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Future Orientation, Chronological Age and Product Attributes Preference

Yujie Wei

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Future Orientation, Chronological Age and Product Attributes Preference

BY

Yujie Wei

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Of

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ACCEPTANCE

This dissertation was prepared under the direction of the **YUJIE WEI** Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Doctoral of Philosophy in Business Administration in the Robinson College of Business of Georgia State University.

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ABSTRACT

FUTURE ORIENTATION, CHRONOLOGICAL AGE AND PRODUCT ATTRIBUTES PREFERENCE

BY YUJIE WEI

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This dissertation examines what motivates individuals to prefer certain types of product attributes over others. It is proposed that consumer preference regarding product attributes is fundamentally connected to an individual's future orientation, i.e., how a person perceives, thinks about, and copes with time left in life. Specifically, it is posited that future orientations play key roles in shaping a person's criteria in product evaluation. Thus, this dissertation seeks to integrate the study of future orientation with research on socio-emotional selectivity influences on consumption.

Building on past research, this study proposes a conceptual model including four constructs: future orientations, chronological age, product evaluation, and preferences. An experimental study was used to investigate the research objectives and calibrate and validate the model. The experiment examines the moderating effect of future orientations and chronological age on consumer preference for hedonic vs. utilitarian attributes. The subjects were randomly assigned to one of two future orientations (expansive and limited) and one of two attributes contexts (hedonic and utilitarian). The sample for this study was drawn from consumers in Metropolitan Atlanta, Georgia.

The research results will lead to an improved understanding of how preference varies from individual to individual and changes over time. In particular the research will provide insights about the impact of an individual's future orientation on product attitude. The findings will advance current theory in both the new product evaluation and preference literature and have implications for the practice of marketing at levels of marketing strategy, product development, integrated marketing communications and loyalty programs.

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CHAPTER 1

INTRODUCTION

A continuous flow of new products is encountered each year by the U.S. retail grocery industry. About ten years ago, new products were introduced at the rate of over 2,105 per month in 1997 (www.productscan.com). In recent years, this number has increased drastically. For example, Coca Cola introduced more than 1,000 new products in 2005 and has seen strong sales of new drinks such as Coca-Cola Zero (Credeur 2005). Since the majority of the new products fail, success of new products is of vital importance to manufacturers and retailers alike because of money, time, and space investments.

Product design has been hailed as a key strategic weapon that companies can use to gain a competitive advantage (Allenby and Ginter 1995; Kivetz and Simonson 2002b). Past research has examined how consumers make their new product decisions, but has not differentiated between the various categories of new products and investigated the value of product attribute design relative to brand equity in generating favorable consumer evaluation and response. Further, little attention has been paid to the role that future orientation plays in product attribute preference.

Time is a limited resource. Psychologists traditionally have recognized the importance of an individual's perception of time or vision of the future (Kellaris and Kent 2002; Poole 2000). For example, Kelly's (1955) personal construct theory suggests that anticipation of future events is the primary focus of individual behavior and decision-making. Prior research has indicated that an individual's perception of the future can influence his or her attitude toward many things such as financial planning (Poole 2000), and perceptions about the passage of time can influence the urgency that the individual feels toward these activities (Loewenstein 1988; Ubel, Loewenstein, and Jepson 2005). These attitudes and perceptions can also influence one's spending behavior.

In the marketing literature, time has been an important variable (Graham 1981, 1982; Hornik 1984; Mittal, Kumar, and Tsiros 1999; Pavia and Mason 2004; Pessemier and Handelsman 1984; Rindfleisch, Freeman, and Burroughs 2000; Shimp 1982; Szmigin and Carrigan 2001; Suri and Monroe 2003; Swait and Erdem 2002). Graham (1981) suggested that understanding perception of time is essential to understanding consumer behavior because time has an impact on consumer decision making process (i.e., problem recognition, information search, evaluation of alternatives, purchase and postpurchase evaluation).

But Graham's perception of time is different from the concept discussed in this dissertation. Most previous research on the relationship between the temporal effect and consumption has been discussed in the contexts of either situational or cultural effects. For example, Nowlis (1995) found that consumers shopping in the conditions of limited time tend to prefer higher-quality and higher-price products with better advanced features. Suri and Monroe (2003) investigated how time constraints affect consumers' product evaluation over different levels of price information. They found that the availability of time is "not merely a resource but also can stimulate consumers to process information, when they might have little motivation to process information." (p. 101). They also found that "as time pressure increased, price information was processed heuristically, resulting in price information being used more to infer the quality of the products" (p. 102). In the above examples, time is treated as a situational factor.

Researchers also have studied the relationship between time and consumption in a cultural setting. For example, Graham (1981) examined three different perceptions of time (i.e., linear-separable, circular-traditional, and procedural-traditional) and concluded that "no one time perception is universally shared," and thus "perception of time is a part of an individual's culture and like other parts of culture, it has an important influence on the individual's world view and subsequent behavior" (p. 338). Pavia and Mason (2004) believed that consumption offers "an arena in which control can be exercised, a means for enjoying short-term sensual pleasure and immediate experiences, a voice through which the individual can express and understand her views about the future, and a mechanism to envision herself anchored in the future surrounded by others and linked by joint consumption" (p. 453).

After "9-11", especially when a series of terrorist attacks occur in many parts of the world year in year out, death is attracting more attention from marketing scholars as well as scholars in other areas. Mortality salience has become the theme of many research articles (e.g. Arndt, Solomon, Kasser, and Sheldon 2004; Bonsu and Belk 2003; Ferraro, Shiv, and Bettman 2005; Maheswaran and Agrawal 2004; Pavia and Mason 2004; Rindfleisch and Burroughs 2004). The terror management theory (TMT) has been applied to consumption areas such as materialism (Arndt et al 2004; Mandel and Heine 1999; Rindfleisch and Burroughs 2004), product choice (Ferraro et al 2005) and cultural differences and ethnocentrism (Maheswaran and Agrawal 2004). TMT postulates that human behavior is regulated by the perceived mortality salience, which serves as motivation to reduce or control terror-related anxiety through engaging in various social activities including consumption (Mandel and Heine 1999; Maheswaran and Agrawal (2004). Utilizing this theory, Arndt et al (2004) investigated the relationship between mortality salience and materialism in the context of conspicuous consumption. They found that when mortality salience is high, people tend to purchase more goods to enhance self-esteem and support their cultural worldview. They pointed out that this theory explains why after “9-11” many American consumers bought new homes, new furniture, home appliances, cars, and other goods. In these cases, existential anxiety motivated those people to speed up purchase decisions that they would delay in normal situations.

Prior research also found that mortality salience leads to more consumption of indulgent food which can be regarded as an “anxiety buffer” (Pyszczynski, Greenberg, and Solomon 1997). Drawing on TMT, Ferraro et al., (2005) found that when mortality is made salient, those whose body is a source of self-esteem are less likely to purchase indulgent (emotional) foods; those whose body is not a source of self-esteem are more likely to purchase indulgent foods. So mortality salience interacts with self-esteem to influence consumer choice. In other words, people in the face of death and mortality would choose different types of products to bolster and enhance their self-esteem. Through purchasing behaviors, consumers defend their cultural worldview and validate their personal “self-worth” because mortality salience evokes impression management motivation. In these cases, consumers tend to associate the ownership of some products with some positive and desirable outcomes that may help them to gain psychological equilibrium in face of death or other terrors.

The socioemotional selectivity theory (SST hereinafter) is another psychological theory that addresses the relationship between future orientations and human behavior. According to the theory, human behavior is regulated by two types of social goals (i.e., knowledge-related vs. emotion-related goals) which in turn, are determined by two future orientations (i.e., expansive vs. limited time views). Drawing on SST, Williams and Drolet (2005) found that consumers with a limited time view (i.e., higher mortality salience or older age) are more influenced by emotional appeals of advertisements and are more likely to select products with emotional appeals (e.g., hedonic or indulgent). Put differently, future orientations lead to attitude change through cognitive and affective responses to product appeals.

The results by Williams and Drolet (2005) have indicated that SST has the potential to investigate the influence of future orientation on consumption behavior. This dissertation attempts to extend the applicability of SST to product evaluation and preference examining to what extent future orientations affect products preference within the framework of SST. The research hypothesizes that as consumers' future orientations vary from expansive to limited, the preferences for knowledge-related (i.e., utilitarian) products will gradually lose ground to emotion-related (i.e., hedonic) products.

Another important task is to make the comparison of consumer preference for different product attributes between two different age levels (19-39 vs. 60-74), as future orientation change is considered to be consistent with the aging process. In other words, younger people have an expansive time view so that their judgments of product attributes are more inclined to emphasize knowledge-related appeals whereas older people are more inclined to emphasize emotional appeals.

In this study, consumers' future orientation is treated as internal and dispositional factor. Although situational factors and task definitions may influence a person's future orientations and goals, this influence is merely temporary (Higgins 1997, 1998, 2000, 2002). For example, a 70-year-old person with emotional goals may buy a knowledge-related product (e.g., learning software) to learn some computer skills. In this case, it is the task definition that induces him or her to purchase the goods and this discretionary purchase does not reflect the person's general pattern in consumption.

Purpose of Study

Previous research suggests that a consumer decision making model should be developed and tested, ideally against competing models examining the belief structure of consumers (Cohen and Houston 1972). This dissertation intends to incorporate the moderating effect of future orientation into a product attribute preference model.

This dissertation was guided by two major questions: (1) whether future orientations have the same influence on consumer preference for different types of attributes such as hedonic vs. utilitarian ones and (2) whether future orientation accounts for the age differences in product attribute preferences. Specifically, consumer preference for different product attributes was examined to provide more convincing answers to questions such as "why consumers of different age levels have different preferences?" and "why people change their attitudes towards product attributes over time?" By systematically examining consumer evaluation between different types of product appeals from a cognitive perspective, the present dissertation intends to accomplish the following research objectives:

- To investigate the impact of future orientation on consumer evaluation of product attributes and understand how consumers with different future orientations make trade-offs between product appeals to arrive at overall product evaluations.
- To examine how time views enhance or diminish consumers' preference through a mechanism of congruency between products appeals and consumers' future orientations in the life stage.
- To study the relationships between time orientations, age levels, and attribute preferences. Do people of same age have same time views or different? Does expansive vs. limited time view cause individuals in the same age level to prefer different types of product attributes?
- To identify the differences and similarities in preference patterns between two age groups and the implications for marketers.

In summary, the major objective of this study is to further test the applicability of SST to product evaluation and preference of consumption behavior. It is posited that when people approach the ending of life, emotional meaningfulness becomes more important to them (Carstensen, Isaacowitz, and Charles 1999; Carstensen, Fung, and Charles 2003), and they tend to engage in more emotionally meaningful product attributes or consumption (Williams and Drolet 2005). By observing consumers' evaluation of product attributes once they perceive time to be a constraint or open-ended, the results of the study are expected to provide insights into several important areas including marketing strategy, new product design, integrated marketing communications (e.g., advertising, promotion) and loyalty programs, and mature consumer research.

Contribution to the Literature

This dissertation intends to make several other contributions to the marketing literature as well. First, past research has shown that judgments of product appeals are often influenced by price or price-quality associations (e.g., Erevelles and Roy 1999; Erickson, and Johansson 1985; Petroshius and Monroe 1987; Rao and Monroe 1988; Suri and Monroe 2003) or involvement-price interactions (e.g., Zaichkowsky 1988). Previous research also abounds in discussions of products preference motivated by psychological and social needs for the expression of self-identity (e.g., Belk 1984, 1988, 1989, 1990; Bonsu and Belk 2003; Mehta and Belk 1991; Richins 1991). By examining the effect of future orientations on product attribute evaluations, which has not been adequately investigated in previous cue utilization research, this research introduces an important dimension into the research of product attribute evaluation and preference--- the moderating effect of future orientations. Moreover, future orientations can serve as important building blocks in the formation and grouping of product attribute preferences. Thus, this dissertation extends traditional models of the product judgment process to include a new moderator related to product expectation formation and consumer self-regulation.

Second, many manufacturers continually introduce new products with increased functions and complexity without understanding their impact on consumers. This research intends to provide managers with a description of one condition---i.e., future orientations, that precedes the product attribute evaluation process and is likely to impact product preferences. For instance, managers can use the manipulation of future orientations to stimulate the consumer's positive attitude toward products and their final choice of them. Because of the prevalence of product appeals associated with social goals (to live a happy and long life), understanding how to control these appeals should have considerable practical significance to marketing managers. Recommendations will be provided regarding how managers might act to capitalize on the conditions to boost customer preference for products and satisfaction.

Third, prior research explored the relationship between mortality salience level (time view) and preference is only in the indulgent food (e.g., Ferraro et al 2005). This research incorporates two types of attributes (both hedonic and utilitarian appeal information). Thus this research extensively investigates the processes involved in more conditions of future orientations and product appeals. Therefore, the results of this study have the potential to provide extensive managerial implications for manufacturers and retailers of luxury goods, hedonic goods, gifts, and various segment-oriented products such as mature consumer goods.

Fourth, this dissertation will compare the use of different product appeals in making product evaluations by people of different age levels. According to SST, as older people shift their future orientations from the future-oriented to the present-oriented, and their goals from knowledge-related to emotion-related ones, they will place greater value on emotionally meaningful goals and pay more attention to the emotional quality of social tasks and make strategic attempts to optimize emotional gratification (Carstensen et al 1999). Previous research has found that relative to younger individuals, older individuals exhibit substantial differences in consumption behavior (e.g., Andreasen 1984; Moschis 1994, 1996). This research posits that chronological age, as well as future orientation, accounts for age differences in consumption behavior. This research can contribute to older consumer research by examining future orientation vs. chronological age. Based on the findings of the study, consumer product evaluations could benefit from the inclusion of older adults as study participants.

Summary

The main objective of this study is to explain how future orientations and chronological age are related to the preferences for different types of product attributes. In order to test the predictive power of SST in consumer behavior, this study uses hedonic vs. utilitarian attributes as product contexts. This study is expected to provide empirical support for some of the assumptions of SST and valuable information about the performance of older adults in product evaluations that would be of interest to professionals who study human development and cognitive aging.

Organization of This Dissertation

This dissertation will include six chapters. Chapter one provides a general introduction of the research area, the purpose of the study, a brief description of the potential contributions of the study. Chapter two provides a review of the literature that has contributed to and provides support for the development of the hypotheses. Chapter three provides the theoretical bases of the study and develops the research hypotheses.

The proposed model will allow the research to assess the role of future orientation in preferences.

Chapter Four discusses the methodology to be used in the dissertation including the research design, the dependent and independent variable measures, and data collection. An experiment was carried out to test how consumers' future orientations affect their evaluations of products when different product benefit appeals are used. Product stimuli and appeals are identified through a series of pretests on the basis of the different benefits that consumers seek when evaluating a product or a service. Chapter Five will detail the analysis of the data and the tests of the hypotheses. Chapter Six will offer implications for marketing researchers and practitioners as well as recommendations for future studies.

The following chapter will review the literature focusing on product evaluation, preference, and age-related research.

CHAPTER 2

LITERATURE REVIEW

This chapter contains a review of conceptualizations of major concepts and the discussions in the marketing literature and other closely related fields. The review is designed to focus on three aspects (i.e., product evaluation, product preference, and age-related consumer research), highlighting the interactive relationships between the future orientation and product attribute evaluation, and its impact on product attribute preference. In the end, a conceptual model based on the literature review will be presented.

Product Evaluation

Marketing wisdom indicates that consumers are most certain of their choice if products/services are easy to evaluate before they purchase and more satisfied with them after purchase. Product evaluation and reevaluation are seen, in part, as the result of a consumer's desire to restructure his/her beliefs so as to avoid "cognitive dilemmas" caused by competing products perceived as meeting the same product function equally well (Cohen and Houston 1972).

