	.650			
	A54 optimistic	.630			
Personality – impression	A50 extraverted		.828		KMO = .879
	A56 confident		.797		Bartlett = 4.767E3
	A51 trendy		.735		Significance = .000
					Cronbach alpha = .757

Table 4.19 Factor Analysis and Reliability for Body Image Before and After Photo Exposure Scale

CONSTRUCT	ITEMS	FACTOR		TESTS
		1	2	
Body Image (pre exposure)	C5 overall look	.874		KMO = .901
	C4 sex appeal	.832		Bartlett = 4.520E3
	C3 lower body	.816		Significance = .000
	C6 muscle tone	.813		Cronbach alpha = .910
	C2 upper body	.811		
	C7 energy level	.765		
	C1 face	.756		
	C8 personality	.596		
Body Image (after exposure)	D26 overall look	.918		KMO = .920
	D25 sex appeal	.881		Bartlett = 7.654E3
	D24 lower body	.858		Significance = .000
	D27 muscle tone	.852		Cronbach alpha = .939
	D23 upper body	.878		
	D28 energy level	.800		
	D22 face	.813		
	D29 personality	.692		

Table 4.20 Factor Analysis and Reliability for Ethnic Identity Scale

CONSTRUCT	ITEMS	FACTOR	TESTS
		1	
Ethnic Identity	B7 deep respect for customs & traditions	.859	KMO = .894
	B3 clear sense of background	.830	Bartlett = 4.224E3
	B8 strong attachment	.825	Significance = .000
	B2 pride	.821	Cronbach alpha = .894
	B4 happy that I am a member	.797	
	B6 enjoy music from my culture	.754	
	B5 preparing food from my culture	.749	
	B1 active in social groups	.407	

Table 4.21 Factor Analysis and Reliability for Acculturation Scale

CONSTRUCT	ITEMS	FACTOR	TESTS
		1	
Acculturation	B10 the way you dress	.828	KMO = .913
	B17 use of English language at home	.816	Bartlett = 6.905E3
	B12 family values	.810	Significance = .000
	B9 culture	.810	Cronbach alpha = .934
	B14 attitude to romantic relationships	.806	
	B16 use of the English language at work	.803	
	B18 your use of media	.796	
	B11 the types of food you eat	.796	
	B15 attitude to weight and weight loss	.765	
	B13 interest in sport	.681	

Table 4.22 Factor Analysis and Reliability for Social and Media Influence Scale

CONSTRUCT	ITEMS	FACTOR		TESTS
		1	2	
Social influence	C9 friends	.955		KMO = .500
	C10 people at work/school	.955		Bartlett = 1249.098
				Significance = .000
				Cronbach alpha = .902
Media influence	C15 billboards		.914	KMO = .908
	C13 magazines		.895	Bartlett = 1.182E4
	C14 internet		.894	Significance = .000
	C12 cinema		.886	Cronbach alpha = .962
	C11 TV		.854	
	C16 public transport		.834	

Table 4.23 Factor Analysis and Reliability for Benefits of Attractiveness Scale

CONSTRUCT	ITEMS	FACTOR	TESTS
		1	
Benefits of Attractiveness			
	C22 receiving superior customer service	.826	KMO = .877
	C21 better treatment by teachers in school	.818	Bartlett = 3.955E3
	C19 receiving help from strangers	.791	Significance = .000
	C23 lighter punishment for criminal behaviour	.729	Cronbach alpha = .874
	C25 better doctor/patient relationships	.706	
	C20 promotion at work	.681	
	C28 romantic relationships	.663	
	C24 socialising and making friends	.611	

Table 4.24 Factor Analysis and Reliability for Attitude to Product Scale

CONSTRUCT	ITEMS	FACTOR	TESTS
		1	
Personal care products	C30 beauty services	.945	KMO = .906
	C27 skincare products	.936	Bartlett = 5.897E3
	C28 cosmetics	.932	Significance = .000
	C26 hair products	.913	Cronbach alpha = .945
	C29 perfume	.883	
	C31 solariums	.702	
Fashion products	C37 other accessories	.933	KMO = .905
	C34 jewellery	.928	Bartlett = 6.451E3
	C35 bags	.925	Significance = .000
	C33 shoes	.912	Cronbach alpha = .961
	C36 watches	.909	
	C32 clothing	.882	
Technology products	C39 music players	.963	KMO = .861
	C41 cameras	.947	Bartlett = 4.456E3
	C38 mobile phones	.946	Significance = .000
	C40 game consoles	.941	Cronbach alpha = .963
Nutritional products	C43 vitamins	.936	KMO = .834
	C42 food	.898	Bartlett = 2.731E3
	C45 bottled water	.893	Significance = .000
	C44 weight-loss products	.852	Cronbach alpha = .917

Table 4.25 Factor Analysis and Reliability for Influence of Models Scale

CONSTRUCT	ITEMS	FACTOR			TESTS
		1	2	3	
Lifestyle					
	C53 standards of beauty	.914			KMO = .948
	C54 body image	.908			Bartlett = 1.595E4
	C55 perceptions of your attractiveness	.895			Significance = .000
	C52 self-esteem	.887			Cronbach alpha = .974
	C51 fitting into the suggested social expectations	.880			
	C57 desire to look more like the models in advertisements	.874			
	C47 dieting	.864			
	C58 your comparison to models	.860			
	C46 eating habits	.860			
	C48 exercise	.855			
	C50 desire to emulate models	.853			
	C56 perceptions of others' attractiveness	.850			
	C49 choice of foods	.837			
Aspirational					
	C71 people aspire to look like models	.806			KMO = .884
	C69 models encourage people to buy products they advertise	.775			Bartlett = 8017E3
	C72 people change their appearance to look like models	.766			Significance = .000
	C68 models encourage people to improve their appearance	.723			Cronbach alpha = .888
	C67 models inspire people to look better	.643			
	C70 models inform about products available on the market	.615			
Representative					
	C65 models represent a healthy looking image		.847		KMO = .884
	C66 models look natural		.842		Bartlett = 8.017E3
	C64 models are representative of the general population		.794		Significance = .000
	C60 it is possible for many people to achieve model appearance		.570		Cronbach alpha = .840
Market Maven					
	C61 models are the standard by which attractiveness is judged			.755	KMO = .884
	C62 models' attractiveness cuts across cultures			.753	Bartlett = 8.017E3
	C63 models represent what the opposite gender likes			.600	Significance = .000
	C59 people identify with models			.585	Cronbach alpha = .785
Model characteristics					
	C76 people who are good role models	.931			KMO = .904
	C73 natural looking males	.908			Bartlett = 7382.323
	C78 animated images	.906			Significance = .000
	C77 realistic looking models	.901			Cronbach alpha = .919
	C74 models from diverse cultures	.892			
	C75 healthy looking models	.871			

Table 4.26 Factor Analysis and Reliability for Attitude to Product, Model, and Model/Product Combo Scale

CONSTRUCT	ITEMS	FACTOR	TESTS
Attitude to product (perfume)			
	D10 I would purchase this product	.944	KMO = .646
	D9 This product is relevant to me	.887	Bartlett = 1655.596
	D11 This advertisement is effective	.826	Significance = .000
			Cronbach alpha = .863
Attitude to product (underwear)			
	D10 I would purchase this product	.950	KMO = .658
	D9 This product is relevant to me	.885	Bartlett = 1580.588
	D11 This advertisement is effective	.860	Significance = .000
			Cronbach alpha = .881
Attitude to model attractiveness			
	D5 overall look	.942	KMO = .931
	D2 upper body	.902	Bartlett = 8338.288
	D6 muscle tone	.896	Significance = .000
	D7 energy level	.894	Cronbach alpha = .955
	D4 sex appeal	.892	
	D3 lower body	.892	
	D8 personality	.848	
	D1 face	.707	
Attitude to product/model (perfume)			
	D17 I feel that is ad is appealing	.945	KMO = .943
	D20 This model/product combo is attractive	.940	Bartlett = 5699.734
	D16 I feel that is ad is likeable	.935	Significance = .000
	D19 I feel that is ad is effective	.926	Cronbach alpha = .977
	D18 I feel there is a good fit between the model and product	.923	
	D21 This model/product combo is credible	.914	
	D15 I feel that is ad is pleasant	.909	
	D13 I feel that this model is persuasive	.895	
	D14 I feel that this model is very likeable	.882	
	D12 I feel that this model is attractive	.842	
Attitude to product/model (underwear)			
	D20 This model/product combo is attractive	.959	KMO = .950
	D17 I feel that is ad is appealing	.955	Bartlett = 7900.84
	D16 I feel that is ad is likeable	.952	Significance = .000
	D19 I feel that is ad is effective	.950	Cronbach alpha = .984
	D18 I feel there is a good fit between the model and product	.945	
	D15 I feel that is ad is pleasant	.941	
	D21 This model/product combo is credible	.930	
	D13 I feel that this model is persuasive	.921	
	D14 I feel that this model is very likeable	.912	
	D12 I feel that this model is attractive	.896	

4.11 Validity

It was important to assess the accuracy of the measurement scales to determine the extent to which the intended constructs had been captured, that is, to assess the validity of the instrument (Churchill, 1999). Measures of validity address whether each variable is the

underlying cause of item co-variation (Nunally, 1978). Three types of validity can be assessed; content, construct and criterion validity (Malhotra, Kim, et al., 2006).

4.11.1 Content Validity

An instrument is said to have content or face validity if it captures the domain of a construct (Malhotra, Kim, et al., 2006). The items used to measure the constructs in this study were deemed to have content validity based on the findings of previous studies that utilised the same, or similar items. As discussed in Chapter Three, a number of academics familiar with this area of study were asked to critically evaluate the instrument prior to it being administered. These experts were asked to assess whether the assigned items measured the constructs, as discussed in Chapter Three. Modifications to the instrument were made accordingly and the scales are therefore considered to reflect the domain of the constructs as defined.

4.11.2 Construct Validity

Churchill (1999) describes construct validity as a central concern of scientific process. It is primarily concerned with identifying what the instrument is in fact measuring. It is assessed in terms of convergent, discriminant and nomological validity (Malhotra, Kim, et al., 2006; Narver & Slater, 1990).

4.11.3 Convergent Validity

Convergent validity examines the extent to which the items measure the same underlying construct (Churchill, 1979). To do this, it was appropriate to examine the factor loadings of the observable items onto the latent construct. This provided evidence to evaluate whether the items correlated positively with other measures of the same construct, rather than constructs from which they were supposed to differ. The eigen-value associated with each of the factors was greater than 1.00 and the high factor loadings indicated convergent validity.

For the measurement models which consisted of *a priori* hypothesised structures, confirmatory factor analysis was utilised as a test of convergent validity (Churchill, 1979; P. M. Podsakoff, Todor, Grover, & Huber, 1984). This was deemed an appropriate analysis

given there was strong theoretical rationale for the measurement items loading onto the latent constructs (Hurley, et al., 1997). Furthermore, Cronbach alpha measures had been calculated and any item with poor inter-item correlation was removed.

4.11.4 Measurement Models

Measurement models are commonly used to assess the convergent validity of constructs, as they address the adequacy of the observed items as measures for the construct (Steenkamp & van Trijp, 1991). Covariance structure analysis is a multivariate technique that combines confirmatory factor analysis, or measurement models, with structural equation models (SEM) (Schumacker & Lomax, 1996).

Structural equation modelling combines aspects of multiple regression and factor analysis to estimate a series of interrelated dependence relationships simultaneously (Hair, et al., 1998). In other words, it depicts the relationships between items and constructs. Confirmatory factor analysis (CFA) is the approach used to test the hypothesised relationships. The first step in the CFA process is the development of the measurement models based on theoretical principles (Schumacker & Lomax, 1996). These models specify the relationships between the observed items and the latent constructs that they were intended to represent. To evaluate the measurement models for each construct, covariance structure analysis were performed using AMOS Version 7.0 (Analysis of Moment Structures). The advantage of using covariance structure analysis is that it provides a test of the theoretical structure of the measurement model (Steenkamp & van Trijp, 1991). The measurement models are presented as Figures 4.1 to 4.11. Ellipses represent the latent variables, and the items or observed variables are represented as rectangles. The observed variables are connected to the latent variables by an arrow, which indicates that these items are theoretically attributed to the construct. The values adjoining the connecting arrows are factor loadings and represent loading coefficients. They range from 0-1 and indicate the latent variables' correlation with the construct and its commonality with other variables. The response error (e.g. 'e1') linked to each of the measurement items, and represented as a circle, signifies the portion of the item that is not captured by the latent factor. The values immediately above the observed variables represent the variance of each item and indicate the reliability of the observed items (Arbuckle & Wothke, 1999). For convergent validity to be supported the loading between the

measurement items and the latent construct should exceed 0.5 and the overall fit of the model should be acceptable (Steenkamp & van Trijp, 1991), as indicated in Table 4.27.

4.11.5 Goodness-of-Fit Measures

The goodness-of-fit measures determine the degree to which the model fits the data (Kline, 2005). When assessing goodness-of-fit using maximum likelihood estimation (MLE), a few types of statistical results are traditionally used (Arbuckle & Wothke, 1999). Model fit can be observed from the chi-square (χ^2) statistic relative to the degrees of freedom, the Goodness-of-Fit Index (GFI), the Adjusted-Goodness-of-Fit Index (AGFI), and the Root-Mean-Square Error of Approximation (RMSEA) calculated by comparing the observed covariance matrix with the model implied covariance matrix. Model fit can also be drawn from observing the fit indices; Normed Fit Index (NFI), Tucker-Lewis Index (TLI) and Comparative Fit Index (CFI); that compares the proposed model with a null model. Lastly, model fit can be assessed from the model parsimony, which is the number of estimated coefficients required to achieve a specific level of fit. This is achieved by comparing an over-identified model with a restricted model (Kline, 2005).

The application of the MLE method is conducted under the assumption of multivariate normality distribution to allow the analysis of the chi-square statistic. A non-significant chi-square statistic demonstrates that there is no statistical difference between the observed and estimated correlation or covariance matrices (Hair, et al., 1998; Schumacker & Lomax, 1996).

Recent work on goodness-of-fit assessment has emphasised the idea of expressing model fit in terms of noncentrality (Bentler, 1990; Browne & Cudeck, 1993; McDonald & Marsh, 1990). This recognises the fact that hypothesised models are generally only approximately true, provide a basis for population-based (rather than sample-based) fit measures and associated confidence intervals, and appear to mitigate the problem that the means of the sampling distributions of many alternative fit measures are a function of sample size (Baumgartner & Homberg, 1996). Among the stand-alone fit indices based on non-centrality are the McDonald (1989) measure of centrality (MC) and Steiger's (1990) root mean squared error of approximation (RMSEA) which estimates how well the fitted model approximates the population covariance matrix per degree of freedom. It has been suggested that a value of

RMSEA below 0.05 indicates close fit and that values up to 0.08 are reasonable (Browne & Cudeck, 1993). Among the incremental fit indices based on non-centrality are the Bentler (1990) normed comparative fit index (CFI), which has been recommended as being the best approximation of the population value for a single model (Medsker, Williams, & Holahan, 1994), the Normed Fit Index (NFI) and the Tucker-Lewis index (TLI). It is recommended that models with values less than 0.9 can usually be improved while models with values greater than 0.9 are deemed as acceptable (Bentler, 1990). AMOS 7.0 provides criteria that help to determine the fit of a model which are presented in Table 4.27 (Arbuckle & Wothke, 1999).

A number of model fit indicators are used in this study and results are reported in the following sections. Table 4.27 summarises the goodness-of-fit criterion that indicate model fit.

Table 4.27 Criterion for Goodness of Fit

GOODNESS-OF-FIT CRITERION	ACCEPTABLE LEVEL	INTERPRETATION
Model-Fit		
χ^2 value	Low χ^2 value (relative to df) with sig. level > 0.05	>0.05 significance reflects acceptable fit
Cmin/df	Ratios 2 to 1 or 3 to 1	Values close to 1 reflect good model fit
Goodness-of-fit (GFI)	0 (no fit) to 1 (perfect fit)	Value close to 0.90 reflects a good model fit
Adjusted GFI (AGFI)	0 (no fit) to 1 (perfect fit)	Value adjusted for df, Value close to 0.90 reflects a good model fit
RMSEA	< 0.05	Value less than 0.05 indicates a good model fit. <0.10 reflects a reasonable fit
Model Comparison		
Tucker-Lewis Index (TLI)	0 (no fit) to 1 (perfect fit)	Value close to 0.90 reflects a good model fit
Normed Fit Index (NFI)	0 (no fit) to 1 (perfect fit)	Value close to 0.90 reflects a good model fit
Comparative Fit Index (CFI)	0 (no fit) to 1 (perfect fit)	Value close to 0.90 reflects a good model fit

Table adapted from Schumacker and Lomax (1996); Hu and Bentler (1999) recommended a value close to 0.95 for TLI and CFI.

4.11.6 Discriminant Validity

Discriminant validity assesses whether a construct does not correlate too highly with measures with which it is expected to differ (Churchill, 1999). It is posited by Fornell and Larcker (1981) that two constructs can be considered distinct when the average variance in a construct's indicators (λ_k), which the latent construct accounts for, is greater than the variance that the latent construct shares with another construct (ϕ_{ij}). Such an occurrence suggests that the latent construct has more in common with its own measures than it does with other constructs.

To test for discriminant validity, the Average variance extracted for each scale was compared to the estimates of shared variance between constructs squared correlation coefficients. The average variance extracted for each of the constructs was shown to be greater than its shared variance with any of the other constructs (Fornell & Larcker, 1981).

Internal consistency was determined by computing the composite reliabilities (Fornell & Larcker, 1981). As the results of the analysis were all greater than .70, this indicated that the reliabilities of all the constructs were adequate. Sarkar et al., (2001) recommend a check for loadings of .70 or more which implies a shared variance of 50% or greater between the item and construct. The formula from Sarkar et al., (2001) for internal consistency and average variance extracted are:

$$\text{Internal consistency} = ((\Sigma\lambda_{\gamma\iota})^2 / ((\Sigma\lambda_{\gamma\iota})^2 + \Sigma\ \text{var}(\varepsilon_\iota)), \text{ where } \text{var}(\varepsilon_\iota) = 1 - \lambda_{\gamma\iota}^2$$

$$\text{Average variance extracted} = \Sigma\lambda_{\gamma\iota}^2/\Sigma\lambda_{\gamma\iota}^2+\Sigma\text{var}(\varepsilon_\iota)\text{e } \text{var}(\varepsilon_\iota) = 1 - \lambda_{\gamma\iota}^2$$

4.11.6.1 Attractiveness

The internal consistency, average variance extracted (AVE) and correlation matrix for Attractiveness are shown in Table 4.28. The average variance extracted (AVE) for each of the 6 constructs was well above .50, which indicates good convergent validity.

The results indicate that face extremities, face centre, upper body extremities, upper body middle, lower body and musculature are distinct measures of Attractiveness. Furthermore, the goodness of fit requirements indicate an acceptable fit. The internal consistency measures

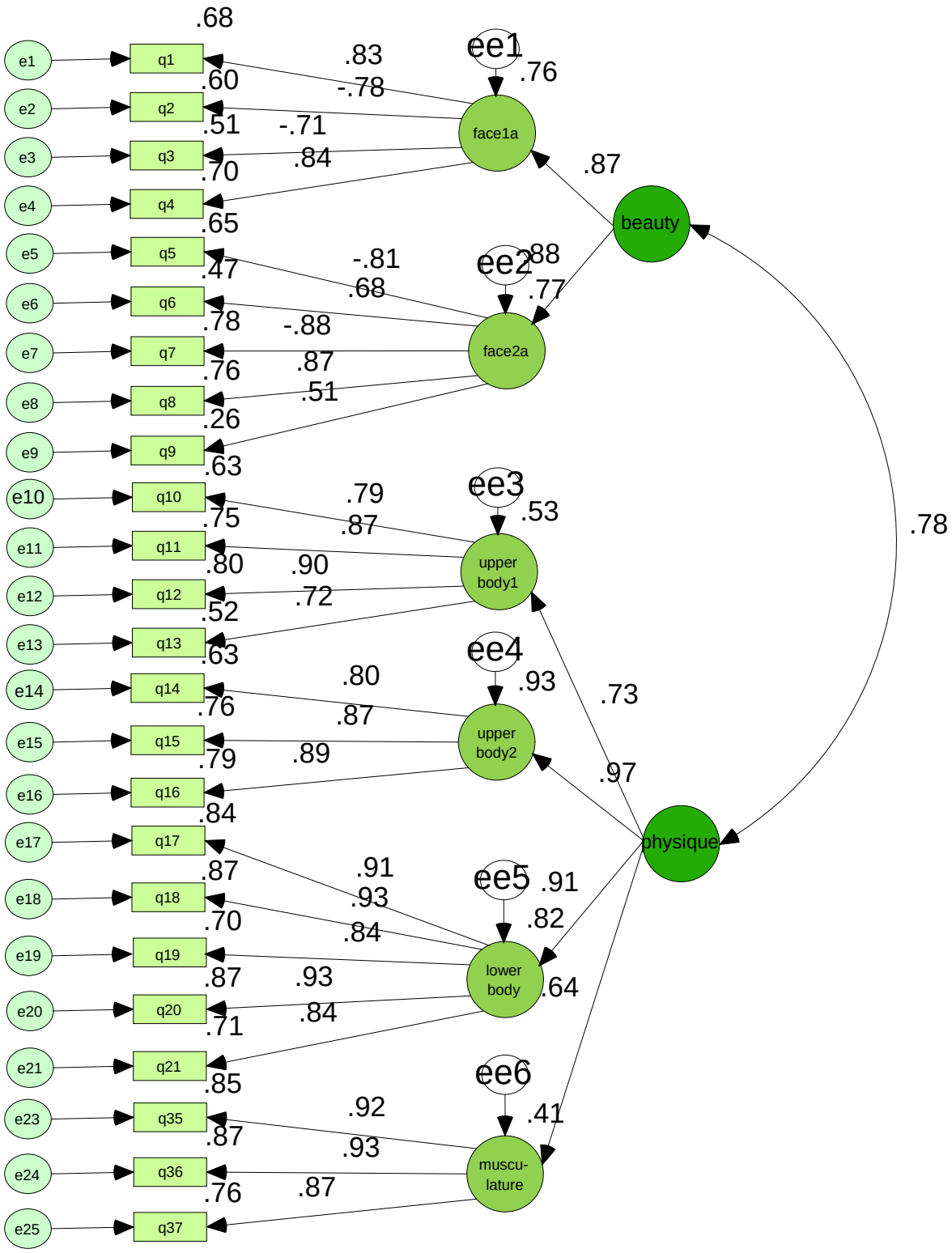
further support the presence of convergent validity of the constructs with internal consistency scores above 0.8 (Sarkar, et al., 2001).

Table 4.28 Internal Consistency, AVE and Correlation Matrix – Attractiveness

Construct	**Internal Consistency**	**AVE**					
		1	**2**	**3**	**4**	**5**	**6**
Face – extremities	.870	**.790**					
Face - centre	.870	.670	**.750**				
Upper body extremities	.930	.543	.545	**.820**			
Upper body middle	.890	.550	.585	.638	**.850**		
Lower body	.950	.592	.593	.607	.820	**.890**	
Musculature	.930	.439	.447	.705	.545	.543	**.910**

The goodness of fit analysis for attractiveness indicated that the model fit the data very well: χ^2=1858.766, *df*=245, *p*<.001, GFI=.874, AGFI=.845, NFI=.921, TLI=.922, CFI=.931, and RMSEA=.077.

Figure 4.1 Measurement Model – Attractiveness



4.11.6.2 Healthy

As with Attractiveness, the average variance extracted for each of the 7 constructs was well above .50, which indicates good convergent validity. The AVE accounted for by sex appeal (.730) was greater than the correlation between sex appeal and fashion sense (.728), was greater than the correlation between sex appeal and femininity (.621). The AVE accounted for by fashion sense (.850) was greater than the correlation between fashion sense and femininity (.479). This trend continued for all of the constructs whose AVE's were greater than the correlations. This indicates that sex appeal, fashion sense, femininity, vitality, perceived personality, first impression, and body image are distinct measures of Healthy.

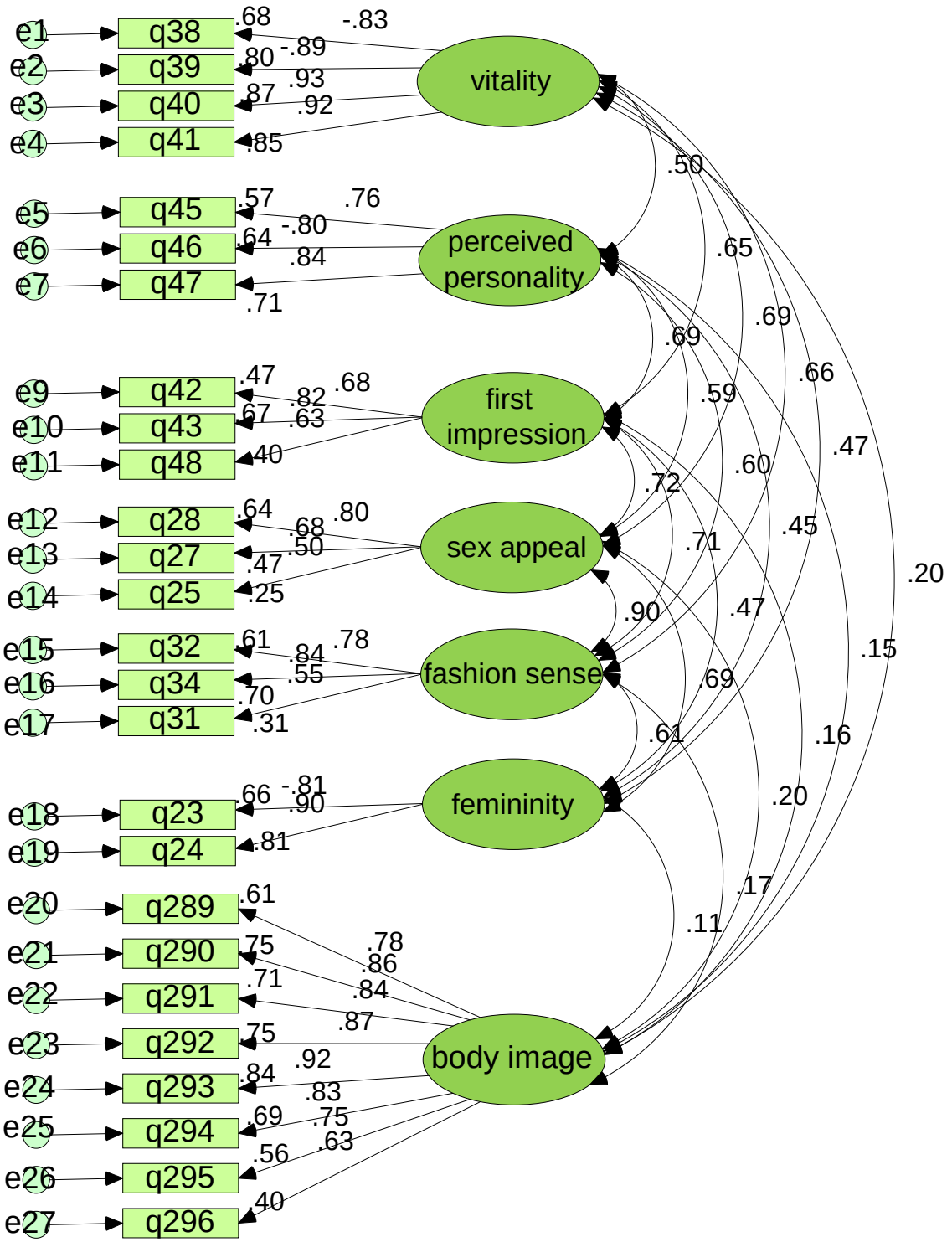
Furthermore, the goodness of fit requirements indicate an acceptable fit and therefore demonstrate convergent validity.

Table 4.29 Internal Consistency, AVE and Correlation Matrix – Healthy

Construct	**Internal Consistency**	**AVE**						
		1	**2**	**3**	**4**	**5**	**6**	**7**
Sex appeal	.800	**.730**						
Fashion sense	.820	.728	**.850**					
Femininity	.840	.621	.479	**.670**				
Vitality	.940	.628	.599	.449	**.900**			
Perceived personality	.860	.544	.555	.395	.553	**.780**		
First impression	.760	.538	.524	.405	.507	.603	**.710**	
Body Image	.910	.296	.283	.223	.333	.218	.239	**.750**

The goodness of fit analysis for healthy indicated that the model fit the data very well: χ^2=1914.198, *df*=277, *p*<.001, GFI=.871, AGFI=.836, NFI=.907, TLI=.905, CFI=.919, and RMSEA=.073.

Figure 4.2 Measurement Model – Healthy



4.11.6.3 Social and Media Influence

The average variance extracted for the 4 constructs was well above .50, which indicates good convergent validity. The AVE accounted for by media influence (.920) was greater than the correlation between media influence and social influence (.596), media influence and personal goal (.369), and media influence and social acceptance (.720). The AVE accounted for by social influence (.910) was greater than the correlation between social influence and personal goal (.386) and social acceptance (.438). The AVE accounted for by personal goal (.730) was greater than the correlation between personal goal and social acceptance (.666).

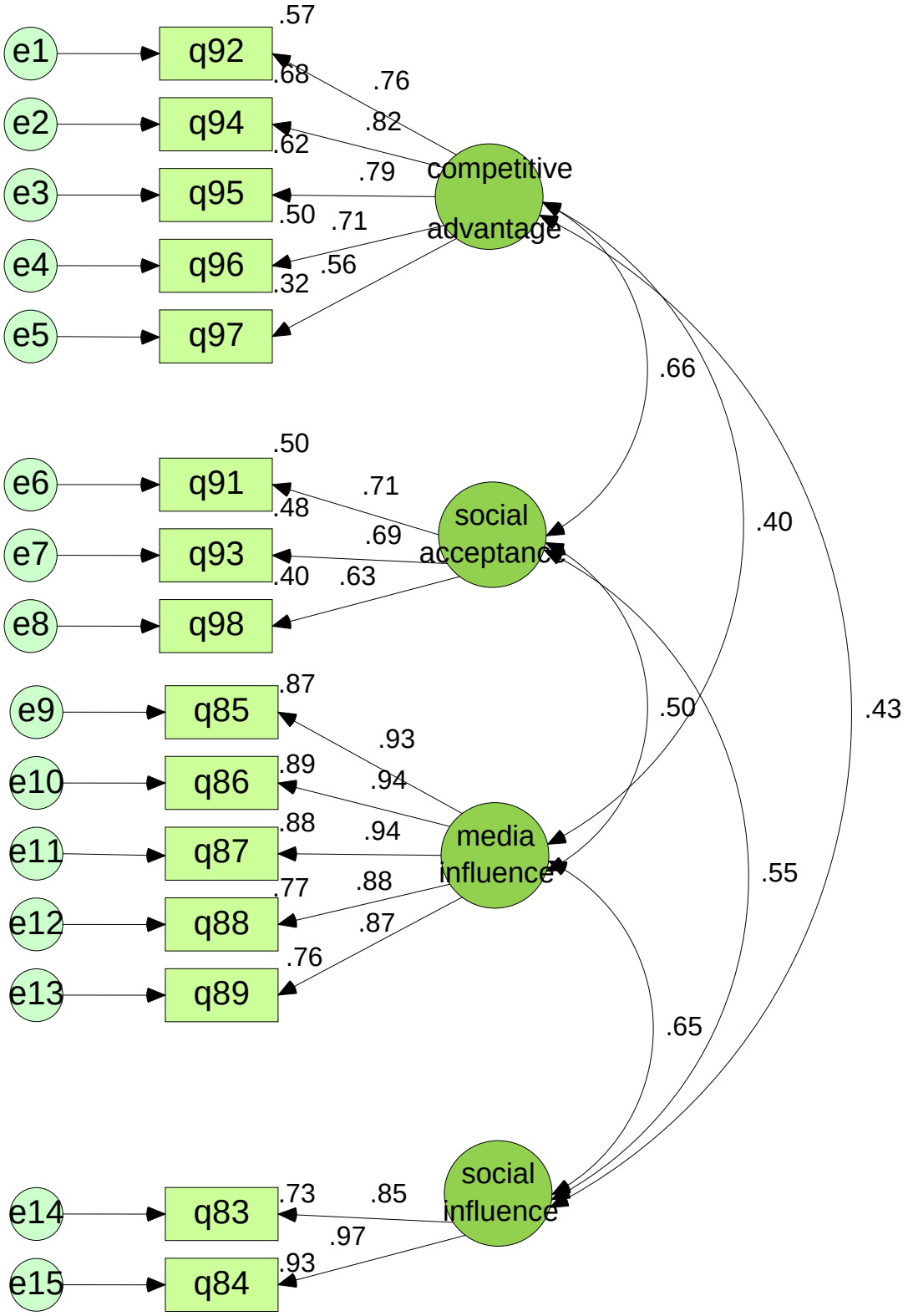
Overall, there is support that media influence, social influence, competitive advantage, and social acceptance are distinct measures of Influence and Benefits of attractiveness, with the goodness of fit requirements indicating an acceptable fit.

Table 4.30 Internal Consistency, AVE and Correlation Matrix – Social and Media Influence and Benefits of attractiveness

Construct	**Internal Consistency**	**AVE**			
		1	**2**	**3**	**4**
Media influence	.910	**.920**			
Social influence	.960	.596	**.910**		
Competitive advantage	.850	.369	.386	**.730**	
Social acceptance	.720	.395	.438	.666	**.680**

The goodness of fit analysis for social and media influence and benefits of attractiveness indicated that the model fit the data very well: χ^2=881.141, *df*=83, *p*<.001, GFI=.898, AGFI=.853, NFI=.934, TLI=.924, CFI=.940, and RMSEA=.093.

Figure 4.3 Measurement Model – Social and Media Influence and Benefits of attractiveness



4.11.6.4 Attitude to Product and Lifestyle

The average variance extracted for the 6 constructs was well above .50, which indicates good convergent validity. The AVE accounted for by personal care products (.870), was greater than the correlation between personal care products and fashion products (.851), personal care products and technology products (.698), personal care products and nutritional products (.765), personal care products and perceptions of fitness (.622) and personal care products and social pressures (.632).

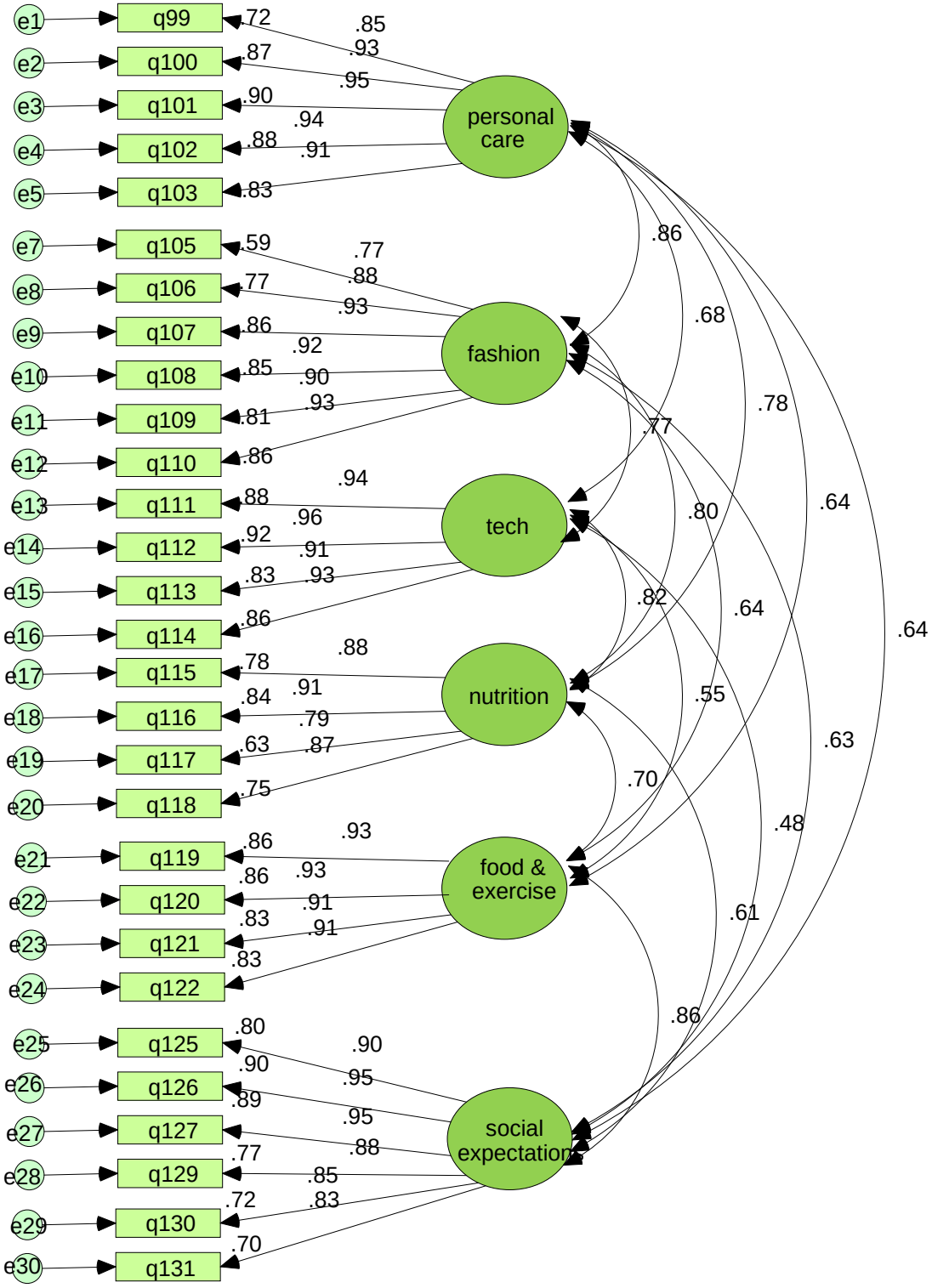
Overall, there is support that personal care, fashion, technology, and nutritional products and perceptions of fitness and social pressures are distinct measures of Attitude to products and Lifestyle. Furthermore, the goodness of fit requirements indicate an acceptable fit and therefore demonstrate convergent validity.