Various theories have been employed by marketing scholars to explain product evaluation. Previous research, drawing on existing work in cognitive structures, schema theory, attribution research, subjective construal, and cognitive models of persuasion, develops a series of evaluation models showing various alternative persuasive processes mediated by factors such as persuasion knowledge (e.g., Alba and Hutchinson 1987; Sujan 1985), or moderated by product attributes (e.g., Hong and Wyer 1990), schema congruity level (e.g., Meyers-Levy and Tybout 1989), prior knowledge on cue utilization (e.g., Rao and Monroe 1988), product line pricing policies (e.g., Erickson and Johansson 1985; Petroshius and Monroe 1987), persuasive impact of negation (i.e., "not difficult to use") (e.g., Grant, Malaviya, and Sternthal 2004), affect (e.g., Yeung and Wyer 2004), and time constraints (e.g., Suri and Monroe 2003). Those models predict that many things such as communication advertising tactics and product appeals will either trigger an evaluation of the product or regulate the magnitude or direction of evaluation (Haugtvedt and Wegener 1994). Consumers may treat the consistency between the message and their personal goals (or relevance) as a primary processing goal, which will influence product evaluations (Lee 1995).

Generally, there are three main strands of research regarding product evaluation: research focusing on product-related factors (e.g., quality, price, packaging), research focusing on consumer-based factors (e.g., methods or approaches of evaluations, consumer knowledge, motivational factors, schemata use), and research focusing on miscellaneous factors such as corporate image (e.g., Madrigal 2000) and situational factors (e.g., temporal and spatial perceptions). Each strand is briefly discussed in the following sections with a focus on a few major articles. This research will focus on the influence of consumer individual future orientation on evaluations, following the cognitive view of consumers as goal-driven, rational, problem-solving, and information processors.

Product-based Evaluation

This strand of research focuses on the factors or product attributes such as quality and price (or value) that the consumer would pay attention to in evaluating products. Considerable research emphasis has been placed on how consumers evaluate new product attributes (Campbell and Goodstein 2001; Grant, Malaviya, and Sternthal 2004; Mukherjee and Hoyer 2001; Peck and Childers 2005; Shen 2005; Suri and Monroe 2003; West and Broniarczyk 1998; Yeung and Wyer 2004). For example, Erickson and Johansson (1985) investigated various roles price can play in the multi-attribute product evaluation process regarding automobile brands and found that price and quality beliefs interact and influence the consumer's final decision.

Product value has been a major factor that influences consumer evaluation of the product because it is "the perceived level of product quality relative to the price paid" (Fornell and Johnson 1996) or "the consumer's objective assessment of the utility of a brand based on perceptions of what is given up for what is received" (Rust, Zeithaml, and Lemon 2000). Research indicates that customers remain loyal, not because of promotions and marketing programs, but because of the value they perceive (Reichheld 1996). Bodapati and Drolet (2005) proposed an alternative model --- "ordered value" model---in which product utilities are "functions only of the relative orderings" of the attributes' values across alternatives. In other words, the price ordering but not actual prices impact consumer preference for a product within a consideration set. Some researchers (e.g., Sirdeshmukh, Singh, and Sabol 2002) have even suggested that "value emerges as the consistent, significant, and dominant determinant of consumer loyalty, regardless of the service category" (p.32). Since product value is identified in the marketplace, it is essential that a company should understand how its customers define value and how the definition changes (Webster 1992).

Consumer-based Evaluation

Numerous articles have been written about product evaluation from a consumer perspective. For example, some researchers have suggested that consumer product evaluations are often influenced by information (or experience) stored in their memories (Mason and Bequette 1998). Prior to product evaluations, consumers are frequently exposed to some product information and thus they have established some covariation relationships among different product attributes in their memories. Gradually, consumers develop heuristics to help them make product evaluations without the necessity of product trial.

Other researchers have investigated the relationships between consumer knowledge and evaluation (e.g., Alba and Hutchinson, 1987; Peracchio and Tybout 1996; Ruth 2001). Their results showed that when consumers have limited knowledge about the product category, they are more likely to be influenced by the level of congruity of an individual product and the category. However, when consumers have elaborate knowledge about the category, their evaluations are less likely to be influenced by the level of congruity but more influenced by their familiarity with specific product attributes.

Much research has addressed evaluation methods or approaches (e.g., Peracchio and Tybout 1996; Stayman and Alden 1992). For example, Stayman and Alden (1992) suggested that consumers process product information using attribute schemata which in turn impacts consumers' product evaluations. Meyers-Levy and Tybout (1989) suggested that the level of congruity between a product and a more general product category schema influence the nature of information processing and thus product evaluations.

Corporate and Situational Factors

Many other factors also play an important role in consumer evaluation of products. For example, corporate associations have been found to influence new product evaluation (Brown and Dacin 1997; Madrigal 2000). Consumer research literature is especially rich in research regarding the roles of situational factors (i.e., temporal factors, task definition, social surroundings, antecedent states, and physical surroundings) in product evaluation (Belk 1975). For example, the literature has found that other people (social environment) influence an individual's decision-making process. This influence is called reference group effect (Bearden and Etzel 1982; Childers and Rao 1992; Escalas and Bettman 2003; Lessig and Park 1978; Ratner and Kahn 2002). A reference group is defined as "a person or group of people who significantly influence an individual's behavior" (Bearden and Etzel 1982, p.184). Three types of reference group influence have been identified: information, utilitarian, and value expressive (Bearden and Etzel 1982; Lessig and Park 1978). For instance, the utilitarian influence occurs when an individual attempts to choose a product that is approved by his/her reference group in order to avoid negative feelings or punishments. The individual chooses to conform to his/her reference group "out of a feeling for it" (Bearden and Etzel 1982).

Summary

As one of the major areas in the marketing literature, product evaluation has been studied extensively. Researchers have investigated this phenomenon from various perspectives including product, consumer, and many miscellaneous factors (i.e., manufacturer-related and situational) that may affect evaluation process and outcomes. The results of the previous research indicate that product evaluation is an extremely complex process in which a large number of unknown factors potentially moderate the amount and type of information considered, and the heuristic(s) used by consumers during the evaluation process. The findings of this dissertation may reveal that future orientations render judgments unconsciously even when product appeals information is accessible.

Product Preference

Understanding the brand preferences of consumers is of vital importance to marketers and retailers. Knowledge of customer preferences and understanding of the process of how the consumer forms preferences can aid marketers in the development of an appropriate marketing strategy. This section reviews the literature regarding consumer preference for products.

Preferences are conceptualized as "the subjective counterparts of object utilities and values" (Zajonc and Markus 1982). According to Zajonc and Markus, a preference occurs in a situation where there are more than two options for a decision maker. A preference for X over Y is "a tendency of the organism to approach X more often and more vigorously than Y" (p.124) because X has greater utility or value. Approach tendency includes “making favorable comments” and/or “buying a product”. Consumer preferences develop and maintain depending on both cognitive and affective factors in a variety of combinations. Affective factors can be either “motor” (active) responses or “somatic” (inactive) reactions. Also, in forming preferences, people need to examine the more “elementary components” of preferences such as features and perceived importance of the features in contributing to the overall evaluation. For example, an individual’s decision of liking or disliking a wristwatch is based on her/his overall evaluation of the product relative to its alternatives after examining its features such as color, styling, fine finish, or hand design.

The marketing literature has suggested that preference can be generated without possession of the product or service (Sweeney and Soutar 2001). This makes the preference-related research more challenging because without the engagement of product use, attitudes of consumers can be elusive. Generally, there are two alternative approaches in the marketing research to investigate how consumers form their preferences for a product. One is the external source of preference including product characteristics such as attributes (e.g., Kivetz and Simonson 2000; Yeung and Soman 2005) or corporate characteristics such as social responsibility ratings (e.g., Brown and Dacin 1997; Madrigal 2000). The other is the internal source of preference including individual consumer’s personal characteristics such as personality, world view, values, or demographics such as income, age, education levels, gender and occupation. For example, Malhotra (1988) found that consumers have greater preference for brands/products which are more congruent with their self concept. Sheth, Newman and Gross (1991) suggested that five dimensions of perceived value (i.e., social, emotional, functional, epistemic and conditional value) influence consumer preference and choice in different ways and the importance of different value dimensions depends on the decision level, as well as on the type of product or service being considered (Sweeney and Soutar 2001).

Corresponding to these two approaches are two decision making paradigms. One is the information-processing paradigm, which assumes that consumers make rational choices based on searched information (e.g., Bodapati and Drolet 2005; Mukherjee and Hoyer 2001). This view has been predominant in previous studies on product preference and choice. Some researchers (e.g., Batra and Ahtola 1990; Scarpi 2005; Stayman and Alden 1992) suggested that the information processing perspective focus on only utilitarian (or tangible) criteria in products judgments, examining how well a product or service fulfills its functional purpose. Under this paradigm, only products that have more functional features and higher quality, or that have tangible attributes that are easy for consumers to evaluate, result in preference by consumers who are more likely to buy and pay more for these products (Okada 2005).

Another decision-making paradigm emphasizes the emotional or experiential aspect of consumers' decision making (e.g., Hirschman and Holbrook 1982; Holbrook and Hirschman 1982). An experiential perspective focuses on hedonic criteria of products or services, investigating intangible aspects of the good or service for its own sake (Holbrook and Hirschman 1982). This decision paradigm, including the symbolic, hedonic, and esthetic aspects of the consumption process, has gained wide recognition among consumer researchers (e.g., Batra and Ahtola 1990; Dhar and Wertenbroch 2000;

Holbrook and Hirschman 1982). The results of this stream of consumer research have indicated that people purchase products to satisfy various emotional needs and wants such as symbolic meanings or self-identity (Belk 1988; Hirschman and Holbrook 1982; McCracken 1986), or to follow cultural customs (Dubois and Duquesne 1993; Wong and Ahuvia 1998). Under this paradigm, hedonic products are usually found to have more appealing style and higher quality, and thus lead to the conventional belief that consumers are more likely to buy and pay more for hedonic products (Okada 2005). But this is still a controversial issue in the marketing literature.

The two paradigms explain the consumer decision making process from different perspectives which help researchers and practitioners to better understand consumers. However, the two paradigms fail to explain how both informational (tangible factors) or emotional (intangible) factors are used to account for different consumption behaviors. Further, the two paradigms are unable to predict what products are more likely to attract which consumers, when consumers outgrow the products and change product preference as they age, and how they justify their decisions (Okada 2005). Finally, the two paradigms seem unable to solve the disagreements between the results of different studies in the literature. For example, previous research found that consumers are more likely to place greater value on products that have more appealing style and higher quality (Mano and Oliver 1993; Richins 1994) whereas more recent studies show that consumers' willingness to pay for different products varies from person to person (Scarpi 2005) and they do not always buy the products they place greater value on, but buy the products they prefer (Dhar and Wertenbroch 2000). The existing phenomenon requires us to find the underlying mechanisms that can explain why consumers prefer different product types.

Summary

The previous literature indicates that there are two sources of consumer preference for a product: the external source of preference including product characteristics (attributes) or corporate characteristics such as social responsibility ratings and the internal source of preference including a consumer's personal characteristics such as personality, worldview, values, or demographical factors. In addition, there are two consumer decision making paradigms: the information-processing paradigm assuming that consumers make rational choices based on searched information and the experiential paradigm emphasizing the emotional or experiential aspects of consumption. The two paradigms explain how consumers form their preference and make decisions. But to the best knowledge of the researcher, the two paradigms are seldom employed together by researchers to explain preference. In the present research, this phenomenon will be examined in the framework of SST, which seems possible to integrate the two paradigms into one study examining how future orientation affects information-based decision making processing (for younger adults) and emotion-based decision making processing (for older adults).

One point needs to be emphasized at the end of this section. Future orientation is not a homogeneous entity but is an individual trait. Some variations are partly related to the individual's physical health, while some variations are probably connected to the human aging process. Since aging process is closely related to consumption behavior

(Andreasen 1984; George 1989, 1993; Lazarus and Folkman 1984; Moschis 2003; Thoits 1995), it is necessary to review the literature regarding age-related studies in consumer behavior. This will provide another contextual dimension in which this dissertation is embedded.

Age–related Consumer Research

Previous consumer researchers have employed various theories from sociology and psychology (e.g., aging theories, life-course theories, adult development theories, and role theories) to explain age-related differences in consumption behavior. This section will briefly summarize the previous studies in the area.

Generally, traditional aging theory mainly focused on the biophysical and socio-psychological stages of life-span development (Gregorire 2003) and the effects of changes in biophysical and cognitive functions on human behavior and performance (e.g., Kalleberg and Loscocco 1983; Lindenberger and Baltes 1997; Rousseau, Lamson, and Rogers 1998; Smith 1996). For example, previous research has suggested that changes in consumption throughout adulthood are inherent in the aging process. People change their consumption patterns with age to adapt to age-related losses (Bakes and Bakes 1990). The major disadvantage of traditional aging theories lies in their inability to explain the social motivation underlying consumer behavior, which plays an important part in consumer decision processes.

Some researchers (e.g., Erikson and his colleagues 1982) using adult development theories have identified eight separate stages of human development from birth to age 65 (Joan Erikson 1998 added the ninth stage from 66 and above). They suggested that at each stage humans experience various crises and conflicts because of potential "radical change in perspectives" resulting from aging. The effect of developmental aging on brand preference is considered to derive essentially from personality growth reflecting the process of an individual's psychological adjustment to his or her social roles during the life course (Erikson 1959; Levinston et al 1978). Thus, consumption would be a part of discontent for those who view personal possessions as a vital component of self identity (Belk 1988). For example, as people age, they experience gradual decreases in brand satisfaction (Kalleberg and Loscocco 1983) because older adults display increased attention to emotion in everyday life (Elder 1998). In sum, developmental theory is able to identify the differences embedded in age and segment people into groups based on the assumption that people at a certain age level display similar behavior. The major disadvantage of this school of research is that it neglects the individual characteristics within different age levels.

Another branch of research adopts a life course framework to explain the effect of past life events on human behavior (e.g., George 1989; Murrell et al. 1988; Reich and Zautra 1988). This framework posits that change is the underlying mechanism of stress and any life change that requires an adjustment should be treated as a stressor, regardless of whether it is expected or not by the subject (George 1989; Murrell et al. 1988; Reich and Zautra 1988). The major life events (e.g., loss of family members, unemployment, and chronic diseases) are frequently examined as sources of personal "dislocation" because those events create imbalance and instability among inner forces. Stress serves as a signal that the organism is struggling to restore or reestablish stability and equilibrium (Moschis 2003; Monroe and Peterman 1988; Pearlin 1982; Thoits l995).

The life-course perspective also suggests that people adopt various coping strategies to deal with life transitions or trajectories (e.g., George 1989, 1993). For example, Brandtstadter and Greve (1994) proposed that older people employ three interdependent coping processes (e.g., assimilative, accommodative, and immunizing) to preserve and maintain a positive view of self and personal development. Older people tend to favor accommodative processes over assimilative ones, which lead to changes in life strategies (e.g., goals) and responding behaviors with age. Other consumer research has indicated that coping behaviors have been employed by older consumers to reduce stress and restore psychological equilibrium (Gierveld and Dykstra 1993; Thoits 1995), and some older consumers experiencing stress may use several types of coping mechanisms simultaneously (Lazarus and Folkman 1984). For example, Andreasen (1984) found that there was a positive relationship between coping behaviors (e.g., eating out and purchasing clothes), acute stress (i.e., life changes), chronic stress, and product choice. Similar results have also been found by other researchers too (e.g., Moschis and his colleagues 1991, 1992, 1994, 1995).

Another strand of mature consumer research is called gerontographics, which focuses on older adults' needs, attitudes, lifestyles, and behaviors (Moschis 1992). According to gerontographics theory, older consumers are not a homogeneous segment but consist of subsegments with similarities and differences within each subsegment (Moschis 1991, 1996). Mature consumers can be subdivided into four groups (i.e., healthy indulgers, healthy hermits, frail recluses, and ailing outgoers) according to their life-stage characteristics.

The above discussion concerning age-related research is illustrative not exhaustive. The previous research has made considerable contributions to better understanding of age-related consumption phenomenon. In summary, prior research has displayed four major characteristics or gaps which also provide research opportunities.