Table 4.31 Internal Consistency, AVE and Correlation Matrix – Attitude to product and Consequences of idealised imagery

Construct	**Internal Consistency**	**AVE**					
		1	**2**	**3**	**4**	**5**	**6**
Personal care products	.950	**.870**					
Fashion products	.960	.851	**.890**				
Technology products	.960	.698	.735	**.940**			
Nutritional products	.920	.765	.765	.767	**.870**		
Perceptions of fitness	.960	.622	.625	.530	.671	**.920**	
Social pressures	.970	.632	.630	.486	.606	.846	**.890**

The goodness of fit analysis for attitude to products and consequences of idealised imagery indicated that the model fit the data very well: χ^2=2357.800, *df*=360, *p*<.001, GFI=.865, AGFI=.837, NFI=.947, TLI=.949, CFI=.954, and RMSEA=.071.

Figure 4.4 Measurement Model – Attitude to Product and Lifestyle



4.11.6.5 Influence of Models

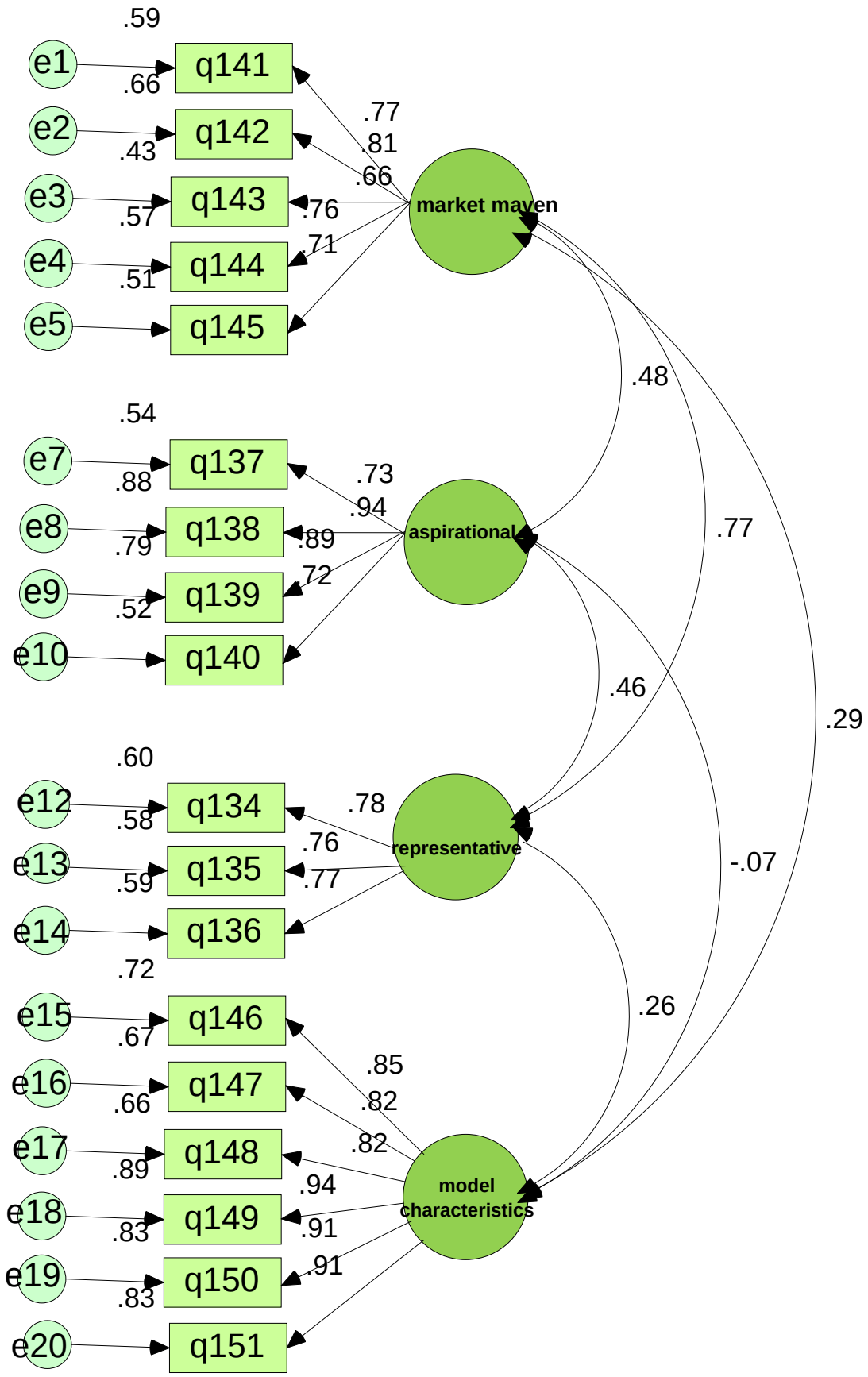
The average variance extracted for the 4 constructs was well above .50, which indicates good convergent validity. The AVE is greater than the squared correlations for each pair of factors to support the presence of dicriminant validity. Overall, there is support that representative, aspirational, look and feel, and model characteristics are distinct measures of Model Influence, with the goodness of fit requirements indicating an acceptable fit.

Table 4.32 Internal Consistency, AVE and Correlation Matrix – Influence of Models

Construct	**Internal Consistency**	**AVE**			
		1	**2**	**3**	**4**
Representative	.810	**.760**			
Aspirational	.890	.424	**.820**		
Market Maven	.870	.644	.463	**.770**	
Model Characteristics	.950	.240	-.027	.289	**.880**

The goodness of fit analysis for influence of models indicated that the model fit the data very well: χ^2=1148.775, *df*=126, *p*<.001, GFI=.900, AGFI=.864, NFI=.930, TLI=.924, CFI=.937, and RMSEA=.086.

Figure 4.5 Measurement Model – Influence of Models



4.11.6.6 Nomological Validity

To assess the relationship between the theoretical constructs and thereby nomological validity, a correlation matrix was produced. The correlation matrix is presented as Table 4.50 and was used to determine the extent to which the scales correlated in theoretically predicted ways with measures of different, but related constructs (Malhotra, Kim, et al., 2006). This analysis supports the nomological validity of the constructs, with all factors being correlated at a significance level of $p<0.01$. Table 4.50 also supports the concurrent validity of this study by demonstrating that the direction and magnitude of the correlations between the constructs were consistent with expectations and were all significant.

Table 4.33 Correlation Values Between Major Constructs

	1	2	3	4	5	6	7	8	9	10
1 Attractiveness	1									
2 Healthy	.761***	1								
3 Sex Appeal	.663***	.703***	1							
4 Culture	.261***	.282***	.291***	1						
5 Social & Media Influence	.335***	.327***	.329***	.208***	1					
6 Benefits of attractiveness	.366***	.422***	.410***	.278***	.487***	1				
7 Attitude to Product	.361***	.341***	.359***	.162***	.514***	.352***	1			
8 Lifestyle	.324***	.276***	.303***	.143***	.526***	.332***	.688***	1		
9 Influence of Models	.285***	.313***	.318***	.163***	.336***	.306***	.386***	.478***	1	
10 Model Characteristics	.149***	.200***	.148***	.155***	.095**	.195***	.038*	.127***	.203***	1
MEAN	4.558	4.900	4.768	4.715	3.703	4.418	2.747	2.796	3.533	5.026
STD ERROR	0.030	0.028	0.302	0.029	0.041	0.033	0.045	0.048	0.033	0.039
SKEWNESS	-.591	-.549	-.631	-.549	-.295	-.145	-.494	0.575	0.542	-1.258
KURTOSIS	1.191	1.279	1.192	0.647	-.294	0.851	-.509	-.716	0.280	1.566

*** Correlation is significant at the 0.001 level

4.11.7 Multicollinearity

Multicollinearity indicates the degree to which independent variables are correlated (Grewal, Cote, & Baumgartner, 2004; Malhotra, Kim, et al., 2006). When two or more independent variables are perfectly or very closely correlated they are considered to be measuring the same construct. The greater the multicollinearity, the more technical problems can be encountered in multiple regression and correlation analyses, including structural equation modelling. Hair et al., (1998, p. 191) suggest a correlation of .90 and above is an indication of substantial collinearity, whilst Tabachnick & Fidell (2001) consider a correlation of .07 to be acceptable, with any higher than this warranting further investigation.

Firstly, the correlation matrices (Table 4.50) were examined and it was found that all correlations were quite low. This indicates that collinearity was not likely to be a problem for the regression equations. Secondly, the collinearity diagnostics; Tolerance and Variation Inflation Factor (VIF) were examined. Tolerance is an indicator of how much of the variability of the specified independent variable is not explained by other independent variables and is calculated by the formula $1\text{-}R^2$. A value of less than .10 indicates high correlation. VIF is the inverse of Tolerance Value (1 divided by Tolerance), and a result of above 10 would indicate multicollinearity (Tabachnick & Fidell, 2001). All of the regression equations demonstrated tolerance levels of much higher than the default level of 0.0001, which provides support for the assumption that collinearity among the independent variables was not a serious concern. Similarly, all VIF results were below the accepted cut-off point of 10 (Never, Wasserman, & Kutner, 1990).

Section III: Formative vs. Reflective Measures

4.12 Introduction

The most commonly used measurement model in social science research is the reflective model where co-variation among the indicators is caused by the underlying factor (Diamantopoulos, et al., 2008). This approach is based on classical test theory. The causality starts out from the latent variable and changes in this construct are hypothesised to cause equal changes in all indicators. Therefore, reflective indicators should be internally consistent, uni-dimensional and any two measurement items which are equally reliable need to be interchangeable (Gefen, Straub, & Boudreau, 2000; Jarvis, et al., 2003; Rossiter, 2002).

In contrast to the reflective measurement model, the formative measurement model (Curtis & Jackson, 1962) does not assume that a latent variable causes its respective indicators. On the contrary, it is assumed that the indicators have an impact on the latent variable. The causality is defined to flow from the indicators to the latent variable and all indicators combined determine the theoretical and empirical meaning of the latent variable defined as a linear sum of a set of measurements. As a consequence, the indicators of a latent variable are not expected to be positively correlated and can even be unrelated or negatively related (Diamantopoulos & Winklhofer, 2001; Jarvis, et al., 2003). This implies that removing an indicator from the formative measurement model usually has a serious impact on the theoretical meaning of the latent variable as it might omit a unique part of the construct.

The key constructs in this thesis are Beauty and Attractiveness. Beauty goes to the heart of symmetry. It is reflected by any aspect of the face. This means that if somebody is beautiful, whatever aspect of their profile (eg. face, lips, eyes) is perceived as reflecting beauty. One can't have a beautiful person with ugly components. However, one can also argue that an ugly person may have some aspects that are beautiful.

People can sense beauty in seconds. They don't have to process all the information. Whatever they see may help them process if that person is beautiful or not. The brain doesn't have to process beauty but it does have to process attractiveness. This supports our choice that beauty and attractiveness are different. Beauty is instantaneous, while Attractiveness requires thought. Additionally, one is also more likely to see differences in attractiveness than beauty

from different cultures. The notion of beauty or symmetry is universal and doesn't involve cognitive process. However, the contrast in Attractiveness is interesting, as one can be beautiful but not attractive or attractive but not beautiful. A matrix that shows these perceptions is presented in Chapter 5.

Therefore, considering the above mentioned, proper specification of a model is required to achieve true meaning. In order to test measurement models beauty and attractiveness, indices were developed and are discussed below.

4.13 Determination of formative and reflective measurement models

This section relies on a framework developed by Coltman, Devinney, Midgley and Venaik (2008) from a special Journal of Business Research issue on formative versus reflective measurement models. It helps design and validate both formative and reflective measurement models. Taking the framework into account, the following section discusses the six considerations pertinent to establishing formative measures.

Consideration 1: nature of the construct

In a reflective model, the latent construct exists (in an absolute sense) independent of the measures (Borsboom, Mellenbergh, & van Heerden, 2004; Rossiter, 2002). In a formative model, the latent construct depends on a constructivist, operationalist or instrumentalist interpretation of the scholar (Borsboom, Mellenbergh, & van Heerden, 2003). It is envisaged that beauty and attractiveness are formative models as one can have all or some of the dimensions in order to be perceived as beautiful or attractive.

Consideration 2: direction of causality

This consideration looks at the direction of causality between the construct and the indicators. Reflective models assume that causality flows from the construct to the indicators. In the case of formative models the reverse is the case, causality flows from the indicators to the construct. The two models are different, both psychometrically and conceptually (Bollen & Lennox, 1991) as a change in the construct for reflective models results in a change in the indicators, while a change in the indicators results in a change in the construct for formative models. This has profound implications both for measurement error (Diamantopoulos, 2006)

and model estimation (Coltman, et al., 2008). A logical approach is to view the various dimensions of beauty and attractiveness as causing Beauty and Attractiveness rather than the other way around.

Consideration 3: characteristics of indicators

In reflective models, the indicators share a common theme and are interchangeable (Churchill, 1979; Diamantopoulos, et al., 2008; Nunally & Bernstein, 1994). Inclusion or exclusion of one or more indicators from the domain does not materially alter the content validity of the construct (Coltman, et al., 2008). However, in the case of formative models, since the indicators define the construct, the domain of the construct is sensitive to the number and types of indicators the researcher selects. As long as the indicators conceptually represent the domain of interest, they may be considered adequate from the standpoint of empirical prediction (Coltman, et al., 2008; Rossiter, 2002). Taking that into consideration, it is not clear that the individual items in this domain share a common theme in the way the reflective approach requires. Any number of items can lead to perceptions of being beautiful or attractive.

The three theoretical considerations in the framework, the nature of the construct, the direction of causality, and the characteristics of the items representing the construct, indicate that it is better to conceptualise and measure beauty and attractiveness by a formative model. The next section follows the three empirical considerations.

Consideration 4: indicator intercorrelation

In a reflective model, the underlying construct drives the indicators, which have positive and, desirably, high intercorrelations. In a formative model, the indicators do not necessarily share the same theme and hence have no preconceived pattern of intercorrelation. Indicators in a formative model can theoretically possess no intercorrelation or high or low intercorrelation (Coltman, et al., 2008; Franke, Preacher, & Rigdon, 2008).

Since reflective indicators have positive intercorrelations, researchers can use statistics such as factor loading and communality, Cronbach alpha, average variance extracted and internal consistency to empirically assess the individual and composite reliabilities of their indicators (Coltman, et al., 2008). However, as these measures of reliability assume internal consistency—that is, high intercorrelations among the indicators in question—they are

inappropriate for formative indicators, where no theoretical assumption is made about inter-item correlation. One of the key operational issues in the use of formative indicators is that no simple, easy and universally accepted criteria exist for assessing their reliability (Coltman, et al., 2008). Low intercorrelations for beauty and attractiveness demonstrate that these dimensions are largely independent of each other.

Consideration 5: indicator relationships with construct antecedents and consequences

In the case of reflective models, the indicators have a similar (positive/negative, significant/non-significant) relationship with the antecedents and consequences of the construct. The requirement for interrelated indicators is not the case for formative indicators as they do not necessarily share a common theme and, therefore, do not have the same types of linkages with the antecedents and consequences of the construct (Coltman, et al., 2008). This lack of a common theme is a significant issue when using formative models, particularly as it has implications for the appropriate level of aggregation of formative indicators. While aggregating indicators to create a construct achieves the objective of model parsimony, it may come at a significant cost in terms of the loss of the rich, diverse and unique information the individual indicators provide. Edwards (2001) makes a similar point for second and higher order dimensions.

In the case of formative measurement, Diamantopoulos and Winklhofer (2001) suggest three possible approaches. First, the researcher can relate the indicators to some simple overall index variable, such as a summary or overall rating. Second, the researcher can apply a Multiple Indicators and Multiple Causes (MIMIC) model, where both formative and reflective indicators measure the construct. Third, the researcher applies a structural model linking the formatively measured construct with another reflectively measured construct to which it relates theoretically. This approach establishes criterion and nomological validity. This thesis applied the third approach.

Table 4.34 Model Test Results - Beauty and Attractiveness

Model parameter	t Value	Standardized Estimate		t Value	Standardized Estimate
Formative indicators of beauty			**Reflective indicators of beauty**		
q1 to beauty		1.003			
q2 to beauty	-5.419	-0.308	q2 to beauty	15.046	0.666
q3 to beauty	-5.580	-0.266	q3 to beauty	10.341	0.453
q5 to beauty	2.211	0.151	q5 to beauty	17.737	0.828
q6 to beauty	2.354	0.130	q6 to beauty	15.046	0.683
q7 to beauty	-2.544	-0.195	q7 to beauty	18.631	0.882
q8 to beauty	1.067	0.081	q8 to beauty	18.672	0.885
Formative indicators of attractiveness			**Reflective indicators of attractiveness**		
q14 to attract2	2.523	0.139	q14 to attract2		0.718
q15 to attract2	0.772	0.044	q15 to attract2	22.714	0.810
q18 to attract2	3.175	0.177	q18 to attract2	27.197	0.919
q23 to attract2	-2.133	-0.129	q23 to attract2	18.220	0.682
q24 to attract2	3.672	0.192	q24 to attract2	15.978	0.612
q38 to attract2	-2.329	-0.137	q38 to attract2	17.371	0.656
q39 to attract2	-8.676	-0.484	q39 to attract2	15.725	0.603
q41 to attract2		1.009	q41 to attract2	9.728	0.391
q42 to attract2	4.689	0.198	q42 to attract2	12.669	0.499
q43 to attract2	0.947	0.046	q43 to attract2	10.572	0.423
q45 to attract2	0.054	0.003	q45 to attract2	9.912	0.398
q46 to attract2	-2.684	-0.145	q46 to attract2	9.756	0.392
q47 to attract2	1.107	0.063	q47 to attract2	10.734	0.429
q49 to attract2	2.496	0.124			

Table 4.51 presents model test results for beauty and attractiveness. For the reflective model, all the item loadings and *t-values* are higher than for the formative model.

Table 4.35 Model Parameters, Fit Statistics, and Squared Multiple Correlations - Beauty and Attractiveness

Formative			**Reflective**		
Hypothesized Relationships in the Model	**t Value**	**Standardized Estimate**	**Hypothesized Relationships in the Model**	**t Value**	**Standardized Estimate**
beauty to body image		0.764	beauty to body image	3.026	0.139
beauty to pragmatic	2.272	0.116	beauty to pragmatic	1.719	0.08
beauty to social	5.576	0.335	beauty to social	2.454	0.119
attract2 to body image	-1.886	-0.067	attract2 to body image	3.017	0.134
attract2 to pragmatic	6.151	0.311	attract2 to pragmatic	5.376	0.26
attract2 to social	6.682	0.384	attract2 to social	6.722	0.396
Squared Multiple Correlations (R squared)	**R^2**		**Squared Multiple Correlations (R squared)**	**R^2**	
beauty	0.584		body image	0.037	
attract2	0.879		pragmatic	0.074	
body image	0.588		social	0.171	
pragmatic	0.110				
social	0.260				
Model Fit Statistics			**Model Fit Statistics**		
χ^2=2307.491, *df*=479			χ^2=4231.011, *df*=732		
Normed fit index (NFI) = .822			Normed fit index (NFI) = .754		
Incremental fit index (IFI) = .854			Incremental fit index (IFI) = .787		
Comparative fit index (CFI) = .852			Comparative fit index (CFI) = .787		
Root mean square error of approximation (RMSEA) = .080			Root mean square error of approximation (RMSEA) = .089		

In Table 4.52, R-square indicates that beauty, attractiveness, pragmatic and social advantages are better explained by the formative model. The reflective measures explain 4% of the variance in Beauty compared with 58% for the formative model. The formative model explains 88% of the variance in Attractiveness. The reflective measures explain 7% of the variance in Pragmatic advantages compared with 11% for the formative model. The reflective measures explain 17% of the variance in Social advantages compared with 26% for the formative model. Additionally, model fit statistics further support beauty and attractiveness as formative measures with overall values more acceptable for the formative model (fit indices >.8; RMSEA = .08) versus the reflective model (fit indices <.8; RMSEA > .08).

Consideration 6: measurement error and collinearity

A key difference between formative and reflective measurement models is the treatment of measurement error. An important assumption underlying the reflective measurement model is that all the error terms associate with the observed scores and, therefore, represent measurement error in the latent variable. The formative measurement model does not assume such a correlational structure. For the formative case the disturbance term (ζ) neither associates with the individual indicator, nor the set of indicators as a whole. This term therefore does not represent measurement error (Diamantopoulos, 2006).

However, Bollen and Ting (2000) suggest that the tetrad test can provide some assistance in assessing measurement error. A tetrad refers to the difference between the products of two pairs of error covariances (Spearman & Holzinger, 1924). The tetrad test involves examining the nested vanishing tetrads that a comparison of the two different measurement models implies. In the case of a reflective model, the null hypothesis is that the set of non-overlapping tetrads vanishes. In simpler terms, when comparing the intercorrelations between pairs of errors, they should tend to zero. The assumption underlying the reflective model is that the correlations between the δi are zero. The tetrad test confirms whether or not this is true. If not, the researcher may wish to consider a formative measurement model as the more appropriate model.

Applying the vanishing tetrad test to each construct rejects the reflective model for four out of the six constructs. These results imply that a formative model may be a better way of measuring attractiveness, media, models and their influence.

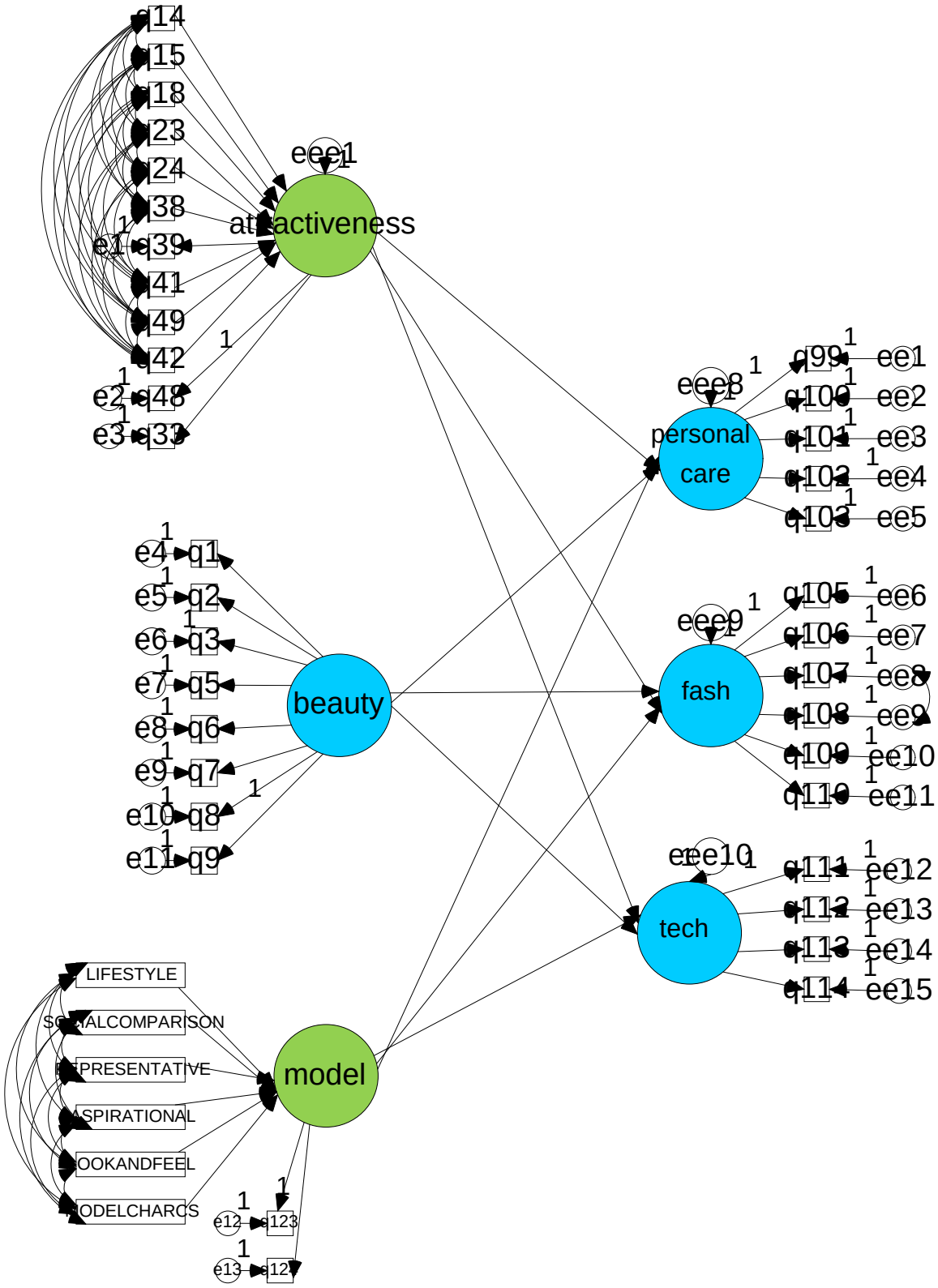
Table 4.36 Tetrad Results for Formative Indicators

Constructs	Number of indicators	$\chi^2(Df)$	*Df*	Significance	Implication
Attractiveness	12	69.38	2	<.001	Formative
Beauty	8	1.99	2	0.369	Reflective
Media	5	93.73	2	<.001	Formative
Models	6	33.69	2	<.001	Formative
Model influence	4	55.90	2	<.001	Formative
Pragmatic advantages	4	5.13	2	0.077	Reflective

4.14 Attractiveness Index

The author arrived at ATTRINDEX (perceptions of attractiveness) in SPSS by multiplying the variable (e.g. q1) by the estimate value from the measurement model (AMOS) and adding them together to arrive at the index.

Figure 4.6 Holistic Model



4.15 Chapter Summary

Section I of Chapter 4 provided an explanation of the operationalisation of the constructs associated with the conceptual model. A combination of new and existing scales were utilised and Section II provided an evaluation of each construct in terms of reliability and validity by the examination of coefficient alphas, exploratory and confirmatory factor analysis and correlation analysis. The constructs were found to exhibit acceptable reliability and validity with respect to content, convergent, nomological and concurrent validity. Section III reviewed formative versus reflective measurement models and discussed a framework for assessing reflective and formative models with theoretical and empirical considerations. Chapter 5 will now present the results of the research by discussing each research proposition and hypothesis.

5 Chapter 5 - RESULTS AND DISCUSSION

5.1 Introduction

Chapter 5 is organised into three sections. Section I provides a discussion on various techniques used to analyse the data, such as t-tests, Analysis of Variance (ANOVA) and multiple regression. As mentioned in Chapter 3, these analytical techniques are chosen for their straightforward capacity to test relationships between independent and dependent variables. A discussion of the underlying assumptions to the use of these techniques is provided.

Section II reports the sample demographics. In order to test for consistencies with the literature, the demographical characteristics of the sample are associated with the concept of beauty and attractiveness.

Section III presents results of the analysis undertaken to examine the hypotheses associated with this thesis.

Section I – Data Analysis

Section I provides a discussion on various analytical techniques used in the study. The *independent samples t-test* was used to compare the mean scores of different groups. The research propositions were investigated by examining the direct relationships between variables via the use of multiple regression. This was then augmented by a more comprehensive analysis of relationships through the application of structural equation modelling to examine the direct, indirect and total effects of the independent variables on the dependant variables. Analysis of Variance (ANOVA) was also utilised as a test of measuring differences between groups within the population.

5.2 Multiple Regression

Multiple regression provides one of the best estimates of a dependant variable from a number of independent variables (Hair, et al., 1998; Malhotra, et al., 1999; Tabachnick & Fidell, 2001). SPSS version 16 was used to run the regression analysis. Multiple regression is a group of techniques, based on correlation that facilitates the exploration of the interrelationships among a set of variables. There are three main types:

- **Standard (or simultaneous)**

The most common method is the standard approach which involves all the independent variables being entered in to the equation concurrently and is used to test the relationship between an entire set of independent variables simultaneously. Each variable is evaluated in terms of its predictive power over that offered by all the other independent variables.

- **Hierarchical (or sequential)**

With hierarchical regression, the independent variables are entered in to the equation in a specific order in steps or blocks, based on a theoretical argument, with each independent variable being assessed in terms of what it contributes to the prediction of the dependent variable, after other variables have been controlled for.

5.2.1 Assumptions of Multiple Regression

Multiple regression makes a number of underlying assumptions about the data being analysed, which need to be accounted for. A number of tests were undertaken prior to the multiple regression to ensure there had been no violation:

- **Sample size**

To facilitate generaliseabilty, a sufficient sample size is required. There are varying views on what size is sufficient. Tabachanick & Fiddell (2001) suggest a formula:

$N > 50 + 8m$
where N = required sample size, and
m = number of independent variables.

In this study, a sample of 1111 participants is well above the recommended minimum**.** The largest number of independent variables used in any of the regression analyses undertaken was 18 in the comprehensive regression model (Section 5.6).

- **Multicollinearity**

Multicollinearity, discussed in Chapter 4 Section 4.12.7, refers to the correlation among the independent variables (Hair, et al., 1998), and is said to exist when the independent variables are highly correlated. According to Malhotra et al., (2006) multicollinearity can create problems when conducting regression equations, as high correlations among independent variables can make it difficult to separate the effects of the independent variables on the dependent variable. First, the correlation matrices (Tables 4.28-4.32) were examined and it was found that all correlations were quite low. This indicates that collinearity was not likely to be a problem for the regression equations. Second, the tolerance of a variable was used as an indication of collinearity. A small tolerance level indicates collinearity between variables. All of the regression equations demonstrated tolerance levels of much higher than the default level of 0.0001, which provides support for the assumption that collinearity among the independent variables was not a serious concern. Third, the variance inflation factor (VIF) was examined and it was found that all variables were below the accepted cut-off point of 10 (Grewal, et al., 2004; Never, et al., 1990).

- **Outliers**

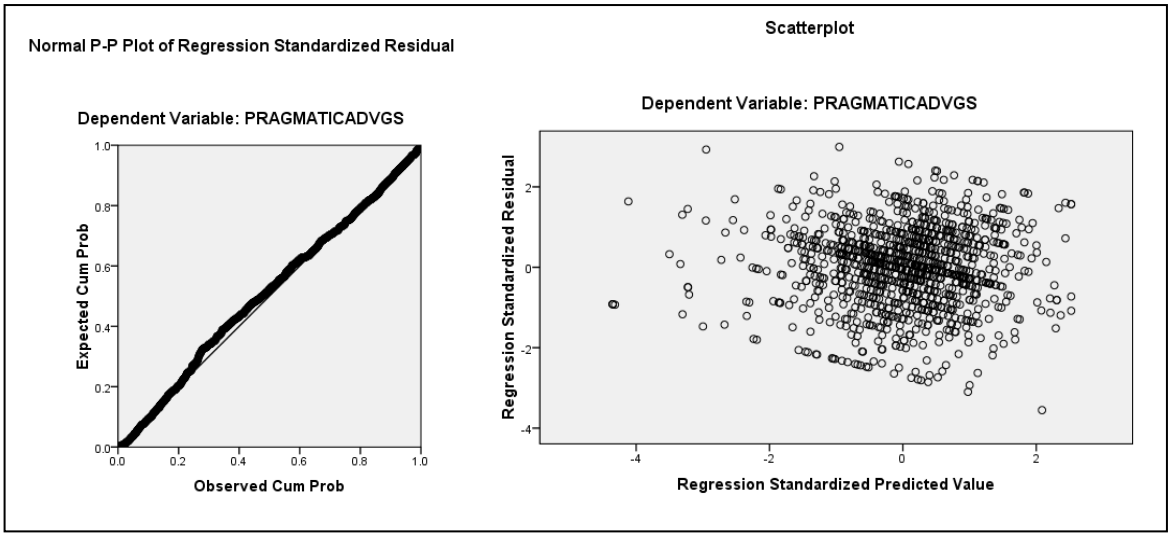
As multiple regression is very sensitive to outliers (very high or low scores), a check for extreme scores was conducted as part of the initial data screening process. The detection of outlying cases used case-wise plots for all regression equations. The criteria for indentifying outliers adheres to recommendations by Tabachnick and Fidell (2001) where standardised residual values above 3.3 or less than -3.3 are identified as outliers. The Cook's Distance value in the Residuals Statistics table was below 1.00 in each case indicating that there was no undue influence on the regression results (Tabachnick & Fidell, 2001).

- **Normality, Linearity, and Homoscedasticity**

These considerations all refer to various aspects of the distribution of scores and the underlying relationship between variables. The assumptions relating to each were assessed by examining the residual scatterplots for each regression equation. The residuals, or differences between the obtained and predicted dependent variable scores, were normally distributed in a straight line around a line that was drawn through the O axis point and hence there was no evidence of violation.

As the scatterplots for all regression equations (e.g. Figure 5.1) were non curvilinear with most of the scores concentrated in the centre (along the 0 point), the results showed that there was no clear relationship between the residuals and predicted values, supporting the assumptions for linearity and homoscedasticity.

Figure 5.1 Example of Normal Probability of Residual Scatterplot



- **Independence of Error**

The Durbin-Watson test is used to examine independence of error terms, and residuals' statistics to show normality of error distribution. The test works by checking for autocorrelation between the residuals and should result in a score of close to 2.00 (Norusis, 1993). As scores from this test ranged from 1.701 to 2.105 there was support that this assumption was not violated.

5.3 One-way ANOVA

Analysis of Variance (ANOVA) is a statistical technique for examining the differences in the mean values of the dependent variable associated with the effect of the controlled independent variables, after taking into account the influence of the uncontrolled independent variables (Malhotra, et al., 2004). The heart of ANOVA is the notion of variance. The basic procedure is to derive two different estimates of population variance from the data, then calculate a statistic from the ratio of these two estimates. Between-groups variance is a measure of the effect of the independent variable combined with error variance and within-groups variance is of error variance itself. The F-ratio is the ratio of between-groups variance to within-group variance. A significant F-ratio indicates that the population means are probably not all equal. Since the null hypothesis is rejected if any pair of means is unequal, post-hoc analysis is required to determine where the significant differences lie. There are a number of post-hoc tests available ranging from being strict in its determination of significance (e.g. Scheffe test) to more lenient tests such as the Tukey's honestly significant difference (HSD) test. In this study, the Tukey HSD was used.

ANOVA was used to examine varying levels of relationships. The F statistic was used as an indication of whether the means significantly differed and hence whether the independent variable had a significant effect on the dependent variable, and Tamhane's T2 test was used as it allows for a range of significant levels thereby avoiding making the assumption of equal variances.

5.4 Structural Equation Modelling

Covariance structure analysis is a multivariate technique that enables a thorough assessment of hypotheses underlying a theoretical model. It combines confirmatory factor analysis with structural equation models either in conjunction or independently and computes parameter estimates in multiple regression, path, and factor analyses. AMOS Version 7 was used to perform the necessary covariance structure analysis to examine the hypotheses developed for this study. The analysis is considered to be confirmatory in nature as it compares the covariance matrix implied by the specified model with the actual covariance matrix from the empirical data.

This analysis builds on the use of multiple regression analysis which was used to assess the direct relationships between independent and dependent variables. However, multiple regression can only be applied to one dependent variable at a time. Consequently, structural equation modelling is important as a multivariate statistical technique because it incorporates the interrelationships among a number of variables, calculating direct, indirect and total effects between variables (Schumacker & Lomax, 1996).

Direct effects are measured by path coefficients computed on the hypothesised relationships between the independent variables and the dependent variable. The path coefficient figures represent a standardised partial regression coefficient. These beta values (β) indicate the change in a dependent variable as a consequence of a one unit change in an independent variable.

Indirect effects are calculated where a dependent variable is indirectly influenced by an independent variable through the path connecting each to one or more other variable. In this case the beta (β) value represents the change in a dependent variable as a consequence of a one unit change in an independent variable. Total effects of an independent variable on a dependent variable is simply the sum of the relevant direct and indirect effects.