First, most research has treated older consumers as a cohort or single age level. Individual differences have been neglected due to the structure of the theories employed by researchers. Traditional theories suggest that consumer behavior changes throughout adulthood, but these changes are explained as “experience-based,” not as “contingent” on future orientations (Fung 2000). Put differently, although people experience similar stages in their life, they may have very distinct future orientations at each stage. SST-based studies suggest that not all younger people live in the future and not all older adults live in the influence of the past either. Therefore, the contingency studies of consumers can help both researchers and practitioners to better understand consumption behavior in the context of the present.

Second, prior research has mainly focused on changes in attitudes and behaviors caused by biological aging processes but neglected psychological factors such as time orientations. People are presumed to adopt various coping actions throughout adulthood, including change in product preferences, to deal with the various problems (e.g., stresses) brought about by life stage shifts. The coping strategies are believed to cause changes in lifestyle, which eventually lead to a change in consumption behavior. Future orientations, as psychologists predict, plays an equally important role in attitude and behavior change (e.g., Carstensen et al 1999).

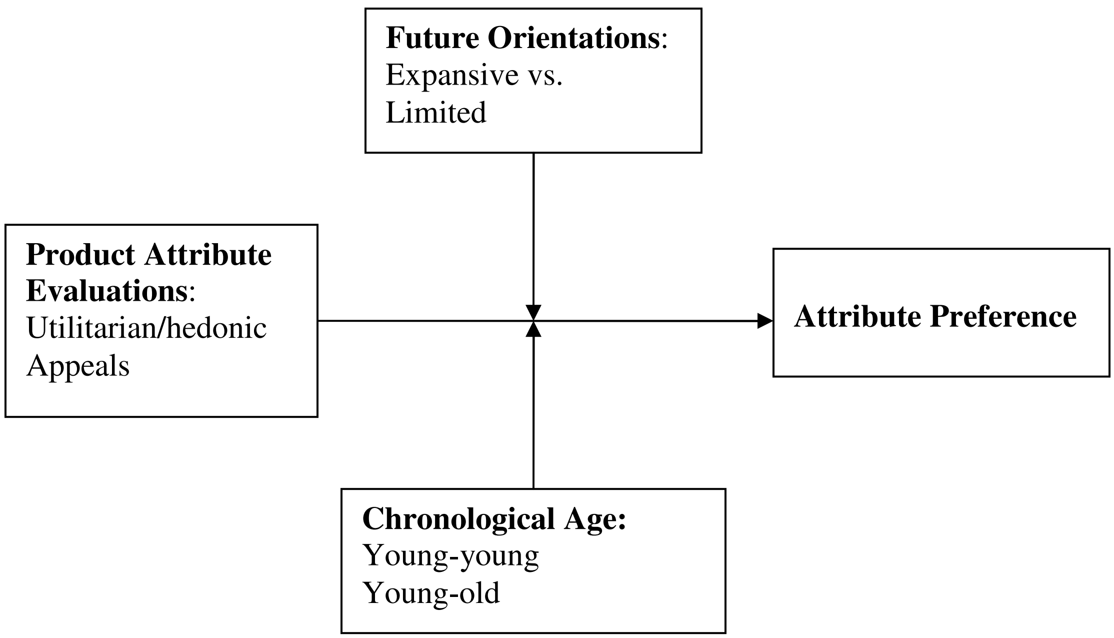
Third, previous research seems to imply that a majority of life events are construed as negative factors (or stressors) by older people who are hence described as painfully passive in responding and adjusting to those life changes. Put differently, in response to changes inherent in the aging process, older individuals seem to be "forced" to transform themselves to cope with those anticipated or unexpected life events in order to bring personal life under control. This may not be true considering most individuals have younger cognitive age and are trying to benefit from positive aging (Gregoire 2003).

Fourth, most research on older consumer behavior has concentrated on information processing (e.g., Cole and Balasubramanian 1993; John and Cole 1986; Law, Hawkins, and Craik 1998; Phillips and Sternthal 1977; Yoon 1997). For example, an impressive body of research has documented the existence of age differences in consumers' comprehension, evaluation, recall and other inferential responses to commercial messages (Laroche, Cleveland, and Browne 2004; Szmigin and Carrigan 2001; Wolfe 1993; Williams and Drolet 2005; Zeithaml and Fuerst 1983). The age-related differences in experiential consumption have not been studied much. The marketing literature has been particularly silent on age-related differences in preferences for hedonic vs. utilitarian products/services. The mechanism underlying individual consumer's preferences for hedonic vs. utilitarian attributes remains unclear. Better understanding of these differences can help marketers find correct target consumers and improve overall customer satisfaction.

In summary, almost all of the age-related consumer research has indicated that people, willingly or not, change their consumption behavior several times throughout life (Andreasen 1984; Moschis 2003; Wolfe 1993). Some of the changes are caused by the biological (physiological) aging and some by the sociological changes (e.g., roles or occurrence of life events) (Dawidowska 2004; Gregoire 2003; Schewe and Balazs 1992). However, some gaps exist. Individual future orientation has not been incorporated into previous age-related consumption research. Specifically, the effect of future orientations on product attribute preferences has not been studied much. This dissertation hypothesizes that future orientations play a moderating role in consumer preference for different types of product attributes. Since chronological age is inextricably and negatively associated with the amount of time left in life, this study also intends to test age-related differences in consumer preferences for different types of product attributes.

Figure 1 describes the conceptual model of this research. Future orientation construct is a manipulated variable and subjects will be assigned to different types of time views (expansive and limited). It is also measured in the study as a covariate using an established scale. Age refers to the chronological age and is a measured variable. This study compares two age groups: young-young group (19-39) and young-old group (60-74). Product attribute evaluation is a measured variable reflecting a subject's ratings of a group of pre-selected product attributes (hedonic and utilitarian types) manipulated in the experiment. Preference is a measured variable representing a subject's attitude toward the attributes. Based on SST, a subject's evaluation and preference for hedonic vs. utilitarian attributes is hypothetically moderated by his/her future orientation and chronological age. For instance, subjects with a limited time view are more likely to make positive evaluations and show stronger preferences for the hedonic attributes than subjects with an expansive time view. Similarly, subjects from the young-young group are more likely to make positive evaluations and show greater preferences for the utilitarian attributes than subjects from the young-old cohort.

Figure 1 Conceptual Model



CHAPTER 3

THEORETICAL FRAMEWORK AND HYPOTHESES

This chapter describes the socioemotional selectivity theory and moderating effect of future orientations and chronological age on consumer preference for different types of product attributes. The research hypotheses are developed based on the theory and the extant marketing literature.

Socioemotional Selectivity Theory (SST)

SST addresses the role of future orientation in predicting the goals that people pursue and the social partners they seek to fulfill them (Carstensen, Isaacowitz, and Charles 1999). It posits that future orientations (expansive vs. limited time views) regulate social goals (knowledge-related vs. emotion-related goals) which in turn, determine human behavior. It is about how "inextricable association between time left in life and chronological age ensures age-related differences in social goals" (Carstensen et al 1999, p.165). According to the theory, perception of time is not only of clock and calendar time, but of lifetime or perceived time left in life. As people move through life, they become increasingly aware that time is limited and precious, and it becomes "increasingly important to make the right choice, not to waste time on gradually diminishing future payoffs" (p.165).

Future Orientations

Two Types of Future orientations

Future orientation refers to how people perceive the amount of time left in their life, “a proxy for time left in life” (Carstensen et al 1999). There are two types of future orientations: expansive (or open-ended) and limited (or constraints on time). The expansive future orientation holds that life is expansive with numerous tomorrows and opportunities. Limited time view holds that life may end any time due to old age or deteriorating health. Since life time is beyond the control of the individual, the value tends to increase with the perceived importance, and how to spend the life time varies among people of different future orientations. In general, people with an expansive future orientation are more future-oriented, while people with a limited time view are more present-oriented (Carstensen et al. 1999; Fingerman and Perlmutter 1997).

Future Orientation and Age

It is necessary to point out that there is not a clear-cut age boundary between the expansive and the limited time view of an individual. Shift in future orientation is a gradual process in an individual’s life regulated by various factors, always associated with life change and transition from one situation to the next (Carstensen et al. 1999; Carstensen, Fung, Charles 2003; Lockenhoff and Carstensen 2004). In their early years, people tend to hold an expansive time view because the young age and good health seem to ensure an expansive time ahead. SST suggests that two factors cause a shift in future orientation from the expansive to the limited orientation: biological aging and life-threatening diseases such as cancer or HIV. As people move through life and approach the ultimate ending-death, they come to recognize that life is shorter than expected and passage of time cannot be stopped.

Declining health and failing functions of human organs, as well as more reliance on others to conduct some personal or social tasks, keep reminding people of a limited future (Rakowski 1986). Thus, in later life, "the ability to draw on one's reservoir of future time and extend one's temporary horizon by another few years, let alone a few years of good health, may be complicated by evidence of existing illness or physical limitation, by a resource base jeopardized due to retirement or illness, or through anxieties produced by the health problems seen among age peers." (Rakowski 1986, p. 732)

SST suggests that personal health and future orientations are intimately related in younger people as well, especially those who suffer from some life-threatening disease or have even experienced some "traumatic" life events. For instance, breast cancer and HIV were found to have great impact on temporal notions of consumers, as those diseases are "disruptive" and lead to "temporal distortions" (Pavia and Mason 2004, p.442). As a result of confronting fatal diseases, people shift to a limited time view and show a pattern of social behavior similar to older adults in the later stage of life (Carstensen and Fredrickson 1998). For them, the realization of fragility of life tends to minimize their concern for the future and peer pressure.

In summary, a traditional view of time took it as a linear continuation of the past, present and future, and an individual's life was bound to be determined by past experiences, present situations, and expectations of the future (Pavia and Mason 2004). SST however, suggests that one's life at a certain stage is more determined by one of the two future orientations. The primary age difference in time orientation lies in not the past but the present. Older people are mostly present-oriented while younger people are more concerned with the far distant future than older people.

Social Goals

SST posits that future orientations influence social behavior through the mechanism of goal adjustments (Carstensen 1992, 1995; Carstensen and Turk-Charles 1994; Carstensen et al. 1999, 2003). SST suggests that people have two types of goals: knowledge-related and emotion-related goals. These are explained in the following sections of this chapter. Future orientations influence the formation and perceived importance of particular goals to an individual (Carstensen et al. 2003). In other words, people tend to adjust their goals throughout life to maintain congruency with their future orientations “at an unconscious level” and “acutely on a periodic basis” (Carstensen et al. 1999). In the marketing literature, consumer goals influence and shape an individual’s thoughts and beliefs (Pavia and Mason 2004), no matter they are abstract or concrete goals (Austin and Vancouver 1996; Gutman 1997; Peterman 1997).

Knowledge-related Goals

The knowledge-related goals refer to “acquisitive behavior geared toward learning about the social and physical world” (Carstensen et al 1999, p.166) or optimizing the future through “acquisition of new information” (Fung and Carstensen 2003, p.163). The knowledge goals are more salient during the early years of life when an expansive time view encourages people to have high aspirations and ideals. At this stage, people are motivated to seek personal growth and self-actualization and thus invest the majority of personal resources (e.g., time and money) in the improvement of skills and/or learning of new skills (Carstensen et al. 1999, 2003). Thus, knowledge-related goals reflect motives of "preparedness" or "preparing for the future" (Carstensen et al. 1999).

The knowledge acquisition mainly concerns learning various living skills, as skills help people to reach life goals such as career development, better life conditions, and more respect from peers (Carstensen et al 1999; Fung and Carstensen 2003). Due to the rapid development in science and technology, knowledge explosion in particular, modern people have to master much more than basic skills to survive in the competitive job market, to learn multiple skills to meet the increasing demands for employees with comprehensive knowledge. For example, for a salesperson, basic knowledge of a product that he or she is selling is not enough to do the job well; other skills such as good communication skills, computer skills, and accounting knowledge are increasingly helpful to building a successful career. The importance of skills encourages college graduates to go back to school and spend their savings in pursuit of higher education, to update their knowledge, and to master new skills.

In summary, knowledge acquisition is most important from late adolescence to middle adulthood, and people strive for it "relentlessly even at the cost of emotional satisfaction" (Carstensen et al 1999, 2003). The preparation for the realization of long-term goals can persuade people to concentrate on the fulfillment of knowledge goals, and to sacrifice some short-term goals such as pleasure-seeking (Fung and Carstensen 2003).

Emotion-related Goals

The emotion-related goals refer to the desire to “find meaning in life, gain emotional intimacy, and establish feelings of social embeddedness” (Carstensen et al 1999, p.166). This category of goals concerns “balancing emotional states or sensing that one is needed by others” (Fung and Carstensen 2003, p.163). Older people as well as those with life-threatening diseases, driven by a limited future orientation , are mainly oriented to emotional-meaningful goals, and they tend to become highly conservative about with whom they want to keep in contact, always favoring those they know well (Carstensen et al 1999). They seem to have more trust in those with whom they have long-term relationships and those who can bring “predictable and quite positive” emotions to the relationship (Fredrickson and Carstensen 1990). Simply put, emotion-related goals are primarily oriented to satisfying emotional needs.

To summarize, SST suggests that the selectivity of goals are regulated by the individual’s future orientation at the specific moment of his/her life. Open-ended time is associated with future-oriented pursuit of knowledge whereas constraints on time are associated with the prioritization of present-oriented emotional goals. In everyday life, an individual person weighs the relative importance of the two goals and the trade off between them in the decision-making process, and takes action accordingly (Carstensen 1992, 1995; Carstensen et al. 1999; Garbarino and Johnson 2001). The marketing literature has also indicated that people frequently have multiple goals at the same time (Austin and Vancouver 1996; Spring 1992) and may encounter goal-conflict in their decision-making process (Ratneshwar, Pechman, and Shocker 1996).

Future Orientation and Evaluation

This research investigates the perceived temporal conditions under which consumers engage in different modes of product information processing when evaluating a product, i.e., knowledge-oriented and emotion-oriented processing, which should result in different types of judgmental effects. Based on SST, the judgmental effects are determined by 1) the degree of (in) consistency between the product appeals and motives (or goals) and (2) the degree of (in) consistency between the judgmental motives (goals) and future orientations. Future orientation is not an external situational factor, but is an internal individual characteristic. Future orientation affects the evaluation process in several different ways.

First, future orientation can serve as a cue that people use as a heuristic to make a judgment when systematic information processing is not an alternative. For instance, a young college student may not think it is appropriate to spend limited money that is planned for paying tuitions on a hedonic cruise; an older retired adult however, may want to join a hedonic trip to the pyramids in Egypt by saying, "if you do not go now, you may never make it as an old guy of 70 years old".

Second, future orientations can operate as a contextual cue that helps consumers interpret and use product information. For example, when a person buys a gift for an old and frail parent, he or she tends to buy something more symbolic, nostalgic, or emotional that the parent likes very much or has longed to have for some time. This can definitely strengthen the emotional intimacy between the child and the parent. However, when the person tries to look for a gift for his or her niece or nephew who is going to college, he or she is very likely to choose something more functional such as a laptop as a gift.

Third, future orientations can change the form and strength of the relationship between evaluation and preference by placing emphasis on the different kind of information that people use in making decisions. For instance, when looking for a car for her/himself, people with an expansive time view may emphasize durability and gas-mileage information while people with a limited time view may pay more attention to rear seat video system or seat heating system. Even if different people have positive evaluations of the same car, they may prefer different cars under the influence of different future orientations.

Finally, future orientation impacts consumer assessment of product attributes by enhancing the importance of certain attributes or even facilitating the adoption of the product or service. For instance, when an older adult, whose last wish is to tour the Great Wall and plans to do it in the future, learns that his best friend of his age died of cancer within two weeks, he might immediately book the flight to China and prepare for the trip. The death of his friend signals the limited time left in his life and prompts him to make the purchase decision. For many people, a death of a friend or family member often "heightens awareness of one's own mortality" (Carstensen et al. 2003).

Future Orientation and Preference

This section discusses how time views interact with the consumer evaluation process to influence preference. Drawing on SST, this dissertation posits that different future orientations activate differential preferences toward product attributes (appeals) through mechanisms which are discussed in the subsequent paragraphs. Future orientation is part of a cognitive process in which product appeals (attributes or cues) are processed to arrive at an attitude toward a particular product alternative.

The marketing literature suggests that consumers experience pain and guilt when they purchase and consume certain category of products such as luxuries (Kivetz and Simonson 2002a; Lascu 1991). The pain is from paying for luxuries which are often more expensive than necessities, and thus more difficult to justify. The guilt is from spending money on luxuries which are construed as unnecessary and wasteful, especially if the consumption requires them to work less and add to their waistlines (Kivetz and Simonson 2002a). To relieve or ease those negative feelings, consumers tend to employ several mechanisms such as justification, coping, and goal mechanisms either before or after the purchase decision. Marketers use these mechanisms deliberately in their promotion or loyalty programs to their advantage. For example, some marketers ask their consumers to prepay for their expenses before they consume the hedonic luxuries (Strahilevitz and Myers 1998).

Time constraints can reduce the guilt that is associated with selection of hedonic goods. For instance, an older adult who is age 70 and has worked for over 45 years for his/her family may believe that he/she has earned the right to indulge in good food in an upscale restaurant. Similarly, a person who has been diagnosed as having cancer and his/her days are numbered may think his/her selection of indulgent foods is well-justified (how can anyone blame a dying person for a bite of good food?). The title of an article by Ferraro et al (2005), “Let us eat and drink, for tomorrow we shall die: effects of mortality salience and self-esteem on self-regulation in consumer choice”, seems to best exemplify the justification. The research studies how mortality salience can be a good justification for the consumption of hedonic goods.

Put differently, justification mechanisms can encourage an individual to buy a very expensive hedonic product by using this reasoning, “I have sacrificed much and thus earned the right to own it.” Prior research found that consumers find it more appropriate to consume hedonic luxuries if they work harder or have sacrificed more for having them (Kivetz and Simonson 2002a/b). Sometimes consumers find it easier to buy and consume hedonic luxuries after they promise to donate to charitable organizations (Strahilevitz and Myers 1998).

The coping mechanism encourages an individual to buy a product by reasoning that, “I need to buy this product because it can help me to get over that nightmarish event”. For example, some marketers used the coping mechanism to inspire their consumers to select their hedonic luxuries (Arndt et al 2004; Pavia and Mason 2004).

The goal mechanism has been employed by researchers and marketers to explain the rationales of preference for social partners, advertisements or products (e.g., Austin and Vancouver 1996; Carstensen et al 1999; Garbarino and Johnson 2001; Williams and Drolet 2005). Researchers found that consumer goals play a fundamental part of all decision making processes (Austin and Vancouver 1996; Peterman 1997), and affect all stages of the consumer’s decision process, from attitude formation, information processing to product choice and usage (Garbarino and Johnson 2001). In marketing practice, marketers using this mechanism in their promotion (or advertisements) always relate their product to some life goals and emphasize how the product can help the consumer to reach their purpose or realize their dreams (Austin and Vancouver 1996;

Garbarino and Johnson 2001). SST suggests that future orientations work through goal mechanism (i.e., future orientation regulates goals and goals determine behavior). The rationale of this mechanism is detailed in the next section.

Future Orientation and Goal Mechanism

The influence of future orientations on preference is exerted through the setting and change of goals. A central tenet of SST is that the selection of goals is "a precursor to action," and people's investment decisions are regulated by their goals while prioritization of the goals is "directly related to resource allocation" (Carstensen et al. 1999). According to Carstensen et al. (2003), in situations where two types of goals compete with each other, "a principal mechanism involved in goal selection is time perception (future orientation)" (p. 106). For instance, a newly married young couple tends to spend most of its limited disposable income on daily necessities and the mortgage of a house but not on a luxurious car. A middle-aged couple with kids of school age would be more inclined to save a large proportion of their income for college education of their kids than to spend on purchasing a cabin in a distant place. A young professional would be more willing to buy some new software to improve their skills than to build a collection of paintings by a European artist of the eighteenth century. In these cases, goals influence the decision making process through persuasion mechanism (Fung and Carstensen 2003), in which product information that matches personal needs (goals) is always evaluated as more persuasive.

The marketing literature has provided numerous examples demonstrating that individuals are motivated by their goals in purchasing decisions and their choice of product categories is largely dependent on the nature of their social goals (Ratneshwar et al 1996). For example, people frequently buy gifts for their friends and relatives to express their care for them and strengthen relationships with them (Lowrey, Otnes, and Ruth 2004, Ruth, Brunel, and Otnes 2004). Younger people buy books or computers or spend their savings taking courses in their spare time that improve their skills in the chosen field. When older couples become empty nesters or retired, some of them sell their houses and move to downtown areas where they can become patrons of urban cultural attractions such as performing arts, museums, and gourmet food (Wolfe 1993) or they stay closer to family members or their circle of intimate friends. In this case, life events (the last child moving out of the house or retirement) evoke future orientations, which inspire new goals, and the goals stimulate consumption behavior. In other words, people rely on consumption to accomplish their social goals. Future orientations influence preference through regulating the goals.

Summary

Within the framework of SST, future orientations influence product attribute preference through goal mechanism, i.e., whether people prefer hedonic attributes or utilitarian ones depends on the levels of consistency between the salience of their future orientations and product appeals relevant to their internal goals. If the attribute is congruent with one’s social goals, the person is more likely to prefer the attribute and put the product in her/his consideration set. On the contrary, if the attribute seems unable to fulfill the designated social goals, the person may not consider it at all (Park and Smith 1989).

Research Hypotheses

SST postulates that individual differences in future orientation influence their preference for different social goals, and the influence is "most apparent when goals compete" (Lockenhoff and Carstensen 2004, p. 1398). This dissertation posits that the relationship between product attribute evaluation and preference is moderated by future orientation, which will be tested in the contexts of hedonic vs. utilitarian attributes.

Many products (e.g., books, cell-phone plans, wrist watches, cars, air flights, clothes, food, and houses) have both types of attributes (hedonic vs. utilitarian) designed to meet the needs of different consumers. The hedonic type of attributes represents the more emotional nature of the product, with emphasis on symbolic values, while the utilitarian attributes of a product are more functional with a focus on practical usefulness (Babin, Darden, and Griffith 1994; Holbrook and Hirschman 1982; Park and Moon 2003). Therefore, hedonic and utilitarian attributes of a product compete in an individual's decision-making process (Chernev 2004a/b). Often, the pursuit of one type means giving up the other type. There may be situations in which an individual wants to have both hedonic and utilitarian attributes. But as a whole, the individual must show a stable preference for attributes consistent with her/his life goals.

Hedonic attributes are defined as providing "more experiential consumption, fun, pleasure, and excitement" while utilitarian ones are "primarily instrumental and functional" (Dhar and Wertenbroch 2000, p. 55). Previous research has examined consumers' attitudes toward hedonic goods/services such as vacation spots (e.g., Raghunathaan and Irwin 2001; Spangenberg, Voss and Crowley 1997), musical CDs or CD players (e.g., Dhar and Wertenbroch 2000; Voss, Spangenberg, and Grohmann

2003), desserts or food (e.g., Okada 2005; Sloot et al 2005; Spangenberg et al 1997; Voss et al 2003), cigarettes (e.g., Sloot et al 2005; Voss et al 2003), performing arts (e.g., Garbarino and Johnson 2001), software products or computers (e.g., Kemf 1999; Park and Moon 2003; Spangenberg et al 1997), clothes and athletic shoes (e.g., Spangenberg et al 1997), or shopping behaviors (Babin et al 1994; Bellenger and Korgaonkar 1980; Scarpi 2005). The results from the above research have indicated that perceived value has a two-sided nature, suggesting that value itself does not stand alone and its function in consumer decision making must be influenced by some other unknown factors (Scarpi 2005).

The conventional view of hedonic consumption holds that consumers are more likely to prefer hedonic attributes to utilitarian ones because hedonic attributes usually have more appealing style and higher quality, and may satisfy human demand for expressing his or her self-identity (Mano and Oliver 1993; Richins 1994). This is because almost all hedonic attributes claim to offer positive emotions to consumers and can help individuals to find meaning in life, to experience fun, pleasure, and excitement from using the products/services (e.g., Bartra and Ahtola 1990; Dhar and Wertenbroch 2000; Hirschman and Holbrook 1982; Holbrook and Hirschman 1982; Mano and Oliver 1993; Okada 2005; Raghunathaan and Irwin 2001). However, the results of previous studies (e.g., Dhar and Wertenbroch 2000) also suggest that consumers may place greater value on hedonic attributes but end up preferring the utilitarian attributes. This indicates that product attributes, whether hedonic or utilitarian, do not sell a product automatically. In fact, Wertenbroch (1998) found that consumers voluntarily and strategically ration their purchase quantities of hedonic goods. For example, many regular smokers buy their cigarettes by the pack, although they can easily afford to buy 10-pack cartons. By rationing their purchase quantities, these consumers self-impose additional transaction costs on marginal consumption, which makes excessive smoking overly difficult and costly.

Future Orientation Effect

SST seems to provide a possible new explanation to the above disagreement in the literature. SST suggests that people with different time views prioritize different types of goals, leading to different activities and goals that are set in temporal contexts (Carstensen et al. 1999; Carstensen and Mikels 2005). When their future orientation is expansive, people are more likely to seek knowledge-related goals (mastery of some skills, or economic success). By contrast, people with a limited time view, favoring positive emotions and attempting to strengthen their social embeddedness, are more likely to pursue emotion-related goals. Based on SST, positive consumer evaluation of utilitarian/hedonic product attributes do not necessarily lead to higher preference for those attributes. It all depends on consumer time view and goals at that time. Only when the attribute type is consistent with their goals and time view, will the consumer show higher preference for the attributes. Therefore, the relationship between evaluation of attributes and preference for those attributes is hypothetically moderated by an individual's future orientation. The following hypotheses are thus developed:

> **H1: The relationship between evaluation of utilitarian attributes and preference for the utilitarian attributes is stronger for people with an expansive time view than for people with a limited time view.**

H2: The relationship between evaluation of hedonic attributes and preference for those hedonic attributes is stronger for people with a limited time view than people with an expansive time view.

Age Effect in Attribute Preference

The marketing literature has a paucity in the research of age differences in hedonic vs. utilitarian consumption. Marketers of hedonic goods believe that demand for luxury products reflects price difference not age difference (Amaldoss and Jain 2005). There is little research concerning hedonic consumption among mature consumers, because managers tend to believe that older consumers cannot enable a firm to earn higher profits due to their limited disposable income. However, recent research has indicated that in the U.S., adults aged 55 and older control four-fifths of the money invested in savings and loan associations, and own two-thirds of all the shares on the stock market (The Economist 2002).

According to Carstensen et al. (2003), "what characterizes old age is not hedonism, but a desire to derive meaning and satisfaction from life… when emotion regulation is prioritized, people attend to the positive, forget the negative, and focus on present experience" (p.108). Therefore, younger people, more future-oriented (Fingerman and Perlmutter 1995) than older ones and the salience of knowledge goals more significant to them, would prefer utilitarian product attributes as they are "primarily instrumental and functional" (Dhar and Wertenbroch 2000, p.55). By comparison, older adults who experience increasing motivation to derive emotional meanings from life are more likely to prefer hedonic attributes, although this emotion regulation is not necessarily characterized by hedonism (Carstensen et al 2003).

Based on the above discussion, consumers may evaluate certain attributes positively, but if the attributes are not consistent with their life goals, they may not prefer the attributes in their purchase decisions. Therefore, we propose that age moderate the relationship between consumer evaluation of utilitarian/hedonic attributes and preference for utilitarian/hedonic attributes. For younger consumers, knowledge-related goals prioritize the utilitarian product attributes and the relationship between evaluation of utilitarian attributes and preference for those attributes should be stronger than the relationship for older consumers, who prioritize the emotional meaningful goals. The above discussion leads to the following two hypotheses:

H3: The relationship between evaluation of utilitarian attributes and preference for the utilitarian attributes is stronger for younger consumers than for older consumers.

H4: The relationship between evaluation of hedonic attributes and preference for those hedonic attributes is stronger for older consumers than for younger consumers.

Summary

SST suggests that human behavior is determined by goals which in turn are regulated by future orientations. Generally, there are two types of future orientations: limited (time constraints) and expansive ones (open-ended). They lead to two types of goals respectively: knowledge-related and emotional meaningful goals. Based on SST, this study proposes four hypotheses investigating the moderating effect of future orientations and chronological age on consumer preference for different types of attributes. Specifically, the first two hypotheses predict that people with different future orientations have different preferences for hedonic vs. utilitarian product attributes; the last two hypotheses predict that people at different life stages demonstrate different preferences for hedonic vs. utilitarian product attributes. Through the hypotheses, the guiding principles of SST will be tested in the domain of consumer behavior of marketing.

CHAPTER 4

METHODOLOGY

Introduction

This chapter focuses on the research design, setting, sample selection, questionnaire preparation and testing, data collection, and data analysis issues regarding the study. Several stages of research design were used. They included three stages of pre-testing to determine product stimuli and product attributes, and the main study to test hypotheses in the context of consumer goods. The main study was a between-group experiment containing four experimental cells. Product attributes evaluation and preference information about product stimuli (i.e., a digital camera) were utilized to investigate the research objectives and validate the proposed model.

Hypotheses were tested using data gathered through experimental design methodology. The subjects for the main study were recruited from the volunteers of eight non-profit organizations in Georgia from June to November 2006. Specific details about the study are presented in the following sections.

Research Design

The experiment used a 2 (product appeals) x 2 (expansive and limited future orientations) factorial design with three between group factors. The critical factors in the study were age, future orientations and attribute types with time views and attribute types manipulated, evaluation and preference measured factors. The design is shown in Table 4-1.

Table 4-1 Study Design: 2 X 2 Factorial

Factor 1: Product Attributes	**Factor 2: Future Orientations**	**Cells**	**Age Groups**
Utilitarian	Limited	1	Young-young (19-39 years old)
	Expansive	2	
Hedonic	Limited	3	Young-old (60-74 years old)
	Expansive	4	

Questions of primary interest are those relating to product attribute evaluations (independent variable) and preference levels (dependent variable). At the same time, subjects' future orientations and physical health status were measured as the potential covariates as well. The covariation measurement will allow the researcher to control the variation level of those variables in the experiment to insure that they will not cause much noise. In addition, since SST is intimately related to human aging (Carstensen et al. 1999, 2003; Williams and Drolet 2005), different types of ages (i.e., chronological age and cognitive age) will be measured to compare the magnitude of relationships between different ages and future orientations, and compare the age-related differences in consumer preference for different types of product attributes as well. The results will be reported in the descriptive analysis of data and its implications will be discussed.

A total of 255 participants (with ages ranging from 19 to 82) were randomly assigned to one of the four conditions. The subjects were instructed to look at product photos together with product attributes and experimental treatment (moderator) before they answered a series of questions about product evaluation and preference. The subjects in cells 1, 2, 5 and 6 were exposed to identical product information (utilitarian attributes) and the subjects in cells 3, 4, 7 and 8 were exposed to identical product information (hedonic attributes). It was predicted that the relative preference for the more utilitarian attributes would be greater in the expansive condition and the relative preference for the more hedonic attributes would be greater in the limited condition.

Table 4-2 Summary of Research Design

Product Stimulus	One product stimulus with two versions of attributes: hedonic and utilitarian attributes
Product Attributes Manipulation Treatments	<u>Hedonic attributes:</u> Special functions, color, look, video recording, and underwater capabilities <u>Utilitarian attributes:</u> Picture clarity, auto focus, ease of use, picture storage, and flash
Future Orientation Manipulation Treatments	<u>Expansive time view:</u> Life is long. Tomorrow is endless! Prepare for a brighter future! <u>Limited time view:</u> Life is short. Who knows what will happen tomorrow? Enjoy life today!
Statistical Tool	Regression of evaluation on preference
Value To Compare	Coefficient (beta)
Hypotheses Testing	Compare the regression coefficients. Significant difference indicates supported.