Further to the discussion of sample size in Chapter 3 Section 3.4.4, a major requirement for this study was to ensure a sufficient number of cases so as to facilitate structural equation modelling. Given the final sample size of 1111, and the number of manifest variables, it met the generally accepted rule of thumb of at least 5 respondents for every manifest variable

(Baumgartner & Homberg, 1996). Therefore, reasonably good parameter estimates could be expected with a full structural equation model comprising all of the dimensions of Beauty and Attractiveness showing its relationships to the other constructs in the conceptual model.

Table 5.1 Criterion for Goodness of Fit

GOODNESS-OF-FIT CRITERION	ACCEPTABLE LEVEL	INTERPRETATION
Model-Fit		
χ^2 value	Low χ^2 value (relative to df) with sig. level > 0.05	>0.05 significance reflects acceptable fit
Cmin/df	Ratios 2 to 1 or 3 to 1	Values close to 1 reflect good model fit
Goodness-of-fit (GFI)	0 (no fit) to 1 (perfect fit)	Value close to 0.90 reflects a good model fit
Adjusted GFI (AGFI)	0 (no fit) to 1 (perfect fit)	Value adjusted for df, Value close to 0.90 reflects a good model fit
RMSEA	< 0.05	Value less than 0.05 indicates a good model fit. <0.10 reflects a reasonable fit
Model Comparison		
Tucker-Lewis Index (TLI)	0 (no fit) to 1 (perfect fit)	Value close to 0.90 reflects a good model fit
Normed Fit Index (NFI)	0 (no fit) to 1 (perfect fit)	Value close to 0.90 reflects a good model fit
Comparative Fit Index (CFI)	0 (no fit) to 1 (perfect fit)	Value close to 0.90 reflects a good model fit

Table adapted from Schumacker and Lomax (1996); Hu and Bentler (1999) recommended a value close to 0.95 for TLI and CFI.

The following section reports the sample demographics.

Section II – Demographics

Section II reports simple descriptive statistics of the sample. The purpose of Section II is to provide details to the sample in order to justify its sustainability in representing the population.

5.5 Sample Descriptive Statistics

In total, 1111 questionnaires were collected. There were no incompletes as the web-based questionnaire was designed to ensure all items were attempted before submission. The sample of respondents was composed of 600 females (54%) and 511 males (46%). The largest group of respondents was between the ages 20-35 (51.8%) although the sample ranged from 18 to 51 and above. In terms of education, 65% of the respondents had a degree, while 35% were qualified at a secondary level. Majority of the sample earn between $10,000-$20,000 (25%). Additionally, with the menstrual cycle question, most females (15.8%) were 18-25 days from their next period. Details of the demographic distribution are presented in Figure 5.1.

Table 5.2 Age, Education, Annual Income Distribution

AGE	% OF RESPONDENTS
20-24	9.2
25-30	26.0
31-35	16.9
36-40	8.3
41-45	9.0
51 and above	21.2
EDUCATION	**% OF RESPONDENTS**
Secondary	34.7
Diploma	26.6
Degree	31.0
Masters	6.0
Higher	2.2
ANNUAL INCOME	**% OF RESPONDENTS**
$10,000 and below	12.2
$10,000-$20,000	25.2
$20,000-$30,000	14.1
$30,000-$40,000	14.6
$40,000-$60,000	16.8
$60,000 and above	15.6
MENSTRUAL CYCLE (N=487; 81%)	**% OF RESPONDENTS**
Currently have my period	7.0
1-6 days until my period	6.5
7-10 days until my period	5.9
11-17 days until my period	8.7
18-25 days until my period	15.8

5.5.1 Cultural Background

The sample was comprised of a multitude of nationalities from all major regions including Africa, Asia, Europe, Middle East, North and South America, and Polynesia. Approximately 50% of the sample is made up of Australian Caucasian participants, followed by the other groups. The following sections will now examine each of the hypotheses associated with this thesis.

Section III – Main Study

Section I provided a discussion on the data analysis procedures and analytical techniques. Section II reported the results of the descriptive statistics. Section III of this chapter reports the key findings of the research. The results in Section III directly address the research questions stipulated in Chapter 1 and also provide the basis for the discussion in Chapter 6.

5.6 Attractiveness

Proposition 1: Attractiveness is a function of the culture of the observer, the influence on the observer of media and the stereotypes of models to which the observer is exposed.

The literature suggests that culture plays a part in the definition of attractiveness and that differences of what is attractive do exist across cultures (Etcoff, 2000). Most advertisement use models and in particular attractive models due to their aspirational nature. The advertisements are designed in order to encourage brand awareness and to drive purchase. Advertisements legitimise and confirm societal pressure to be thin and offer means of attempting to achieve this ideal. The loudest and most aggressive purveyors of images and narratives of ideal slender beauty are the mass media.

This study isolates media and models as separate aspects. Media is considered as a means of communication and models influence as a separate and distinct aspect of the means of communication. Models are embedded in the media and are part of the overall message execution. This study has separated them in order to see their separate contributions. Based on this, the following hypotheses are proposed:

H1.1: *There is a significant relationship between Attractiveness and:*

- ***H1.1a:*** *Culture,*
- ***H1.1b:*** *Media, and*
- ***H1.1c:*** *Models.*

There is evidence in the literature that media habits differ between men and women (K. Frith, et al., 2005). There are certain media outlets without gender differences while others such as

magazines and the internet do show differences in consumption (Rabak Wagener, et al., 1998). The representation of men and women in ads also differs. Women have largely been used over the years to communicate the brand message for a variety of products from soap to cars. The influence of models has been a largely female issue in the context of attractiveness. Additionally, males are generally associated with success and achievement while ads with females represent lifestyle appeals.

The study examined the respondents' attitudes towards fashion, personal care, technology, and nutritional products. Fashion is associated with appearance which is considered to be a key dimension of perceptions of attractiveness. The advertising in the fashion category targets men and women as the perceived importance of fashion is assumed to be equal between genders. Personal care products are used to enhance one's appearance and are targeted more at females despite recent advertising (e.g., L'Oreal) featuring men also. Technology products are associated with status and lifestyle with ads portraying attractive models. Visual advertising for categories such as mp3 players (e.g., iPod), mobile phones (e.g., Nokia) and gaming (e.g., Playstation) use sex appeal, social acceptance and lifestyle portrayals. Status is key in this product category with strong tones of peer pressure and a reflection of trendiness. The category is still male dominated and the advertising reflects that. Lastly, Nutritional intake is related to body weight and health which is a key component of attractiveness. Men and women differ in terms of how they view their bodies and this is also reflected in nutritional advertising. Messages targeted at women are generally negative with an emphasis on weight loss while messages targeted at men emphasise muscle gain. With that in mind, the following hypotheses are developed.

H1.2: *Females will have significantly higher scores than males in their perceptions of factors associated with attractiveness:*

H1.2a *Culture,*

H1.2b *Media Influence,*

H1.2c *Influence of Models*

H1.2d *Attitude to Fashion products,*

H1.2e *Attitude to Personal care products,*

H1.2f *Attitude to Technology products, and*

H1.2g *Attitude to Nutritional products.*

From the correlations table presented previously, the key variables in the conceptual model indicated that a strong relationship exists between Attractiveness and Culture, Media influence, Influence of Models, and Attitude to products with results significant at the p=0.01 level. To evaluate the relationship between Attractiveness and the above mentioned variables the individual dimensions of each construct were entered in to a multiple regression analysis as a further test of the relationship as a means of evaluating their predictive ability. Table 5.2 presents the results of these analyses.

Table 5.3 Regression Models - Hierarchical Antecedents to Attractiveness

Hypothesised Direction of Relationship	Model 1		Model 2		Model 3		Model 4	
	male	**female**	**male**	**female**	**Male**	**female**	**Male**	**female**
Culture								
Ethnic identity	.296***	.242***	.258***	.217***	.207***	.203***	.193***	.166***
Acculturation	.040	-.014	.036	-.025	.013	-.023	.018	-.016
Media influence								
tv			.115	.117	.087	.083	.075	.081
cinema			-.147	.046	-.167	.075	-.141	.077
magazines			.109	-.067	.153	-.115	.167	-.126
internet			.006	.189*	-.026	.184*	-.048	.143
billboards			-.053	-.064	-.126	-.114	-.113	-.098
public transport			.201**	-.041	.224**	-.034	.205**	-.046
Influence of Models								
Lifestyle					.074	.181**	.017	.066
Comparison					-.033	-.099	-.042	-.129
Representative					.040	-.086	.036	-.057
Aspirational					.103	.137**	.075	.075
Market Maven					.067	.092	.087	.094
Role models					.154***	.050	.160***	.050
Attitude to Products								
Personal care products							.122	.022
Fashion products							-.160	.137
Technology products							.173*	-.004
Nutritional products							.004	.144*
R^2	.095	.057	.144	.092	.201	.139	.218	.176
Adj R^2	.091	.054	.130	.080	.178	.119	.189	.150
F ratio	26.545***	18.031***	10.543***	7.510***	8.897***	6.769***	7.610***	6.893***
ΔR^2			.049	.035	.057	.047	.017	.037
Δ F ratio			4.811***	3.831***	5.882***	5.341***	2.682*	6.444***
Df	2	2	6, 502	6, 591	6, 496	6, 585	4, 492	4, 581

*p<0.05, **p<0.01, *** p<0.001 (the figures in the tables are standardized regression weights)

The results of the multiple regression analysis reported in Table 5.3 indicate that differences do exist between male and female perceptions. Looking at the influence of culture on attractiveness, it explains a small proportion for males (R^2 = 10%) and a smaller proportion for females (R^2 = 6%). The ethnic identity variable was significant for both genders (male: β = .296, p<.001; females: β = .242, p<.001). Culture is entered in the model first (Model 1) since it is relatively fixed and individuals may not be able to acculturate quickly and change their frames of reference. However, as constructs are added, the variance explained increases.

Model 2 represents the addition of factors related to the media. People are exposed to various media and may not have much choice as to what they are exposed to (TV, magazines, newspapers and even the internet). Adding these variables to Model 1 produces Model 2. An interesting finding is that media seems to have a greater impact on males (ΔR^2 = 5%, ΔF ratio = 3.831, p<.001) than on females (ΔR^2 = 4%, ΔF ratio = 4.811, p<.001), with the public transport medium being significant for males (β = .201, p<.01) and internet for females (β = .189, p<.05). Factors were added to Model 2 which are related to models portrayed in the media. The respondents have some degree of control into how these influence them. Admittedly, there are social pressures to contend with. For Model 3 the set of variables increases the variance explained for males (ΔR^2 = 6%, ΔF ratio = 5.882, p<.001) and for females (ΔR^2 = 5%, ΔF ratio = 5.341, p<.001). Role models was significant for males (β = .154, p<.001). This would suggest that the type of models portrayed in advertising is deemed more important for men. For females, Lifestyles of models has a significant effect on perceptions of attractiveness (β = .181, p<.01). For Model 3, Aspirational was also significant indicating that models' inspirational ability has an impact on females (β = .137, p<.01) were significant.

The final model, Model 4 includes the addition of factors related to attitude towards various products. The set of variables increases the variance explained for males (ΔR^2 = 2%, ΔF ratio = 2.682, p<.05) and for females (ΔR^2 = 4%, ΔF ratio = 6.444, p<.001). For males attitude to Technology products was significant (β = .173, p<.05) and for females attitude to Nutritional products was significant (β = .144, p<.05). In the final model, culture plays an important role in influencing perceptions of attractiveness. Media per se is not so important. Public transport remains a significant influence for males, however, internet ceases to be significant for females. The real critical issue is the portrayal of models especially their impact as role models. Lifestyle and Aspirational are no longer significant with the addition of attitude to products. In this final model when all the variables have been added only a very small set remains significant. These predominantly come from variables associated with attitudes to products demonstrating the power of attractiveness in advertising and other marketing communications.

5.7 Self Evaluation of Body Image

Proposition 2: Self evaluation of body image is a function of the culture of the observer, perceptions of attractiveness, the influence on the observer of media and the stereotypes of models to which the observer is exposed.

Body image is important to study as it has a number of implications. Literature suggests that **c**ulture plays a part in the perceptions of one's body image and differences in self evaluation of body image are expected to exist across cultures (Monnier-McClure & Edleston, 2005). Most advertisements however portray exceptionally thin female models and muscular males with the majority of them being Caucasian (Hankin & Abramson, 1999). It has been suggested that such portrayals in advertisements have a negative impact on the observer and legitimise and confirm societal pressure to be thin (Harrison, 2001).

Literature suggests that advertising has a negative impact on the observer's perception of their own body image (Botta, 1999; Mills, et al., 2002). The effects of exposure to media-portrayed idealised body images on self-evaluation are frequently conceptualised in terms of 'contrast effects', which is a tendency to evaluate more negatively one's own appearance after viewing highly attractive individuals (Thornton & Moore, 1993). This has important implications for public policy in terms of government intervention programs to deal with the effects of advertising.

Perceptions of one's body image can impact brand perceptions which is crucial to the development of effective marketing communication. Understanding how body image evaluations influence perceptions and whether media and model exposure has different implications for gender is important to further this understanding. The models chosen in this study were closer to the average population including two unattractive models. It would be expected that the models chosen would have less of an impact than images of touched up models seen in mainstream media. Additionally, like in a controlled study, the models in this study varied in height, weight, nationality, and gender.

There are two sections within Self evaluation of body image. The first looks at body image perceptions prior to the exposure to images of models and the second looks at body image perceptions after exposure to images of models.

Based on this, the following hypotheses are proposed:

***H2a**: The self evaluation of people will be significantly lower after exposure to models than before exposure to models.*
***H2b**: Model exposure will have a higher impact on females than males.*

To evaluate the relationship between body image, culture, perceptions of attractiveness, and the influence of media and models, the individual dimensions of each construct were entered into a multiple regression analysis as a further test of the relationship as a means of evaluating their predictive ability. Table 5.2 presents the results of these analyses.

The results for the above hypothesised relationships are presented in Tables 5.4 and 5.5.

Table 5.4 Female self evaluation of body image pre and post exposure

Hypothesised Direction of Relationship	**Pre exposure to model images**				**Post exposure to model images**			
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 1**	**Model 2**	**Model 3**	**Model 4**
Culture								
Ethnic identity	.227***	.179***	.182***	.199***	.187***	.151***	.154***	.160***
Acculturation	.110**	.113**	.117**	.114**	.009	.014	.014	.004
Attractiveness								
Perceptions of Attractiveness		.198***	.205***	.183***		.150***	.159***	.149***
Media influence								
tv			-.057	-.033			-.060	-.052
cinema			.047	.047			.010	.010
magazines			-.030	.040			.081	.167
internet			-.010	-.041			-.041	-.067
billboards			-.021	-.012			-.050	-.024
public transport			.039	.038			.020	.028
Influence of Models								
Lifestyle				.081				.053
Comparison				-.238***				-.257***
Representative				-.218***				-.180***
Aspirational				.092				-.017
Market Maven				.152**				.224***
Role models				.005				.017
R^2	.076	.113	.115	.172	.036	.057	.060	.122
Adj R^2	.073	.109	.102	.151	.033	.053	.046	.100
F ratio	24.606***	25.321***	8.557***	8.075***	11.121***	12.068***	4.205***	5.434***
ΔR^2		.037	.002	.056		.021	.003	.062
Δ F ratio		24.790***	.268	6.620***		13.496***	.315	6.901***
Df	2	1, 596	6, 590	6, 584	2	1, 596	6, 590	6, 584

*p<0.05, **p<0.01, *** p<0.001 (the figures in the tables are standardized regression weights)

The influence of culture on female self evaluations of body image pre exposure explains a small proportion (R^2 = 8%) and slightly smaller for post exposure (R^2 = 4%). Ethnic identity (pre: β = .227, p<.001; post: β = .187, p<.001) and Acculturation for pre exposure (β = .110, p<.01) were found to be significant. Culture is entered in the model first (Model 1) since it is relatively fixed and individuals may not be able to acculturate quickly and change their frames of reference. However, as constructs are added, the variance explained increases. Model 2 represents the addition of perceptions of attractiveness. For Model 2 the set of variables increases the variance explained for pre exposure (ΔR^2 = 4%, ΔF ratio = 24.790, p<.001) and post exposure (ΔR^2 = 5%, ΔF ratio = 13.496, p<.001). Attractiveness was found to be significant for both (pre: β = .198, p<.001; post: β = .150, p<.001). Model 3 includes various factors representing the influence of media. People are exposed to constant images of beautiful models via various mediums. Adding these variables to Model 2 produces Model 3. No individual medium or change in R^2 were found to be significant, however, the R^2 was slightly higher than Models 1 and 2 (pre: R^2 = 12%, ΔR^2 = 0.2%; post: R^2 = 6%, ΔR^2 = 0.3%). Again, the variance explained was higher for self evaluations of body image pre exposure than for post. Factors related to models portrayed in the media were added to Model 3 to form the final Model 4. The set of variables increases the variance explained for pre exposure (ΔR^2 = 6%, ΔF ratio = 6.620, p<.001) and post exposure (ΔR^2 = 6%, ΔF ratio = 6.901, p<.001), with most variables also significant. Social comparison is significant (pre: β = -.238, p<.001; post: β = -.257, p<.001) but negative. This suggests that females compare themselves to models and feel inadequate with a reduction in the perceptions of their own body image. The Representative variable is significant (pre: β = -.218, p<.001; post: β = -.180, p<.001) but negative. This would suggest that consumers feel that models do not represent the average female. Models are seen as inspirational hence market maven is positive and significant (pre: β = .152, p<.01; post: β = .224, p<.001). In this final model, the significant variables come predominantly from variables associated with models demonstrating the power of models in advertising and other marketing communications.

The following table presents the male self evaluations pre and post exposure to images.

Table 5.5 Male self evaluation of body image pre and post exposure

Hypothesised Direction of Relationship	Pre exposure to model images				Post exposure to model images			
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 1**	**Model 2**	**Model 3**	**Model 4**
Culture								
Ethnic identity	.273***	.193***	.166***	.143***	.191***	.149***	.126**	.111*
Acculturation	.113**	.102**	.107**	.106**	.053	.047	.046	.024
Attractiveness								
Perceptions of Attractiveness		.270***	.238***	.211***		.140**	.118**	.074
Media influence								
tv			-.016	.010			.071	.088
cinema			.005	-.008			-.073	-.086
magazines			.038	.074			-.022	.008
internet			.197*	.161			.142	.144
billboards			-.142	-.150			.093	.023
public transport			.081	.093			-.084	-.042
Influence of Models								
Lifestyle				.032				.068
Comparison				-.170*				-.191*
Representative				-.046				.131*
Aspirational				.220***				.092
Market Maven				.000				-.035
Role models				.093*				.154**
R^2	.100	.166	.194	.222	.043	.061	.082	.130
Adj R^2	.097	.162	.179	.199	.040	.056	.066	.103
F ratio	28.370***	33.757***	13.376***	9.422***	11.524***	11.027***	4.974***	4.925***
Δ R^2		.066	.027	.028		.018	.021	.048
Δ F ratio		40.160***	2.822**	3.008**		9.641**	1.890	4.536***
Df	2	1, 507	6, 501	6, 495	2	1, 507	6, 501	6, 495

*p<0.05, **p<0.01, *** p<0.001 (the figures in the tables are standardized regression weights)

The influence of culture on male self evaluations of body image pre exposure explains a larger proportion of body image (R^2 = 10%) than it did post exposure to images (R^2 = 4%). However, ethnic identity (pre: β = .273, p<.001; post: β = .191, p<.001) was found to be significant for both. As constructs are added, the variance explained increases. Model 2 represents the addition of attractiveness and the set of variables increases the variance explained for pre exposure (ΔR^2 = 7%, ΔF ratio = 40.160, p<.001) and post exposure (ΔR^2 = 2%, ΔF ratio = 9.641, p<.01). Attractiveness was found to be significant for both (pre: β = .270, p<.001; post: β = .140, p<.001). Model 3 includes various factors representing the influence of media. The set of variables increases the variance explained for pre exposure (ΔR^2 = 3%, ΔF ratio = 2.822, p<.01), however for post exposure there was a change in the R^2 but it was not significant (ΔR^2 = 2%, ΔF ratio = 1.890). Internet as a medium was found to be significant for males pre exposure to the images (β = .197, p<.05). Factors related to models portrayed in the media were added to Model 3 to form the final Model 4. The change in R^2

was significant (pre: ΔR^2 = 3%, ΔF ratio = 3.008, p<.01; post: ΔR^2 = 5%, ΔF ratio = 4.536, p<.001), with some variables also significant. Social comparison is significant (pre: β = -.170, p<.05; post: β = -.191, p<.001) but negative. This suggests that males also compare themselves to models and feel inadequate with a reduction in the perceptions of their own body image. Representative is significant post exposure (β = .131, p<.05). The models used in this study were quite diverse in height, weight, nationality and gender. The results would suggest that males feel that model diversity was adequately represented. The Aspirational variable was found to be significant pre exposure to images (β = .220, p<.001). Lastly, Role models were found to be significant for both pre and post exposure to images (pre: β = .093, p<.05; post: β = .154, p<.01). Attractiveness was no longer significant with the addition of influence of models for post exposure to images. Internet was no longer significant with the addition of influence of models for pre exposure to the images. In this final model, the significant variables come predominantly from variables associated with models demonstrating the power of models in advertising and other marketing communications.

5.7.1 Females and Males post exposure – Independent samples t-test

An independent samples t-test was conducted to compare the self evaluation of body image for males and females. The mean was first measured for pre exposure and then for post exposure to arrive at the final mean for both groups ($\chi_1 - \chi_2 = M$). There was evidence of reduction in the evaluations of body image but not between the male and female samples (males: M= -.002, SD=.997; females: M= -.041, SD=.828; t(1109)=.699, p=.484). There was no significant difference in scores for males and females. Post-exposure was deducted from pre-exposure for both groups and the differences were then compared to see if these were significant. The results showed there were no differences suggesting that the impact of models was the same across the gender groups.

5.8 Attitude to products

The maximisation of return on marketing investment is increasingly more difficult. One activity or approach considered to facilitate this maximisation of effectiveness is via the development of an advertisement with appropriately matched product and model (Mikhailitchenko, et al., 2009). This study examined the respondents' attitudes towards

personal care, fashion, technology, and nutritional products. These categories are growing rapidly and represent a large segment of the global purchase and advertising spend. In 2008, the men's personal care category alone was worth $26 billion globally, accounting for 8% of the total personal care market and the women's beauty industry is growing at rate of approximately USD 202 billion every year (FashionProducts, 2010).

Personal care products are related to attractiveness in terms of enhancing one's appearance. This leads to an increase in social appeal and acceptance. Fashion products are related to attractiveness also. A person's choice of attire and brands sends a message to their surroundings about status, lifestyle, and personality. Technology products are lifestyle oriented with a strong sense of status, opinion leadership, and social acceptance. Nutritional products are related to social issues and concerns in relation to health, self esteem, exercise and related issues of bulimia and obesity.

This study attempts to predict people's attitudes towards various products. Ethnic identity may offer insight into people's attitudes. Attractiveness is strongly embedded in each of the chosen product categories. Using the products may lead to a more positive self evaluation of one's own body image. Additionally, by using the products to enhance one's appearance and to gain a certain level of status may lead to the realisation of Benefits of attractiveness. The Media and the Models in the media inform and influence perceptions of products and brands. This study found that males and females had reductions in self evaluations of body image post exposure to models. Therefore there may be gender differences in attitudes to the four product categories. The following proposition is developed:

Proposition 3: There is a strong association between attitude to products and:

H3a*: Cultural background,*

H3b*: Perceived attractiveness,*

H3c*: Self evaluation of body image,*

H3d*: Benefits of attractiveness,*

H3e*: Media Influence, and*

H3f*: Influence of Models.*

To evaluate the relationship between attitude to products, culture, perceptions of attractiveness, self evaluations of body image, benefits of attractiveness, and the influence of

media and models, the individual dimensions of each construct were entered in to a multiple regression analysis as a further test of the relationship as a means of evaluating their predictive ability. Tables 5.6 and 5.7 present the female and male results of these analyses.

Table 5.6 Female attitudes to products

Hypothesised Direction of Relationship	Model 1 Personal care	Model 2 Fashion	Model 3 Technology	Model 4 Nutritional
Culture				
Ethnic identity	.068*	.090**	.043	.068*
Acculturation	-.018	-.006	-.034	-.055
Attractiveness				
Perceptions of Attractiveness	.103**	.122***	.100**	.123***
Self evaluation of body image				
Pre exposure	.064*	.110***	.116***	.062
Benefits of attractiveness				
Competitive advantage	.116**	.133***	.197***	.184***
Social acceptance	-.068	-.110**	-.187***	-.109*
Media influence				
tv	-.060	.060	-.014	-.053
cinema	.020	-.009	.013	-.019
magazines	.092	.109	-.071	.015
internet	.149*	.119	.204**	.065
billboards	-.105	-.107	.001	.011
public transport	.054	.056	.071	.020
Influence of Models				
Lifestyle	.236***	.219***	.261***	.437***
Comparison	.230***	.217***	.056	.092
Representative	-.100**	-.101*	-.039	-.029
Aspirational	.237***	.167***	.244***	.171***
Market Maven	-.012	-.028	-.089*	-.035
Role models	.026	.025	-.051	-.024
R^2	.510	.497	.391	.491
Adj R^2	.495	.482	.372	.476
F ratio	33.652***	31.930***	20.753	31.186***
ΔR^2	.197	.144	.128	.230
Δ F ratio	38.909***	27.736***	20.391***	43.870***
Df	6, 581	6, 581	6, 581	6, 581

*p<0.05, **p<0.01, *** p<0.001 (the figures in the tables are standardized regression weights)

The table above presents the final models with female attitudes towards all four product categories. All the R^2 are quite high with attitude to personal care products (ΔR^2 = 20%, ΔF ratio = 38.909, p<.001) explaining 51% of the variance followed by 50% by fashion products

(ΔR^2 = 14%, ΔF ratio = 27.736, p<.001), 49% by nutritional products (ΔR^2 = 23%, ΔF ratio = 43.870, p<.001) and 39% for technology products (ΔR^2 = 13%, ΔF ratio = 20.391, p<.001). Ethnic identity is significant for personal care (β = .068, p<.05), fashion (β = .090, p<.01), and nutritional products (β = .068, p<.05). This indicates that culture does play a part in forming people's attitudes towards products. Technology is a universal category much less prone to cultural influences so it is logical that culture was not a significant influence. Perceptions of attractiveness was found to be significant across all four categories (personal care: β = .103, p<.01; fashion: β = .122, p<.001; technology: β = .100, p<.01; nutritional: β = .123, p<.001). This has important implications for message execution and choice of model across all four categories. Females' self evaluations of body image prior to exposure to images of models was found to be significant for personal care (β = .064, p<.05), fashion (β = .110, p<.001), and technology products (β = .116, p<.001).

Benefits of attractiveness was found to be an important influencer. Competitive advantage was significant across all product categories (personal care: β = .116, p<.01; fashion: β = .133, p<.001; technology: β = .197, p<.001; nutritional: β = .184, p<.001). Social acceptance was significant for fashion (β = -.110, p<.01), technology (β = -.187, p<.001), and nutritional products (β = -.109, p<.05) but negative implying that the female sample feel if they are not attractive they will not achieve social acceptance. Media overall did not have a strong effect, however, internet was found significant for personal care (β = .149, p<.05) and technology (β = .204, p<.01). Models had a strong influence with the Lifestyle variable significant across product categories (personal care: β = .236, p<.001; fashion: β = .219, p<.001; technology: β = .261, p<.001; nutritional: β = .437, p<.001). This would indicate that lifestyle appeals in ads are important in forming attitudes to products. Comparison was significant for personal care (β = .230, p<.001) and fashion product categories (β = .217, p<.001). These are the two product categories that are the biggest purveyors of images showing thin and attractive models. It seems that female respondents compare themselves to models in personal care and fashion ads. The Representative variable was significant for personal care (β = -.100, p<.01) and fashion (β = -.101, p<.05) but negative indicating that the female participants feel the models used to advertise those categories do not represent the average female. The Aspirational variable was strong across the four categories (personal care: β = .237, p<.001; fashion: β = .167, p<.001; technology: β = .244, p<.001; nutritional: β = .171, p<.001). Market Maven was significant (β = -.089, p<.05) but negative for the technology category. This indicates that females believe that models used to advertise the technology category

don't display opinion leadership. In these final models, the significant variables come predominantly from variables associated with benefits of attractiveness and models demonstrating the power of models in advertising and other marketing communications.

The following table presents male attitudes to products.

Table 5.7 Male attitudes to products

Hypothesised Direction of Relationship	Model 1 Personal care	Model 2 Fashion	Model 3 Technology	Model 4 Nutritional
Culture				
Ethnic identity	.051	.063	.051	.063
Acculturation	-.056	-.064*	-.042	-.006
Attractiveness				
Perceptions of Attractiveness	.032	-.012	.063	.028
Self evaluation of body image				
Pre exposure	.095**	.117***	.085*	.053
Benefits of attractiveness				
Competitive advantage	.153**	.092*	.176***	.155***
Social acceptance	-.037	.023	-.032	-.022
Media influence				
tv	.023	.085	.160*	-.021
cinema	-.228**	-.226**	-.174	-.103
magazines	.116	.163*	-.050	.079
internet	.091	.090	.168*	.052
billboards	.023	-.061	-.187*	-.009
public transport	.001	.066	.108	-.016
Influence of Models				
Lifestyle	.216**	.249***	.359***	.519***
Comparison	.375***	.347***	.131	.093
Representative	-.040	-.035	.017	-.043
Aspirational	.074	.077	.139**	.144***
Market Maven	-.061	-.023	-.104*	-.053
Role models	.010	-.015	-.085*	-.030
R^2	.504	.580	.491	.579
Adj R^2	.486	.565	.472	.564
F ratio	27.820***	37.744***	26.362***	37.577***
ΔR^2	.279	.288	.249	.351
Δ F ratio	46.166***	56.268***	40.074***	68.335***
Df	6, 492	6, 492	6, 492	6, 492

*p<0.05, **p<0.01, *** p<0.001 (the figures in the tables are standardized regression weights)

The table above presents the final models with male attitudes towards all four product categories. All the R^2 are quite high with attitude to fashion products (ΔR^2 = 29%, ΔF ratio = 56.268, p<.001) explaining 58% of the variance followed by 58% by nutritional products (ΔR^2 = 35%, ΔF ratio = 68.335, p<.001), 50% by personal care products (ΔR^2 = 28%, ΔF ratio = 46.166, p<.001) and 49% for technology products (ΔR^2 = 25%, ΔF ratio = 40.074, p<.001). Culture does not seem to be an important antecedent to attitudes to products. However, Acculturation was found to be significant (β = -.064, p<.05) but negative for fashion products. Perceptions of attractiveness was not found to be significant across all four categories. This is the exact opposite to female attitudes discussed above. Male self evaluations of body image prior to exposure to images of models was found to be significant for personal care (β = .095, p<.01), fashion (β = .117, p<.001), and technology products (β = .085, p<.05). Competitive advantage was significant across all four product categories (personal care: β = .153, p<.01; fashion: β = .092, p<.05; technology: β = .176, p<.001; nutritional: β = .155, p<.001). Social acceptance was not found to be significant for males. In terms of media, TV was found to be significant for technology products (β = .160, p<.05). Cinema was found to be significant for personal care (β = -.228, p<.01) and fashion (β = -.226, p<.01) but negative. This indicates that cinema is a medium via which males do not form positive attitudes towards personal care and fashion products. Internet was significant for technology (β = .168, p<.05) and billboards was significant for technology (β = -.187, p<.001) but negative.

In terms of models, Lifestyle was significant across product categories (personal care: β = .216, p<.01; fashion: β = .249, p<.001; technology: β = .359, p<.001; nutritional: β = .519, p<.001). This would indicate that lifestyle appeals in ads are important in forming male attitudes to products. Comparison was significant for personal care (β = .375, p<.001) and fashion product categories (β = .347, p<.001). These are the two product categories that are the biggest purveyors of images showing thin and attractive models. It seems that male respondents, just like the female respondents, compare themselves to models in personal care and fashion ads. Aspirational was significant for technology (β = .139, p<.01) and nutritional (β = .144, p<.001). Market Maven was significant (β = -.104, p<.05) but negative for the technology category. This indicates that males believe that models used to advertise the technology category don't display opinion leadership. In these final models, the significant variables come predominantly from variables associated with Benefits of attractiveness and

models demonstrating the power of models in advertising and other marketing communications.

5.9 Section Summary

This section of Chapter 5 provided a number of implications. Gender differences were found to exist in perceptions of attractiveness and attractiveness was found to be important for both groups. Additionally, culture was found to be an important influencer. Therefore, attractiveness, gender, and culture are important factors to consider in advertising and other marketing communications.

Models were found to have a negative impact on males and females in terms of comparison and the lack of representative models in marketing communication. Stereotypical portrayal of models may negatively impact social good by emphasising and encouraging body forms that conflict with health. More messages that reinforce desirable body forms may need to be provided as role models to counter commercial inappropriate promotions. Public education may be required for vulnerable age groups and segments of the society.

The regression analyses supported the proposed relationships between Attractiveness, Media, Models, Culture, Attitude to products, and Benefits of attractiveness, with statistically significant results in most instances. Overall, the regression analysis indicated support for the conceptual model however there were a number of low beta values recorded. To further assess these relationships some additional analyses were undertaken. Firstly, Analysis of Variance was used to examine different levels of the various constructs to see whether any significant variation was evident. The results are presented in the next section. This is followed by the final analysis which involves structural equation modelling to facilitate an examination of the various relationships simultaneously.

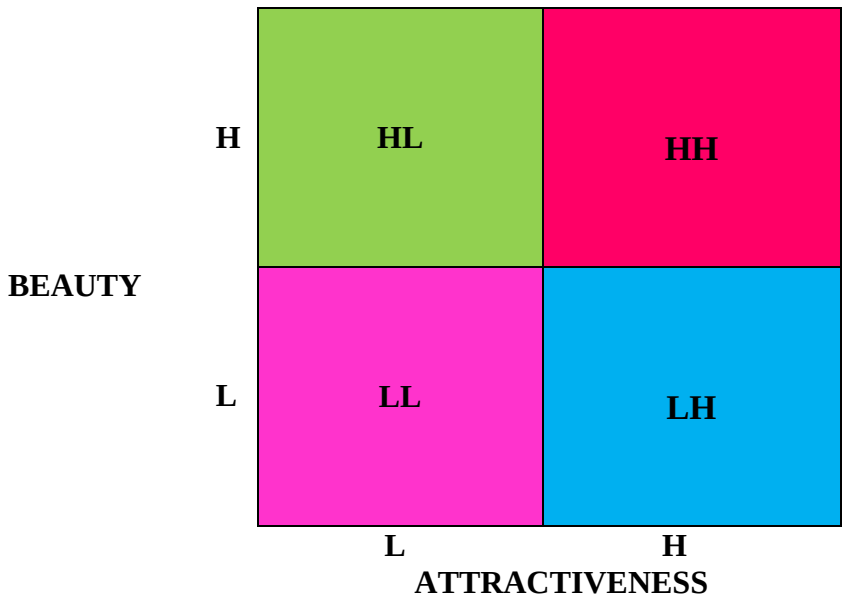
5.10 ANOVA – BEAUTY AND ATTRACTIVENESS

As discussed in Chapter 2, confusion exists with the use of the concepts Beauty and Attractiveness. This research argues that they are two separate concepts as a person could be perceived beautiful and attractive or ugly and not attractive. These are the two obvious situations. In this study, we're interested in separating the two as they're often consumed and confounded. We're interested in finding out whether somebody could be beautiful but not attractive and vice versa and to understand what the expectations are given these perceptions. This represents the intersection between beauty and attractiveness.

It was of interest to explore whether there are varying levels of beauty and attractiveness. As it is an asymmetrical relationship, it was tested by employing a 2x2 matrix. A Frequencies table was run for beauty (M=4.5) and attractiveness (M=4.8). A matrix was computed by labelling means lower than 4.5 and 4.8 as 1 (L) and those higher as 2 (H). This resulted in four groups representing HH, HL, LH, and LL levels of beauty and attractiveness perceptions. To profile the differences in perceptions, beauty and attractiveness were entered in to a One-way ANOVA. Significant differences were found between the four groups. Some people are considered beautiful and attractive (HH) and others as not beautiful and not attractive (LL). However, the surprising finding was that there are in fact people who are considered beautiful but not attractive (HL) and not beautiful but attractive (LH), allowing us to argue that the two constructs are different. The matrix is presented in Figure 5.2.

The F statistic was used as an indication of whether the means significantly differed and hence whether the independent variable had a significant effect on the dependent variable, and Tamhane's T2 test was used as it allows for a range of significant levels thereby avoiding making the assumption of equal variances. The post hoc test via Tamhane's T2 scores indicated that there are significant differences across the beauty-attractiveness segments. The F ratios were significant at $p<0.001$ for each segment indicating that significant differences exist. Given that people are considered to belong to the individual segments, it may be possible to predict associations and expectations of benefits of attractiveness, body image evaluations, and model influence.