Sample Selection and Procedure

Sample

Subjects of this dissertation included consumers 19 years old and above. About 60 subjects were recruited for each of four cells. The total sample size was 255. To ensure meaningful age categories of sufficient sample size, subjects were collapsed into four age groups: young—young (39 and younger), old-young (40-59), young-old (60-74), and old-old (age 75 and older) (adopted from Schaie's categorization of the elderly, 1996). This categorization has been tested and widely accepted by marketing scholars (e.g., Lambert-Pandraud, Laurent, and Lapersonne 2005).

Sampling Procedure

Since this dissertation tests the basic assumptions of the SST, a national sample is not required. Participants were recruited from the volunteers of non-profit organizations in Georgia. There are two reasons for using the volunteers as research subjects. First, they are easier to recruit because they keep in relatively close contact with the organizations of which they are volunteers. They are more willing to participate in the data collection if they are requested to do so by the organizations which benefit from the process as well. Second, by donating money in their names to the organizations they are volunteering for, people may be more likely to take the process seriously, answering all the questions and returning the questionnaires in time. Thus, a high response rate and good quality can be expected.

The use of volunteers in the research is suitable for three reasons. First, volunteering is part of the culture of the United States of America. According to the latest survey, 44% of American adults (83.9 million) are volunteers of one or more non-profit organizations (see http://www.independentsector.org/programs/research/gv01main.html). Most Americans have experience volunteering for NPOs during some period of time of their life. So using volunteers should not be an issue. Second, in this research, a control group is used. Therefore, if there was a sample selection bias, there should be incremental effect in the control group too, which can cancel out the differences because both experimental and control group will have the same starting points. Third, there is broad range of age among the volunteers (16-24 years 24.4%; 25-34 years 25.3%; 35-44 years 34.5%; 45-54 years 32.7%; 55-64 years 30.2%; and 65 years and over 24.8%) (See http://www.bls.gov/news.release/volun.nr0.htm). In fact, people age 65 and over have the highest median annual hours spent on volunteering (96 hours) and they are more likely to work for non-profit organizations than the younger counterparts (40% of people age 65 and over). This seems to be consistent with SST.

Product Stimuli

The experimental stimuli for the study included photos of a digital camera. Graphics were held constant within each version of the four alternative questionnaires used in the study. The graphic consisted of four alternative versions (also see Appendix A): two had a statement that appeals to expansive time views and two others had a statement that appeals to limited time views. The two groups of product appeals featured two types of product attributes equally likely to be used by people of different ages. Information presented to subjects concerning a digital camera and its benefits were based on the results of three-stage pretests. To obtain manipulation checks, subjects were asked to rate each set of product appeals using a scale used by Williams and Drolet (2005).

The product stimulus was carefully selected through pretests. Three criteria were utilized. First, the product should be equally related to all stages of human life. Both older and younger consumers should have equal opportunity of access to and use of the products. Second, the product should be equally related to both males and females. This will assure that all the subjects are able to evaluate the product and fill out the questionnaire. For example, a lipstick is not equally related to male and female subjects and thus would not be considered. Third, the product should have different versions in terms of hedonic or utilitarian features. This would rule out the possibility that if the product type did not have alternative versions, subjects were forced to choose that product. For example, headache remedy is considered utilitarian product and thus not appropriate as product stimuli. A digital camera meets all three criteria and after pretesting (described below) was selected for this study.

A three-stage pretest was conducted to design the product stimuli. The first stage identified the product. The second stage identified the five hedonic attributes and five utilitarian product attributes and tested the importance of those attributes in a decision to buy the product. The third stage evaluated if the statement containing time information would evoke perceptions of time view and the perceived relevance and credibility of the completed appeals.

First Stage: Selection of Stimulus

To obtain a product stimulus, the procedures of Strahilevitz and Myers (1998) were followed. Forty subjects received a long list of 30 products that were considered for the experiment. The list came from previous research (Ratchford 1987), which classified products in terms of being viewed as feel (i.e., based on how the product makes one feel) and think (i.e., based on consideration of product attributes). This list has been used by Williams and Drolet (2005) in the selection of their product stimuli. The list can be found in Table 4-3.

In order to avoid misunderstandings among subjects, Strahilevitz and Myers used "practical" instead of "utilitarian" and "frivolous" instead of "hedonic" which are more familiar to ordinary consumers. The following definitions created by Strahilevitz and Myers were used:

> **Frivolous products:** pleasure-oriented consumption. Something fun, experiential, and perhaps even "decadent." Purchasing such goods or experiences for oneself may sometimes bring on feelings of guilt, and this "acquisition guilt" may diminish the pleasure of consumption.
>
> **Practical products:** goal-oriented consumption. Something which one ordinarily buys to carry out a necessary function or task in one's life. No guilt is brought about from purchasing these products, and relatively little pleasure is associated with their consumption.

Table 4-3 Groupings of 60 Products by Ratchford (1987)

Involvement level	**Think Products**	**Feel Products**
High (30 types)	Life insurance Auto insurance Contact lens Economy car Family car Console TV Stereo component Portable TV 35 mm camera Instamatic camera Washer/dryer Car battery Battery razor Credit card Motor oil Headache remedy	Sports car Watch Eye glasses Wallpaper Hair coloring Perfume Wine for dinner party Complexion Face soap Ground coffee Family steak restaurant Toothpaste Jeans Wine for self
Low (32 types)	Insecticide Dry bleach Insect repellant Suntan lotion Salad oil Regular shampoo Liquid bleach Non-disposable razor Disposable razor Paper towels	Chicken Low tar cigarette Greeting card Pizza Deodorant soap Peanut butter Fast food restaurant Fruit Salty snacks Frozen baked goods Donut frozen Donut shop Diet drinks Imported beer Regular cigarettes Barbecue sauce Light beer Regular soft drinks Regular beer Liquid hand soap

Subjects were asked to classify each of the products on their list into one of four categories: practical, frivolous, both practical and frivolous, or neither practical nor frivolous. Only those alternatives that were placed into both the frivolous and practical category by a majority of these subjects were considered for use in the experiment. One product which has both hedonic and utilitarian versions in the market would be chosen for use in the main study.

The subjects were 40 Georgia State University employees. University employees were used because as regular consumers they can provide a broader range of ages than student samples and they are easy to recruit. This paper-and-pencil pretest was conducted face-to-face by the researcher on the Georgia State University campus in summer of 2006. The participants were given a two-page questionnaire (see Appendix A) and instructed to rate the above products based on the relevance to them in terms of use and expense. The participants received some small gifts (e.g., foreign postcards) for compensation.

The questionnaires received were screened. Based on the results, one product, a digital camera, was chosen for use in the main study.

Second Stage: Attribute Identification

With product stimuli identified, another 40 participants were recruited from Georgia State University employees for the second pretest. None of the employees who participated in the previous pretest was used again. The procedure was the same as the previous stage of pretest (three-page questionnaire can be found at Appendix B).

Participants were instructed to perform two tasks. The first task was listing up to five hedonic and utilitarian product attributes for digital camera. This method was used by Williams and Drolet (2005) to come up with advertisement appeals. The second task was to indicate how important each attribute was in a decision to buy that product using a 3-point scale (1 = not very important, 2 = important, and 3 = extremely important). This scale has been used by previous researchers to test the perceived importance (e.g., Moschis, et al. 1995). Thus, each participant generated ten attributes corresponding to the two versions of digital cameras. The total number of attributes was over 200, which was used as a pool to pick the final attributes for the main study. After analysis of this pretest using SPSS descriptive analysis technique, ten attributes that had received the highest scores were chosen for use in the main study.

The third stage of pretest involved the pretest of appeals' relevance and credibility, which is described in the next section.

Research Instrument

When the product stimulus and product attributes were identified, the research instrument was created. Four different questionnaire versions were developed for this experimental study. Both future orientation and attribute types were manipulated. In the expansive time condition, subjects were split into two groups: one receiving utilitarian appeals and one receiving hedonic appeals. Similarly, in the limited time view subjects were split into the same two groups.

The questionnaire consisted of three parts (see Appendix C). The first part included a future orientation measure as a potential covariate. As a potential covariate, it is suggested that future orientation as an individual trait should be measured at the beginning of the questionnaire to avoid being confounded by other factors (Fung and Carstensen 2003).

The second part included the product photo, time manipulations, product attributes, product evaluation and preference. One sheet of product stimulus consisted of the products' photo together with attributes and time view manipulation statements immediately followed by evaluation and preference measures. The third part included a set of demographics variables such as age, gender, education, household income and physical health status. The manipulation checks, according to the experimental research tradition, were placed in the last section of the questionnaire.

The forth part consisted of six questions designed to collect participants' opinions about the NPOs they were volunteering for. This part served as another type of incentive ($5 dollars as monetary incentives) to elicit the NPOs' participation and cooperation in the process.

Except for the future orientation manipulations and product attributes, the rest of the four versions of the questionnaire were identical. Effort was made to design the flow of questions so as to make the questionnaire respondent-friendly by minimizing the effort necessary to answer to it while maximizing the probability that each respondent would fill out reliably, accurately, and completely. The questionnaire drafts were modified after being reviewed by four professors at GSU from both marketing and other areas. Finally, a native English speaker was invited to polish the modified and revised questionnaire for its readability before it was pre-tested.

Third Stage: Pretest of Questionnaire

This pretest was designed to accomplish four tasks, which are described in the following sections. First, language problems such as misspelling, ambiguous wording, jargon, or culturally inappropriate language were checked, corrected or eliminated. The participants were told to mark the words, phrases, or sentences they had difficulty understanding. From the participants' responses to the questions, the errors or misunderstandings could also be identified. The results allowed the researcher to identify ambiguous reactions of the subjects and find out how they interpreted the questions. This helped to provide suggestions for the improvement of the questionnaire for the main study.

Second, the pretest evaluated if the manipulation statements could best evoke perceptions of time view. The expansive time view statement was, "Because life is long. Tomorrow is endless! Prepare for a brighter future!" The limited time view manipulation was, "Because life is short. Who knows what will happen tomorrow? Enjoy life today!" They were adapted from the ones used by Williams and Drolet (2005). Product appeals were created using these time view manipulation statements and the different product attributes respectively.

Third, the perceived relevance and credibility of the product appeals were evaluated. The participants were asked to indicate whether they viewed them as primarily knowledge-related or emotion-related attributes. This step has been considered necessary by previous researchers (Fung and Carstensen 2003; Williams and Drolet 2005). For the credibility of appeals, participants were asked to rate all the appeals using the three modified seven-point bipolar semantic scale created by Kent and Allen (1994, the reliability of this scale was .85.). The statement is, “I felt that the appeals of the product were: not plausible/plausible, not credible/credible, didn’t make sense/ did make sense”.

The relevance of the completed appeals were tested using the seven-point bipolar semantic scale consisting of six adjectives: unimportant/important, of no concern/of concern to me, irrelevant/relevant, means nothing to me/means a lot to me, doesn’t matter/matters to me, and insignificant/significant. This scale, based on the scale from Person Involvement Inventory (PII) by Zaichkowsky (1985), was first used by Houston and Walker (1996). Their reliability alpha was .99.

Further, as part of the relevance and credibility tests, participants’ opinions about the nature of appeals and products were collected. Participants answered two questions. The first question concerned the nature of product attributes derived from the second stage, “Would you characterize these product attributes as primarily … (e.g., utilitarian or hedonic ones)?” with a 7-point scale (with 1 being “functional” and 7 being “hedonic”). The second question concerned the perceived nature of the products obtained from the first stage. Participants were asked, “Do you use the product for (e.g., functional or hedonic purposes?)” with a 7-point scale (with 1 being “primarily for functional use” and 7 being “primarily for hedonic use”). These scales have been tested by Kempf (1999, p. 43). It was predicted that a majority of the participants would evaluate the product attributes consistent with the results of the first and second stage pretests.

Fourth, the influence of demographic variables such as age, gender, education, and income difference were tested. T-tests or ANOVA were employed to test the mean differences between consumers of different age groups, gender, income, and education.

Presumably, younger people would score lower than the older adults on hedonic attributes. But no sex, income, and education differences were expected to be found.

The questionnaires were pre-tested with a group of non-student consumers in Metropolitan Atlanta. Fifty-one consumers, characterized as a convenience sample, were recruited from the researcher's residential community. The initial contacts were made either via letters, emails, phone calls or personal visits to invite people to participate in the pretest. Those who agreed to participate were given the pretest materials including a questionnaire, a cover letter indicating the general purpose of this pretest research, the researcher's personal information including the address (so they knew that the researcher was their neighbor) and telephone number (for clarification purpose), and a $1.00 bill. The pretest materials were dropped off into their mailboxes. Participants were told to put the filled questionnaire into a paper envelope and plastic bag provided by the researcher, and hang it on their mailbox frame so that the researcher could come back to pick it up in a week.

When the responses were received, usable questionnaires were counted and analyzed. The time to complete the questionnaire was measured, and the respondents' impression about the questionnaire structure was also examined. Several other demographic variables (i.e., gender, income, and education) were analyzed to determine if moderating effects due to these variables existed. Then, the questionnaires were revised according to the results.

Experimental Procedure

A total of 255 subjects recruited from the active volunteers of eight non-profit organizations were randomly assigned into four experimental conditions distinguished by the questionnaires that contained the different experimental materials. Each participant received a cover letter and a questionnaire (see Appendix D). The cover sheet indicated that the purpose of the study was to examine subject's opinions and reactions to some new product features that may be soon introduced. Instructions accompanying each sheet were provided. Subjects were informed that what was of interest was their general reaction to the proposed product attributes and were asked to look at the photo of the product and read the descriptive language before they answered the questionnaire.

In evaluating the product photograph, subjects were asked to view the photo first before they indicated a preference. Subjects were told that they would evaluate an unfamiliar brand of product after reading a product description sheet. The product was depicted on a separate page and each photo had an identical structure and the pictures of the products themselves consisted only of basic drawings. Identifying words and logos were not be used in order to prevent interference due to design elements.

In the expansive time condition, subjects read a future time inducing sheet for an unfamiliar brand, and then evaluated the product attributes. In the limited time condition, subjects read a present time inducing sheet, and then evaluated the product attributes. Finally, they completed manipulation checks.

Subjects were told to fill out the questionnaire at their own pace. They were instructed to return the questionnaires to either the organizations or the researcher when they finished. At the end of the data collection, the participating organizations were paid the amount of donations. A brief summary of the results of the six questions concerning their organization was provided to the NPOs after the completion of the data collection.

After the data collection started, we received a suggestion from some of the NPOs that if there was an online survey format, there would be more people who were willing to participate and they would not take the volunteering time to fill out the questionnaire. The suggestion was used after the approval of the dissertation committee, and an online survey website was set up within two weeks using the Websurveyor program. The format of the online survey was exactly the same as the paper copy except that the manipulation was controlled by the birth months of participants. The online survey link was sent to the managers of the eight NPOs, who forwarded the link to their volunteers either through their monthly or weekly e-news letter. Therefore, participants had two alternatives, online survey and paper copies, to choose from. When the data collection was completed, we used ANOVA to test the differences of responses received from online survey and paper copies. No significant differences were identified, suggesting the data collected from both modals were equal. The data from the two sources were then combined.

Measures

Psychometricians consider three criteria in their assessment of the quality of measures. The first is the unidimensionality of the scale. This is concerned with the degree to which the items in the scale load on a single factor (Anderson and Gerbing 1982; Gerbing and Anderson 1988; Kumar and Dillon 1987). The unidimensionality of each scale then is assessed simultaneously with confirmatory factor analysis. Only after unidimensional measurement has been acceptably achieved, is the reliability of each scale assessed (Gerbing and Anderson 1988). A second aspect of good measures is that they are reliable. This characteristic deals with the stability of the measure over time and the internal consistency of answers on measures containing multiple items. The third indicator of strong measures is validity. This is concerned with the degree to which the measure in fact represents the construct domain. There are several ways in which a measure might not meet this criterion. For example, the items in the measure may represent the named construct (face validity) poorly or the measure may be correlated with theoretically related constructs at a level deemed inadequate by the researcher (convergent validity) (Trochim 2000).