Figure 5.2 Levels of beauty and attractiveness



5.11 One-Way ANOVA

The four groups representing different combinations of beauty and attractiveness perceptions were examined to identify how they differ from each other across different dimensions. Furthermore, with each group gender differences were investigated**.**

5.11.1 Benefits of attractiveness

The literature review in Chapter 2 established that attractive people are perceived to receive certain personal and social advantages. An interesting concept is to see if this differs across the four groups. The following proposition is developed:

Proposition 4: People who belong to the four segments of the beauty-attractiveness matrix are expected to have different perceptions of:

H4a*: Benefits of attractiveness and the differences are expected to be HH>HL>LH>LL*

Proposition 5: There are significant gender differences with females scoring higher than males on:

H5a*: Benefits of attractiveness*

To profile the differences in perceptions among the four groups for Benefits of attractiveness, competitive advantage and social acceptance were entered into a one-way ANOVA with gender.

Table 5.8 Female Perceptions

	Group Means					
	HH N=227 N=207	**HL N=82 N=66**	**LH N=65 N=59**	**LL N=218 N=175**	**F-Ratio**	**Differences and significance level**
Competitive advantage						
FEMALE	4.412	3.610	4.345	3.633	19.771***	HH and LH>HL and LL ***
Social acceptance						
FEMALE	5.156	4.488	5.015	4.385	19.970***	HH>HL> LL ***; LH>LL**

*p<0.05, **p<0.01, *** p<0.001
*The first letter H refers to Beauty: HH = high beauty, high attractiveness; HL = high beauty, low attractiveness; LH = low beauty, high attractiveness; LL = low beauty, low attractiveness

For female evaluators those perceived to be both beautiful and attractive (HH) or not beautiful but attractive (LH) were strongly associated with search for competitive advantage significantly more than the beautiful but not attractive (HL) and not beautiful and not attractive (LL). Additionally, those perceived to be both beautiful and attractive (HH), beautiful but not attractive (HL) or not beautiful but attractive (LH) were strongly associated with search for social acceptance significantly more than the not beautiful and not attractive (LL).

Table 5.9 Male Perceptions

	Group Means					
	HH N=227 N=207	**HL N=82 N=66**	**LH N=65 N=59**	**LL N=218 N=175**	**F-Ratio**	**Differences and significance level**
Competitive advantage						
MALE	4.503	3.897	4.346	3.678	19.689***	HH>HL and LL ***; LH>LL***
Social acceptance						
MALE	5.226	4.596	5.181	4.309	28.608***	HH>HL and LL***; LH>HL and LL***

*p<0.05, **p<0.01, *** p<0.001
*The first letter H refers to Beauty: HH = high beauty, high attractiveness; HL = high beauty, low attractiveness; LH = low beauty, high attractiveness; LL = low beauty, low attractiveness

For male evaluators those perceived to be both beautiful and attractive (HH) or not beautiful but attractive (LH) were strongly associated with search for competitive advantage

significantly more than the beautiful but not attractive and not beautiful and not attractive. Additionally, those perceived to be beautiful and attractive (HH) or not beautiful but attractive (LH) were strongly associated with search for social acceptance significantly more than the beautiful but not attractive (HL) and not beautiful and not attractive (LL).

Table 5.10 Differences in Male and Female Perceptions

	Group Means			
	HH N=227 N=207	**HL N=82 N=66**	**LH N=65 N=59**	**LL N=218 N=175**
Competitive advantage				
Gender Differences	ns	ns	ns	ns
Social acceptance				
Gender Differences	ns	ns	ns	ns

*p<0.05, **p<0.01, *** p<0.001
*The first letter H refers to Beauty: HH = high beauty, high attractiveness; HL = high beauty, low attractiveness; LH = low beauty, high attractiveness; LL = low beauty, low attractiveness

The next step in the analysis was to see if there were any differences between, say, HH as evaluated by different genders in terms of their association with search for competitive advantage and social acceptance. The results suggest that there are no differences. Thus the association between search for competitive advantage and social acceptance and the evaluation of cluster group is independent of gender. The significant differences for LH suggest that attractiveness determines the profile more than beauty perhaps reflecting that people feel they can do something about that than about beauty.

5.11.2 Self evaluation of body image

Body image is a key consequence of perceptions of beauty and attractiveness. Multiple regression in the previous section found that there were differences in self evaluations of body image pre and post exposure to images of models. Another interesting notion is whether there are differences in how the four groups evaluate their body image. With that in mind, the following proposition is developed:

Proposition 4: People who belong to the four segments of the beauty-attractiveness matrix are expected to have different perceptions of:

H4b*: Self evaluations of body image and the differences are expected to be HH>HL>LH>LL*

Proposition 5: There are significant gender differences with females scoring higher than males on:

H5b*: Self evaluations of body image*

To profile the differences in perceptions among the four groups for self evaluations of body image, body image perceptions before exposure to images of models and body image after exposure were entered in to a one-way ANOVA with gender.

All the results are presented in Tables 5.11-5.13.

Table 5.11 Female Perceptions

	Group Means					
	HH N=227 N=207	**HL N=82 N=66**	**LH N=65 N=59**	**LL N=218 N=175**	**F-Ratio**	**Differences and significance level**
Body Image pre exposure						
FEMALE	4.479	4.156	4.269	4.072	4.342**	HH>LL**
Body Image after exposure						
FEMALE	4.479	4.156	4.269	4.072	4.342**	HH>LL**

*p<0.05, **p<0.01, *** p<0.001

*The first letter H refers to Beauty: HH = high beauty, high attractiveness; HL = high beauty, low attractiveness; LH = low beauty, high attractiveness; LL = low beauty, low attractiveness

For female evaluators those perceived to be both beautiful and attractive (HH) were strongly associated with search for body image pre exposure significantly more than the not beautiful and not attractive. Additionally, those perceived to be both beautiful and attractive (HH) were strongly associated with search for body image post exposure significantly more than the not beautiful and not attractive (LL).

Table 5.12 Male Perceptions

	Group Means					
	HH N=227 N=207	**HL N=82 N=66**	**LH N=65 N=59**	**LL N=218 N=175**	**F-Ratio**	**Differences and significance level**
Body Image pre exposure						
MALE	4.640	4.394	4.674	4.241	6.447***	HH>LL***; LH>LL**
Body Image after exposure						
MALE	4.640	4.394	4.674	4.241	6.447***	HH>LL***; LH>LL**

*p<0.05, **p<0.01, *** p<0.001

*The first letter H refers to Beauty: HH = high beauty, high attractiveness; HL = high beauty, low attractiveness; LH = low beauty, high attractiveness; LL = low beauty, low attractiveness

For male evaluators those perceived to be both beautiful and attractive (HH) were strongly associated with search for body image pre and after exposure significantly more than the not beautiful and not attractive (LL). Not beautiful but attractive (LH) was associated more with body image pre and after exposure than not beautiful and not attractive (LL).

Table 5.13 Differences in Male and Female Perceptions

	Group Means			
	HH N=227 N=207	**HL N=82 N=66**	**LH N=65 N=59**	**LL N=218 N=175**
Body Image pre exposure				
Gender Differences	2.497**	ns	3.320***	ns
Body Image after exposure				
Gender Differences	ns	ns	2.137***	ns

*p<0.05, **p<0.01, *** p<0.001
*The first letter H refers to Beauty: HH = high beauty, high attractiveness; HL = high beauty, low attractiveness; LH = low beauty, high attractiveness; LL = low beauty, low attractiveness

The results reveal body image pre exposure differences between genders for HH (t=2.497, p<.01) and LH (t=3.320, p<.001), and body image after exposure for LH (t=2.137, p<.001).

5.11.3 Influence of Models

Effects of model influence on people's perceptions of others' and own attractiveness was discussed in Chapter 2. There may be differences in how the four groups are influenced by models. It would be logical to assume that people who are beautiful and attractive (HH) would see themselves closer to stereotypical models whereas not beautiful and not attractive people (LL) might be alienated. There may be differences in ways they are influenced by models. With that in mind, the following proposition is developed:

Proposition 4: People who belong to the four segments of the beauty-attractiveness matrix are expected to have different perceptions of:
H4c*: Influence of models and the differences are expected to be HH>HL>LH>LL*

Proposition 5: There are significant gender differences with females scoring higher than males on:
H5c*: Influence of models*

To profile the differences in perceptions among the four groups for model influence, lifestyle, social comparison, representative, aspirational, market maven, and role models were entered in to a one-way ANOVA with gender. The results are presented in Tables 5.14-5.16.

Table 5.14 Female Perceptions

	Group Means					
	HH N=227 N=207	**HL N=82 N=66**	**LH N=65 N=59**	**LL N=218 N=175**	**F-Ratio**	**Differences and significance level**
Lifestyle						
FEMALE	3.561	2.561	3.196	2.360	23.565***	HH>HL and LL***; LH>LL**
Social comparison						
FEMALE	3.654	2.736	3.392	2.535	20.587***	HH>HL and LL***; LH>LL**
Representative						
FEMALE	4.223	3.923	4.282	3.898	2.718*	no sig differences
Aspirational						
FEMALE	2.781	2.220	2.604	2.196	9.849***	HH>HL and LL***
Market Maven						
FEMALE	4.435	3.776	4.299	4.022	17.116***	HH>HL and LL***; LH>LL***
Role models						
FEMALE	5.202	4.951	5.290	4.996	1.670	no sig differences

*p<0.05, **p<0.01, *** p<0.001
*The first letter H refers to Beauty: HH = high beauty, high attractiveness; HL = high beauty, low attractiveness; LH = low beauty, high attractiveness; LL = low beauty, low attractiveness

For female evaluators those perceived to be both beautiful and attractive (HH) or not beautiful but attractive (LH) were strongly associated with search for lifestyle significantly more than the beautiful but not attractive (HL) and not beautiful and not attractive (LL).

Those perceived to be both beautiful and attractive (HH) or not beautiful but attractive (LH) were strongly associated with search for social comparison significantly more than the beautiful but not attractive (HL) and not beautiful and not attractive (LL). Those who are beautiful and attractive (HH) seem to think that social comparison is good while those who are not beautiful and not attractive feel that there should not be a comparison.

There were no significant differences between clusters. All four clusters seem to have adopted that models are representative including LL. It could be argued that they have been coopted to believe that models in media are representative.

Those perceived to be both beautiful and attractive (HH) were strongly associated with search for aspirational significantly more than the beautiful but not attractive (HL) and not beautiful and not attractive (LL).

Those perceived to be both beautiful and attractive (HH) or not beautiful but attractive (LH) were strongly associated with search for market maven significantly more than the beautiful but not attractive (HL) and not beautiful and not attractive (LL).

There were no significant differences between clusters for role models. However, all four seem to view models in the media as role models. One could argue that the constant message that society should reflect the models in advertisements resonates will all four clusters.

Table 5.15 Male Perceptions

	Group Means					
	HH N=227 N=207	**HL N=82 N=66**	**LH N=65 N=59**	**LL N=218 N=175**	**F-Ratio**	**Differences and significance level**
Lifestyle						
MALE	2.993	2.269	2.466	2.046	12.365***	HH>HL and LL***
Social comparison						
MALE	3.136	2.322	2.527	2.054	17.043***	HH>HL and LL***
Representative						
MALE	4.338	3.742	4.633	3.751	11.770***	HH>HL>LL***; LH>HL and LL***
Aspirational						
MALE	2.952	2.121	2.322	1.970	17.344***	HH>HL and LH and LL***
Market Maven						
MALE	4.490	3.849	4.468	3.702	15.936***	HH>HL>LH and LL***; LH>LL***
Role models						
MALE	5.126	4.712	5.046	4.760	3.727**	HH>LL*

*p<0.05, **p<0.01, *** p<0.001
*The first letter H refers to Beauty: HH = high beauty, high attractiveness; HL = high beauty, low attractiveness; LH = low beauty, high attractiveness; LL = low beauty, low attractiveness

For male evaluators those perceived to be beautiful and attractive (HH) had a stronger association with lifestyle than beautiful and not attractive (HL) and not beautiful and not attractive (LL). Those considered not beautiful and not attractive (LL) seem to be reacting to what they don't have.

Those perceived to be beautiful and attractive (HH) had a stronger association than beautiful and not attractive (HL) and not beautiful and not attractive (LL). Beautiful and attractive males (HH) are fine with social comparison while beautiful but not attractive (HL) and not beautiful and not attractive (LL) don't approve of it.

Those perceived to be beautiful and attractive (HH) or not beautiful but attractive (LH) were strongly associated with search for representative significantly more than the beautiful but not attractive (HL) and not beautiful and not attractive (LL).

Those perceived to be beautiful and attractive (HH) had a stronger association than beautiful and not attractive (HL), not beautiful but attractive (LH) and not beautiful and not attractive (LL).

Those perceived to be both beautiful and attractive (HH) or not beautiful but attractive (LH) were strongly associated with search for market maven significantly more than the beautiful but not attractive (HL) and not beautiful and not attractive (LL). Those who are beautiful and attractive consider models to be opinion leaders while HL, LH, and LL do not.

Those perceived to be beautiful and attractive (HH) were strongly associated with search for role models significantly more than the not beautiful and not attractive (LL).

Table 5.16 Differences in Male and Female Perceptions

	Group Means			
	HH N=227 N=207	**HL N=82 N=66**	**LH N=65 N=59**	**LL N=218 N=175**
Lifestyle				
Differences	-3.409***	ns	-2.325*	-2.285*
Social comparison				
Differences	-3.335***	ns	-2.868**	-3.798***
Representative				
Differences	ns	ns	ns	ns
Aspirational				
Differences	ns	ns	ns	-1.950*
Market Maven				
Differences	ns	ns	ns	ns
Role models				
Differences	ns	ns	ns	ns

*p<0.05, **p<0.01, *** p<0.001
*The first letter H refers to Beauty: HH = high beauty, high attractiveness; HL = high beauty, low attractiveness; LH = low beauty, high attractiveness; LL = low beauty, low attractiveness

The next step in the analysis was to see if there were any differences between genders in terms of their association with search for lifestyle. The results suggest that there are significant but negative differences for lifestyle between genders for HH (t=-3.409, p<.001), LH (t=-2.325, p<.05) and LL (t=-2.285, p<.05). There are significant but negative differences for social comparison between genders for HH (t=-3.335, p<.001), LH (t=-2.868, p<.01) and LL (t=-3.798, p<.001). There are also significant but negative differences for aspirational between genders for LL (t=-1.950, p<.05). The results suggest that there are no differences between genders for representative, market maven, and role models.

For Benefits of attractiveness, self evaluation of body image, and model influence, not beautiful but attractive (LH) is considered closest in scores to beautiful and attractive (HH) suggesting that it is the attractiveness which may be more important than beauty. The implication is that perhaps people are aware that they could do something about their attractiveness and tend to place more importance on it than on beauty. The implication for the individual is when asked if they preferred HL or LH, it would appear that they choose attractiveness. As indicated in previous literature (Winkielman, et al., 2006), beauty can be

processed in milliseconds. There is very little the one being observed can do about it. In many ways, this is why beauty is considered a reflective scale. In contrast, attractiveness requires some degree of mental processing and the one observed may be able to manipulate it and do something about it. This is the conflict between nature and nurture. Beauty is entirely natural while attractiveness can be altered.

5.12 Section Summary

The above results indicated that there are significant differences across the beauty-attractiveness segments. People are considered to belong to the individual segments and these segments can be used to predict expectations of benefits of attractiveness, body image evaluations, and model influence.

The results investigated differences between gender perceptions. The results revealed that once the perceptions of beauty and attractiveness are formed, the gender differences in terms of expectations are largely the same. So differences tend to be non significant. However, gender differences did exist with a number of variables including self evaluations of body image pre and post image exposure, model influence with lifestyle, social comparison, and aspirational, and attitudes to personal care, fashion and nutritional products. These findings are important in terms of message design and execution. More research concentrates on the effects of media on females while males as a segment have been largely excluded. These findings indicate that it is important to take gender into consideration when designing marketing communication messages.

The regression analyses supported the proposed relationships between Attractiveness, Media, Models, Culture, Attitude to products, and Benefits of attractiveness, with statistically significant results in most instances. Overall, the regression analysis indicated support for the conceptual model however there were a number of low beta values recorded. To further assess these relationships some additional analyses were undertaken. Firstly, Analysis of Variance was used to examine different levels of the various constructs to see whether any significant variation was evident. This is followed by the final analysis which involves structural equation modelling to facilitate an examination of the various relationships simultaneously.

5.13 Moderation

Moderation is invoked when the researcher posits that the relationship between an independent variable and a dependent variable may depend on the level of some other variable (moderating variable) (Baron & Kenny, 1986). The moderator variable at various levels describes conditions under which specific relationships hold. For example, to predict the attractiveness of an advertisement (criterion Y) based on two predictors – perceived attractiveness of the respondent (X) and body image (Z), it is proposed that as the perceived attractiveness of the respondent increases the perceived attractiveness of the advertisement will increase depending on the respondents' self evaluation of their body image. This implies that the relationship between Y and X varies as a function of Z. In this study all the three variables, attractiveness of the advertisement (Y), perceived attractiveness of the respondent (X) and body image (Z) are continuous variables (Aiken & West, 1991; Wood, 1989). The predicted value of Y at each level of X will depend on the value of Z (potential moderator). In this sense, moderation implies there is a significant interaction between X and Z. Body image (Z) is assumed to be the potential moderator and can have three levels: low (one standard deviation below the mean), medium (at the mean) and high (one standard deviation above the mean). Each of the three levels of Z results in a distinct regression equation. The typical equation for interaction is as follows:

$$Y = b_0 + b_1X+b_2Z+b_3XZ+e$$

Where X is the predictor, Z is the moderator, XZ is the interaction term, b_0 is an intercept, $b_1 \ldots b_3$ are regression coefficients and e is the error term.

The relationship between each predictor and the criterion variable is measured by the slope of the regression line (i.e. b_1 and b_2) and the interaction is measured by b_3, the slope of XZ.

The analytical approach to identify moderation involves establishing the existence of significant interaction term (b_3) between the independent variable and the proposed moderator. When the proposed moderator is categorical, this is synonymous with performing ANOVA. When the proposed moderator is a continuous variable, the situation is different. The most common approach adopted in this situation is proposed by Aiken and West (1991). This is the adopted in the following analyses.

A number of potential moderators were expected to have significant effects in a number of relationships. These are discussed below.

5.13.1 Moderation Effects of Gender

From the literature review in Chapter Two, it was found that gender differences do exist with respect to perceptions of attractiveness. The following hypothesis examines whether gender moderates the relationship between perceptions of attractiveness and advertising effectiveness:

***H6*:** Gender moderates the relationship between Perceptions of Attractiveness and Advertising effectiveness

The results suggest that attractiveness and gender have no significant effect in the perfume model. The interaction term is significant (β=-0.225, t=-3.154, p<.001) suggesting gender is a "pure" moderator (Sharma et al 1981). Slope analysis indicates that the regression for males is significant and positive (b = 0.141, t= 2.651, p < .01**)** while for females it is significant and negative (β=-0.084, t=-1.766, p<.05). This means that as perceived attractiveness of the model increases, the advertising effectiveness increases for males and the opposite occurs for females. The finding could mean that attractive models in perfume advertising are effective for males but the effect on females could achieve the opposite. This might suggest that women may feel the advert is representative of them and may feel threatened by the model.

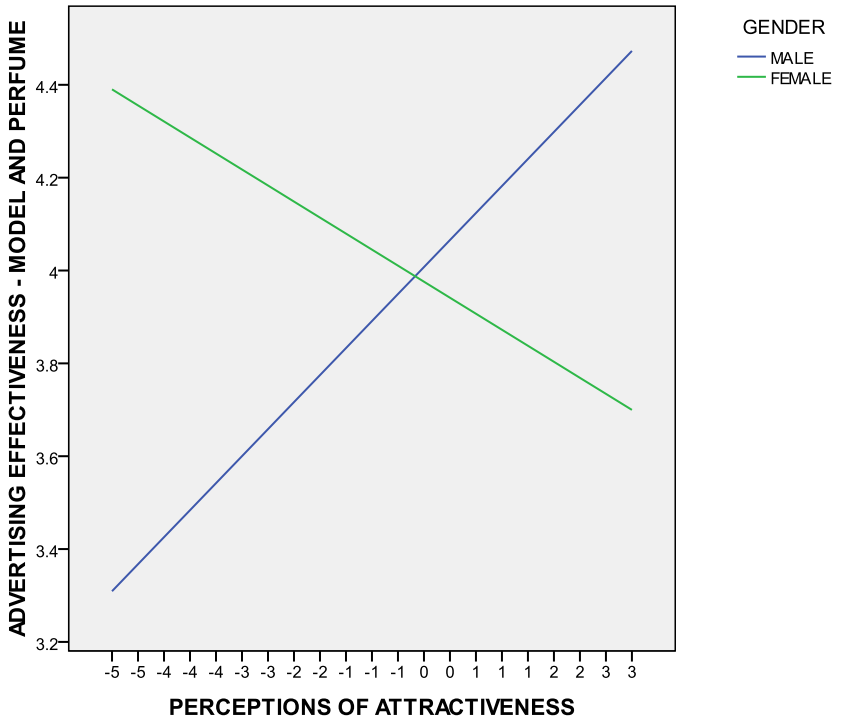
The same pattern occurs in the underwear model. Attractiveness and gender have no significant effect, however the interaction terms is significant (β=-0.199, t=-2.718, p<.01) suggesting gender is a pure moderator. Slope analysis indicates that the regression for males is significant and positive (b = 0.104, t= 1.909, p < .05**)** while for females it is significant and negative (β=-0.095, t=-1.942, p<.05). This means that as perceived attractiveness of the model increases, the advertising effectiveness increases for males and the opposite occurs for females. As for the perfume model, this finding could mean that attractive models in underwear advertising are effective for males but have a threatening effect on females.

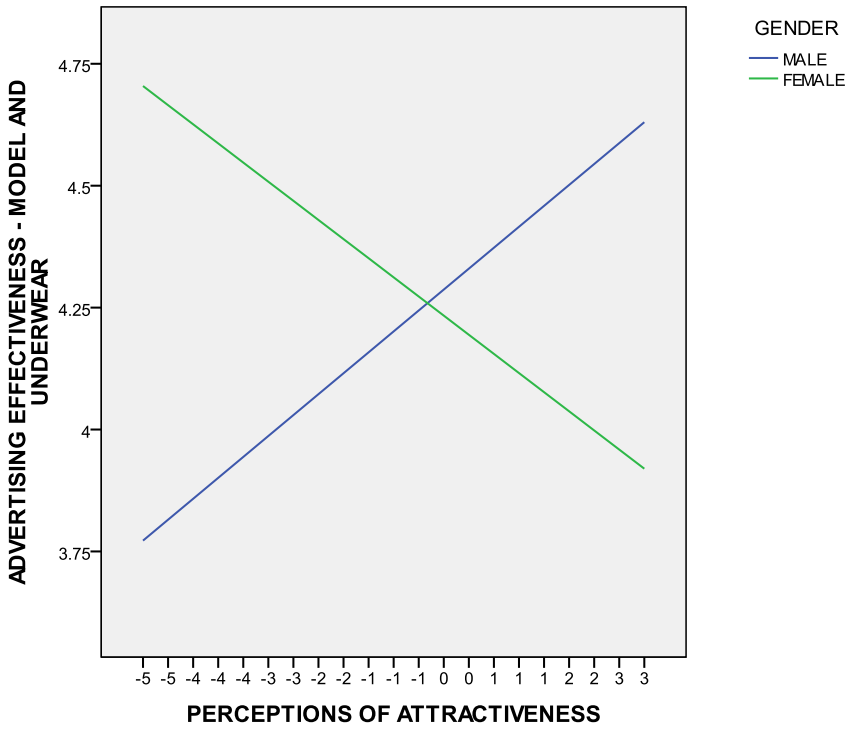
Table 5.17 Moderation Effects of Gender

Model Perfume Combination		**Model Underwear Combination**	
Interaction model	**b** **(t)**	**Interaction model**	**b** **(t)**
Constant	3.994 (92.307***)	Constant	4.256 (95.881***)
Attractiveness	.016 (.448)	Attractiveness	-.007 (-.180)
Gender	-.090 (-1.035)	Gender	-.105 (-1.178)
Attractiveness X Gender	-.225 (-3.154***)	**Attractiveness X Gender**	-.199 (-2.718**)
R^2	.011	**R^2**	.009
F-ratio (df)	3.740** (3, 976)	**F-ratio (df)**	2.936* (3, 972)
Conditional effects	**b** **(t)**	**Conditional effects**	**b** **(t)**
male	.141 (2.651**)	male	.104 (1.909*)
female	-.084 (-1.766*)	female	-.095 (-1.942*)

*p<0.05, **p<0.01, *** p<0.001

Figure 5.3 Interaction Plot of Attractiveness and Advertising Effectiveness Models





5.13.2 Moderation Effects of Body Image

From the literature review in Chapter Two, it was found that body image is affected by a number of factors including advertising and benefits of attractiveness. In turn it is proposed that one's self evaluation of body image will affect one's attitudes toward products and benefits of attractiveness. The following hypotheses examine whether body image moderates the relationship between perceptions of beauty and attractiveness and advertising effectiveness and social implications:

***H7a*:** Body image moderates the relationship between Perceptions of Beauty and Attitude to:

- personal care and fashion products
- technology products
- nutritional products

***H7b*:** Body image moderates the relationship between Perceptions of Attractiveness and Attitude to:

- personal care and fashion products
- technology products
- nutritional products

H7c: Body image moderates the relationship between Perceptions of Attractiveness and Benefits of attractiveness

The results suggest that beauty ($b = 0.470$, $t= 11.109$, $p < .001$) and body image ($b = 0.143$, $t= 3.608$, $p < .001$) have a significant effect in the attitude to personal care and fashion products model. The interaction term is significant ($\beta=0.068$, $t=2.631$, $p<.05$) suggesting body image is a "pure" moderator. Slope analysis indicates that the regression for low ($b = 0.393$, $t= 7.628$, $p < .001$), medium ($b = 0.470$, $t= 11.109$, $p < .001$), and high ($b = 0.547$, $t= 9.884$, $p < .001$) levels of body image are significant and positive.

The results suggest that beauty ($b = 0.339$, $t= 7.076$, $p < .001$) and body image ($b = 0.215$, $t= 4.778$, $p < .001$) have a significant effect in the attitude to technology products model. The interaction term is significant ($\beta=0.094$, $t=2.887$, $p<.01$) suggesting body image is a "pure" moderator. Slope analysis indicates that the regression for low ($b = 0.232$, $t= 3.981$, $p < .001$), medium ($b = 0.339$, $t= 7.076$, $p < .001$), and high ($b = 0.446$, $t= 7.113$, $p < .001$) levels of body image are significant and positive.

The results suggest that beauty (b = 0.412, t= 8.687, p < .001) and body image (b = .128, t= 2.886, p < .001) have a significant effect in the attitude to nutritional products model. The interaction term is significant (β=0.076, t=2.345, p<.05) suggesting body image is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.326, t= 5.649, p < .001**)**, medium (b = 0.412, t= 8.687, p < .001**)**, and high (b = 0.497, t= 8.024, p < .001**)** levels of body image are significant and positive.

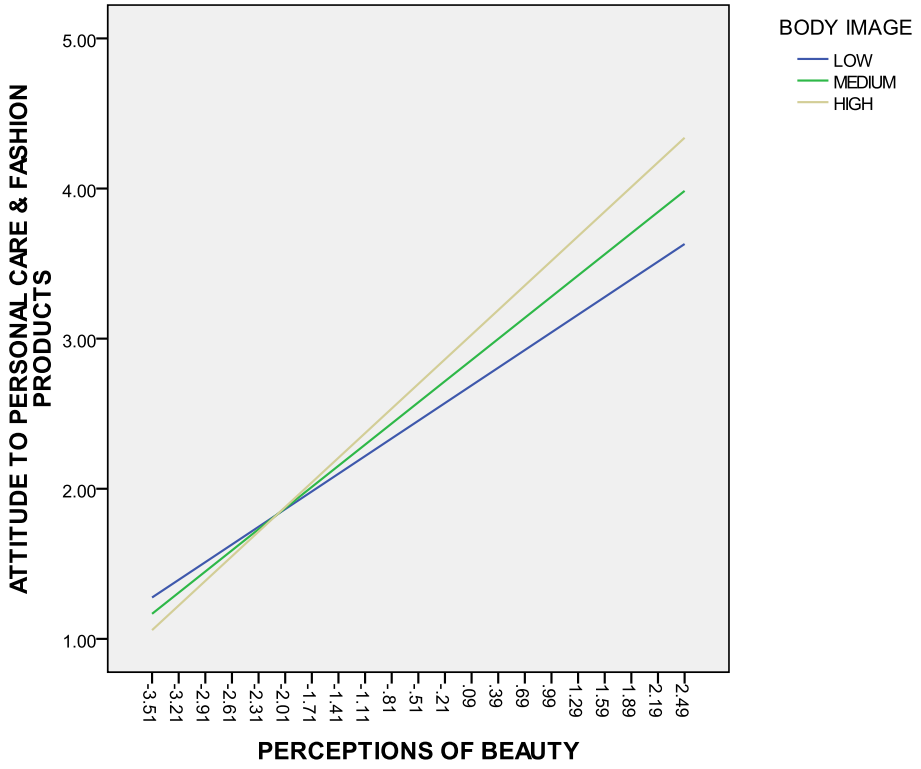
As perceived beauty of the model increases, the attitude to personal care and fashion, technology, and nutritional products increases. The higher the self evaluations of body image the greater the increase in positive attitudes. The finding could mean that beautiful models are more effective for people with higher evaluations of their own body image.

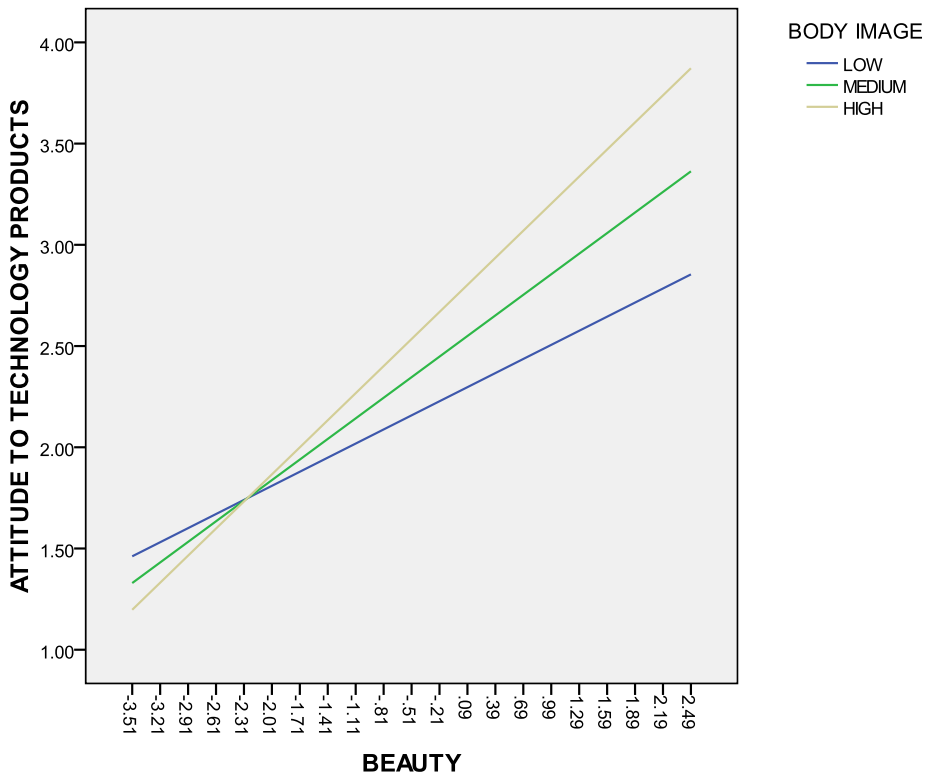
Table 5.18 Moderation Effects of Body Image

Attitude to personal care & fashion products		**Attitude to technology products**		**Attitude to nutritional products**	
Interaction model	**b (t)**	**Interaction model**	**b (t)**	**Interaction model**	**b (t)**
Constant	2.815 (63.879***)	Constant	2.519 (50.443***)	Constant	2.737 (55.420***)
Beauty	.470 (11.109***)	Beauty	.339 (7.076***)	Beauty	.412 (8.687***)
Body image	.143 (3.608***)	Body image	.215 (4.778***)	Body image	.128 (2.886**)
Beauty X Body image	.068 (2.361**)	**Beauty X Body image**	.094 (2.887**)	**Beauty X Body image**	.076 (2.345*)
R^2	.136	**R^2**	.086	**R^2**	.089
F-ratio (df)	58.043**(3, 1107)	**F-ratio (df)**	34.587***(3, 1107)	**F-ratio (df)**	36.114***(3, 1107)
Conditional effects	**b (t)**	**Conditional effects**	**b (t)**	**Conditional effects**	**b (t)**
low	.393 (7.628***)	low	.232 (3.981***)	low	.326 (5.649***)
medium	.470 11.109***)	medium	.339 (7.076***)	medium	.412 (8.687***)
high	.547 (9.884***)	high	.446 (7.113***)	high	.497 (8.024***)

*p<0.05, **p<0.01, *** p<0.001

Figure 5.4 Interaction Plots of Beauty, Attractiveness and Advertising Effectiveness and Social implications Models




BODY IMAGE
LOW
MEDIUM
HIGH
ATTITUDE TO TECHNOLOGY PRODUCTS
4.00
3.50
3.00
2.50
2.00
1.50
1.00
-3.51
-3.21
-2.91
-2.61
-2.31
-2.01
-1.71
-1.41
-1.11
-.81
-.51
-.21
.09
.39
.69
.99
1.29
1.59
1.89
2.19
2.49
BEAUTY

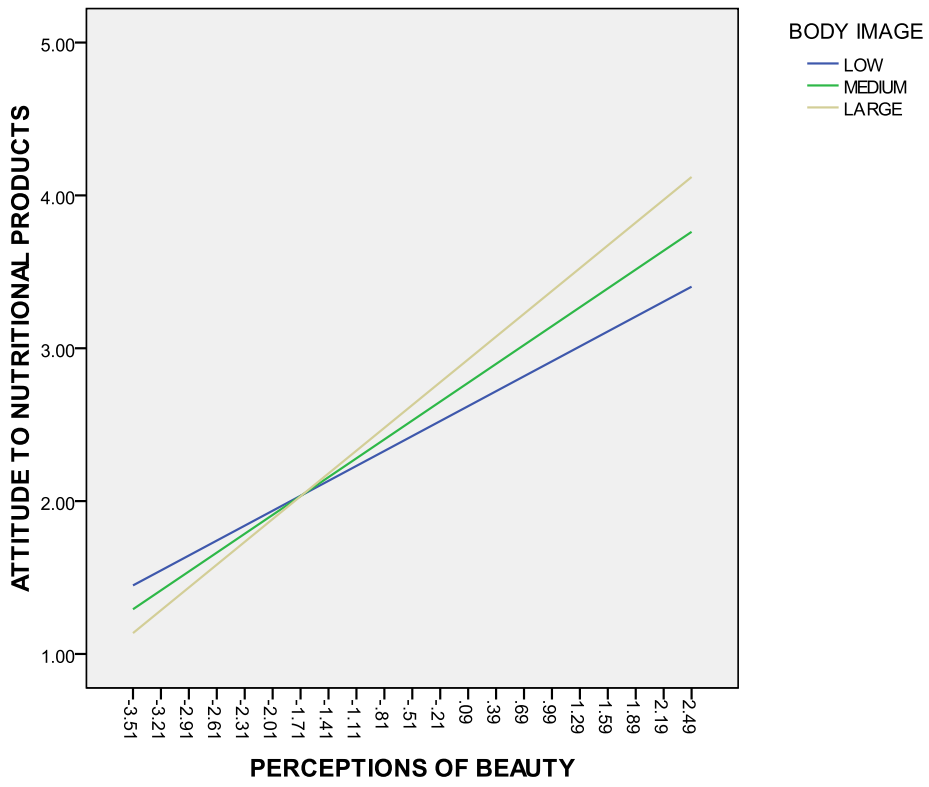

BODY IMAGE
LOW
MEDIUM
LARGE
ATTITUDE TO NUTRITIONAL PRODUCTS
5.00
4.00
3.00
2.00
1.00
-3.51
-3.21
-2.91
-2.61
-2.31
-2.01
-1.71
-1.41
-1.11
-.81
-.51
-.21
.09
.39
.69
.99
1.29
1.59
1.89
2.19
2.49
PERCEPTIONS OF BEAUTY

Table 5.19 Moderation Effects of Body Image

Attitude to personal care & fashion products		**Attitude to technology products**		**Attitude to nutritional products**		**Benefits of attractiveness**	
Interaction model	**b (t)**	**Interaction model**	**b (t)**	**Interaction model**	**b (t)**	**Interaction model**	**b (t)**
Constant	2.816 (62.611***)	Constant	2.499 (50.329***)	Constant	2.736 (55.300***)	Constant	4.402 (141.447***)
Attractiveness	.342 (9.108***)	Attractiveness	.328 (7.914***)	Attractiveness	.368 (8.918***)	Attractiveness	.278 (10.690***)
Body image	.162 (4.030***)	Body image	.205 (4.602***)	Body image	.124 (2.790**)	Body image	.126 (4.502***)
Attractiveness X Body image	.058 (2.102*)	**Attractiveness X Body image**	.135 (4.435***)	**Attractiveness X Body image**	.068 (2.245*)	**Attractiveness X Body image**	.041 (2.148*)
R^2	.106	**R^2**	.103	**R^2**	.092	**R^2**	.138
F-ratio (df)	43.944***(3, 1107)	**F-ratio (df)**	42.221***(3, 1107)	**F-ratio (df)**	37.395***(3, 1107)	**F-ratio (df)**	59.004***(3, 1107)
Conditional effects	**b (t)**	**Conditional effects**	**b (t)**	**Conditional effects**	**b (t)**	**Conditional effects**	**b (t)**
low	.276 (5.867***)	low	.175 (3.368***)	low	.291 (5.621***)	low	.231 (7.098***)
medium	.342 (9.108***)	medium	.328 (7.914***)	medium	.368 (8.918***)	medium	.278 (10.690***)
high	.408 (8.066***)	high	.481 (8.621***)	high	.445 (8.013***)	high	.324 (9.270***)

*p<0.05, **p<0.01, *** p<0.001

The results suggest that attractiveness (b = 0.342, t= 9.108, p < .001) and body image (b = 0.162, t= 4.030, p < .001) have a significant effect in the attitude to personal care and fashion products model. The interaction term is significant (β=0.058, t=2.102, p<.05) suggesting body image is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.276, t= 5.867, p < .001**)**, medium (b = 0.342, t= 9.108, p < .001**)**, and high (b = 0.408, t= 8.066, p < .001**)** levels of body image are significant and positive.

The results suggest that attractiveness (b = 0.328, t= 7.914, p < .001) and body image (b = 0.205, t= 4.602, p < .001) have a significant effect in the attitude to technology products model. The interaction term is significant (β=0.135, t=4.435, p<.001) suggesting body image is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.175, t= 3.368, p < .001**)**, medium (b = 0.328, t= 7.914, p < .001**)**, and high (b = 0.481, t= 8.621, p < .001**)** levels of body image are significant and positive.

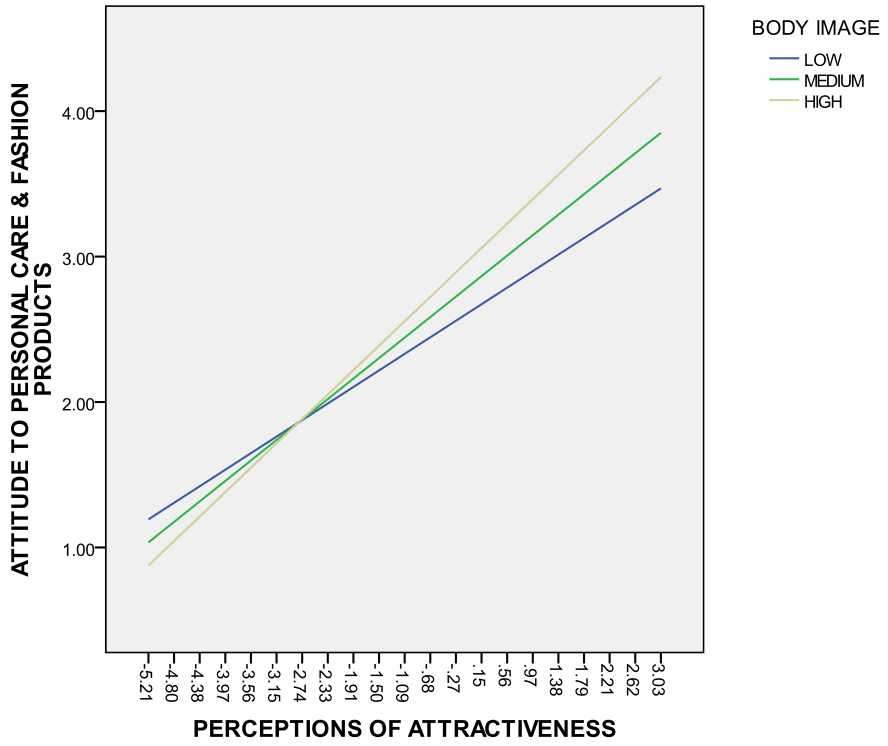
The results suggest that attractiveness (b = 0.368, t= 8.918, p < .001) and body image (b = .124, t= 2.790, p < .01) have a significant effect in the attitude to nutritional products model. The interaction term is significant (β=0.068, t=2.245, p<.05) suggesting body image is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.291, t= 5.621, p < .001**)**, medium (b = 0.368, t= 8.918, p < .001**)**, and high (b = 0.445, t= 8.013, p < .001**)** levels of body image are significant and positive.

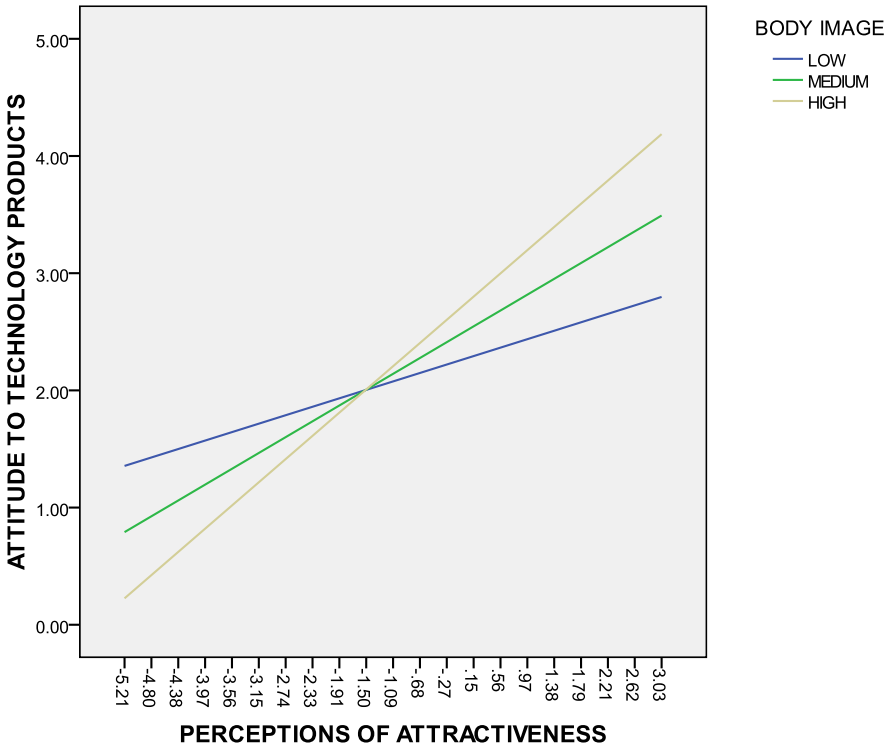
As perceived attractiveness of the model increases, the attitude to personal care and fashion, technology, and nutritional products increases. The higher the self evaluations of body image the greater the increase in positive attitudes. The finding could mean that beautiful models are more effective for people with higher evaluations of their own body image.

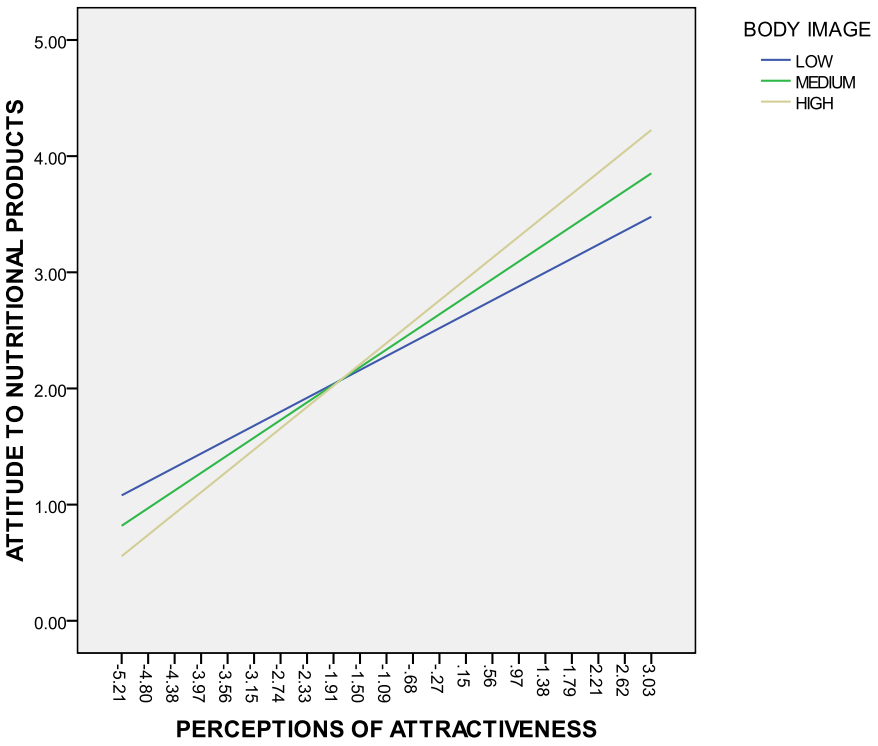
The results suggest that attractiveness (b = 0.278, t= 10.690, p < .001) and body image (b = .126, t= 4.502, p < .001) have a significant effect in the attitude to personal care and fashion product models. The interaction term is significant (β=0.041, t=2.148, p<.05) suggesting body image is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.231, t= 7.098, p < .001**)**, medium (b = 0.278, t= 10.690, p < .001**)**, and high (b = 0.324, t= 9.270, p < .001**)** levels of body image are significant and positive.

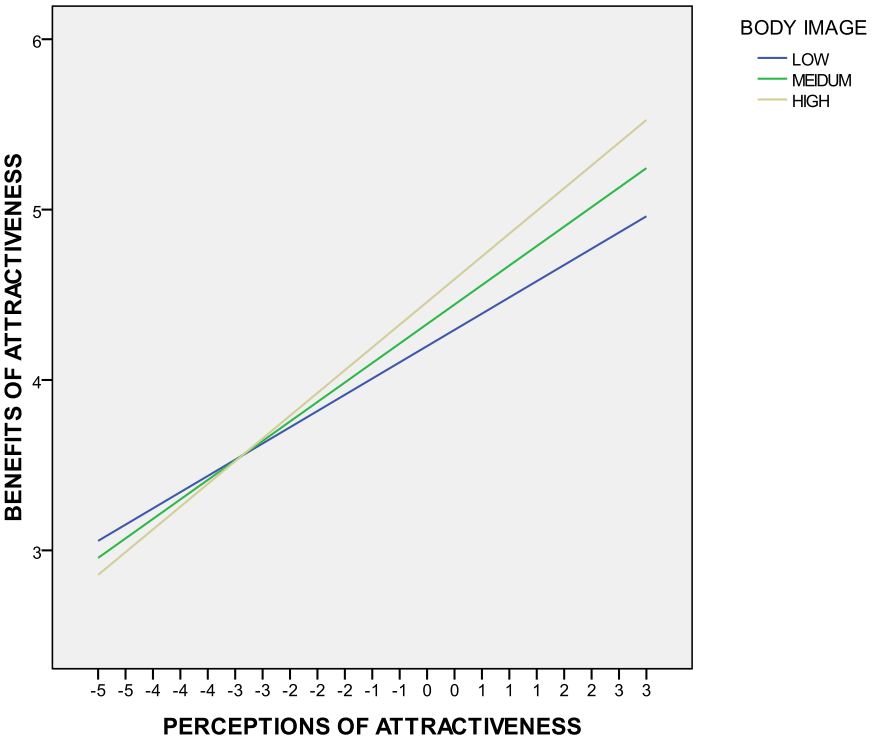
As perceived attractiveness of the model increases, the perceived benefits of attractiveness increase. The higher the self evaluations of body image the greater the increase in perceived benefits. The finding could mean that those with lower evaluations of body image don't perceive the benefits of attractiveness to be as high as it may negatively affect their perceptions of their own attractiveness.

Figure 5.5 Interaction Plots of Beauty, Attractiveness and Advertising Effectiveness and Social implications Models






BODY IMAGE
LOW
MEDIUM
HIGH
ATTITUDE TO NUTRITIONAL PRODUCTS
5.00
4.00
3.00
2.00
1.00
0.00
-5.21
-4.80
-4.38
-3.97
-3.56
-3.15
-2.74
-2.33
-1.91
-1.50
-1.09
-.68
-.27
.15
.56
.97
1.38
1.79
2.21
2.62
3.03
PERCEPTIONS OF ATTRACTIVENESS


BODY IMAGE
LOW
MEIDUM
HIGH
BENEFITS OF ATTRACTIVENESS
6
5
4
3
-5 -5 -4 -4 -4 -3 -3 -2 -2 -2 -1 -1 0 0 1 1 1 2 2 3 3
PERCEPTIONS OF ATTRACTIVENESS

5.13.3 Moderation Effect of Acculturation

From the literature review in Chapter Two, it was found that the degree of acculturation has an effect of one's perceptions of self and others. In turn it is proposed that one's level of acculturation will affect one's attitudes toward products and self evaluations of body image. The following hypotheses examine whether acculturation moderates the relationship between perceptions of beauty and advertising effectiveness and social implications:

H8a: The degree of Acculturation moderates the relationship between Perceptions of Beauty and Attitude to:

- personal care and fashion products
- technology products
- nutritional products

***H8b*:** The degree of Acculturation moderates the relationship between Perceptions of Beauty and Body Image post exposure to images of models

The results suggest that beauty (b = 0.452, t= 10.914, p < .001) and acculturation (b = 0.204, t= 5.648, p < .001) have a significant effect in the attitude to personal care and fashion products model. The interaction term is significant (β=0.089, t=3.208, p<.001) suggesting acculturation is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.344, t= 6.602, p < .001**)**, medium (b = 0.452, t= 10.914, p < .001**)**, and high (b = 0.560, t= 10.254, p < .001**)** levels of acculturation are significant and positive.

The results suggest that beauty (b = 0.349, t= 7.333, p < .001) and acculturation (b = 0.170, t= 4.094, p < .001) have a significant effect in the attitude to technology products model. The interaction term is significant (β=0.076, t=2.386, p<.05) suggesting acculturation is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.257, t= 4.288, p < .001**)**, medium (b = 0.349, t= 7.333, p < .001**)**, and high (b = 0.441, t= 7.032, p < .001**)** levels of acculturation are significant and positive.

The results suggest that beauty (b = 0.388, t= 8.354, p < .001) and acculturation (b = .206, t= 5.085, p < .001) have a significant effect in the attitude to nutritional products model. The interaction term is significant (β=0.092, t=2.949, p<.05) suggesting acculturation is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.277, t= 4.734, p <

.001**)**, medium (b = 0.388, t= 8.354, p < .001**)**, and high (b = 0.500, t= 8.153, p < .001**)** levels of acculturation are significant and positive.

As perceived beauty of the model increases, the attitude to personal care and fashion, technology, and nutritional products increases. The higher the degree of acculturation, the greater the increase in positive attitudes to products. The finding could mean that beautiful models are less effective for people who cling to their own culture and are not as involved in mainstream Australian culture.

The results also suggest that beauty (b = 0.278, t= 10.690, p < .001) and acculturation (b = .126, t= 4.502, p < .001) have a significant effect in the body image post exposure model. The interaction term is significant (β=0.041, t=2.148, p<.05) suggesting acculturation is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.231, t= 7.098, p < .001**)**, medium (b = 0.278, t= 10.690, p < .001**)**, and high (b = 0.324, t= 9.270, p < .001**)** levels of acculturation are significant and positive.

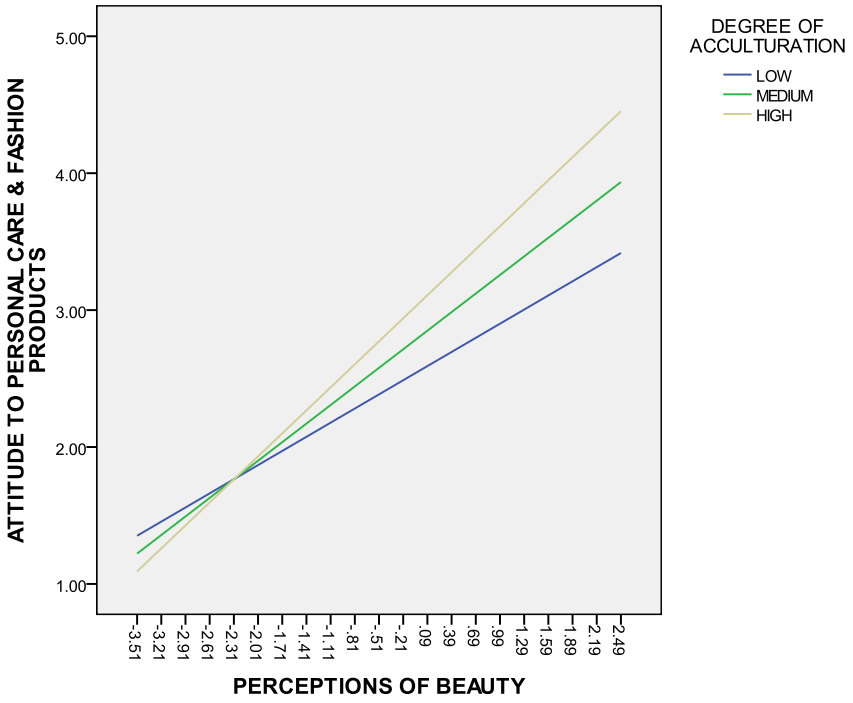
As perceived beauty of the model increases, the evaluations of body image increase. The higher the degree of acculturation, the greater the increase in positive body image. The finding could mean that beautiful models have less of a positive impact for those people that cling to their own culture.

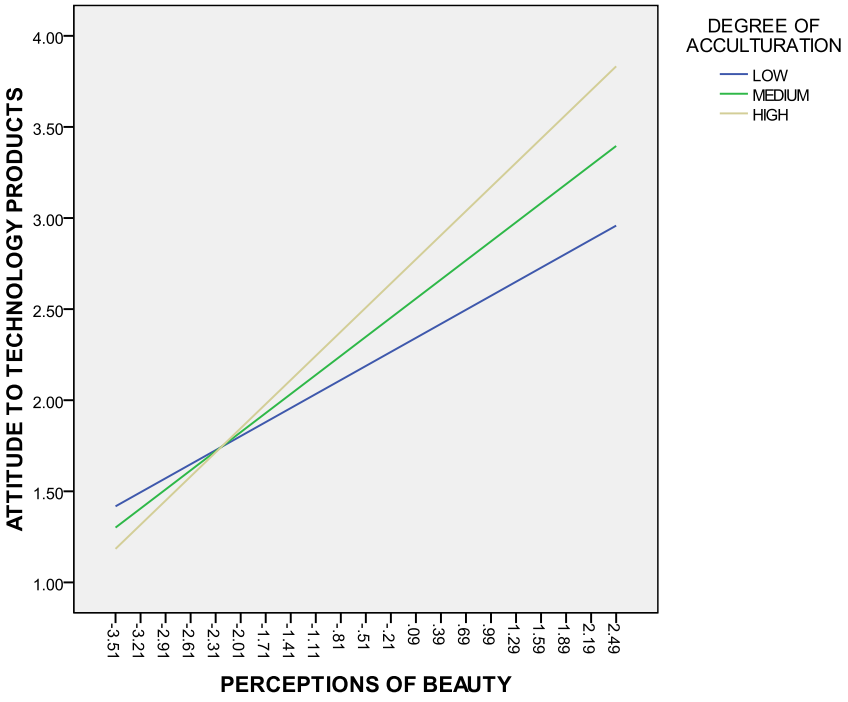
Table 5.20 Moderation Effects of Acculturation

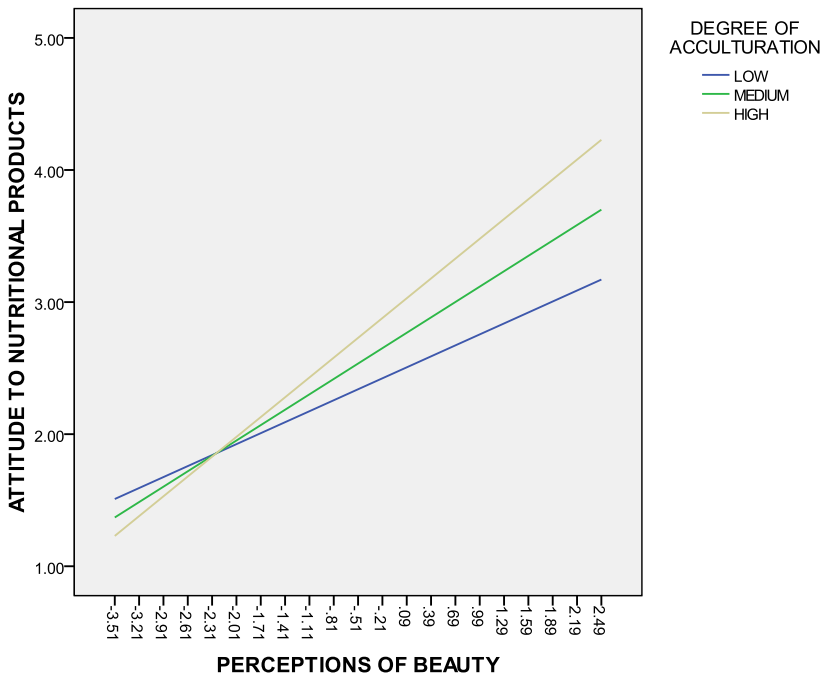
Attitude to personal care & fashion products		**Attitude to technology products**		**Attitude to nutritional products**		**Body image (post exposure)**	
Interaction model	**b (t)**	**Interaction model**	**b (t)**	**Interaction model**	**b (t)**	**Interaction model**	**b (t)**
Constant	2.809 (64.572***)	Constant	2.526 (50.549***)	Constant	2.732 (55.988***)	Constant	4.402 (141.447***)
Beauty	.452 (10.914***)	Beauty	.349 (7.333***)	Beauty	.388 (8.354***)	Beauty	.278 (10.690***)
Acculturation	.204 (5.648***)	Acculturation	.170 (4.094***)	Acculturation	.206 (5.085***)	Acculturation	.126 (4.502***)
Beauty X Acculturation	.089 (3.208***)	**Beauty X Acculturation**	.076 (2.386*)	**Beauty X Acculturation**	.092 (2.949**)	**Beauty X Acculturation**	.041 (2.148*)
R^2	.153	**R^2**	.079	**R^2**	.105	**R^2**	.138
F-ratio (df)	66.622*** (3, 1107)	**F-ratio (df)**	31.537***(3, 1107)	**F-ratio (df)**	43.300***(3, 1107)	**F-ratio (df)**	59.004***(3, 1107)
Conditional effects	**b (t)**	**Conditional effects**	**b (t)**	**Conditional effects**	**b (t)**	**Conditional effects**	**b (t)**
low	.344 (6.602***)	low	.257 (4.288***)	low	.277 (4.734***)	low	.231 (7.098***)
medium	.452 (10.914***)	medium	.349 (7.333***)	medium	.388 (8.354***)	medium	.278 (10.690***)
high	.560 (10.254***)	high	.441 (7.032***)	high	.500 (8.153***)	high	.324 (9.270***)

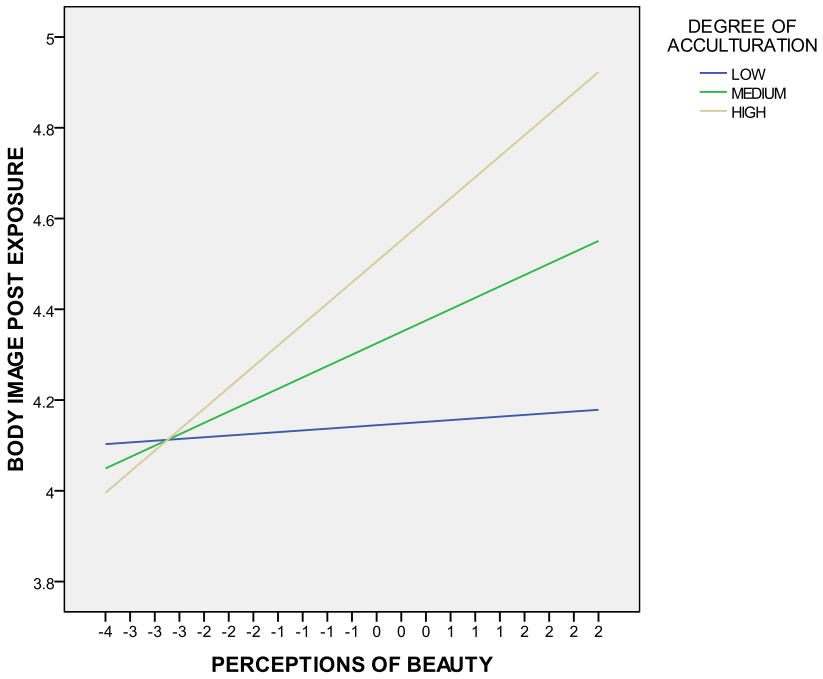
*p<0.05, **p<0.01, *** p<0.001

Figure 5.6 Interaction Plots of Beauty, Advertising Effectiveness and Social implications Models






ATTITUDE TO NUTRITIONAL PRODUCTS
5.00
4.00
3.00
2.00
1.00
-3.51
-3.21
-2.91
-2.61
-2.31
-2.01
-1.71
-1.41
-1.11
-.81
-.51
-.21
.09
.39
.69
.99
1.29
1.59
1.89
2.19
2.49
PERCEPTIONS OF BEAUTY
DEGREE OF ACCULTURATION
LOW
MEDIUM
HIGH


BODY IMAGE POST EXPOSURE
5
4.8
4.6
4.4
4.2
4
3.8
-4 -3 -3 -3 -2 -2 -2 -1 -1 -1 -1 0 0 0 1 1 1 2 2 2 2
PERCEPTIONS OF BEAUTY
DEGREE OF ACCULTURATION
LOW
MEDIUM
HIGH

5.13.4 Moderation Effects of Media Influence

From the literature review in Chapter Two, it was found that media has an influence of one's perceptions of self and others. In turn it is proposed that one's level of media influence will affect one's attitudes toward products, perceptions of social acceptance, and self evaluations of body image. The following hypotheses examine whether acculturation moderates the relationship between perceptions of beauty and attractiveness and advertising effectiveness and social implications:

***H9a*:** Media influence moderates the relationship between Perceptions of Beauty and Attitude to:

- personal care and fashion products
- technology products
- nutritional products

***H9b*:** Media influence moderates the relationship between Perceptions of Beauty and Social acceptance

H9c: Media influence moderates the relationship between Perceptions of Attractiveness and Attitude to:

- personal care and fashion products
- technology products

H9d: Media influence moderates the relationship between Perceptions of Attractiveness and Body image post exposure

The results suggest that beauty ($b = 0.368$, $t= 9.735$, $p < .001$) and media influence ($b = 0.425$, $t= 15.780$, $p < .001$) have a significant effect in the attitude to personal care and fashion products model. The interaction term is significant ($\beta=0.057$, $t=2.710$, $p<.001$) suggesting media influence is a "pure" moderator. Slope analysis indicates that the regression for low ($b = 0.283$, $t= 5.867$, $p < .001$**)**, medium ($b = 0.368$, $t= 9.735$, $p < .001$**)**, and high ($b = 0.453$, $t= 9.044$, $p < .001$**)** levels of media influence are significant and positive.

The results suggest that beauty ($b = 0.274$, $t= 6.072$, $p < .001$) and media influence ($b = 0.370$, $t= 11.519$, $p < .001$) have a significant effect in the attitude to technology products model. The interaction term is significant ($\beta=0.053$, $t=2.096$, $p<.05$) suggesting media influence is a "pure" moderator. Slope analysis indicates that the regression for low (b =

0.195, t= 3.395, p < .001**)**, medium (b = 0.274, t= 6.072, p < .001**)**, and high (b = 0.352, t= 5.895, p < .001**)** levels of media influence are significant and positive.

The results suggest that beauty (b = 0.324, t= 7.341, p < .001) and media influence (b = .366, t= 11.625, p < .001) have a significant effect in the attitude to nutritional products model. The interaction term is significant (β=0.061, t=2.488, p<.05) suggesting media influence is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.233, t= 4.134, p < .001**)**, medium (b = 0.324, t= 7.341, p < .001**)**, and high (b = 0.416, t= 7.098, p < .001**)** levels of media influence are significant and positive.

As perceived beauty of the model increases, the attitude to personal care and fashion, technology, and nutritional products increases. The higher the media influence, the greater the increase in positive attitudes to products. The finding could mean that those people who are more influenced by media are more likely to pay attention to advertising for product information and develop more positive attitudes.

The results also suggest that beauty (b = 0.227, t= 7.587, p < .001) and media influence (b = .267, t= 12.506, p < .001) have a significant effect in the social acceptance model. The interaction term is significant and negative (β=-0.046, t=-2.764, p<.01) suggesting media influence is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.296, t= 7.753, p < .001**)**, medium (b = 0.227, t= 7.587, p < .001**)**, and high (b = 0.158, t= 3.990, p < .001**)** levels of media influence are significant and positive.

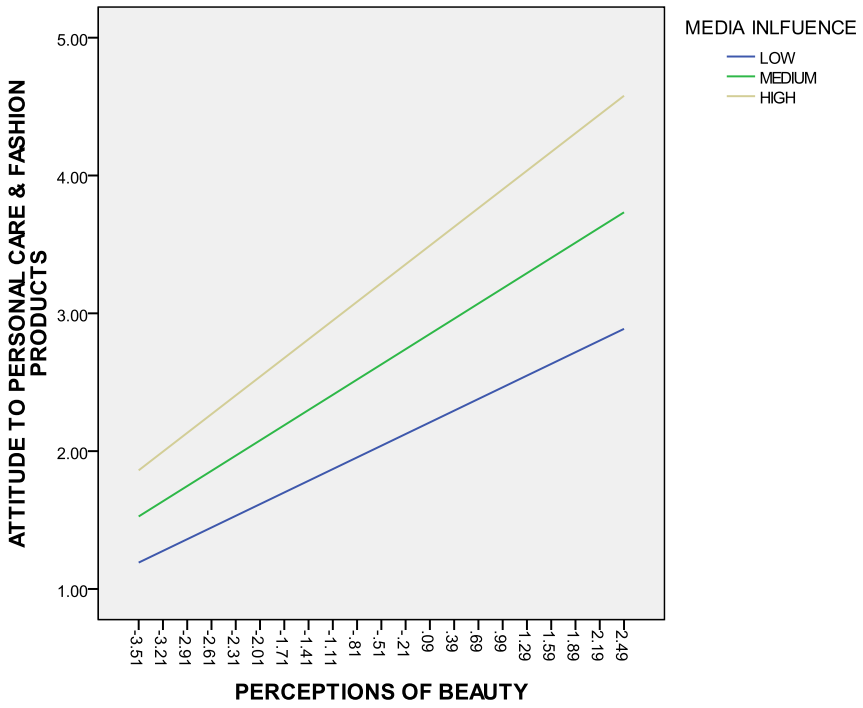
As perceived beauty of the model increases, so does the perceived social acceptance. The higher the media influence, the greater the increase in perceptions of social acceptance. The finding could mean that those influenced more by the media are more likely to be affected by images of beautiful models and believe that one must achieve those ideals to achieve greater social acceptance.

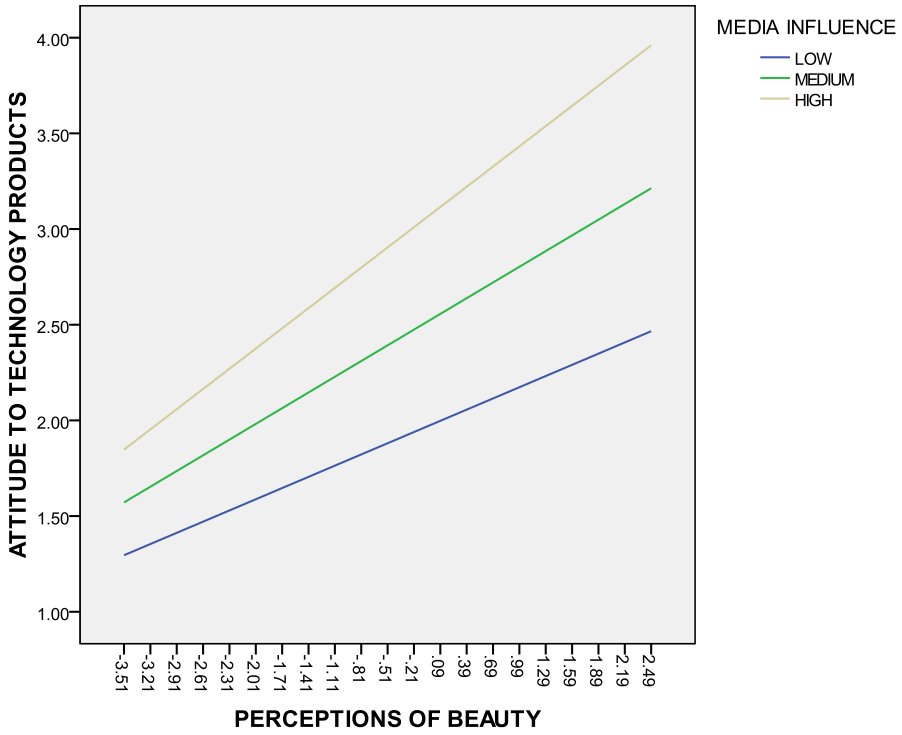
Table 5.21 Moderation Effects of Media Influence

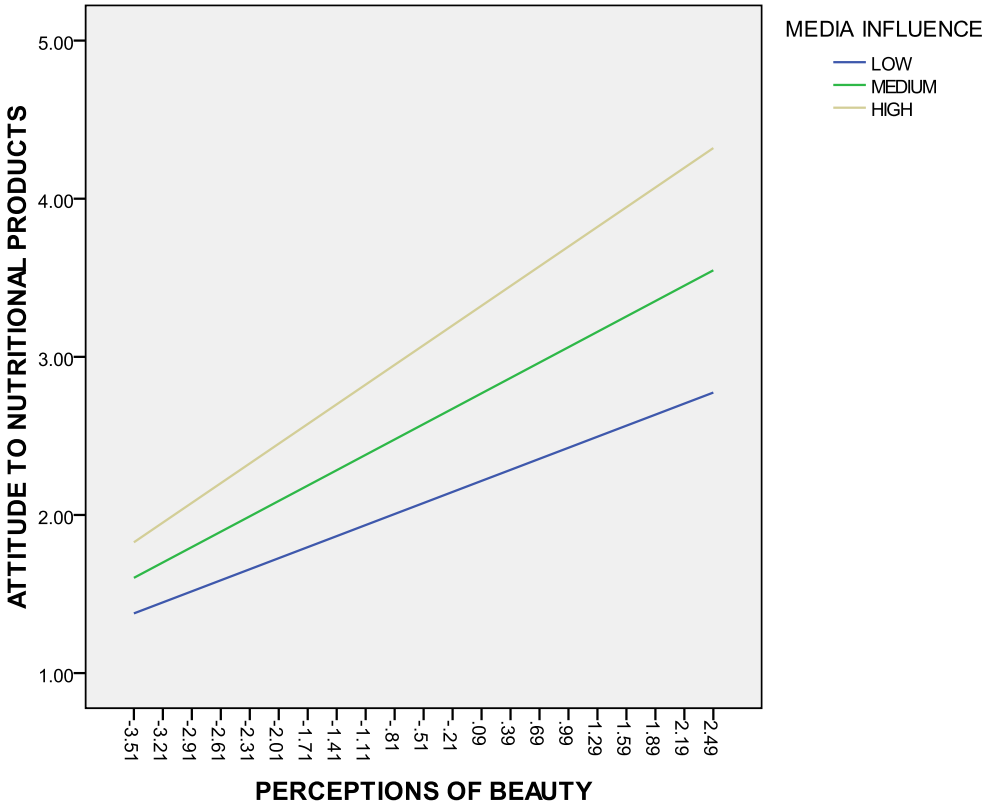
Attitude to personal care & fashion products		**Attitude to technology products**		**Attitude to nutritional products**		**Social acceptance**	
Interaction model	**b (t)**	**Interaction model**	**b (t)**	**Interaction model**	**b (t)**	**Interaction model**	**b (t)**
Constant	2.817 (70.804***)	Constant	2.532 (53.352***)	Constant	2.740 (58.925***)	Constant	4.800 (152.402***)
Beauty	.368 (9.735***)	Beauty	.274 (6.072***)	Beauty	.324 (7.341***)	Beauty	.227 (7.587***)
Media Influence	.425 (15.780***)	Media Influence	.370 (11.519***)	Media Influence	.366 (11.625***)	Media Influence	.267 (12.506***)
Beauty X Media Influence	.057 (2.710**)	**Beauty X Media Influence**	.053 (2.096*)	**Beauty X Media Influence**	.061 (2.488*)	**Beauty X Media Influence**	-.046 (-2.764**)
R^2	.287	**R^2**	.164	**R^2**	.183	**R^2**	.204
F-ratio (df)	148.597*** (3, 1107)	**F-ratio (df)**	72.564***(3, 1107)	**F-ratio (df)**	82.438***(3, 1107)	**F-ratio (df)**	94.738*** (3, 1107)
Conditional effects	**b (t)**	**Conditional effects**	**b (t)**	**Conditional effects**	**b (t)**	**Conditional effects**	**b (t)**
low	.283 (5.867***)	low	.195 (3.395***)	low	.233 (4.134***)	low	.296 (7.753***)
medium	.368 (9.735***)	medium	.274 (6.072***)	medium	.324 (7.341***)	medium	.227 (7.587***)
high	.453 (9.044***)	high	.352 (5.895***)	high	.416 (7.098***)	high	.158 (3.990***)

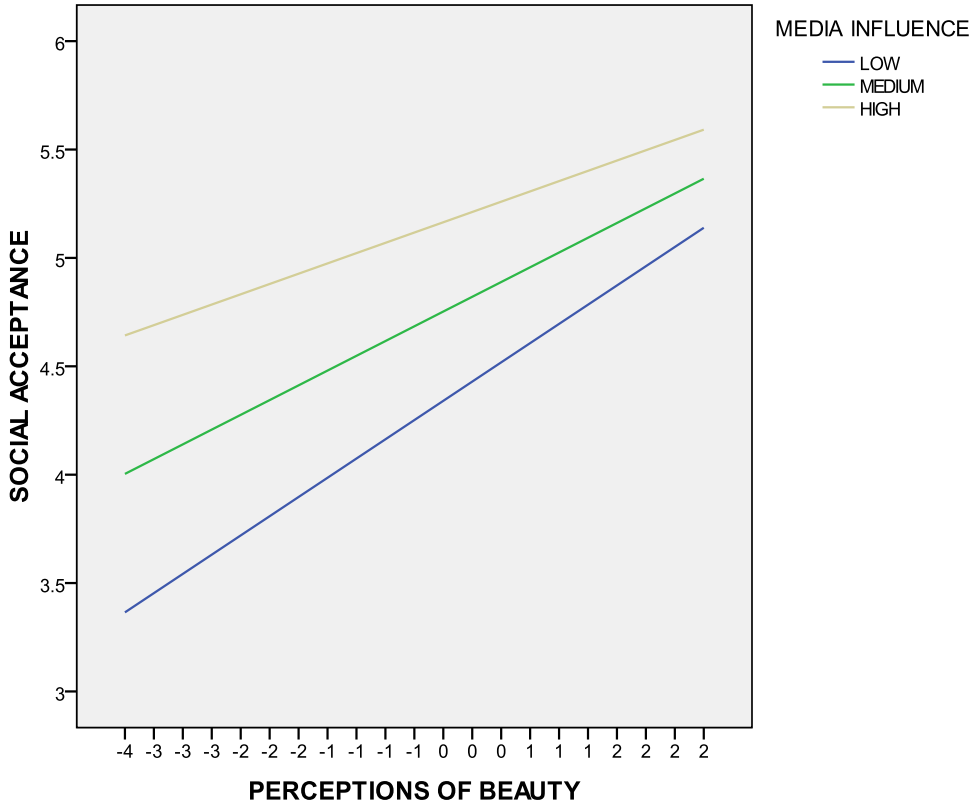
*p<0.05, **p<0.01, *** p<0.001

Figure 5.7 Interaction Plots of Beauty and Advertising Effectiveness and Social implications Models






MEDIA INFLUENCE
LOW
MEDIUM
HIGH
ATTITUDE TO NUTRITIONAL PRODUCTS
5.00
4.00
3.00
2.00
1.00
-3.51
-3.21
-2.91
-2.61
-2.31
-2.01
-1.71
-1.41
-1.11
-.81
-.51
-.21
.09
.39
.69
.99
1.29
1.59
1.89
2.19
2.49
PERCEPTIONS OF BEAUTY


MEDIA INFLUENCE
LOW
MEDIUM
HIGH
SOCIAL ACCEPTANCE
6
5.5
5
4.5
4
3.5
3
-4 -3 -3 -3 -2 -2 -2 -1 -1 -1 -1 0 0 0 1 1 1 2 2 2 2
PERCEPTIONS OF BEAUTY

The results suggest that attractiveness (b = 0.263, t= 7.893, p < .001) and media influence (b = 0.434, t= 15.913, p < .001) have a significant effect in the attitude to personal care and fashion products model. The interaction term is significant (β=0.054, t=2.755, p<.01) suggesting media influence is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.183, t= 4.235, p < .001**)**, medium (b = 0.263, t= 7.893, p < .001**)**, and high (b = 0.343, t= 7.617, p < .001**)** levels of media influence are significant and positive. The results suggest that attractiveness (b = 0.273, t= 7.017, p < .001) and media influence (b = 0.360, t= 11.292, p < .001) have a significant effect in the attitude to technology products model. The interaction term is significant (β=0.071, t=3.105, p<.01) suggesting media influence is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.168, t= 3.326, p < .001**)**, medium (b = 0.273, t= 7.017, p < .001**)**, and high (b = 0.378, t= 7.193, p < .001**)** levels of media influence are significant and positive.