Establishing reliability and validity through a multi-step testing and retesting process were the highest priority in both selecting and using a scale (Churchill 1979; Trochim 2000). Although the model constructs in this research were measured using the established measures with good reliability (Cronbach alpha over .60), measure unidimensionality, construct validity and reliability were tested. The unidimensionality was examined following the procedures suggested by Gerbing and Anderson (1988), and construct validity and reliability were assessed according to the procedures suggested by Churchill (1979). Churchill (1979) suggested that convergent and discriminant validity should be assessed in investigations of construct validity. Convergent validity involves the extent to which a measure correlates highly with other measures designed to measure the same construct (Trochim 2000). Unidimensionality, reliability and validity were assessed with a pretest study sample and factor analysis. The procedures are described as follows.

First, a correlation matrix of all the items tested in the model was obtained and examined. This included examining the factor loadings of the indicators on their corresponding constructs, as well as calculating Cronbach alpha, and the 0.7 standards suggested by Nunnally (1978) were adopted. An often-cited rule of thumb is given by Nunnally (1978, p. 245-6), who suggests that a reliability level of .70 will suffice "in the early stages of research on predictor tests or hypothesized measures of a construct." This figure often has been used as a benchmark for most marketing researchers (e.g., Churchill 1979; Peter 1979).

Second, discriminant validity involves the extent to which a measure is novel and does not simply reflect some other variable. Churchill (1979) suggested assessing discriminant validity by determining whether the correlation between two different measures of the same variable is higher than the correlation between the measure of that variable and those of any other variable. Again, an examination of the correlation matrix revealed discriminant validity of the research variables as those scales all correlate more highly with each other than they did with other research variables.

In summary, the proposed measures provided construct-valid explications of the three constructs if they show content validity (i.e., use of measures are theoretically sound) and discriminant validity. The major constructs and the scales to measure them are discussed in the following sections.

Independent Variable

Product attribute evaluation refers to how consumers perceive product attributes and whether they think the product appeals are favorable or unfavorable. The evaluation was measured separately using the four-item 9-point semantic scale created by Barone, Shimp and Sprott (1997), with anchors of 1 reflecting a generally positive very evaluation of the camera, and 9 indicating a very negative evaluation.

Overall, this camera looks…Bad/good, undesirable/desirable, worthless/worthwhile, and useless/useful (reliability alpha was .91). The subjective ratings were then summed to form a value.

Dependent Variable

Product attribute preference refers to how people approach one type of product attributes more often and more vigorously than they approach its alternatives. According to Zajonc and Markus (1982), analysis of preferences is "simply the analysis of cognitive representations" of the product attributes and its utilities. In this study, elementary attributes are product appeals identified through pretests. Perceived relevance and credibility of the appeals have been pre-tested. Consumer preference for one type of camera attributes over another was measured as their cognitive approach to those appeals using the adapted four-item five-point Likert-type scale developed by Lumpkin and Hunt (1989) with anchors of 1 as "Strongly disagree" and 7 as "Strongly agree". The four items include: 1) If I used the camera, I probably would like it; 2) Overall, I would describe this camera as extremely appealing; 3) I would expect that most people using this camera would be satisfied; and 4) People like myself would probably not like this camera.

Age-related Variables

Settersten and Mayer (1997) summarized a number of types of age measurements. According to the authors, chronological age is an "empty" variable because age itself can hardly cause a behavior. They suggested that researchers should give more thought to age measures that were "more sensitive to individual differences" (p. 239) and how to specify the mechanisms through which age plays a role. This research will measure two different age measurements frequently used by researchers in age-related research: chronological and cognitive age. The operational definitions of the two ages are adopted from Settersten and Mayer (1997). Chronological age, expressed in days, months or years, measured using a question "how old are you?" or "your birth date is". Cognitive age, also called "feel age", was measured using a statement "I feel as though I am in my…"

Manipulation Checks of Future Orientation

To obtain manipulation checks, participants were asked to complete two three-item scales measuring the degree to which the future orientation statement suggest a limited or an expansive time horizon, "this statement made me think about the ending," "this statement made me think time is limited," "this statement made me think time is limitless," "this statement made me think about the future". A 7-point Likert scale (1 = "Strongly Disagree" to 7 = "Strongly Agree") were used. This scale was developed by Carstensen and Lang (1996) and used by Fung and Carstensen (2003) and Williams and Drolet (2005). Williams and Drolet (2005) reported the correlation was .89, indicating a good reliability.

Manipulation Checks of Product Attributes

Participants were also asked to complete two four-item scales measuring the degree to which the appeals suggest hedonic or utilitarian attributes. These scales were adapted from Williams and Drolet (2005). Items include: “these attributes made me focus on my feelings about the product,” “these attributes are directed at making me feel something about the product,” “these attributes made me focus on functional features about the product,” and “these attributes are directed at making me think of practical purposes about the product.” To create measures of hedonic attributes and utilitarian attributes, the items measuring hedonic focus and utilitarian focus were added up separately to form a composite index of hedonic or utilitarian measures; low values indicate the attributes are viewed as relatively less hedonic or utilitarian, while high values indicate it is viewed as relatively more hedonic or utilitarian.

Potential Covariates

Given that the four age groups might differ systematically along a variety of variables that might affect their reactions to product appeals, physical health status and future orientation (as individual trait) were also measured as potential covariates.

Future Orientations

Future orientation refers to how much time is left in an individual’s life span**.** It was measured with the Future Orientation Scale (FOS) created by Carstensen and Lang (1996). This Likert-type scale has been used by several researchers (e.g., Fung and Carstensen 2003; and Williams and Drolet 2005). The scale consists of ten items such as

“Many opportunities await me in the future” and “I have the sense that time is running out.” Participants rated how strongly they agreed with each item on a 7-point scale (1 = strongly disagree to 7 strongly agree). A composite index was computed by adding the scores on the 10 items. Lower scores indicate a perception that future time is more limited.

Physical Health Status

Physical health status was measured twice with two different scales. The first measure used the question, “How many prescription drugs for chronic conditions are you presently taking? ______ (number)” This measure has been used by previous researchers (Johnson and Krueger 2005). Scores were obtained by taking the count of number of prescription drugs used by the subjects. Higher scores indicated poorer health. Also, a three 7-item Likert scale called Feeling of Healthiness developed by Lumpkin and Hunt (1989) was used to measure health status, with anchors of 1 as “Completely agree” and 7 as “Completely agree”. The three items included “Compared to other my age, I take less medicine”, “Compared to others my age, I think I am in better health”, and “I really do not have any physical problems”. A composite were computed by taking the sum of the scores on the three items. Lower scores indicate a perception that health is poorer.

Hypotheses Testing Procedures

The method used in this dissertation was mainly based on the discussion of moderator variables by Sharma, Durand and Gur-arie (1981). The proposed framework for identifying moderator variables will be followed.

According to Sharma et al (1981), there are two types of moderators. One type influences the strength of the relationship and the other type influences the form of the relationship between two variables. Sharma et al (1981) suggested that two basic methods can be used for identifying the presence of moderator variable: subgroup analysis and moderated regression analysis (MRA). This dissertation will use subgroup analysis method because the moderators (future orientation and chronological age levels) are in qualitative form (dichotomized). The sample will be split into four groups on a basis of future orientation and agelevels, the hypothesized moderators. Within each of two future orientation (expansive vs. limited) and age (younger and older) subgroups, samples will be split into another two subgroups: the group who receive hedonic appeal treatment and the group who receive utilitarian appeal treatment.

After the subgrouping of the subjects, regression analysis will be performed to examine the relationship between the evaluation of product attributes and preference for those attributes for each subgroup. After regression analysis, the coefficients of determination, a measure of predictive validity, will be compared to determine if future orientation and chronological age are present as moderators. Sharma et al (1981) suggested that use of the predictive validity coefficients might not be sufficient because differential patterns of regression coefficients (predictive validity) occur: for some subgroups, the coefficients may increase significantly while for other subgroups, the coefficients may decrease significantly. To overcome this problem, it is necessary to test the equality between regression coefficients from two subsamples.

CHAPTER 5

DATA COLLECTION AND ANALYSIS

This chapter will discuss the data analysis processes involved for both the pretests and the main study. Each is described in detail in the pages from 70 to 98.

Pretest One

Procedure

The main goal of the pretest was to obtain a product stimuli used in the study. To obtain a product stimulus, the procedures of Strahilevitz and Myers (1998) were followed. The task was to view a list of 30 products from Ratchford (1987). After reading each product, participants then had to indicate whether each of the products was hedonic, utilitarian, both hedonic and utilitarian, or neither hedonic nor utilitarian. In the instructions, subjects were told that frivolous meant "Pleasure-oriented consumption. Something fun, experiential, and perhaps even 'decadent'. Purchasing such goods or experiences for oneself may sometimes bring on feelings of guilt, and this 'acquisition guilt' may diminish the pleasure of consumption". Practical was defined as "Goal-oriented consumption. Something which one ordinarily buys to carry out a necessary function or task in one's life. No guilt is brought about from purchasing these products, and relatively little pleasure is associated with their consumption."

Sample Characteristics

Forty-one subjects were recruited from Georgia State University employees on campus and were given a small gift (worth $1.00) for participation in the study. Among the 41 participants were 33 females and 8 males. A total of 23 of them had attended graduate school and 10 others had a college degree. The age range was 20 to 63 with an average age of 37. The average household income was $50,000.

Data Analysis

Descriptive analyses using the SPSS statistical analysis program were employed to identify the product. Two products (hotel and a digital camera) had been rated as both frivolous and practical by the majority of participants and were thus selected as the product candidates for the consideration set. Since hotel received more practical ratings, a digital camera was thus selected as the product stimulus for the study.

Pretest Two

Procedure

The main purpose of this pretest was to obtain product attributes for the experiment. The procedure was very similar to that of pretest one. First, participants were asked to list five frivolous attributes and five practical attributes of a camera. Frivolous attributes were defined as “Product features or functions designed for pleasure-oriented consumption. Something fun, experiential, and perhaps even ‘decadent’”. Practical attributes were defined as “Product features or functions designed for goal-oriented consumption. Something useful, helpful and reliable.” The participants were asked to indicate how important each attribute was in a decision to buy that product using a 3-point scale (1 = not very important, 2 = important, and 3 = extremely important).

Sample Characteristics

Forty-eight subjects were recruited from Georgia State University employees on campus to participate in the pretest. They were offered a small gift (worth $1.00) for their participation in the study. Thirty-six were females and twelve were males. The age range was from 21 to 60 years old with an average age of 39 years old.

Table 5-1 Two Types of Attributes

Number	**Frivolous Attributes**	**Frequency**	**Percentage**
1	Special functions (e.g., audio recording, talking camera, voice commands, timer)	29	60.4%
2	Color	25	52.1%
3	Look	21	43.75%
4	Video recording	9	18.75%
5	Waterproof/underwater capabilities	9	18.75%
	Practical Attributes		
1	Picture clarity	17	35.41%
2	Auto focus	15	31.25%
3	Ease of use	14	29.16%
4	Picture storage	13	27.08%
5	Flash	12	25%

Data Analysis

The five product attributes provided by each participant were combined to form a pool of about 200 attributes for each of frivolous and practical product types. Frequency analysis using the SPSS statistical analysis program was used to obtain the final five attributes for each of the two product types. The attributes that were most frequently mentioned and rated most important were selected for use in the main study. The attributes were shown in Table 5-1.

Pretest Three

Procedure

The main goal of pretest three was to test the research instrument designed for the data collection of the main study. The participants were recruited from the residential area of the researcher in northern Atlanta. The researcher dropped an envelope containing a $1.00 bill, a cover letter, the research instrument, and a plastic bag into mailboxes of the residential community. About 100 questionnaires were distributed and 51 were returned.

Sample Characteristics

Fifty-one (51) participants participated in pretest three. Among the 51 participants were 34 females and 17 males. The age range was 20 to 82 years old with an average of 39.7. The average household income was $70,000. The average time to finish the survey was 19.23 minutes.

Data Analysis

The data analysis of the questionnaire pretest on fifty-one consumers was conducted according to the following three steps. First, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were used to test if the items of the scales loaded onto the same factors that they are designed to measure. The SPSS results indicated that all the scales passed CFA tests and loaded onto the pre-designed variables. Second, reliability of all the scales in the questionnaire was calculated using Cronbach coefficient alpha. The alpha for product attribute evaluation was .93, for preferences was .81, for future orientation was .92, and for feeling of healthiness was .76. The results indicated that the constructs were reliable. Third, perceived relevance and credibility for the two types of attributes were tested. The alphas for attributes credibility was .77 and for relevance was .96 which suggested that ten attributes were internally consistent.

Pretest Summary

The three pretests were conducted to obtain the product stimulus, ten product attributes, and to test the research instrument. Digital camera was picked as the product stimulus from a list of the 30 products provided by the previous research. Five frivolous attributes (special functions, color, look, video recording, and underwater capabilities) and five practical attributes (picture clarity, auto focus, ease of use, picture storage, and flash) were obtained from about 200 attributes provided by the participants. The third pretest was designed to test the reliability of the measures, perceived credibility and relevance of the ten selected product attributes, and the research instrument. The research instrument was revised thereafter according to the responses of the participants and was edited by several professors.

Main Study

In this section, the data collection procedure and results from the field study are presented, followed by a general discussion of the findings. First, the research procedure is presented followed by the characteristics of the sample including several demographic variables (i.e., age, gender, education, physical health status, and income); then, results of future orientation and attribute type manipulations are reported. Next, results of the hypotheses testing and analyses performed on data are presented and discussed. This is followed by a general discussion of the key findings from the research.

Procedure

Non-profit organizations located in metro Atlanta, Georgia were approached and recruited to participate in the study. Initially, an annually-published list of the fifty largest non-profit organizations in Georgia was adopted as the sampling frame. The list was considered mainly because the organizations had a relatively large number of volunteers and could provide qualified participants. With a letter of the introduction from the dissertation chair and other necessary personal identification documents, the researcher visited some organizations and discussed the details with the responsible persons of those organizations. The critical details included the procedure for data collection, how to elicit respondents from the pool of volunteers, when to contact them (i.e., when they are volunteering in the organization or outside) and how to contact them (i.e., emails, calls).

However, some NPOs with a large number of volunteers declined the invitation, so other smaller NPOs were contacted and recruited. A total of eight NPOs agreed to participate in the research (see profiles of NPOs in Table 5-2). The participating organizations would receive $5 for each returned questionnaire as an incentive. The research questionnaire also included six questions concerning the volunteers' opinions about the NPOs they volunteered for. The summary of the responses from volunteers of the participating NPOs was provided to organizations that were interested in receiving those results.

With the approval from the organizations, the researcher applied for Institutional Research Bureau (IRB) at GSU, and proceeded to collect the data according to the agreed upon procedures. The data collection started in October 2006. It lasted for two months and was completed at the end of November 2006.

Table 5-2 Brief Information of Eight NPOs

Name of Organization	**Number of Volunteers ***	**Geographic Area Served**
Boys and Girls Clubs of Metro Atlanta	2,217	Metro Atlanta
Special Olympics Georgia	13,000	Georgia
Zoo Atlanta	300	Georgia
Lutheran Church of Incarnation	80	Georgia
Clayton Baptist Church	100	Georgia
Atlanta Pet Rescue and Adoption	70	Georgia
Baptist Collegiate Ministries	50	Georgia
St. Ann Catholic Church	160	Georgia

* Note: the information is obtained from the organizations in 2006.

Both paper copy questionnaires and online surveys were used in the data collection. At first, only paper copies were used for data collection. Some NPOs suggested that an online survey might be more convenient for their volunteers to participate and thus more helpful in obtaining a higher response rate as most volunteers worked on one-day or two-day schedules with the organizations. The suggestion was approved by the dissertation committee and an online survey was set up using the Websurveyor program. To avoid confounding effect of the media, effort was made to ensure that the layout of online survey was exactly same as the paper copy. Meanwhile, a test of the reliability of the online survey was conducted using eight samples. The results showed that the online survey was consistent with the paper copy. A comparison of the two sources of data was also made after the data collection was completed and no differences were found (the details can be found in later sections).

Sample Characteristics

Paper Copy vs. Online Responses

The online survey link was then sent to responsible persons at the participating NPOs, who sent the electronic link to their volunteers. Participants were told that they could use either paper copy or the online survey, but should not submit both.