As perceived attractiveness of the model increases, the attitude to personal care and fashion and technology products increases. The higher the media influence, the greater the increase in positive attitudes to products. The finding could mean that those people who are more influenced by media are more likely to pay attention to advertising for product information and develop more positive attitudes.

The results also suggest that attractiveness and media influence have no significant effect in the body image post exposure model. The interaction term is significant (β=0.042, t=2.592, p<.01) suggesting media influence is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.103, t= 2.842, p < .01**)**, medium (b = 0.166, t= 5.942, p < .001**)**, and high (b = 0.229, t= 6.068, p < .001**)** levels of media influence are significant and positive.

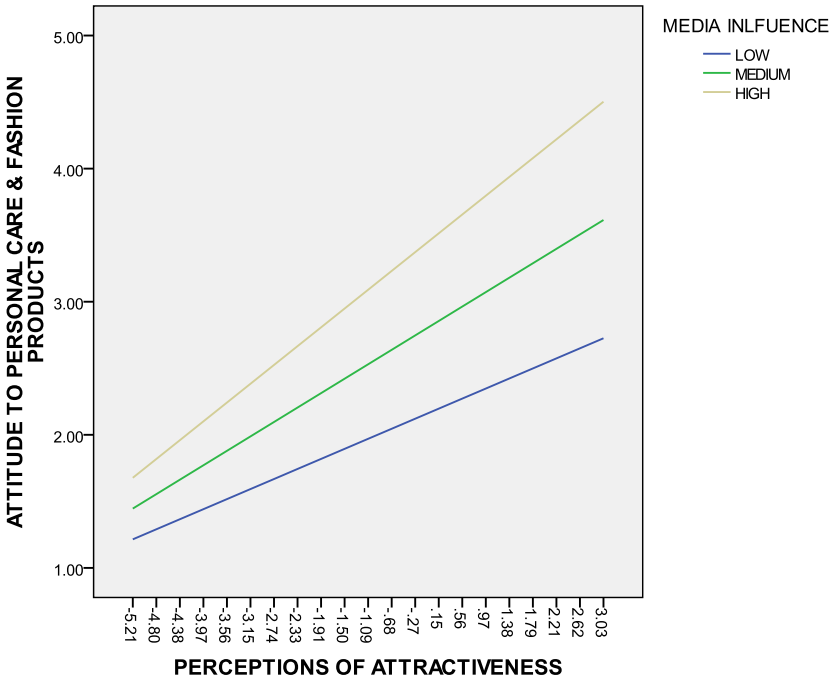
As perceived attractiveness of the model increases, so do body image evaluations post exposure. The finding could mean that those influenced more by the media are more likely to be affected by images of attractive models and adjust their appearance in other to increase their evaluations of body image.

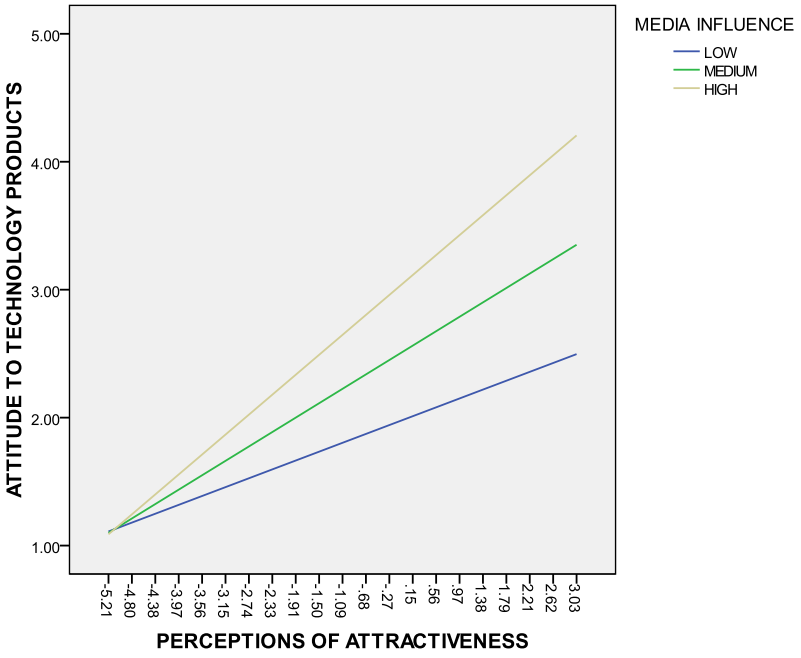
Table 5.22 Moderation Effects of Media Influence

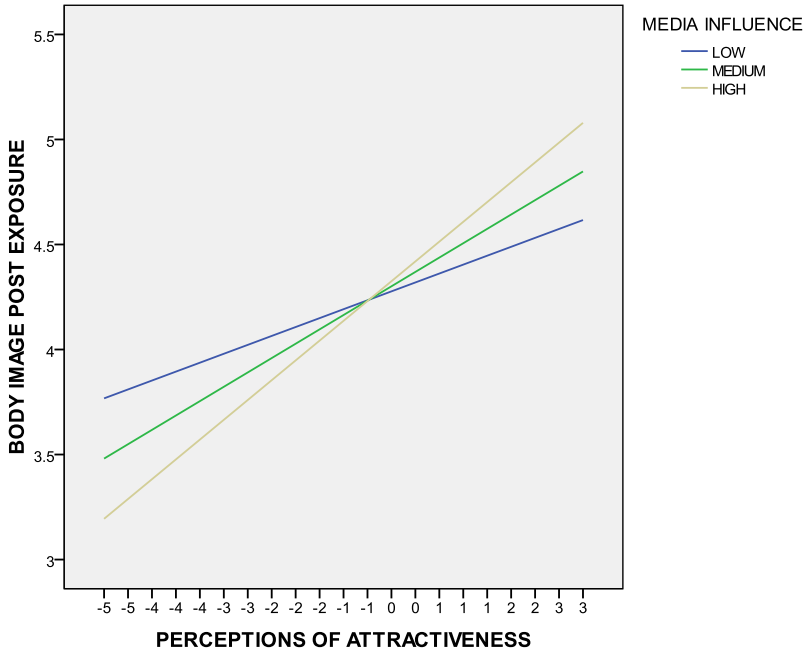
Attitude to personal care & fashion products		**Attitude to technology products**		**Body image (post exposure)**	
Interaction model	**b (t)**	**Interaction model**	**b (t)**	**Interaction model**	**b (t)**
Constant	2.817 (69.928***)	Constant	2.523 (53.614***)	Constant	4.345 (128.817***)
Attractiveness	.263 (7.893***)	Attractiveness	.273 (7.017***)	Attractiveness	.166 (5.942***)
Media Influence	.434 (15.913***)	Media Influence	.360 (11.292***)	Media Influence	.027 (1.200)
Attractiveness X Media Influence	.054 (2.755**)	**Attractiveness X Media Influence**	.071 (3.105**)	**Attractiveness X Media Influence**	.042 (2.592**)
R^2	.268	**R^2**	.177	**R^2**	.042
F-ratio (df)	134.913*** (3, 1107)	**F-ratio (df)**	79.073***(3, 1107)	**F-ratio (df)**	16.161*** (3, 1107)
Conditional effects	**b (t)**	**Conditional effects**	**b (t)**	**Conditional effects**	**b (t)**
low	.183 (4.235***)	low	.168 (3.326***)	low	.103 (2.842**)
medium	.263 (7.893***)	medium	.273 (7.017***)	medium	.166 (5.942***)
high	.343 (7.617***)	high	.378 (7.193***)	high	.229 (6.068***)

*p<0.05, **p<0.01, *** p<0.001

Figure 5.8 8Interaction Plots of Attractiveness and Advertising Effectiveness and Social implications Models




MEDIA INFLUENCE
LOW
MEDIUM
HIGH
ATTITUDE TO TECHNOLOGY PRODUCTS
5.00
4.00
3.00
2.00
1.00
-5.21
-4.80
-4.38
-3.97
-3.56
-3.15
-2.74
-2.33
-1.91
-1.50
-1.09
-.68
-.27
.15
.56
.97
1.38
1.79
2.21
2.62
3.03
PERCEPTIONS OF ATTRACTIVENESS


MEDIA INFLUENCE
LOW
MEDIUM
HIGH
BODY IMAGE POST EXPOSURE
5.5
5
4.5
4
3.5
3
-5 -5 -4 -4 -4 -3 -3 -2 -2 -2 -1 -1 0 0 1 1 1 2 2 3 3
PERCEPTIONS OF ATTRACTIVENESS

5.13.5 Moderation Effects of Influence of Models

From the literature review in Chapter Two, it was found that the influence of models is a serious issue as it was found to have an effect of one's perceptions of self and others. In turn it is proposed that one's level of model influence will affect one's attitudes toward products and perceptions of social acceptance and Benefits of attractiveness. The following hypotheses examine whether the influence of models moderates the relationship between perceptions of beauty and attractiveness and advertising effectiveness and social implications:

H10a: Influence of Models moderates the relationship between Perceptions of Beauty and Attitude to:

- personal care and fashion products
- technology products
- nutritional products

H10b**:** Influence of Models moderates the relationship between Perceptions of Beauty and Benefits of attractiveness

H10c: Influence of Models moderates the relationship between Perceptions of Attractiveness and Attitude to:

- personal care and fashion products
- technology products
- nutritional products

H10d**:** Influence of Models moderates the relationship between Perceptions of Attractiveness and Social acceptance

The results suggest that beauty ($b = 0.344$, $t= 9.165$, $p < .001$) and influence of models ($b = 0.800$, $t= 16.097$, $p < .001$) have a significant effect in the attitude to personal care and fashion products model. The interaction term is significant ($\beta=0.132$, $t=3.302$, $p<.001$) suggesting influence of models is a "pure" moderator. Slope analysis indicates that the regression for low ($b = 0.236$, $t= 4.938$, $p < .001$**)**, medium ($b = 0.344$, $t= 9.165$, $p < .001$**)**, and high ($b = 0.452$, $t= 8.774$, $p < .001$**)** levels of model influence are significant and positive.

The results suggest that beauty ($b = 0.232$, $t= 5.302$, $p < .001$) and influence of models ($b = 0.805$, $t= 13.906$, $p < .001$) have a significant effect in the attitude to technology products

model. The interaction term is significant (β=0.186, t=3.993, p<.01) suggesting influence of models is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.080, t= 1.439, p < .001**)**, medium (b = 0.232, t= 5.302, p < .001**)**, and high (b = 0.384, t= 6.394, p < .001**)** levels of model influence are significant and positive.

The results suggest that beauty (b = 0.267, t= 6.345, p < .001) and influence of models (b = 0.874, t= 15.720, p < .001) have a significant effect in the attitude to nutritional products model. The interaction term is significant (β=0.186, t=4.161, p<.01) suggesting influence of models is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.115, t= 2.142, p < .05**)**, medium (b = 0.267, t= 6.345, p < .001**)**, and high (b = 0.418, t= 7.262, p < .001**)** levels of model influence are significant and positive.

As perceived beauty of the model increases, the attitude to personal care and fashion and technology products increases. The higher the influence of models, the greater the increase in positive attitudes to products. The finding could mean that those people who are more influenced by models are more likely to pay attention to advertising for product information and develop more positive attitudes.

The results also suggest that beauty (b = 0.248, t= 8.578, p < .001) and influence of models (b = 0.252, t= 9.041, p < .001) have a significant effect in the benefits of attractiveness model. The interaction term is significant and negative (β=-0.052, t=-2.258, p<.05) suggesting influence of models is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.305, t= 8.145, p < .001**)**, medium (b = 0.248, t= 8.578, p < .001**)**, and high (b = 0.191, t= 4.848, p < .001**)** levels of influence of models are significant and positive.

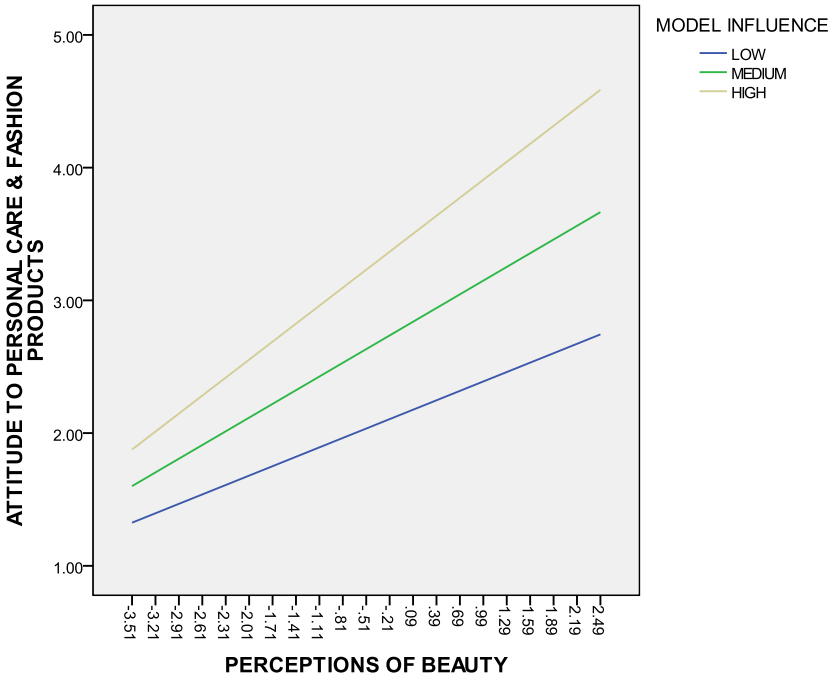
As perceived beauty of the model increases, so do perceived benefits of attractiveness. The finding could mean that those influenced more by models are more likely to feel that they need to achieve that ideal to gain benefits of attractiveness.

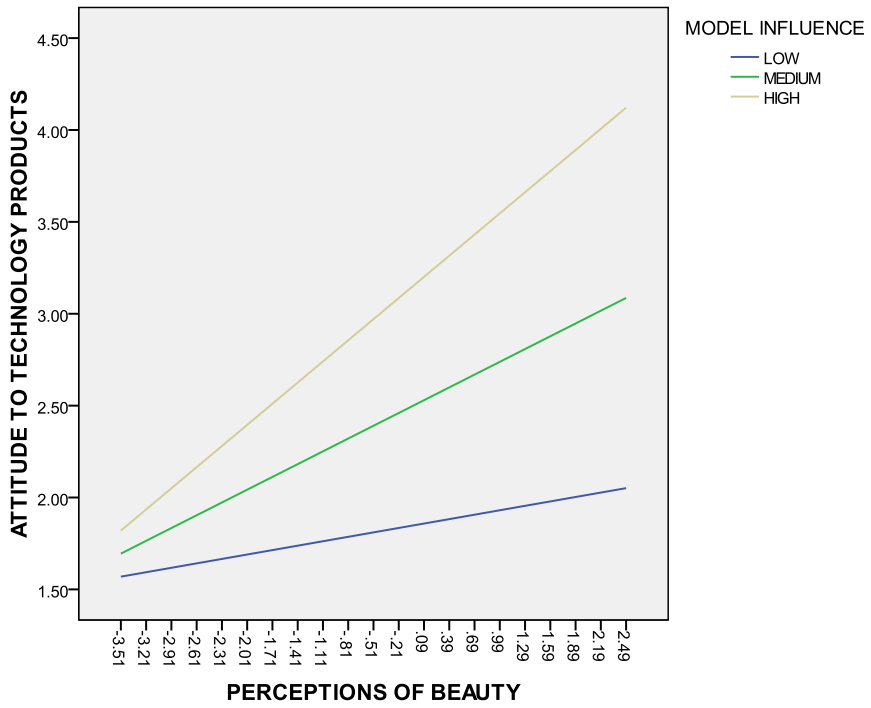
Table 5.23 Moderation Effects of Influence of Models

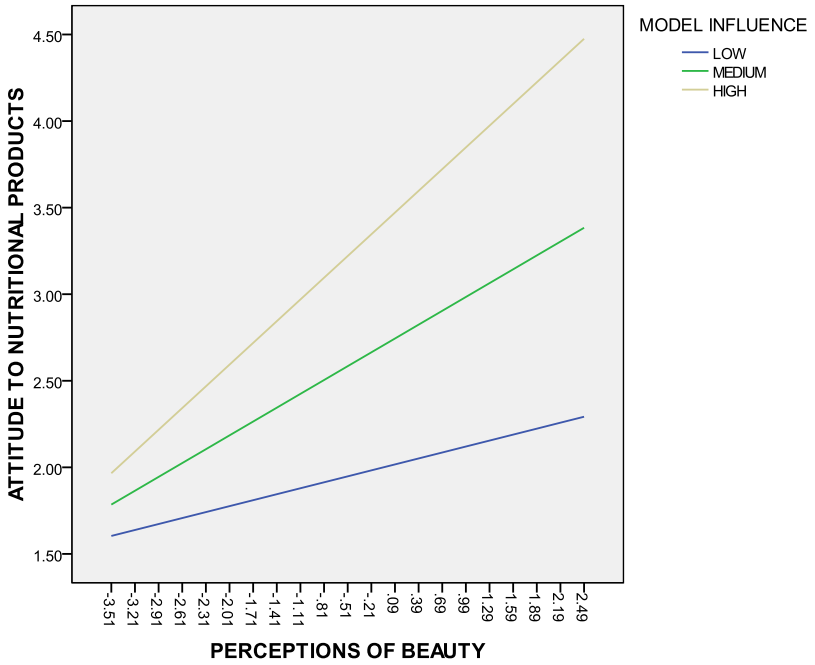
Attitude to personal care & fashion products		**Attitude to technology products**		**Attitude to nutritional products**		**Benefits of attractiveness**	
Interaction model	**b (t)**	**Interaction model**	**b (t)**	**Interaction model**	**b (t)**	**Interaction model**	**b (t)**
Constant	2.808 (71.173***)	Constant	2.509 (54.565***)	Constant	2.720 (61.629***)	Constant	4.432 (145.263***)
Beauty	.344 (9.165***)	Beauty	.232 (5.302***)	Beauty	.267 (6.345***)	Beauty	.248 (8.578***)
Influence of Models	.800 (16.097***)	Influence of Models	.805 (13.906***)	Influence of Models	.874 (15.720***)	Influence of Models	.252 (9.041***)
Beauty X Influence of Models	.132 (3.302***)	**Beauty X Influence of Models**	.186 (3.993**)	**Beauty X Influence of Models**	.186 (4.161**)	**Beauty X Influence of Models**	-.052 (-2.258*)
R^2	.310	**R^2**	.228	**R^2**	.275	**R^2**	.155
F-ratio (df)	165.737*** (3, 1107)	**F-ratio (df)**	108.906***(3, 1107)	**F-ratio (df)**	140.057***(3, 1107)	**F-ratio (df)**	67.853*** (3, 1107)
Conditional effects	**b (t)**	**Conditional effects**	**b (t)**	**Conditional effects**	**b (t)**	**Conditional effects**	**b (t)**
low	.236 (4.938***)	low	.080 (1.439)	low	.115 (2.142*)	low	.305 (8.145***)
medium	.344 (9.165***)	medium	.232 (5.302***)	medium	.267 (6.345***)	medium	.248 (8.578***)
high	.452 (8.774***)	high	.384 (6.394***)	high	.418 (7.262***)	high	.191 (4.848***)

*p<0.05, **p<0.01, *** p<0.001

Figure 5.9 Interaction Plots of Beauty and Advertising Effectiveness and Social implications Models






MODEL INFLUENCE
LOW
MEDIUM
HIGH
ATTITUDE TO NUTRITIONAL PRODUCTS
4.50
4.00
3.50
3.00
2.50
2.00
1.50
-3.51
-3.21
-2.91
-2.61
-2.31
-2.01
-1.71
-1.41
-1.11
-.81
-.51
-.21
.09
.39
.69
.99
1.29
1.59
1.89
2.19
2.49
PERCEPTIONS OF BEAUTY

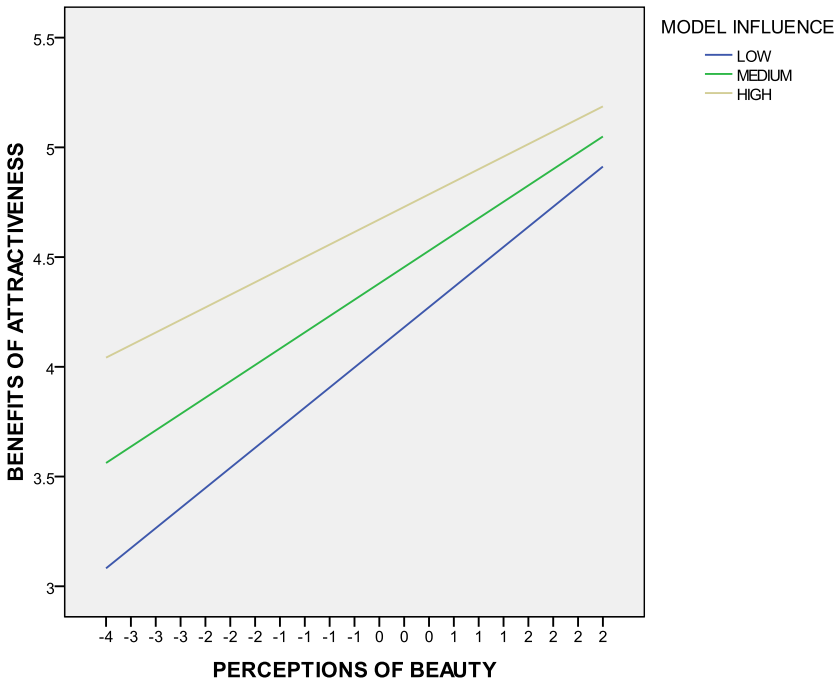

MODEL INFLUENCE
LOW
MEDIUM
HIGH
BENEFITS OF ATTRACTIVENESS
5.5
5
4.5
4
3.5
3
-4 -3 -3 -3 -2 -2 -2 -1 -1 -1 -1 0 0 0 1 1 1 2 2 2 2
PERCEPTIONS OF BEAUTY

Table 5.24 Moderation Effects of Influence of Models

Attitude to personal care & fashion products		**Attitude to technology products**		**Attitude to nutritional products**		**Social acceptance**	
Interaction model	**b (t)**	**Interaction model**	**b (t)**	**Interaction model**	**b (t)**	**Interaction model**	**b (t)**
Constant	2.826 (70.553***)	Constant	2.529 (55.070***)	Constant	2.742 (62.046***)	Constant	4.441 (146.947***)
Attractiveness	.231 (6.949***)	Attractiveness	.223 (5.847***)	Attractiveness	.236 (6.430***)	Attractiveness	.259 (10.331***)
Influence of Models	.844 (16.637***)	Influence of Models	.812 (13.958***)	Influence of Models	.891 (15.905***)	Influence of Models	.237 (8.594***)
Attractiveness X Influence of Models	.048 (1.338***)	**Attractiveness X Influence of Models**	.090 (2.192*)	**Attractiveness X Influence of Models**	.081 (2.049*)	**Attractiveness X Influence of Models**	-.068 (-3.462***)
R^2	.286	**R^2**	.227	**R^2**	.270	**R^2**	.179
F-ratio (df)	147.668*** (3, 1107)	**F-ratio (df)**	108.218***(3, 1107)	**F-ratio (df)**	136.585***(3, 1107)	**F-ratio (df)**	80.507*** (3, 1107)
Conditional effects	**b (t)**	**Conditional effects**	**b (t)**	**Conditional effects**	**b (t)**	**Conditional effects**	**b (t)**
low	.192 (4.303***)	low	.149 (2.925**)	low	.170 (3.452***)	low	.335 (9.804***)
medium	.231 (6.949***)	medium	.223 (5.847***)	medium	.236 (6.430***)	medium	.259 (10.331***)
high	.270 (6.171***)	high	.296 (5.902***)	high	.301 (6.250***)	high	.183 (5.662***)

*p<0.05, **p<0.01, *** p<0.001

The results suggest that attractiveness (b = 0.231, t= 6.949, p < .001) and influence of models (b = 0.844, t= 16.637, p < .001) have a significant effect in the attitude to personal care and fashion products model. The interaction term is significant (β=0.048, t=1.338, p<.001) suggesting influence of models is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.192, t= 4.303, p < .001**)**, medium (b = 0.231, t= 6.949, p < .001**)**, and high (b = 0.270, t= 6.171, p < .001**)** levels of model influence are significant and positive.

The results suggest that attractiveness (b = 0.223, t= 5.847, p < .001) and influence of models (b = 0.812, t= 13.958, p < .001) have a significant effect in the attitude to technology products model. The interaction term is significant (β=0.090, t=2.192, p<.05) suggesting influence of models is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.149, t= 2.925, p < .01**)**, medium (b = 0.223, t= 5.847, p < .001**)**, and high (b = 0.296, t= 5.902, p < .001**)** levels of model influence are significant and positive.

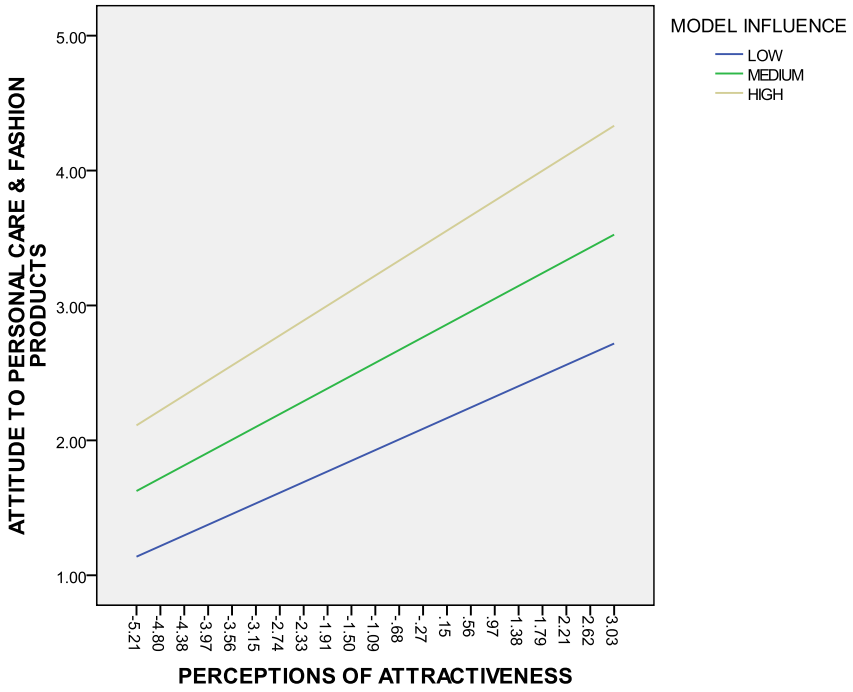
The results suggest that attractiveness (b = 0.236, t= 6.430, p < .001) and influence of models (b = 0.891, t= 15.905, p < .001) have a significant effect in the attitude to nutritional products model. The interaction term is significant (β=0.081, t=2.049, p<.05) suggesting influence of models is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.170, t= 3.452, p < .001**)**, medium (b = 0.236, t= 6.430, p < .001**)**, and high (b = 0.301, t= 6.250, p < .001**)** levels of model influence are significant and positive.

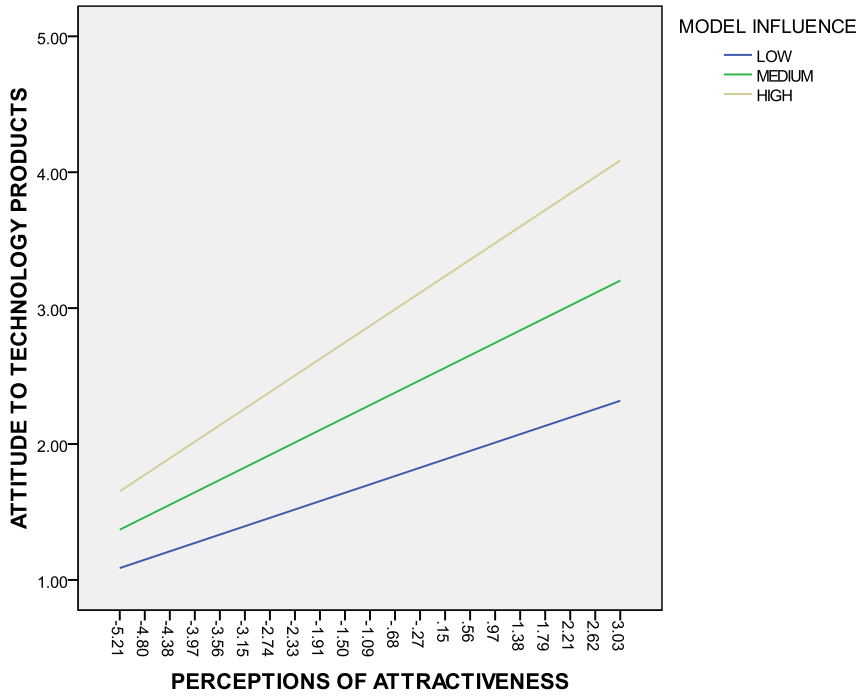
As perceived attractiveness of the model increases, the attitude to personal care and fashion and technology products increases. The higher the influence of models, the greater the increase in positive attitudes to products. The finding could mean that those people who are more influenced by models are more likely to pay attention to advertising for product information and develop more positive attitudes.

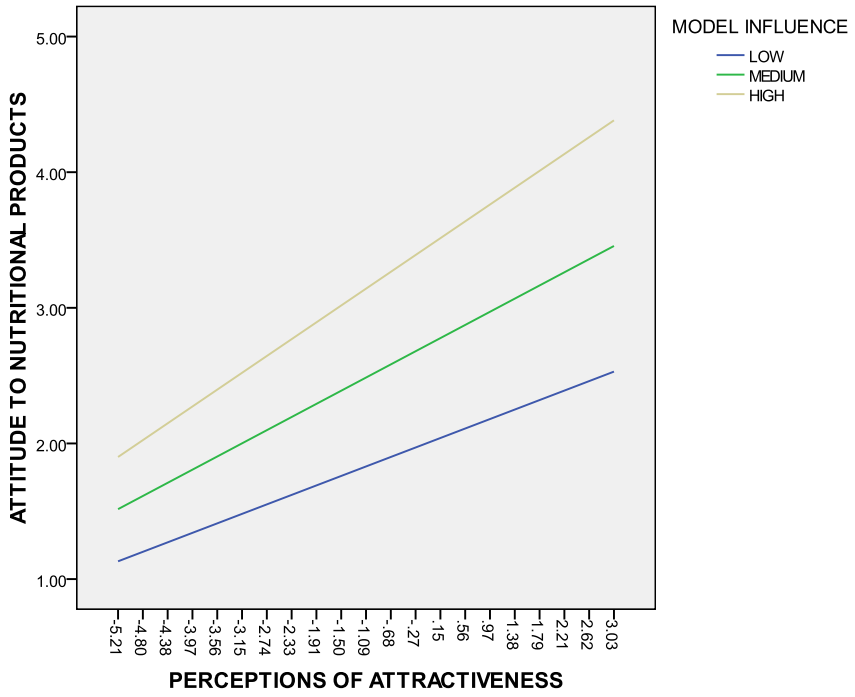
The results also suggest that attractiveness (b = 0.259, t= 10.331, p < .001) and influence of models (b = 0.237, t= 8.594, p < .001) have a significant effect in the benefits of attractiveness model. The interaction term is significant and negative (β=-0.068, t=-3.462, p<.001) suggesting influence of models is a "pure" moderator. Slope analysis indicates that the regression for low (b = 0.335, t= 9.804, p < .001**)**, medium (b = 0.259, t= 10.331, p < .001**)**, and high (b = 0.183, t= 5.662, p < .001**)** levels of influence of models are significant and positive.