With the help of the eight NPOs, 255 participants participated in the study (Table 5-3). A total of 159 respondents took the online survey and 96 respondents filled out the paper copy. The responses received were systematically checked to eliminate those questionnaires with missing data of major variables. Fourteen responses were found incomplete and thus discarded. A total of 241 complete and useful surveys were entered for the main study data analysis.

Mean comparisons of measures between the online survey and paper copy survey using ANOVA were employed to calculate the potential differences. The findings showed no significant differences between the two sources of data. Since the data were collected within two months, non-response bias could be present between the responses from the early and late subjects. To test non-response bias, subjects from eight organizations were separated into two sub-groups and T-Test was run on the data. The findings did not show any significant differences between the early respondents and late respondents.

Table 5-3 Participants Using Paper Copy and Online Survey

	Paper Copy	**Online Survey**	**Total**
Number of participants	96	159	255
Age average	49 years old	47 years old	48 years old
Sex	65 females 25 males	121 females 37 males	186 females 62 males
Product type	48 (practical) 46 (frivolous)	76 (practical) 83 (frivolous)	124 practical 129 frivolous
Distributions among Cells	20 (LP) 28 (EP) 25 (EF) 21 (LF)	43 (LP) 33 (EP) 37 (EF) 46 (LF)	63 (LP) 61(EP) 62(EF) 67(LF)
Education level	34 (Graduate) 40 (College) 17 (Some college) 3 (High school)	55 (Graduate) 57 (College) 38 (Some college) 8 (High school)	89 (Graduate) 97 (College) 55 (Some college) 11(High school)
Notes	LP= Limited/practical condition LF= Limited/frivolous condition EP= Expansive/practical condition EF= Expansive/frivolous condition		

ANOVA testing was employed to calculate the potential differences in product preferences and evaluation between different NPOs. No significant difference is found between responses to evaluation and preferences from different NPOs (Table 5-4) at the level of .05 (p= .383 and p=.252).

Table 5-4 Mean Comparison of Evaluation and Preferences

Groups	**Sample size**	**Evaluation**	**Preference**
Online responses	79	12.57	12.61
Online responses	80	13.51	13.49
Paper copies	82	13.55	13.60
Paper copies	14	13.71	13.71
Sig.		.094	.107
Special Olympics Georgia	11	15.45	12.91
Atlanta Pet Rescue and Adoption	11	14.27	13.09
St. Ann Catholic Church	20	14.20	13.60
Zoo Atlanta	36	14.36	13.64
Lutheran Church of Incarnation	16	9.94	14.44
Online responses	159	13.83	13.05
Sig.		.383	.252

Sample Distribution in Cells

A total of 241 responses were received for the four cells of experiment. The four experimental conditions include: Limited-practical (cell1/5), Expansive-practical (cell2/6), Expansive-frivolous (cell4/8), and Limited-frivolous (cell3/7). Limited

/expansive refer to time manipulation while practical/frivolous refer to product attribute manipulation. Demographics characteristics of the four experimental cells were examined using frequencies, descriptive analysis, ANOVA or chi-square tests. The results are presented in the following sections (Table 5-5).

Age Levels

For comparative purposes, the respondents were separated into four subsamples (Table 5-5): young-young (39 and younger), old-young (40-59), young-old (60-74), and old-old (age 75 and older). This study compares the differences between the first and the third group. Sample characteristics of the four age groups are described below.

The average age of the young-young group is 29 years old while the average age of the young-old group is approximately 66 years old (Table 5-5). There is a big difference of cognitive age within the four age groups. For example, the average cognitive age of the young-young group is 26.6 while the average cognitive age for the young-old is 49.6 which are 16 years of difference from their chronological age.

Table 5-5 Demographics of Subjects in Four Age Groups

Age Groups	**Young-young 19-39**	**Old-young 40-59**	**Young-old 60-74**	**Old-old 75+**	**Total/ Average**
Sample size	84	81	65	11	241
Chronological age	29.12	50.40	65.91	77.55	55.75
Cognitive age	26.62	39.94	50.00	54.64	42.8
Experimental cells					
Limited-practical	18	21	16	6	61
Expansive-practical	18	19	21	2	60
Expansive-frivolous	22	22	12	1	57
Limited-frivolous	26	19	16	2	63
Gender					
Females	66	61	42	6	175
Males	18	17	21	5	61
Sig.	.066				
Education					
Some high school	4	2	1	0	7
High school	0	1	2	0	3
Some college	20	16	14	2	52
College graduate	35	32	21	5	93
Graduate school	25	29	27	4	85
Sig.	.77				
Income levels					
Under \$15,000	3	1	2	3	9
\$15,000-29,999	4	3	2	2	11
\$30,000-44,999	9	14	9	5	37
\$45,000-59999	10	5	9	5	29
\$60,000-74,999	13	7	8	12	40
\$75,000-99,999	11	12	6	11	40
\$100,000 +	10	16	19	21	66
Sig.	.000				

There are no significant differences in chronological ages (p=.193; p>.05) and cognitive ages (F=1.585, p=.193) in the four cells (Table 5-6). There is no significant age difference in the subjects assigned to the four experimental cells. The average age of cell1 is 51 years old, the average age of cell2 is 49 years old, the average age of cell3 is 45 years old, and the average age of cell4 is 47 years old. Cognitive age differences are even smaller in the four cells.

Table 5-6 Demographics of Subjects in Four Cells

Cells	Limited-practical	Expansive-practical	Expansive-frivolous	Limited-frivolous	Total/ Average
Sample size	61	60	57	63	241
Chronological age	46.62	46.57	49.22	51.49	48.47
Cognitive age	37.27	38.56	39.27	39.67	38.69
Sig.			.193		
Gender					
Females	42	45	40	48	175
Males	17	15	14	15	61
Sig.			.811		
Education					
Some high school	1	1	2	3	7
High school	0	1	0	2	3
Some college	13	14	12	13	52
College graduate	19	25	24	25	93
Graduate school	27	19	19	20	85
Sig.			.811		
Income levels					
Under $15,000	3	1	2	3	9
$15,000-29,999	4	3	2	2	11
$30,000-44,999	9	14	9	5	37
$45,000-59999	10	5	9	5	29
$60,000-74,999	13	7	8	12	40
$75,000-99,999	11	12	6	11	40
$100,000 +	10	16	19	21	66
Sig.			.617		

Gender Differences

Crosstab tests resulted in no significant differences of sex distribution in the four cells (p=.811) and of age levels (p =.066). This result was consistent with previous research (e.g., Fung and Carstensen 2003), suggesting that there is no gender difference in future orientations (Table 5-6) and age (Table 5-5). This result rules out the possibility that sex may influence the hypotheses testing.

Education

Chi-square tests show that there was no difference in education in the subjects of the four experimental cells (p= .652) and age groups (p=.770). This suggests that education of the samples did not play a significant role in the hypotheses testing.

Income

Chi-square test was run to see if there was any difference of income in the subjects of the four cells and age groups in the study. The results (Table 5-6) show that there are no significant difference of household income in the subjects of the four cells (p=.617), suggesting that income did not influence the results of the hypothesis testing.

However, the data shows that there were significant differences of household income in the four age groups (p<.001) (Table 5-5). About a quarter of young-young participants have income between $30,000 to $44,999 while nearly one-third of young-old participants have income between $60,000 and $74,999, and one-fifth of young-old participants have income between $75,000 and $99,999.

Measured Future Orientation

ANOVA were run to test the mean differences of future orientation in the subjects of four age groups and four experimental cells. The results (Table 5-7) show that there are no differences of perceived future orientation in the subjects of the four experimental cells (p=.520).

Table 5-7 ANOVA: Difference in Future Orientation and Physical Health Status

Cells	**Limited-practical**	**Expansive-practical**	**Expansive-frivolous**	**Limited-frivolous**	**Total/ Sig.**
Sample size	61	60	57	63	241
Future Orientation	45.57	47.75	44.77	45.54	.52
Feeling of healthiness	14.51	16.12	15.75	15.35	.208
Age Groups	**19-39**	**40-59**	**60-74**	**75+**	
Sample size	84	81	65	11	241
Future Orientation	51.73	47.38	38.77	33.0	.000
Feeling of healthiness	15.11	15.68	15.71	14.27	.626
Number of Prescription Drugs Taken					
0	60	37	16	1	114
1-3	23	32	32	7	94
4-6	0	8	12	1	21
7-9	0	1	2	0	3
10+	0	1	1	1	3

But as expected, the data shows that different age groups have distinct future orientations (Table 5-7, p<.001). For example, the old-old group has scored the lowest future orientation of 33, the average score of future orientations of the young-old group is 38.77, the old-young group has the score of 47.38, and the young-young has the highest scores of 51.73. The numbers indicate that age is negatively related to future orientations. The older people are, the more limited time they will perceive. Correlation tests (Table 5-8) also shows that perceived future orientation and age are negatively correlated (-.525, p<.001). This suggests that future orientation is closely related to chronological age.

Table 5-8 Correlations of Future Orientation and Physical Health Status

Correlation Coefficients	**1**	**2**	**3**	**4**
Future Orientation (1)	1			
Physical Health Status (2)	.70 .282	1		
Number of Drugs Taken (3)	-.289** .000	.474** .000	1	
Chronological age (4)	.525** .000	.019 .776	.418** .000	1

** means significant at the level of .001.

Physical Health Status

ANOVA was run to compare the means obtained from the four cells and four age groups in terms of feeling of healthiness. The results (Table 5-7) show no difference of physical health status in the subjects of the four cells at .05 level (p=.208). Interestingly, the data (Table 5-7) does not show any difference of physical health status in the subjects of the four age groups suggesting that perceived physical health status is not related to chronological age (p=.626) in the data. However, a chi-square test shows that older group takes a larger number of prescriptive drugs than younger groups (p<.001). Table 5-7 shows that a majority (60 out of 84 people) of young-young group does not take any prescription drugs whereas two thirds of the young-old group (47 out of 63 people) takes at least one prescriptive drug.

Also, physical health status (feeling of healthiness) is not related to perceived future orientation (.70, p=.282) (Table 5-8), which is inconsistent with the principles of SST. SST postulates that physical health status, apart from aging, influences an individual's perceived time left (Carstensen, et al. 1999). Thus, people in poor health are more likely to have limited Future orientations than those in good health because poor health is always related to the end of life. Our data shows that feeling of healthiness is not related to future orientations suggesting that people with poor health tend to believe that they will live a long life thanks to the advanced medical conditions.

However, future orientation is negatively related to the number of prescription drugs people take (-.289, $p<.001$) (Table 5-8). The result indicates that those who take more prescription drugs do hold a limited time view while people who take less prescriptive drugs hold an expansive time view. This is consistent with SST.

Scale Purification

Measures that are unidimensional, reliable and valid are considered to possess strong psychometric characteristics (Nunnally 1978). Since the validity and reliability of each measurement item have been demonstrated in previous research, scale construction procedures were not required in this research. Even so, all the scales in this research were pretested on the pretest data and retested on the data collected for the main study again to ensure that they were reliable and valid. For example, the reliability of the measures was assessed within the CFA setting and scale reliability was calculated using the procedures outlined by Churchill (1979). If reliability values for the constructs are above .70, it indicates acceptable levels of reliability for the constructs (Nunnally 1978). The scale reliability is shown in Table 5-9.

Table 5-9 Scale Reliability

Constructs	Items	Alpha or Correlations
Future Orientation	• Many opportunities await me in the future. • My future is filled with possibilities. • Most of my life lies ahead of me. • My future seems infinite to me. • I could do anything I want in the future. • Here is plenty of time left in my life to make new plans. • I have a sense that time is running out. • There are only limited possibilities in my future. • As I get older, I begin to experience time as limited. • I expect that I will set many new goals in the future.	.886
Evaluation	Overall, this camera looks… • Good/ Bad • Desirable/Undesirable • Worthwhile/Worthless • Useful/Useless	.941
Preference	• If I used the camera, I probably would like it. • I would expect that most people using this camera would be satisfied. • People like myself would probably not like this product. • Overall, I would describe this camera as extremely appealing.	.739
Feeling of Healthiness	• Compared to others my age, I take less medicine. • Compared to others my age, I think I am in better health. • I really do not have any physical problems.	.806
Manipulation Checks Hedonic Attributes	• The attributes made me focus on the frivolous aspects of the camera. • The attributes are directed at making me feel frivolous about the camera.	.897
Utilitarian Attributes	• The attributes made me focus on the practical aspects of the camera. • The attributes are directed at making me think of usefulness of the camera.	.769
Manipulation Checks Expansive time view	• Those sentences made me think time is limitless. • Those sentences made me think about the future.	.641
Limited time view	• Those sentences made me think about endings. • Those sentences made me think time is limited.	.843

Manipulation Checks

Future Orientation Manipulation

To assess whether the time manipulation was effective, participants were asked to rate four statements after they were presented with the experimental scenario, “those sentences made me think about endings,” “those sentences made me think time is limited,” “those sentences made me think time is limitless,” and “those sentences made me think about the future”. Participants made their ratings on a 7-point scale (1= completely disagree, 7= completely agree). The correlation coefficient of the limited time manipulation was .84 and the coefficient of the expansive time manipulation was .64. A composite index of future orientation was computed by adding up the scores of the items, with lower scores indicating a more limited future orientation, and higher scores indicating a more expansive future orientation.

The manipulation check revealed that the time manipulation was effective (Table 5-10). The two conditions did differ in future orientation, $F = 17.48$ and 9.76, $p < .001$. Tukey HSD posthoc tests at .05 significance level revealed that the time-limited condition did perceive time as more limited than did the time-expanded, and the time-expanded condition did perceive time as less limited than did the other condition.

Table 5-10 Time Manipulations in Four Cells and Age Groups

Future Orientation Manipulations	Sample size	Mean	F value	Significance
Limited manipulation				
Limited-practical	61	6.89	17.48	.000
Expansive-practical	60	4.45		
Expansive-frivolous	57	5.60		
Limited-frivolous	63	7.87		
Expansive manipulation				
Limited-practical	61	6.74	9.76	.000
Expansive-practical	60	9.08		
Expansive-frivolous	57	8.49		
Limited-frivolous	63	7.29		
Limited manipulation				
19-39	84	6.12	.435	.728
40-59	81	6.06		
60-74	65	6.48		
75+	11	6.91		
Expansive manipulation				
19-39	84	7.67	.363	.779
40-59	81	7.89		
60-74	65	8.15		
75+	11	7.82		

Product Attribute Manipulations

To assess whether the product attribute manipulations were effective, participants were asked to rate four statements after they were presented with the experimental scenario, "The attributes made me focus on the frivolous aspects of the camera," "The attributes are directed at making me feel frivolous about the camera," "The attributes made me focus on the practical aspects of the camera," and "The attributes are directed at making me think of usefulness of the camera." Participants made their ratings using a 7-point scale (1= completely disagree, 7= completely agree). Internal consistency of the frivolous scale was .89, and it was .76 for the practical scale. A composite index of frivolous/practical type was computed by adding the scores of the two items, with lower scores indicating a less frivolous or less practical product.

The manipulation check revealed that the attribute type manipulation was effective. The two conditions differed in product type. ANOVA results show that for the frivolous attributes, $F= 8.93$, $p <.001$. Tukey HSD posthoc tests at the .05 significance level revealed that participants in the frivolous condition (Table 5-11) perceived the attributes as more frivolous ($M = 6.75$ and $M=7.03$) than did the practical ($M = 4.9$ and $M= 5.59$). ANOVA results show that for the practical attributes, $F= 2.10$, $p =1.01$. Tukey HSD posthoc tests revealed that participants in the practical condition (Table 5-11) perceived the attributes as more practical ($M = 10.44$ and $M=10.98$) than did the frivolous ($M = 9.89$ and $M= 10.24$). But the result was not significant ($p= 1.01$).