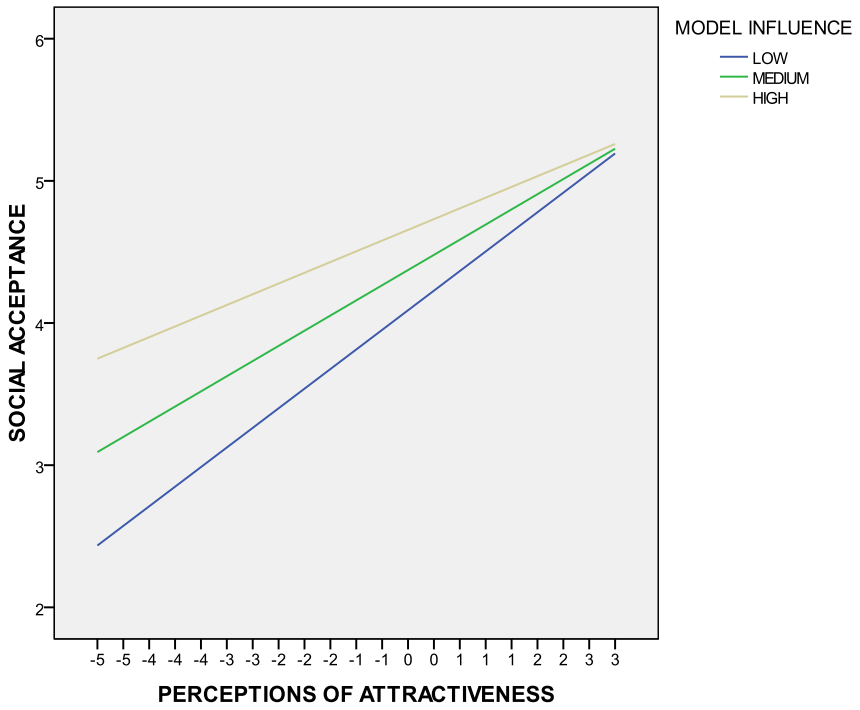
As perceived attractiveness of the model increases, so do perceived social acceptance. The finding could mean that those influenced more by models are more likely to feel that they need to achieve that ideal to gain social acceptance.

Figure 5.10 Interaction Plots of Attractiveness and Advertising Effectiveness and Social implications Models






MODEL INFLUENCE
LOW
MEDIUM
HIGH
ATTITUDE TO NUTRITIONAL PRODUCTS
5.00
4.00
3.00
2.00
1.00
-5.21
-4.80
-4.38
-3.97
-3.56
-3.15
-2.74
-2.33
-1.91
-1.50
-1.09
-.68
-.27
.15
.56
.97
1.38
1.79
2.21
2.62
3.03
PERCEPTIONS OF ATTRACTIVENESS


MODEL INFLUENCE
LOW
MEDIUM
HIGH
SOCIAL ACCEPTANCE
6
5
4
3
2
-5 -5 -4 -4 -4 -3 -3 -2 -2 -2 -1 -1 0 0 1 1 1 2 2 3 3
PERCEPTIONS OF ATTRACTIVENESS

5.14 Structural Equation Modelling – Integrated Model

The analysis of results to this point in the chapter has been conducted via multiple regression which provided an assessment of the various dimensions and ANOVA to assess mean differences between groups. Multiple regression analysis was an appropriate technique to determine the predictive capacity of the dimensions. However, the analyses used to this point can only examine direct relationships between independent variables and one dependent variable at a time, whereas structural equation modelling provides an opportunity to examine the relevant relationships simultaneously. Therefore, structural equation modelling using AMOS is important as it is a multivariate statistical technique that incorporates the interrelationships among the independent variables and allows a 'hierarchy of effects' to be postulated among them (Conduit & Mavondo, 2001).

AMOS Version 7 was utilised to perform the necessary covariance structure analysis to examine the hypotheses developed for the study. Covariance structure analysis is a multivariate technique that combines confirmatory factor analysis with structural equation models either in conjunction or independently. AMOS computes parameter estimates in multiple regression, path, and factor analyses. The analysis is confirmatory in nature as it compares the covariance matrix implied by the specified model with the actual covariance matrix from the empirical data and requires strong theoretical support.

Direct effects are measured by path coefficients computed on the hypothesised relationships between the independent variables and the dependent variable. The path coefficient figures represent a standardised partial regression coefficient. The value of this standardised parameter indicates the resultant change in a dependent variable as a result of a one-unit change in an independent variable attributable to this direct relationship. A dependent variable may be indirectly influenced by an independent variable through another mediating variable. Indirect effects on a dependent variable may also be significant. In this study, the indirect effects were measured as a product of the structure coefficients involved. It should be noted that the primary interest is not foremost in the measurement model per se, but rather in the relationships that it represents.

The integrated models are presented in Figures 5.11 and 5.12.

Figure 5.11 Integrated Model: Advertising Effectiveness

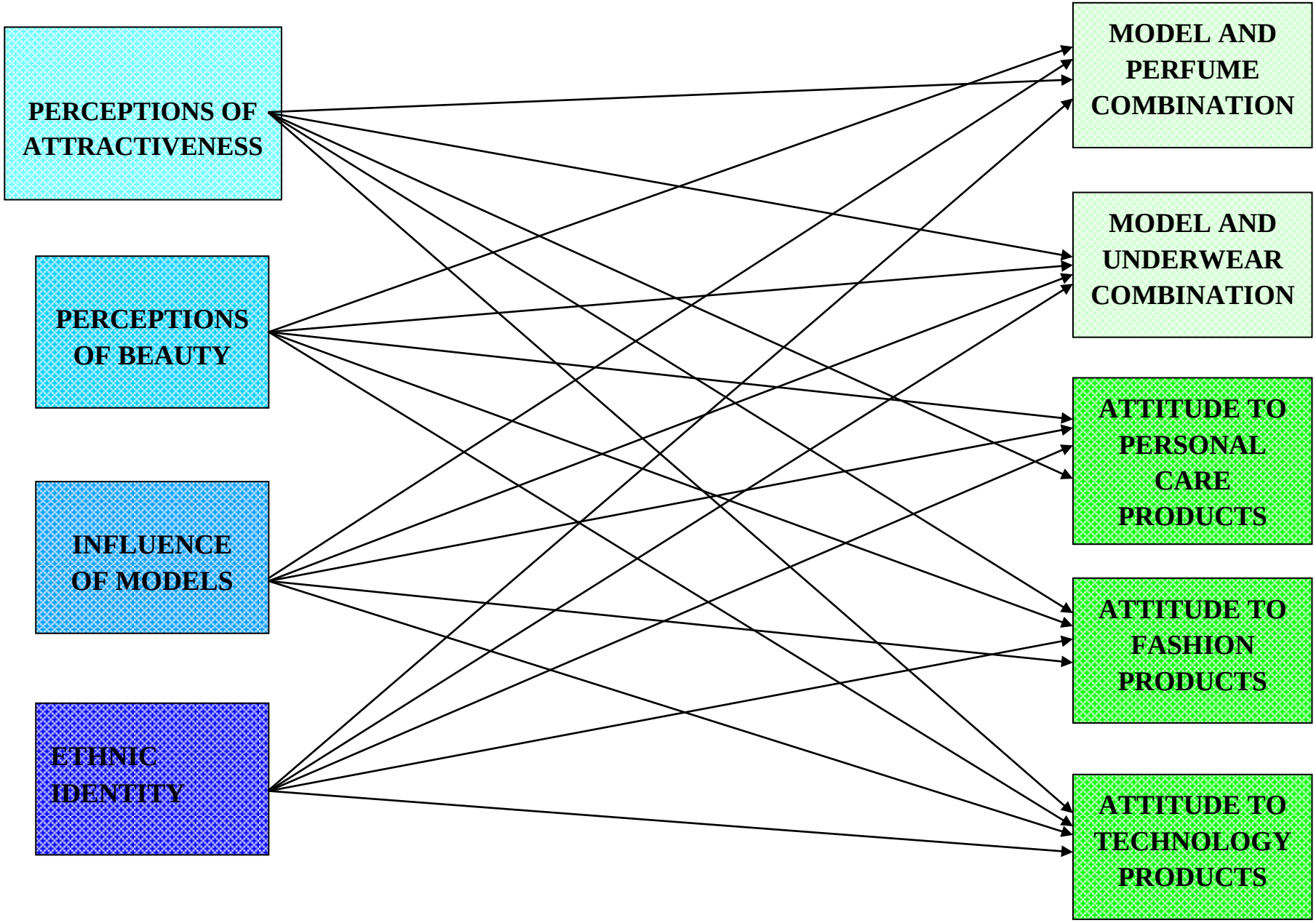


Table 5.25 Direct Effects and Hypothesis Support

Hypotheses	Predicted direction	Co-eff	S.E.	Supported/Not supported
Perceptions of Attractiveness is associated with attitude towards:				
–> personal care	**-**	**-.028**	**.019**	**Not Supported**
–> fashion	+	.294***	.020	Supported
–> technology	+	1.437***	.032	Supported
–> model and perfume combo	**+**	**.015**	**.030**	**Not Supported**
–> model and underwear combo	+	.082***	.030	Supported
Perceptions of Beauty is associated with attitude towards:				
–> personal care	+	.065*	.028	Supported
–> fashion	**-**	**-.035**	**.026**	**Not Supported**
–> technology	+	**-.616*** **	**.043**	**Not Supported**
–> model and perfume combo	**+**	**.046**	**.045**	**Not Supported**
–> model and underwear combo	**+**	**.003**	**.046**	**Not Supported**
Influence of Models is associated with attitude towards:				
–> personal care	+	1.330***	.052	Supported
–> fashion	+	1.168***	.050	Supported
–> technology	+	.877***	.045	Supported
–> model and perfume combo	**+**	**.016**	**.040**	**Not Supported**
–> model and underwear combo	**+**	**.045**	**.041**	**Not Supported**
Ethnic Identity is associated with attitude towards:				
–> personal care	+	.066**	.024	Supported
–> fashion	+	.049*	.023	Supported
–> technology	**+**	**-.142*** **	**.033**	**Not Supported**
–> model and perfume combo	**+**	**.004**	**.038**	**Not Supported**
–> model and underwear combo	**+**	**-.038**	**.039**	**Not Supported**

A number of observations can be made with respect to the above findings. It can be seen from Table 5.X that perceptions of attractiveness was found to have a significant positive direct effect on attitude to fashion and technology products. This supports the proposition that attractiveness is considered an important element for the fashion and technology product categories which is consistent with prior studies (Englis, et al., 1994; Featherstone, 1991; Till & Busler, 2000). Perceptions of attractiveness was predicted to have a negative effect on attitudes to personal care products. It was found to be negative but not significant. This can be explained by the beauty vs attractiveness definition (Langmeyer & Shank, 1995). Most advertisements contain images of beauty rather than images of attractiveness (Cash & Henry, 1995; Featherstone, 1991). It can also be seen that perceptions of attractiveness was found to have a significant positive direct effect on the model and underwear combination. This is

consistent with prior studies (Baird & Grieve, 2006; Kimmel & Tissier-Desbordes, 1999). However, perceptions of attractiveness was not found to have a significant direct effect on the model and perfume combination. This could be the case because underwear is closely tied to the body whereas most perfume advertisements (including those used in this study) showed the model torso with the perfume.

Perceptions of beauty was found to have a significant positive direct effect on attitude to personal care products. A negative direct effect was predicted for attitude to fashion products but was not found to be significant. A positive direct effect was predicted for attitude to technology products, however a negative direct effect was found. It can be argued that attractiveness rather than beauty is considered a more important element in technology advertisements and this is evident in popular gaming magazines such as EGM (Eletronic Gaming Monthly), Edge, and GAME!, in which images of real and animated females with elements of sexuality are pursued. Additionally, a positive direct effect was predicted for model and perfume and model and underwear combinations but no significant effects were found. It could be argued that attractiveness is more important for advertisements in these product categories.

The influence of models was found to have a significant positive direct effect on attitude to personal care, fashion, and technology products. A positive direct effect was predicted for model and perfume and model and underwear combinations, however they were not found to be significant.

From Table 5.X it can also be seen that ethnic identity was found to have a significant positive direct effect on personal care and fashion products. An interesting finding was that the predicted direction for technology products was positive however a significant negative direct effect was found. There is agreement in the marketing literature that culture greatly influences the way consumers perceive and behave (Wellner, 2002). It could be argued that people who cling to their own culture don’t embrace technology as much as mainstream Australians. A positive direct effect was predicted for model and perfume combination, however they were not significant.

Figure 5.12 Integrated Model: Social Implications

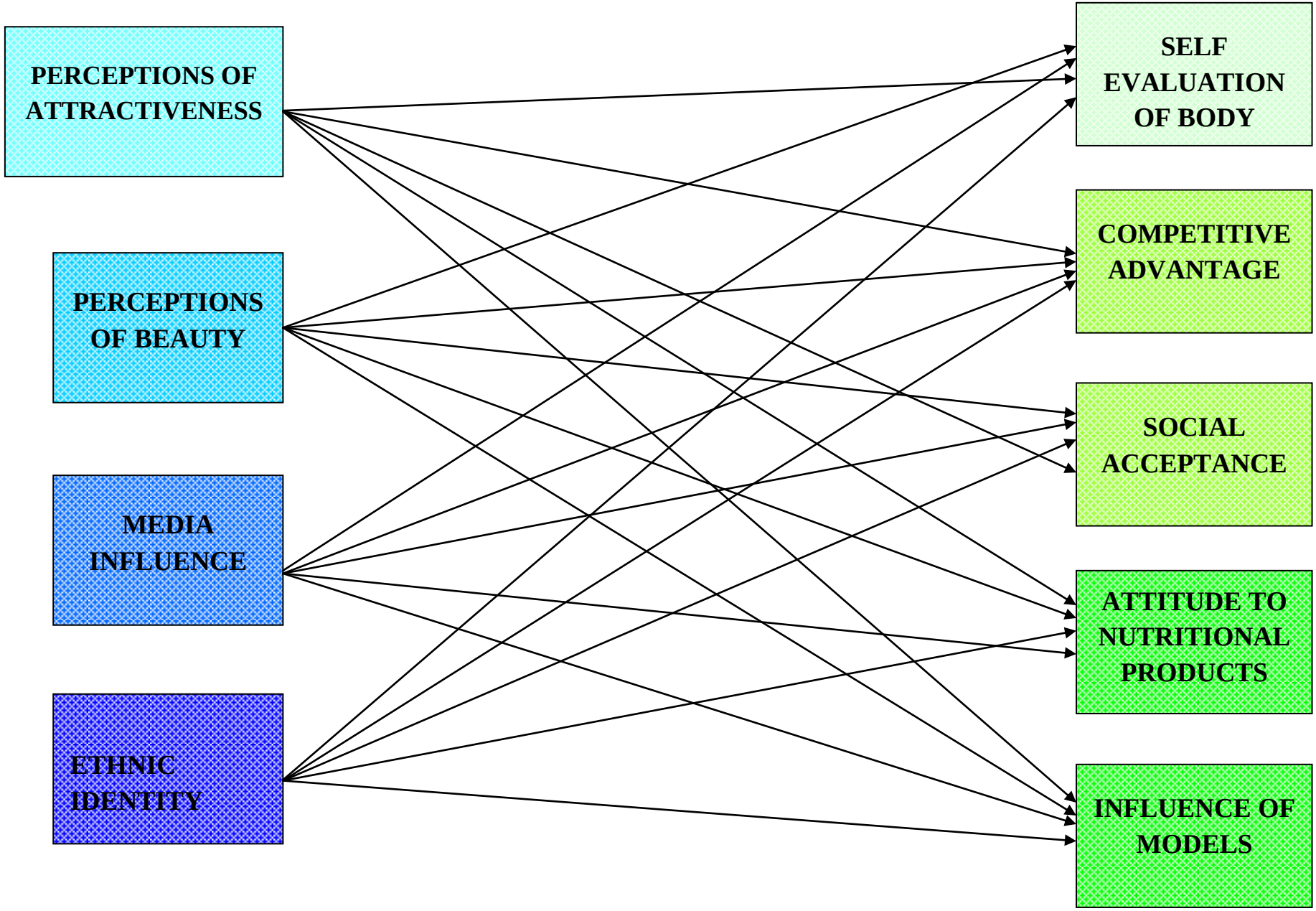


Table 5.26 Direct Effects and Hypothesis Support

Hypotheses	Predicted direction	Co-eff	S.E.	Supported/Not supported
Perceptions of Attractiveness is associated with attitude towards:				
–> body image	+	1.166***	.027	Supported
–> competitive advantage	+	.046***	.016	Supported
–> social acceptance	+	.110***	.019	Supported
–> attitude to nutritional products	+	**-.158*** **	**.017**	**Not Supported**
–> models	+	**-.131*** **	**.017**	**Not Supported**
Perceptions of Beauty is associated with attitude towards:				
–> body image	+	**-.551*** **	**.033**	**Not Supported**
–> competitive advantage	+	.311***	.030	Supported
–> social acceptance	+	.281***	.031	Supported
–> attitude to nutritional products	+	.460***	.036	Supported
–> models	+	.486***	.033	Supported
Media Influence is associated with attitude towards:				
–> body image	-	-.117***	.019	Supported
–> competitive advantage	+	.331***	.024	Supported
–> social acceptance	+	.333***	.024	Supported
–> attitude to nutritional products	+	.504***	.031	Supported
–> models	+	.559***	.026	Supported
Ethnic Identity is associated with attitude towards:				
–> body image	**+**	**-.012*** **	**.024**	**Not supported**
–> competitive advantage	+	.192***	.023	Supported
–> social acceptance	+	.204***	.026	Supported
–> attitude to nutritional products	+	.092***	.020	Supported
–> models	+	.122***	.021	Supported

A number of observations can be made with respect to the above findings. It can be seen from Table 5.X that perceptions of attractiveness was found to have a significant positive direct effect on body image, competitive advantage, and social acceptance. An interesting finding is the significant negative direct effect on attitude to nutritional products and influence of models. This is consistent with prior studies which suggest that individuals compare their level of attractiveness with that of models in ads (Irving, 1990; M. C. Martin & Kennedy, 1993; Richins, 1991). The absence of similar models for comparison sometimes leads to inaccurate and unstable self-evaluations (Richins, 1991) and negative perceptions of the ad (Debevec & Iyer, 1988; Irving, 1990).

Perceptions of beauty was found to have a significant positive direct effect on competitive advantage, social acceptance, attitude to nutritional products, and influence of models. However, it was interesting to discover that perceptions of beauty have a significant negative direct effect on body image. This could be explained by the phenomenon that beauty cannot be improved like attractiveness. This is supported by previous literature (Rabak Wagener, et al., 1998).

Media influence was found to have a significant positive direct effect on competitive advantage, social acceptance, attitude to nutritional products, and models. However, a negative significant direct effect was found on body image. Given the theoretical relationship between mass media images of beauty and eating disorders and body image problems, the potential influence of these ideals on young women in particular is of great concern to many mental health professionals. Many people argue that the mass media (magazines, movies, television, and the Internet) are influential promoters of beauty ideals (Botta, 1999; Mills, et al., 2002).

From Table 5.X it can also be seen that ethnic identity was found to have a significant positive direct effect on competitive advantage, social acceptance, attitude to nutritional products, and models. However, an interesting finding was a significant negative direct effect on body image. Previous studies indicate that differences in value systems and cultural norms among ethnic groups lead to differences in self evaluations of body esteem in general and body satisfaction in particular (P. J. Brown & Konner, 1987; Cogan, et al., 1996).

5.15 Chapter 5 Overview of Key Findings

(a) Beauty is a reflective measure while attractiveness is a formative measure. This raises important methodological issues and highlights the importance of effective operationalisation of the two constructs as this may have significant impact in the interpretation of the findings.

(b) The study finds four clusters of HH (beauty, attractiveness), HL, LH and LL. These clusters are associated with differences in perceptions of benefits of attractiveness, self evaluations of body image, and influence of models. This is interesting because

all the cells were adequately represented reflecting the complexity of the beauty-attractiveness matrix.

(c) There are significant gender differences across most dependent variables and surprisingly males are far more appreciative of female models than females. This suggests beautiful models are not seen as positively by women as by men and suggests they are not seen as role models although they are still effective in their communication and support for product promotion.

(d) There are many benefits perceived by females and males as associated with being attractive in a variety of interpersonal situations such as in forming romantic relations, being favoured in the education or legal systems and in employment. There is a tendency to consistently attribute more positive qualities to people who are physically attractive rather than unattractive

(e) The use of artificial models (far removed from the population mean) has negative implications for attitudes and consumption of nutritional foods and leads to excessive exercise. These undesirable outcomes have significant implications for the socialisation of young women and may require public policy guidelines to minimise their potential downside.

6 CHAPTER 6 – CONCLUSIONS AND IMPLICATIONS

6.1 Introduction

The primary purpose of this study was to determine the dimensions of attractiveness, and to investigate the relationships between attractiveness and body image, culture, media, advertising effectiveness and social implications. The research addresses the research question:

What are the dimensions of attractiveness, how is it related to body image, culture, and media, and what are the implications for advertising and public policy?

Chapter 5 presented the results and associated discussion around the research propositions and hypotheses, and culminated in the analysis of the proposed relationships via an integrated structural equation model. The direct effects of the variables were identified and each hypothesis assessed for support or rejection.

This final chapter identifies and encapsulates the main conclusions relating to each of the propositions. The academic contributions, both theoretical and methodological, public policy, and business implications are discussed. Finally, the limitations of the study are acknowledged and recommendations made for future research.

Proposition 1: Attractiveness is a function of the culture of the observer, the influence on the observer of media and the stereotypes of models to which the observer is exposed.

H1.1: *There is a significant relationship between Attractiveness and:*

H1.1a: *Culture,*	**Supported**
H1.1b: *Media, and*	**Supported**
H1.1c: *Models.*	**Supported**

H1.2: *Females will have significantly higher scores than males in their perceptions of factors associated with attractiveness:*

H1.2a *Culture,*	**Supported**
H1.2b *Media Influence,*	**Supported**
H1.2c *Influence of Models*	**Supported**
H1.2d *Attitude to Fashion products,*	**Supported**
H1.2e *Attitude to Personal care products,*	**Supported**
H1.2f *Attitude to Technology products, and*	**Supported**
H1.2g *Attitude to Nutritional products.*	**Supported**

Beauty and Attractiveness were the key aspects of this thesis. This research identified the two as separate constructs with beauty referring to symmetry and reflected by any aspect of the face. People can process whether someone is beautiful or not within seconds. Additionally, beauty was identified as an obstinate characteristic which is difficult to alter unless subjected to drastic measures such as plastic surgery. Attractiveness on the other hand was defined as a construct representing the entire body which can be subjected to modification. Attractiveness is a concept which takes longer processing by the brain. It is closely tied to sex appeal and biological and mating instincts. Therefore, cultural differences are more likely to influence perceptions of attractiveness rather than beauty.

Proposition 2: Self evaluation of body image is a function of the culture of the observer, perceptions of attractiveness, the influence on the observer of media and the stereotypes of models to which the observer is exposed.

H2a*: The self evaluation of people will be significantly lower after exposure to models than before exposure to models.* **Supported**

Consumers have their own subjective view of what they think beauty and attractiveness really are which results in high levels of social comparison. If a consumer does not have a certain shape, height, skin colour or complexion, and the marketing world calls that beauty, then it is hard for those consumers excluded by definition to perceive themselves as beautiful. It is also a challenge for consumers to live up to the picture the media portrays because the images shown are enhanced and touched-up. If beauty was shown in its natural state, it is likely more consumers would be able to relate to it. In current marketing communications, the standard of beauty and attractiveness is considered unattainable.

H2b*: Model exposure will have a higher impact on females than males.* **Not Supported**

The findings indicate that attractiveness is considered important by both men and women. An additional finding was that men and women's self evaluations of body image were affected after exposure to beautiful models. The issue of differences between men and women has been a longstanding one and one which has attracted much research interest. Some of the world's best selling books such as Men Are From Mars, Women Are From Venus (Gray, 1993) address this age old question. Understanding the target market and segmentation is crucial to marketing strategy and understanding differences between males and females is an important aspect of that. The old concept of 'hunter/gatherer' and traditional household roles

is less relevant to the Western male of the 21st Century, and suggesting men are resistant to images of attractive models is outdated.

Proposition 3: There is a strong association between attitude to products and:

H3a*: Cultural background,*	**Supported**
H3b*: Perceived attractiveness,*	**Supported**
H3c*: Self evaluation of body image,*	**Supported**
H3d*: Perceived Benefits of attractiveness,*	**Supported**
H3e*: Media Influence, and*	**Supported**
H3f*: Influence of Models.*	**Supported**

The study of attitudes is crucial in marketing as it allows more insights into consumers' thinking and behaviour. This research explored the association between Attitudes to product and dimensions of attractiveness. The four product categories explored (personal care, fashion, technology, and nutritional products) differed in their associations with the dimensions listed above. Personal care products are related to attractiveness in terms of enhancing one's appearance. This leads to an increase in social appeal and acceptance. Fashion products are also related to attractiveness. A person's choice of attire and brands sends a message to others around them in terms of status, lifestyle, and personality. Technology products are lifestyle oriented with a strong sense of status, opinion leadership, and social acceptance. Nutritional products are related to social issues and concerns in relation to health, body image, exercise and the associated issues of bulimia and obesity. The importance of these findings is related to message execution and the types of advertising appeals most appropriate for each of the four product categories.

Proposition 4: People who belong to the four segments of the beauty-attractiveness matrix are expected to have different perceptions of:

H4a*: Benefits of attractiveness*	**Supported**
H4b*: Self evaluations of body image*	**Supported**
H4c*: Influence of models*	**Supported**

and the differences are expected to be HH>HL>LH>LL

Proposition 5: There are significant gender differences with females scoring higher than males on:

H5a*: Benefits of attractiveness*	**Not Supported**
H5b*: Self evaluations of body image*	**Supported**
H5c*: Influence of models*	**Supported**

This research found that not only do people have varying perceptions of beauty and attractiveness but there are different levels within those perceptions. The use of One-way ANOVA revealed that there are people who are considered beautiful but not attractive and not beautiful but attractive, which supported the reasoning that beauty and attractiveness are in fact two separate concepts. An additional two groups identified were those who are considered beautiful and attractive, and those who are considered neither beautiful nor attractive. This was further explored to examine whether different consumption habits or perceptions of the benefits of attractiveness and the influence of media and models varies according to these four groups.

These are significant findings with major academic and managerial implications, especially as confusion existed in previous studies with the use of the concepts Beauty and Attractiveness (Langlois, et al., 2000; Langmeyer & Shank, 1995; Rhodes, et al., 2005; Rhodes, et al., 2001). This has important implications for marketing strategy as it indicates that there are diverse segments in the market affected differently by the media that there are those who are more vulnerable and more prone to be negatively affected by images of attractive models.

Body image is an important concept as it is the way consumers perceive and evaluate their bodies. Additionally, body image is a key consequence of perceptions of beauty and attractiveness. There are differences in self evaluations of body image pre and post exposure to images of models. This offers support for the notion that models in the media have an impact on consumers' perceptions. The marketing of body image is constantly in the news headlines and there is a clear need to adjust the unrealistic images portrayed, especially as counter-arguing against the images one is exposed to is difficult for most consumers especially for more vulnerable groups, most notably teenagers.

Individuals' initial perception and reaction to images they are exposed to are affected by the physical attractiveness of models. Attractiveness is a cue used to make extensive inferences about others. In addition to this, viewing images of attractive models in turn results in the individual making inferences and evaluations of themselves. Another layer is added with the finding that there are different levels of beauty and attractiveness perceptions. It was found that these differences in perception result in varying degrees of influence by models in the media. This again lends support to the notion that images of perfect models in the media have

a negative impact on consumers especially those considered more vulnerable. These findings are supported by previous literature which suggests the attractiveness of a model does influence peoples' evaluation of the aesthetic qualities of an ad (Baker & Churchill, 1977) and that body shape ideals promoted by the media are pervasive, and seem to have a significant impact on the formation of cultural ideals of attractiveness (Rabak Wagener, et al., 1998). This research found that both men and women were affected by images of models. The images of "perfection" presented to the male and female consumer are ones that the average consumer is unlikely to achieve.

6.2 Advertising Effectiveness

The findings reveal that perceptions of beauty and attractiveness impact advertising effectiveness. This is consistent with previous literature (Englis, et al., 1994; Featherstone, 1991; Till & Busler, 2000). This is a critical finding for the marketing discipline as it indicates that people's evaluations of beauty and attractiveness impact how they view advertising, as understanding the consumer psyche has always been the cornerstone of effective communication (LaBarbera, et al., 1998). As models are the key visual element in marketing communications, it can be argued that using the wrong model can result in negative evaluations of the brand, and conceivably the communication not resonating with the intended audience.

Advertisers regularly pursue strategies designed to attract attention to their communication and to distinguish their product from competing products with the hope of influencing purchase (Kamins, et al., 1989). From the findings, it appears that differences in consumer perceptions of beauty and attractiveness have a significant effect on the processing of information in an advertisement, and that these differences in processing can affect consumer's attitudes toward the advertisement, the product, and the model. Fundamental to the success of designing many marketing communication messages is having a comprehensive understanding of the concepts of beauty and attractiveness but also the impact that those messages have on consumers.

6.3 Moderation

It was posited that a number of relationships will depend on the level of an associated variable. The results indicate that a number of factors describe boundary conditions under which specific relationships hold. Those factors were found to be gender, body image, acculturation, media influence, and influence of models.

Gender

***H6*:** Gender moderates the relationship between Perceptions of Attractiveness and Advertising effectiveness **Supported**

The literature review found that gender differences do exist with perceptions of attractiveness (C. Law & Labre, 2002). This research found that gender moderates the relationship between perceptions of attractiveness and advertising effectiveness. Interestingly, attractiveness increases advertising effectiveness for males but decreases effectiveness for females. This may be because attractive models may be perceived as threatening by females.

Body Image

***H7a*:** Body image moderates the relationship between Perceptions of Beauty and Attitude to:

- personal care and fashion products **Supported**
- technology products **Supported**
- nutritional products **Supported**

***H7b*:** Body image moderates the relationship between Perceptions of Attractiveness and Attitude to:

- personal care and fashion products **Supported**
- technology products **Supported**
- nutritional products **Supported**

H7c: Body image moderates the relationship between Perceptions of Attractiveness and Benefits of attractiveness **Supported**

A number of studies have recognised body image as an important factor when looking at attitudes toward products and perceived benefits of attractiveness (Gagnard, 1986; M. C. Martin & Kennedy, 1993; Richins, 1991). The findings indicate that body image moderates the relationship between perceptions of beauty and attractiveness to attitude to personal care, fashion, technology, and nutritional products, and perceptions of attractiveness to perceived benefits of attractiveness. As self evaluations of body image increase so do positive attitudes to products and perceptions of Benefits of attractiveness. Therefore, negatively affecting

consumer self evaluations of body image by portraying images of unattainable beauty and attractiveness will result in lowered attitudes to products.

Culture

***H8a*:** Acculturation moderates the relationship between Perceptions of Beauty and Attitude to:

- personal care and fashion products **Supported**
- technology products **Supported**
- nutritional products **Supported**

***H8b*:** The degree of Acculturation moderates the relationship between Perceptions of Beauty and Body Image post exposure to images of models **Supported**

Culture was identified, in the literature, as a construct which greatly influences the way consumers perceive and behave (Bjerke & Polegato, 2006). This study looked at acculturation as an element of culture. Acculturation was found to moderate the relationships between perceptions of beauty and attitude to product and body image. The higher the degree of acculturation, the greater the increase in positive attitudes to products and body image. The finding could mean that beautiful models are less effective for people who cling to their own cultures and are not as involved in mainstream Australian culture. In today's globalised village, it is important to include ethnically representative models in marketing communications.

Media Influence

***H9a*:** Media influence moderates the relationship between Perceptions of Beauty and Attitude to:

- personal care and fashion products **Supported**
- technology products **Supported**
- nutritional products **Supported**

***H9b*:** Media influence moderates the relationship between Perceptions of Beauty and Social acceptance **Supported**

H9c: Media influence moderates the relationship between Perceptions of Attractiveness and Attitude to:

- personal care and fashion products **Supported**
- technology products **Supported**

H9d: Media influence moderates the relationship between Perceptions of Attractiveness and Body image post exposure **Supported**

Media was identified in the literature as a focal point for individuals searching for physical standards to emulate and by which to judge themselves (Irving, 2001). The findings indicate that media influence moderates the relationship between beauty and attitude to personal care,

fashion, and technology products and perception of social acceptance. The finding could mean that those people who are more influenced by media are more likely to pay attention to advertising for product information and develop more positive attitudes.

Media influence was also found to moderate the relationship between perceptions of attractiveness and attitude to personal care, fashion, and technology products and body image post exposure. The finding could mean that those influenced more by the media are more likely to be affected by images of attractive models and adjust their appearance in other to increase their evaluations of body image.

Models portrayed in the media

H10a: Models portrayed in the media moderates the relationship between Perceptions of Beauty and Attitude to:

- personal care and fashion products **Supported**
- technology products **Supported**
- nutritional products **Supported**

***H10b*:** Models portrayed in the media moderates the relationship between Perceptions of Beauty and Benefits of attractiveness **Supported**

H10c: Models portrayed in the media moderates the relationship between Perceptions of Attractiveness and Attitude to:

- personal care and fashion products **Supported**
- technology products **Supported**
- nutritional products **Supported**

***H10d*:** Models portrayed in the media moderates the relationship between Perceptions of Attractiveness and Social acceptance **Supported**

The literature review revealed the influence of models to be an important issue as it was found to have an effect of one's perceptions of self and others (Bower, 2001). Models portrayed in the media were found to moderate the relationship between perceptions of beauty and attitude to personal care, fashion, technology, and nutritional products and perceived benefits of attractiveness. Models portrayed in the media were also found to moderate the relationship between perceptions of attractiveness and attitude to personal care, fashion, technology, and nutritional products and social acceptance. This finding lends support to the notion that models do impact consumer perceptions of advertising effectiveness and perceived benefits of attractiveness.

6.4 The Contributions of the Study

This study makes a number of contributions to existing knowledge in the domain of advertising effectiveness. In addressing the key issues, this research makes academic, social, and managerial contributions.

6.4.1 Academic Contributions

Attractiveness Research

The broad purpose of this research was to further the understanding of Attractiveness. In prior studies, the terms beauty and attractiveness were used interchangeably, however this study sought to distinguish the two. Additionally, there is a recognised need to study the effect of culture and gender on the perceptions of attractiveness (K. Frith, et al., 2005), especially as there has still been relatively little research attention paid to countries outside of the United States (Tiggemann & Ruutel, 2004). Additionally this study included male and female respondents from various cultural backgrounds within Australia.

By creating a 2 by 2 matrix of beauty and attractiveness, this study contributes to distinguish between these two concepts and establish that the resulting differences in perception have implications for consumption of personal care and fashion products; technology products and nutritional products.

Formative and Reflective models

This study explored both formative and reflective models to identify which is more appropriate for measurement of the constructs within the conceptual framework. The identification of appropriate models is fundamental to theory building and this thesis looked to justify, both theoretically and empirically, the choice of the measurement models. Significantly, formative models have not previously been used in this context despite their recognised importance (Coltman, et al., 2008; Diamantopoulos, et al., 2008). The study contributes to future studies by showing that beauty is a reflective measure while attractiveness is a formative measure.

Contributions to Methodology

There were a number of key methodological contributions:

1. The impact of common method variance was examined on the magnitude and significance of correlations and the results indicate that common method variance was not a problem in this study.
2. There is a scarcity of formal research supporting the use of physically attractive models in advertising. This study conducted a photoshoot with ten models and two product categories (male and female underwear and perfume), and designed advertisements with model and product combinations to explore male and female perceptions of beauty and attractiveness and to examine advertising effectiveness. This study takes into account both faces and bodies as representations of attractiveness. The inclusion of bodies is especially important as previous studies were mostly restricted to facial photographs in defining attractiveness.

6.4.2 Implications of the Study for Public Policy

The current social environment is an increasingly diverse, culturally rich and complex place. Shifting trends in urbanisation, technology, industrialisation, health and social structures throughout the world has meant that many of the paradigms and belief systems that policies and cultural systems have been based upon have been, and continue to be, subject to tensions and realignment. It appears that there is a universal interest in promoting body image programmes as a systematic focus that is supported and reinforced through social policy efforts. In this study, Attractiveness and Beauty were found to have a direct association with self evaluations of body image, perceived benefits of attractiveness, attitude to nutritional products, and the influence of models. However, arguably the most interesting findings were the negative relationships. Models portrayed in the media were found to have a negative association with respondents' perceptions of their attractiveness and attitude to nutritional products. This is an important finding when designing marketing messages but also government messages as this research adds to previous literature in suggesting that there is a need to change the images to which consumers are exposed to include a greater diversity of cultures, shapes and sizes (Baird & Grieve, 2006).

Prior studies have supported the idea that the media's portrayal of the thin body as an ideal is associated with weight and shape dissatisfaction, increased mood disturbance, and disordered eating (Harrison, 2001; Irving, 2001; Thompson, et al., 1999). The finding that exposure to idealised physical images results in increased body-image disturbance (Posavac, et al., 2001) and negative mood (Cattarin, et al., 2000) is important because these are risk factors for eating disorders (APA, 1994). This research sought to progress the understanding of the influence of media and models on consumers and to measure self evaluations of body image prior and post exposure to images of models.

This study urges the need for policy-makers to promote body image and attractiveness in framing their public policies that will positively impact on the health and nutrition of people across all age groups. Policy refinement and development should be examined across cultures, ages and gender:

1. Initiatives should focus on raising awareness about attractiveness and body image issues in the general public, but schools and primary care physicians may be particularly good avenues of dissemination.
2. Positive body image should be encouraged and diversity valued to reflect Australia's multicultural society.
3. Policies should encourage Australians to take pride in developing a healthy lifestyle with a focus on healthy eating and healthy activity every day.
4. Advertising standards require regulation to ensure marketing messages reinforce diverse role models and aspirational models.

6.4.3 Implications for Business

The strategy and execution of marketing messages is crucial to the success of a brand. The explored relationships in this research inform marketing and advertising managers in terms of consumer perceptions of attractiveness. Additionally, this research explores consumer attitudes to personal care, fashion, technology and nutritional products, and the effects of advertising on body image. These insights are crucial in order to communicate appropriately to the designated market segments and to facilitate messages that resonate with the intended audiences. From this study, marketers can gain insights into attitudes to specific product categories and the boundary conditions under which these relationships hold. The higher the

self evaluations of body image the greater the increase in positive attitudes. Therefore, designing marketing messages, with representative models from a variety of ethnic backgrounds and body shapes is an appropriate strategy.

There are also contextual issues that need to be considered where being attractive is not ideal such as in employment. Employing a stunningly beautiful young lady would not be ideal in a fashion retail store with a dominant female target market as customers would engage in social comparison, and potentially this could result in lowered evaluations of their own body image and therefore negative associations with the retail store. Additionally, ethnicity is an important consideration when designing marketing communication to ensure models from important populations segments are adequately represented to reflect a truly multicultural society.

There is a need for marketers, both on the client side and advertising agency side, to take responsibility and to be proactive with their choice of models as these have both negative and positive effects on the general community. Using models consistent with messages for healthy lifestyles, representative body shapes and sizes, and social integration would resonate with changing community expectations.

6.4.4 Limitations of the Study and Suggestions for Future Research

There are a number of limitations that should be noted.

Firstly, whilst the survey targeted various cultural backgrounds, gender, and age groups, it did not look at consumers under the age of eighteen due to ethical restrictions by the university in working with people below the age of eighteen. This demographic is most susceptible to models, the media, and peer pressure. It is a group that needs further study, especially as it is an ideal age for public policy to make an impact.

Secondly, there are some limitations to using an electronic questionnaire. When looking at the distribution of the sample, people above 40 were underrepresented due to the age and technology relationship. It is important to understand this group and to explore whether perceptions of attractiveness and body image change with age.

Thirdly, considerable data was collected as part of this research. However, due to the time constraints of a PhD, not all of the data can be used in the thesis. However, the data can be used in further studies.

Fourthly, specific face and physique features were not asked directly (e.g. eye colour, size of breasts) but may be useful for future investigations. While the study makes a contribution by using more finely grained measures than prior studies, such micro level details were not attempted.

An area that is gaining much interest is Neuromarketing. It would be of great benefit and interest to use brain activity measures such as EEG (electroencephalogram) and SST (Steady State Topography) to study how consumers react in real time to images of models and to advertisements and then following it up with self-reported measures to see if there are differences between the two.

6.5 Personal Reflection

It has been a long, engaging experience and what worthwhile journey! I honestly believe that this research has provided important insights in the area of investigation and an opportunity to learn the skills needed for scientific research that should form the bedrock for future research. I view the world through a different lens: an inquisitive and imaginative lens. It has brought to the surface the kid who always poses questions to find out how things work and the person who seeks to ask the right questions and let solid research find the answers. The opportunities and experiences, such as teaching and mentoring, that I have been exposed to through the PhD journey have made the sacrifices worthwhile.

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8 APPENDIX – SURVEY INSTRUMENT

Attractiveness and the Diversification in Society: Impact on Communication Effectiveness

A PhD Research Project by Nives Zubcevic

Department of Marketing, Monash University

About the researcher:

This research is being undertaken by Nives Zubcevic and will form part of her studies toward a PhD at Monash University. The research is being undertaken under the supervision of Professor Felix Mavondo and Dr Mike Reid, in the Department of Marketing, Monash University.

Purpose of study:

The study investigates the relationship between attractiveness, culture and communication effectiveness.

About your participation:

This questionnaire will take approximately 20 minutes to complete. Participation in this research study is entirely voluntary and you may choose not to accept or fill in this questionnaire. No information that could lead to the identification of any individual will be asked in this questionnaire. Information acquired in this study will not be disclosed in any other research studies or to outside parties. Data collection and analysis will only be accessible to the above mentioned researchers. Data provided by participants will be stored for 5 years as prescribed by Monash University regulations. Should you have any enquiries, please contact:

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Should you have any complaints concerning themanner in which this research is conducted, please do nothesitate to contact The Standing Committee on Ethics inResearch Involving humans at the following address:

Human Ethics Officer
The Standing Committee on Ethicsin Research Involving Humans
Bldg 3E, Room 111, ResearchOffice,MonashUniversity,Victoria3800Telephone (03) 99052052Fax (03) 99051420
Email:SCERH@adm.monash.edu.au

The following questions relate to people's perceptions of beauty. Using the scale below, please indicate a response that corresponds to the importance you attach to each of the following as indicators of beauty:

1	2	3	4	5	6	7
Not important	Of very little importance	Of little importance	Neither unimportant nor important	Of some importance	Very Important	Extremely important

Face

	1	2	3	4	5	6	7
Nose	○	○	○	○	○	○	○
Lips	○	○	○	○	○	○	○
Ears	○	○	○	○	○	○	○
Chin	○	○	○	○	○	○	○
Eye shape	○	○	○	○	○	○	○
Eye colour	○	○	○	○	○	○	○
Cheeks/cheek bones	○	○	○	○	○	○	○
Face shape	○	○	○	○	○	○	○
Smile	○	○	○	○	○	○	○

The following questions relate to people's perceptions of attractiveness. Using the scale below, please indicate a response that corresponds to the importance you attach to each of the following as indicators of attractiveness:

1	2	3	4	5	6	7
Not important	Of very little importance	Of little importance	Neither unimportant nor important	Of some importance	Very Important	Extremely important

Upper body

	1	2	3	4	5	6	7
Prominence of muscles	○	○	○	○	○	○	○
Width of shoulders	○	○	○	○	○	○	○
Arms	○	○	○	○	○	○	○
Hands	○	○	○	○	○	○	○
Chest or breasts	○	○	○	○	○	○	○
Appearance of stomach	○	○	○	○	○	○	○
Waist-to-hip ratio	○	○	○	○	○	○	○

Lower body

	1	2	3	4	5	6	7
Waist	○	○	○	○	○	○	○
Thighs	○	○	○	○	○	○	○
Buttocks	○	○	○	○	○	○	○
Hips	○	○	○	○	○	○	○
Legs	○	○	○	○	○	○	○
Feet	○	○	○	○	○	○	○

Sex appeal

	1	2	3	4	5	6	7
Breast size	○	○	○	○	○	○	○
Femininity	○	○	○	○	○	○	○
Masculinity	○	○	○	○	○	○	○
Sensuality	○	○	○	○	○	○	○
Youthfulness	○	○	○	○	○	○	○
Healthy appearance	○	○	○	○	○	○	○
Revealing clothing	○	○	○	○	○	○	○
Voice	○	○	○	○	○	○	○
Sense of mystery	○	○	○	○	○	○	○
Dress sense	○	○	○	○	○	○	○
Footwear	○	○	○	○	○	○	○
Overall appearance	○	○	○	○	○	○	○

Musculature

	1	2	3	4	5	6	7
Muscular strength	○	○	○	○	○	○	○
Muscle size	○	○	○	○	○	○	○
Muscle tone	○	○	○	○	○	○	○

Energy level

	1	2	3	4	5	6	7
Appearance of fitness	○	○	○	○	○	○	○
Physical coordination	○	○	○	○	○	○	○
Physical stamina	○	○	○	○	○	○	○
Agility	○	○	○	○	○	○	○

To what extent do you agree the following characteristics are associated with attractive people?

	1	2	3	4	5	6	7
Extraverted	○	○	○	○	○	○	○
Confident	○	○	○	○	○	○	○
Communicative	○	○	○	○	○	○	○
Optimistic	○	○	○	○	○	○	○
Intelligent	○	○	○	○	○	○	○
Fun	○	○	○	○	○	○	○
Trendy	○	○	○	○	○	○	○
Charming	○	○	○	○	○	○	○
Sincere	○	○	○	○	○	○	○

Please choose a number that corresponds to your preference for the following characteristics you would find attractive in a person:

.....Tall (1).....	2	3	4	5	6	.....Short (7).....
.....Not hairy (1).....	2	3	4	5	6	.....Hairy (7).....
Youthful appearance (1)	2	3	4	5	6	.....Mature (7).....
.....Skinny (1).....	2	3	4	5	6	.....Voluptuous (7)...
Natural appearance (1)	2	3	4	5	6	Artificial appearance (7)
.Subtle body scent (1)	2	3	4	5	6	....Noticeable body scent (7)

Please indicate to what extent you agree with the following statements using the scale below:

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither disagree or agree	Somewhat agree	Agree	Strongly agree

Ethnic Identity

	1	2	3	4	5	6	7
I am most active in social groups that include mostly members of my own ethnic group	○	○	○	○	○	○	○
I take pride in my ethnic background	○	○	○	○	○	○	○
I have a clear sense of what my ethnic background means to me	○	○	○	○	○	○	○
I am happy that I am a member of the group I belong to	○	○	○	○	○	○	○
I enjoy preparing food from my culture	○	○	○	○	○	○	○
I enjoy music from my culture	○	○	○	○	○	○	○
I have a deep respect for my customs and traditions	○	○	○	○	○	○	○
I feel a strong attachment towards my own ethnic group	○	○	○	○	○	○	○

The following section relates to your perceptions of similarity or difference with mainstream Australians. Please indicate to what extent you believe you are different or similar in the following:

1	2	3	4	5	6	7
Totally different	Very different	Somewhat different	Similar	Somewhat similar	Very similar	Identical

Acculturation

	1	2	3	4	5	6	7
culture	○	○	○	○	○	○	○
the way you dress	○	○	○	○	○	○	○
the types of food you eat	○	○	○	○	○	○	○
your family values	○	○	○	○	○	○	○
your interest in sport	○	○	○	○	○	○	○
your attitude to romantic relationships	○	○	○	○	○	○	○
your attitude to weight and weight loss	○	○	○	○	○	○	○
your use of the English language at work	○	○	○	○	○	○	○
your use of English language at home	○	○	○	○	○	○	○
your use of media	○	○	○	○	○	○	○

Please indiciate how you feel about each of the following with respect to YOURSELF. Please use the scale below:

1	2	3	4	5	6	7
Strongly negative	Moderately negative	Slightly negative	Neither negative nor positive	Slightly positive	Moderately positive	Strongly positive

	1	2	3	4	5	6	7
Face	○	○	○	○	○	○	○
Upper body	○	○	○	○	○	○	○
Lower body	○	○	○	○	○	○	○
Sex appeal	○	○	○	○	○	○	○
Overall look	○	○	○	○	○	○	○
Muscle tone	○	○	○	○	○	○	○
Energy level	○	○	○	○	○	○	○
Personality	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates the importance of the respective statements.

1	2	3	4	5	6	7
Not at all	Very little	Rarely	Somewhat	Moderate	Very much	To a great extent

To what extent are your perceptions of attractiveness influenced by:

	1	2	3	4	5	6	7
friends	○	○	○	○	○	○	○
people you see at work/school	○	○	○	○	○	○	○
what you see on TV	○	○	○	○	○	○	○
what you see at the cinema	○	○	○	○	○	○	○
what you see in magazines	○	○	○	○	○	○	○
what you see on the Internet	○	○	○	○	○	○	○
what you see on billboards	○	○	○	○	○	○	○
what you see on public transport	○	○	○	○	○	○	○

To what extent do you associate attractiveness with the following:

	1	2	3	4	5	6	7
socialising and making friends	○	○	○	○	○	○	○
better prospects of promotion at work	○	○	○	○	○	○	○
finding partners for romantic relationships	○	○	○	○	○	○	○
better treatment by teachers in school	○	○	○	○	○	○	○
receiving superior customer service	○	○	○	○	○	○	○
better doctor/patient relationships	○	○	○	○	○	○	○
lighter punishment for criminal behaviour	○	○	○	○	○	○	○
receiving help from strangers in difficult situations	○	○	○	○	○	○	○

Using the scale below, indicate to what extent models used in advertising influence your purchase of:

1	2	3	4	5	6	7
Not at all	Very little	Rarely	Somewhat	Moderate	Very much	To a great extent

Personal Care products

	1	2	3	4	5	6	7
perfume	○	○	○	○	○	○	○
cosmetics	○	○	○	○	○	○	○
skincare products	○	○	○	○	○	○	○
beauty services	○	○	○	○	○	○	○
hair products	○	○	○	○	○	○	○
solariums	○	○	○	○	○	○	○

Fashion products

	1	2	3	4	5	6	7
clothing	○	○	○	○	○	○	○
shoes	○	○	○	○	○	○	○
jewellery	○	○	○	○	○	○	○
bags	○	○	○	○	○	○	○
watches	○	○	○	○	○	○	○
other accessories	○	○	○	○	○	○	○

Technology products

	1	2	3	4	5	6	7
mobile phones	○	○	○	○	○	○	○
music players	○	○	○	○	○	○	○
game consoles	○	○	○	○	○	○	○
cameras	○	○	○	○	○	○	○

Nutritional products

	1	2	3	4	5	6	7
food	○	○	○	○	○	○	○
vitamins	○	○	○	○	○	○	○
weight-loss products	○	○	○	○	○	○	○
bottled water	○	○	○	○	○	○	○

Please indicate to what degree models potrayed in the media have an affect on YOU with respect to the following:

1	2	3	4	5	6	7
Not at all	Very little	Rarely	Somewhat	Moderate	Very much	To a great extent

	1	2	3	4	5	6	7
eating habits	○	○	○	○	○	○	○
dieting	○	○	○	○	○	○	○
exercise	○	○	○	○	○	○	○
choice of foods	○	○	○	○	○	○	○
desire to emulate models	○	○	○	○	○	○	○
fitting into the suggested social expectations	○	○	○	○	○	○	○
self-esteem	○	○	○	○	○	○	○
standards of beauty	○	○	○	○	○	○	○
your body image	○	○	○	○	○	○	○
perceptions of your attractiveness	○	○	○	○	○	○	○
perceptions of others' attractiveness	○	○	○	○	○	○	○
your desire to look more like the models in advertisements	○	○	○	○	○	○	○
your comparison to models	○	○	○	○	○	○	○

0% 100%

To what extent do you agree with the following about models:

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither disagree or agree	Somewhat agree	Agree	Strongly agree

	1	2	3	4	5	6	7
people identify with models	○	○	○	○	○	○	○
it is possible for many people to achieve model appearance	○	○	○	○	○	○	○
models are the standard by which attractiveness is judged	○	○	○	○	○	○	○
models' attractiveness cuts across cultures	○	○	○	○	○	○	○
models represent what the opposite gender likes	○	○	○	○	○	○	○

models are representative of the general population	○	○	○	○	○	○	○
models represent a healthy looking image	○	○	○	○	○	○	○
models look natural	○	○	○	○	○	○	○
models inspire people to look better	○	○	○	○	○	○	○
models encourage people to improve their appearance	○	○	○	○	○	○	○
models encourage people to buy products they advertise	○	○	○	○	○	○	○
models inform about products available on the market	○	○	○	○	○	○	○
people aspire to look like models	○	○	○	○	○	○	○
people change their appearance to look like models	○	○	○	○	○	○	○

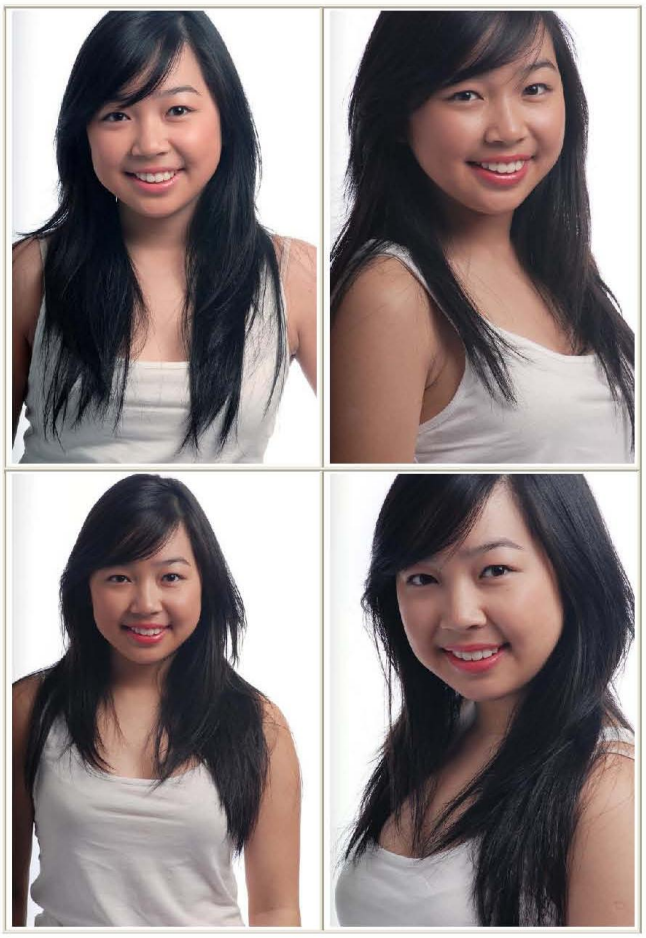
To what extent would you be interested in advertisements potraying models as:

1	2	3	4	5	6	7
Not at all	Very little	Rarely	Somewhat	Moderate	Very much	To a great extent

	1	2	3	4	5	6	7
natural looking females	○	○	○	○	○	○	○
natural looking males	○	○	○	○	○	○	○
models from diverse cultures	○	○	○	○	○	○	○
healthy looking models	○	○	○	○	○	○	○
people who are good role models	○	○	○	○	○	○	○
realistic looking models	○	○	○	○	○	○	○
animated images	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

1	2	3	4	5	6	7
Extremely ugly	Very ugly	Somewhat ugly	Neither ugly nor beautiful	Somewhat beautiful	Very beautiful	Extremely beautiful



For this particular model, to what extent do you find the following feature beautiful:

	1	2	3	4	5	6	7
Face	○	○	○	○	○	○	○

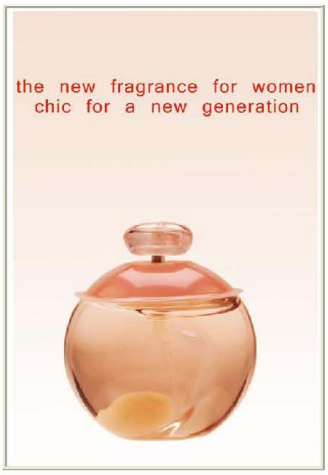
Please indicate to what extent you find this model attractive:

1	2	3	4	5	6	7
Extremely unattractive	Very unattractive	Somehwhat unattractive	Neither unnattractive nor attractive	Somewhat attractive	Very attractive	Extremely attractive

	1	2	3	4	5	6	7
Upper body	○	○	○	○	○	○	○
Lower body	○	○	○	○	○	○	○
Sex appeal	○	○	○	○	○	○	○
Overall look	○	○	○	○	○	○	○
Muscle tone	○	○	○	○	○	○	○
Energy level	○	○	○	○	○	○	○
Personality	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither disagree or agree	Somewhat agree	Agree	Strongly agree



Product

	1	2	3	4	5	6	7
This product category is relevant to me	○	○	○	○	○	○	○
I would purchase this product	○	○	○	○	○	○	○
This advertisement is effective	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither disagree or agree	Somewhat agree	Agree	Strongly agree

Model and Product Combination

	1	2	3	4	5	6	7
I feel that this model is attractive	○	○	○	○	○	○	○
I feel that this model is persuasive	○	○	○	○	○	○	○
I feel that this model is very likeable	○	○	○	○	○	○	○
I feel that this advertisement is pleasant	○	○	○	○	○	○	○
I feel that this advertisement is likeable	○	○	○	○	○	○	○
I feel that this advertisement is appealing	○	○	○	○	○	○	○
I feel there is a good fit between the model and product	○	○	○	○	○	○	○
This model/product combination is effective	○	○	○	○	○	○	○
This model/product combination is attractive	○	○	○	○	○	○	○
This model/product combination is credible	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither disagree or agree	Somewhat agree	Agree	Strongly agree

Product

	1	2	3	4	5	6	7
This product category is relevant to me	○	○	○	○	○	○	○
I would purchase this product	○	○	○	○	○	○	○
This advertisement is effective	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither disagree or agree	Somewhat agree	Agree	Strongly agree

Model and Product Combination

	1	2	3	4	5	6	7
I feel that this model is attractive	○	○	○	○	○	○	○
I feel that this model is persuasive	○	○	○	○	○	○	○
I feel that this model is very likeable	○	○	○	○	○	○	○
I feel that this advertisement is pleasant	○	○	○	○	○	○	○
I feel that this advertisement is likeable	○	○	○	○	○	○	○
I feel that this advertisement is appealing	○	○	○	○	○	○	○
I feel there is a good fit between the model and product	○	○	○	○	○	○	○
This model/product combination is effective	○	○	○	○	○	○	○
This model/product combination is attractive	○	○	○	○	○	○	○
This model/product combination is credible	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

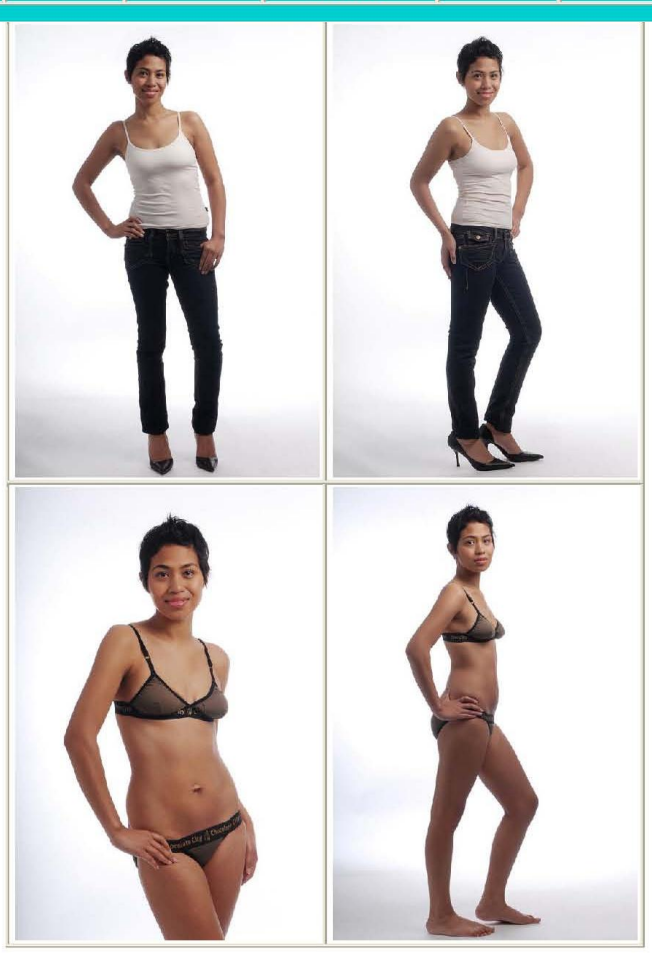
1	2	3	4	5	6	7
Extremely ugly	Very ugly	Somewhat ugly	Neither ugly nor beautiful	Somewhat beautiful	Very beautiful	Extremely beautiful

For this particular model, to what extent do you find the following feature beautiful:

	1	2	3	4	5	6	7
Face	○	○	○	○	○	○	○

Please indicate to what extent you find this model attractive:

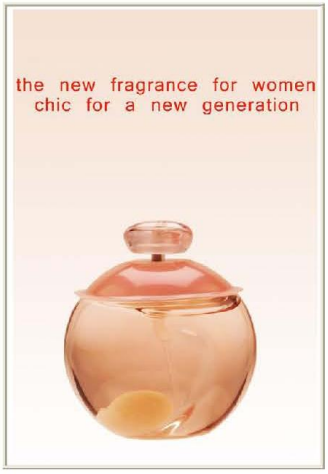
1	2	3	4	5	6	7
Extremely unattractive	Very unattractive	Somehwhat unattractive	Neither unnattractive nor attractive	Somewhat attractive	Very attractive	Extremely attractive



	1	2	3	4	5	6	7
Upper body	○	○	○	○	○	○	○
Lower body	○	○	○	○	○	○	○
Sex appeal	○	○	○	○	○	○	○
Overall look	○	○	○	○	○	○	○
Muscle tone	○	○	○	○	○	○	○
Energy level	○	○	○	○	○	○	○
Personality	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither disagree or agree	Somewhat agree	Agree	Strongly agree

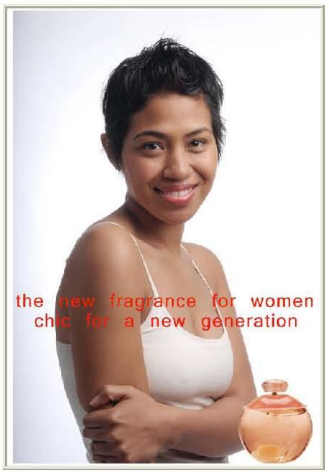


Product

	1	2	3	4	5	6	7
This product category is relevant to me	○	○	○	○	○	○	○
I would purchase this product	○	○	○	○	○	○	○
This advertisement is effective	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither disagree or agree	Somewhat agree	Agree	Strongly agree



Model and Product Combination

	1	2	3	4	5	6	7
I feel that this model is attractive	○	○	○	○	○	○	○
I feel that this model is persuasive	○	○	○	○	○	○	○
I feel that this model is very likeable	○	○	○	○	○	○	○
I feel that this advertisement is pleasant	○	○	○	○	○	○	○
I feel that this advertisement is likeable	○	○	○	○	○	○	○
I feel that this advertisement is appealing	○	○	○	○	○	○	○
I feel there is a good fit between the model and product	○	○	○	○	○	○	○
This model/product combination is effective	○	○	○	○	○	○	○
This model/product combination is attractive	○	○	○	○	○	○	○
This model/product combination is credible	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither disagree or agree	Somewhat agree	Agree	Strongly agree

Product

	1	2	3	4	5	6	7
This product category is relevant to me	○	○	○	○	○	○	○
I would purchase this product	○	○	○	○	○	○	○
This advertisement is effective	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

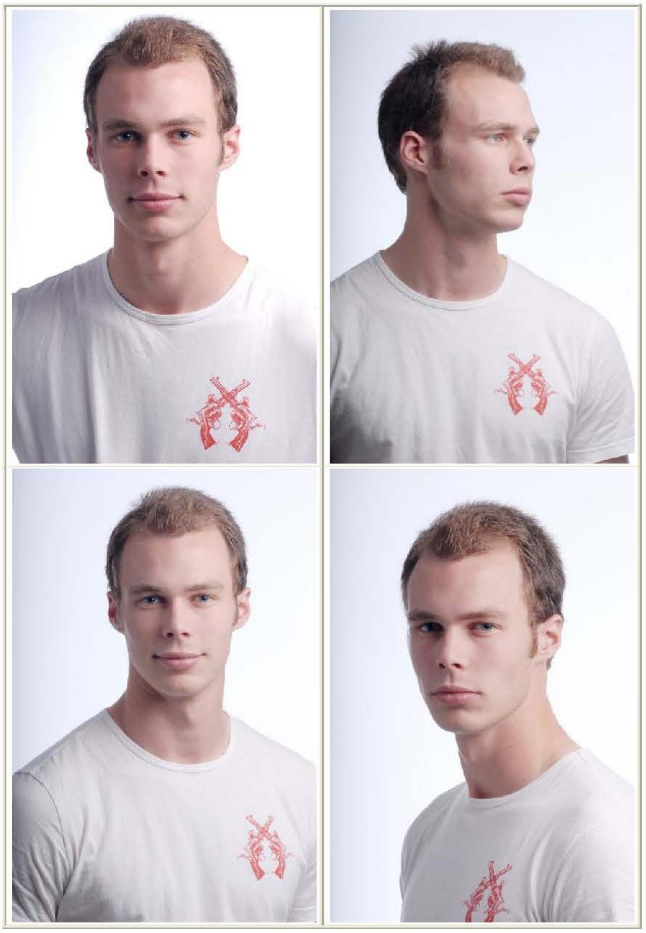
1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither disagree or agree	Somewhat agree	Agree	Strongly agree

Model and Product Combination

	1	2	3	4	5	6	7
I feel that this model is attractive	○	○	○	○	○	○	○
I feel that this model is persuasive	○	○	○	○	○	○	○
I feel that this model is very likeable	○	○	○	○	○	○	○
I feel that this advertisement is pleasant	○	○	○	○	○	○	○
I feel that this advertisement is likeable	○	○	○	○	○	○	○
I feel that this advertisement is appealing	○	○	○	○	○	○	○
I feel there is a good fit between the model and product	○	○	○	○	○	○	○
This model/product combination is effective	○	○	○	○	○	○	○
This model/product combination is attractive	○	○	○	○	○	○	○
This model/product combination is credible	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

1	2	3	4	5	6	7
Extremely ugly	Very ugly	Somewhat ugly	Neither ugly nor beautiful	Somewhat beautiful	Very beautiful	Extremely beautiful



For this particular model, to what extent do you find the following feature beautiful:

	1	2	3	4	5	6	7
Face	○	○	○	○	○	○	○

Please indicate to what extent you find this model attractive:

1	2	3	4	5	6	7
Extremely unattractive	Very unattractive	Somehwhat unattractive	Neither unnattractive nor attractive	Somewhat attractive	Very attractive	Extremely attractive

	1	2	3	4	5	6	7
Upper body	○	○	○	○	○	○	○
Lower body	○	○	○	○	○	○	○
Sex appeal	○	○	○	○	○	○	○
Overall look	○	○	○	○	○	○	○
Muscle tone	○	○	○	○	○	○	○
Energy level	○	○	○	○	○	○	○
Personality	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither disagree or agree	Somewhat agree	Agree	Strongly agree

Product

	1	2	3	4	5	6	7
This product category is relevant to me	○	○	○	○	○	○	○
I would purchase this product	○	○	○	○	○	○	○
This advertisement is effective	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither disagree or agree	Somewhat agree	Agree	Strongly agree

Model and Product Combination

	1	2	3	4	5	6	7
I feel that this model is attractive	○	○	○	○	○	○	○
I feel that this model is persuasive	○	○	○	○	○	○	○
I feel that this model is very likeable	○	○	○	○	○	○	○
I feel that this advertisement is pleasant	○	○	○	○	○	○	○
I feel that this advertisement is likeable	○	○	○	○	○	○	○
I feel that this advertisement is appealing	○	○	○	○	○	○	○
I feel there is a good fit between the model and product	○	○	○	○	○	○	○
This model/product combination is effective	○	○	○	○	○	○	○
This model/product combination is attractive	○	○	○	○	○	○	○
This model/product combination is credible	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither disagree or agree	Somewhat agree	Agree	Strongly agree

Product

	1	2	3	4	5	6	7
This product category is relevant to me	○	○	○	○	○	○	○
I would purchase this product	○	○	○	○	○	○	○
This advertisement is effective	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither disagree or agree	Somewhat agree	Agree	Strongly agree

Model and Product Combination

	1	2	3	4	5	6	7
I feel that this model is attractive	○	○	○	○	○	○	○
I feel that this model is persuasive	○	○	○	○	○	○	○
I feel that this model is very likeable	○	○	○	○	○	○	○
I feel that this advertisement is pleasant	○	○	○	○	○	○	○
I feel that this advertisement is likeable	○	○	○	○	○	○	○
I feel that this advertisement is appealing	○	○	○	○	○	○	○
I feel there is a good fit between the model and product	○	○	○	○	○	○	○
This model/product combination is effective	○	○	○	○	○	○	○
This model/product combination is attractive	○	○	○	○	○	○	○
This model/product combination is credible	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

1	2	3	4	5	6	7
Extremely ugly	Very ugly	Somewhat ugly	Neither ugly nor beautiful	Somewhat beautiful	Very beautiful	Extremely beautiful

For this particular model, to what extent do you find the following feature beautiful:

	1	2	3	4	5	6	7
Face	○	○	○	○	○	○	○

Please indicate to what extent you find this model attractive:

1	2	3	4	5	6	7
Extremely unattractive	Very unattractive	Somehwhat unattractive	Neither unnattractive nor attractive	Somewhat attractive	Very attractive	Extremely attractive

	1	2	3	4	5	6	7
Upper body	○	○	○	○	○	○	○
Lower body	○	○	○	○	○	○	○
Sex appeal	○	○	○	○	○	○	○
Overall look	○	○	○	○	○	○	○
Muscle tone	○	○	○	○	○	○	○
Energy level	○	○	○	○	○	○	○
Personality	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither disagree or agree	Somewhat agree	Agree	Strongly agree

Product

	1	2	3	4	5	6	7
This product category is relevant to me	○	○	○	○	○	○	○
I would purchase this product	○	○	○	○	○	○	○
This advertisement is effective	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither disagree or agree	Somewhat agree	Agree	Strongly agree

Model and Product Combination

	1	2	3	4	5	6	7
I feel that this model is attractive	○	○	○	○	○	○	○
I feel that this model is persuasive	○	○	○	○	○	○	○
I feel that this model is very likeable	○	○	○	○	○	○	○
I feel that this advertisement is pleasant	○	○	○	○	○	○	○
I feel that this advertisement is likeable	○	○	○	○	○	○	○
I feel that this advertisement is appealing	○	○	○	○	○	○	○
I feel there is a good fit between the model and product	○	○	○	○	○	○	○
This model/product combination is effective	○	○	○	○	○	○	○
This model/product combination is attractive	○	○	○	○	○	○	○
This model/product combination is credible	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither disagree or agree	Somewhat agree	Agree	Strongly agree

Product

	1	2	3	4	5	6	7
This product category is relevant to me	○	○	○	○	○	○	○
I would purchase this product	○	○	○	○	○	○	○
This advertisement is effective	○	○	○	○	○	○	○

Select the number, according to the following scale, that best indicates how strongly you agree or disagree with the respective statements.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither disagree or agree	Somewhat agree	Agree	Strongly agree

Model and Product Combination

	1	2	3	4	5	6	7
I feel that this model is attractive	○	○	○	○	○	○	○
I feel that this model is persuasive	○	○	○	○	○	○	○
I feel that this model is very likeable	○	○	○	○	○	○	○
I feel that this advertisement is pleasant	○	○	○	○	○	○	○
I feel that this advertisement is likeable	○	○	○	○	○	○	○
I feel that this advertisement is appealing	○	○	○	○	○	○	○
I feel there is a good fit between the model and product	○	○	○	○	○	○	○
This model/product combination is effective	○	○	○	○	○	○	○
This model/product combination is attractive	○	○	○	○	○	○	○
This model/product combination is credible	○	○	○	○	○	○	○

Please indicate how you feel about each of the following with respect to YOURSELF. Use the scale below:

1	2	3	4	5	6	7
Strongly negative	Moderately negative	Slightly negative	Neither negative nor positive	Slightly positive	Moderately positive	Strongly positive

	1	2	3	4	5	6	7
Face	○	○	○	○	○	○	○
Upper body	○	○	○	○	○	○	○
Lower body	○	○	○	○	○	○	○
Sex appeal	○	○	○	○	○	○	○
Overall look	○	○	○	○	○	○	○
Muscle tone	○	○	○	○	○	○	○
Energy level	○	○	○	○	○	○	○
Personality	○	○	○	○	○	○	○

Is there anything else you'd like to mention about attractiveness and the relationship between advertising and models?

E1: Gender

- Male
- Female
- Other

E2: Age

- under 20
- 20-24
- 25-30
- 31-35
- 36-40
- 41-45
- 46-50
- 51 and above

E3: What is your education level?

- Secondary
- Diploma
- Degree
- Masters
- Higher

E4: What is your approximate height in centimetres?

E5: What is your approximate weight in kilograms?

E6: What is your annual personal income?

- $10,000 & below
- $10,000-$20,000
- $20,000-$30,000
- $30,000-$40,000
- $40,000-$60,000
- $60,000 & above

E7: What country are you in?

E8: What is your nationality?

E9: What is your country of birth?

E10: What is your Ethnicity?

E11: Where did you hear about this study?

E12: For females only:
Studies have shown that women's perceptions change according to their menstrual cycle.

What stage of the menstrual cycle are you at?

- ○ currently have my period
- ○ 1-6 days until my period
- ○ 7-10 days until my period
- ○ 11-17 days until my period
- ○ 18-25 days until my period

Thank You

Thank you for completing this questionnaire. Confidentiality is assured.

This project could not have been possible without the generous help of the following Melbourne businesses:

Chocolate City, www.chocolatecity.com.au

Elmz Beadz, hand made jewellery [redacted]

The Red Balloon Candy Artisans, www.theredballoon.com.au

Rony Solzberg, photographer **-** [redacted]

Runway Secrets, www.runwaysecrets.com.au