The manipulation effect of attribute type in the four age groups showed the mixed results. The manipulation was not effective in practical attribute type (Table 5-11), $F= 2.60$ ($p= .053$). But the manipulation was significantly effective in frivolous attributes, $F= 7.27$ ($p< .001$). Tukey HSD posthoc tests at the .05 significance level revealed that participants of the young-old group (60-74 years old) and the old-young group (40-59 years old) in the frivolous condition perceived the attribute as less frivolous ($M = 5.02$ and $M=5.93$) than did the participants of the old-old group (75 years old and above) and the young-young group (19-39 years old) ($M = 6.09$ and $M= 7.02$). This result suggests that the frivolous attribute manipulation was different between both age groups whereas the practical attribute manipulation was not different between the two age groups.

Table 5-11 Product Attribute Manipulation Effect in Cells and Age Groups

Types of Attribute	Sample size	Mean	F value	Significance
Frivolous Manipulation				
Limited-practical	61	5.59	8.93	.000
Expansive-practical	60	4.90		
Expansive-frivolous	57	6.75		
Limited-frivolous	63	7.03		
Practical Manipulation				
Limited-practical	61	10.44	2.10	1.01
Expansive-practical	60	10.98		
Expansive-frivolous	57	9.89		
Limited-frivolous	63	10.24		
Frivolous Manipulation				
19-39	84	7.02	7.274	.000
40-59	81	5.93		
60-74	65	5.02		
75+	11	6.09		
Practical Manipulation				
19-39	84	9.81	2.598	.053
40-59	81	10.63		
60-74	65	10.80		
75+	11	10.73		

Hypotheses Testing

This study tests the moderating effect of future orientations and chronological age, so the analysis methods recommended by previous research (e.g., Arnold 1982; Baron and Kenny 1986; Sharma, Durand, and Gur-Arie 1981) were followed. A moderator is a variable (qualitative or quantitative) that affects the direction and strength of the relation between an independent or predictor variable and a dependent or criterion variable (Baron and Kenny 1986). Moderators are sought when there is weak or inconsistent relationship between independent and dependent variables. Moderator can be confirmed only if interaction between moderator and main independent variable is significant.

Future Orientation Effect

The major focus of this study concerns the effects of future orientation on product attribute preferences. To address this question, simple regression was used to test whether preferences for different types of product attributes differed by time condition. To test the moderating influence of future orientations, the respondents were first separated into four subsamples (cells). Subjects in each of the four cells were tested separately. The regression analysis on the relationship between preference and evaluation were conducted for each of the subsamples, and the path coefficients were compared among the subgroups. Where a significant difference is observed in the magnitude of the path coefficients, it indicates that future orientation may exert a moderating influence on the relation.

Hypothesis 1 predicts that the preference for utilitarian attributes will be stronger for people with an expansive time view than for people with a limited time view. The initial results (Table 5-12) demonstrate that Hypothesis 1 is not supported because preference for utilitarian attributes are stronger for people with a limited time view (β= .631, $p<.001$) than for people with an expansive time view (β= .267, $p<.05$).

Hypothesis 2 predicts that the preference for hedonic attributes will be stronger for people with a limited time view than for people with an expansive time view. General regression was used to test this hypothesis. The initial results (Table 5-12) show that preference for hedonic attributes (β=.696, P<.001) is stronger for people with an expansive time view than for people with a limited time view (β= .56, P<.001). Thus, Hypothesis 2 is not supported.

The fact that the first two hypotheses are not supported has two possible explanations. First, the time manipulation used in the survey may not have worked well. Examining the manipulation checks, about 114 subjects did not take the time manipulation. Secondly, other factors (e.g., age-related) could have canceled some effects of the time manipulation. For example, the chronological age of subjects in this study is on the high side of the population (about 48 years old on average) and the time-limiting manipulation may have had more effect on them, and thus have produced more negative effects on preferences for utilitarian attributes and more positive impact on preferences for hedonic attributes. Previous research (e.g., Phillips and Sternthal 1977; Rabbit 1965; Zeithaml and Fuerst 1983) found that older subjects showed less proficiency in performing the experimental task even when they were not distracted. Law, Hawkins, and Craik (1998) and Schwartz (2003) suggested that normal human aging is accompanied by profound cognitive changes, ranging from decreased sensory functioning to the slower execution of cognitive processes and a general decline in working memory capacity. For example, response order effects and question order effects are more significant for older adults (ages 65 +) than for younger respondents. Yoon (1997) found that older adults perform poorly in the afternoon regardless of message characteristics and compared with younger adults older adults are not sensitive to any level of incongruity in their processing during the non-optimal time of the day. Age differences do exist in the ability to encode and retrieve the name and information for a particular brand

To verify the two hypotheses, the data was screened by the score of the time manipulation checks. Those who did not take the time manipulation were dropped and a total of 102 responses were deleted from the data. The average age of the dropped subjects was 50 years old while the average age of remaining subjects is 46 years old. The number of responses was 139 total and number of responses in each of the four cells can be found in Table 5-12.

The same procedures of hypothesis testing were followed and the two hypotheses were retested on the screened data. Both hypotheses were found supported. The results can be found in Table 5-12.

Table 5-12 Regression Results: H1/2 Testing

Regression Results	**Unscreened Data (N=241)**		**Screened Data (N=139)**	
Cells	Cell1=61 Cell2=60	Cell3=57 Cell4=63	Cell1=30 Cell2=41	Cell3=38 Cell4=30
Hypotheses	H1	H2	H1	H2
Samples	N=121	N=120	N=71	N=68
Limited-practical condition	.631 p<.001		.525 p=.003	
Expansive-practical condition	.267 p=.039		.621 p<.001	
Limited-frivolous condition		.560 p<.001		.569 p=.001
Expansive-frivolous condition		.696 p<.001		.557 p<.001
Results	Not supported	Not supported	**Supported**	**Supported**

In summary, to verify Hypotheses 1 and 2, regression coefficients between attribute evaluation and preferences for utilitarian /hedonic attributes were computed. The results of the analysis show that in the expansive time condition, the coefficients between evaluation and preferences is higher in the utilitarian treatment than in the hedonic treatment, while the reverse is true in the limited time condition. This confirms that perceived future orientation moderates the relationships between evaluation and preferences.

An alternative way to test the two hypotheses is to use measured future orientation and physical health status as covariate variables in the regressions. The process and the results of covariation tests can be found from page 97 to 99.

Age Effect

The study was conducted to test the hypothesis that older adults are more likely to prefer hedonic attributes that have emotionally meaningful appeal than are younger adults. To test this hypothesis, the statistical procedures and criteria of Arnold (1982) were used. This method has frequently been used by scholars to test the moderating effect in research. The method involves estimating separate regression equations for each level of the moderator. This strategy is usually preferable when (or if) there are differences in error variance for the different levels of the moderator (Baron and Kenny 1986). Two levels of age groups were used for data analysis: young-young group (19 to 39), old-young (60 to 74). Path coefficients of separate regressions on the two subsamples are compared to verify the hypotheses.

Hypothesis 3 predicts that the preference for utilitarian attributes is stronger for younger group than older group. General regression was used on two groups separately. The regression results (Table 5-13) indicates that younger group shows more preference for utilitarian attributes (β= .460, p=.005) than older people (β= .418, p=.019). Thus, Hypothesis 3 is supported**.** Hypothesis 4 predicts that the preference for hedonic attributes will be stronger for the older group than for the younger group. The simple linear regression found that Hypothesis 4 is supported. The comparison of coefficients indicates that younger people showed less preference for hedonic attributes (β= .633, p<.001) than the older group did (β= .693, p<.001).

Table 5-13 Regression Results: H3/4 Testing

Regression Results	**Attribute Type Condition**	
Hypotheses	H3	H4
Experimental conditions	Utilitarian Attributes	Hedonic Attributes
Sample size	84	65
Age Groups	Coefficients (β)	
Young-young (19-39)	.460 p=.005	.633 p<.001
Young-old (60-74)	.418 p=.019	.693 p<.001
Results	Supported	Supported

Summary

The moderating effect of future orientations was first tested in the manipulated condition. Unfortunately, both Hypotheses 1 and 2 were not supported. After dropping about 102 subjects who did not take the time manipulation, two hypotheses were retested on the screened data. The results show that both hypotheses were supported. In testing Hypotheses 3 and 4, regressions were run on two subsamples representing two age groups. The comparison of path coefficients on the relationship between evaluation and preferences in both utilitarian and hedonic conditions indicated that Hypotheses 3 and 4 were supported.

Potential Covariates

Measured Future Orientation Effect

The statistical procedures and criteria of Arnold (1982) were used. The sample was split into limited (low) and expansive (high) subgroups by the value of measured future orientations. Then simple regression was performed on the two subgroups to test the significance of regression coefficient differences across the subgroups.

The comparison of coefficients demonstrates that the relationship between evaluation and preference for utilitarian attributes was stronger for people with an expansive time view ($\beta = .586$, $p < .001$) than people with a limited time view ($\beta = .280$, $p = .029$). The comparison of coefficients indicates that the relationship between evaluation and preference for hedonic attributes was stronger for subjects with a limited time view ($\beta = .684$, $p < .001$) than those with an expansive time view ($\beta = .666$, $p < .001$). This result suggests that future orientation as a dispositional trait exerts influence on consumer preferences for different types of attributes (Table 5-14). The results lend further support to Hypothesis 1 and 2 suggesting that future orientation very likely moderates the relationship between attribute evaluation and preferences.

Table 5-14 Regression Results: Covariation Effect of Future Orientation

Regression Results	**Hypotheses (N=241)**	
	H1	H2
Samples	N=121	N=120
Experimental Cells	Cell1=61 Cell2=60	Cell3=57 Cell4=63
Limited-practical condition	.280 p=.039	
Expansive-practical condition	.586 p<.001	
Limited-frivolous condition		.684 p<.001
Expansive-frivolous condition		.666 p<.001
Results	Supported	Supported

Physical Health Status

Physical health status was measured by the feeling of healthiness scale. The scale consists of three items. Participants were asked to rate the item on a 7-point scale (1= "completely disagree" to 7= "completely agree"). Scores were obtained by adding up the ratings. Higher scores indicated better health. Then the sample was split into three subgroups according to the healthiness scores. Those who have the higher scores (18 to 21) were labeled as "better health," those who scored 13 to 17 were labeled as "good health" and those who scored less than 13 were grouped into a "poor health" group. ANOVA testing showed that people in better health take fewer prescriptive drugs than those in good and poor health (Table 5-15).

Regressions were run separately on the better, good and poor health groups to test the moderating effect of physical status on the relationship between attribute evaluation and preferences. The results indicate that people in the poor health group prefer hedonic attributes (β=.726, p<.001) more than people in better health status (β=.631, p<.001) whereas they are less likely to prefer utilitarian attributes (β=.414, p=.009) than those in better health status (β=. 515, p<.001). SST postulated that future orientation is affected by physical health status and people in poor health status are more likely to hold a limited time view whereas people in good health status are more likely to hold an expansive time view. Under this assumption, health status effect on attribute preference could lend support to our Hypotheses 1 and 2.

The consistency of the results between physical health status effect and future orientation effect provides further support for the first two hypotheses in the study.

Table 5-15 Regression Results: Moderating Effect of Physical Health Status

Regression Results	**Physical Health Status**		
	Poor	Good	Better
Sample size	69	74	98
Prescription drugs (average number)	2.46	1.19	.55
	Coefficients (β)		
Utilitarian attributes	.414 (p=.009)	.314 (p=.047)	.515 (p<.001)
Hedonic attributes	.726 (p<.001)	.645 (p<.001)	.631 (p<.001)

CHAPTER 6

CONCLUSIONS AND IMPLICATIONS

This chapter includes a discussion of research findings and implications. First, research results will be presented. Second, implications for marketing theory, managerial implications and contributions will be presented. Finally, limitations of this research and the directions for future research will be discussed.

Discussion

Taken together, the findings provide the first evidence that future orientation changes postulated by socioemotional selectivity theory are reflected in product attribute preferences. People with an expansive time view showed stronger preferences for utilitarian attributes than those who held a limited time view. People with a limited time view showed greater preferences for hedonic attributes than those who held an expansive time view. These findings suggest that future orientation accounts for differences in consumer preferences for different types of attributes.

However, initial findings from the manipulated condition failed to provide support for the role of future orientation in the relationship between evaluation and preferences. It is unclear why manipulated future orientation did not moderate the relationship. One possible explanation is that the experimental manipulation may be not possible to manipulate time view in the study. A comparison of the manipulation check and measured future orientation reveals that this was the case. It is possible that while the weak manipulation in the experiment could not affect both independent and dependent variables that are directly related to the product photo, such as the product attributes described in the photo. It failed to influence more internal variables like preference because future orientation is a “trait” factor (that cannot easily be manipulated) rather than an “attitude”. As more of an external factor, attribute type manipulation seemed more successful in the study.

Maybe there is so much noise in the data that the weak manipulation did not pick up future orientation differences at the current level of analysis. A more detailed qualitative analysis may reveal some future orientation differences. Future studies are needed to examine whether the future orientation attribute type interactions will occur because this study did not have strong enough manipulation to detect differences or because there are actually no future orientation differences in reactions to attribute type preferences among Americans.

This discrepancy may be also attributable to the product stimuli. Perhaps a digital camera is a relatively new type of product that has not been widely adopted by many older people. Since only one product was used in the research, it was not possible to systematically test this explanation. Future studies with multiple product stimuli stressing different aspects of product attributes representing different goals are needed to shed light on this research question. Future studies can improve the effect by employing time-expanding or limiting scenarios that are more convincing (sharper, or more dramatic) to the subject, such as asking participants to imagine that they have only one month left in their life, or by employing more realistic (dramatic or idealistic) time-expanding scenarios, such as asking participants to imagine that an effective medicine is found that can make people live to 120 years old. This may lead both younger and older people to change their time view for the time being, increasing older adults' preferences for utilitarian attributes and younger adults' preferences for hedonic attributes.

After dropping the subjects who did not take the time view manipulation, Hypothesis 1 and 2 were found supported. The findings support Hypotheses 3 and 4. Older adults, who held a more limited time view than did their younger counterparts, evaluated hedonic appeal more favorably than those utilitarian attributes, and indeed showed stronger preferences for hedonic attributes than younger adults. Younger adults, who as a group held more an expansive time view than did older adults, showed stronger preferences for utilitarian attributes than older adults. These findings suggest that age advancement affects the preference for hedonic attributes, and age per se does account for consumer preferences for different types of attributes.

General Discussion

Previous studies that compare people's reactions to products that match with their goals to different extents have been conducted in the domain of advertisements (Fung and Carstensen 2003; Williams and Drolet 2005). This research extends this line of research to product attributes and confirms its finding that attribute types that closely match people's goals are evaluated more positively and are more likely to be preferred. This research extends the previous work on tradeoffs between hedonic and utilitarian attributes to preferences. The present model examines the moderating effect of future orientations on attribute preferences, enhancing our theoretical comprehension of consumer subjective experiences with marketing stimuli (e.g., hedonic and utilitarian product features).

This study tests postulates from SST in the domain of attribute type preferences. Studies on human aging, life-course and adult development reliably demonstrate that consumer behavior changes throughout adulthood (Moschis 1992, 1993; Moschis 2003). Many theories explain this phenomenon in terms of physical change inherent with aging. SST, in contrast, attributes the phenomenon to individual future orientations that influence goals. Specifically, the theory holds that when time left in the future is perceived as limited, people prioritize goals that can bring emotional satisfaction. When people perceive time as expansive, they prioritize goals that lead to tasks of future-preparedness, i.e. knowledge acquisition. The relative importance of different types of goal changes throughout adulthood is inextricably associated with choice of social partners. The theory is well supported in the domain of advertising as well as in sociology and psychology (Fung and Carstensen 2003; Williams and Drolet 2005). The previous findings show that the theory can be used to predict consumer advertising preferences, and compared with younger adults, older adults are consistently more likely to prefer advertisements with emotionally meaningful appeals.

This dissertation is designed to test whether these findings generalize to product attribute preferences. Specifically, this study examines (1) whether future orientation plays a role in the relationships between evaluation and preference for different type of attributes, (2) whether age has an impact on preferences. The findings from this study furnished consistent support for each of the four hypotheses. Several key findings emerge from this research.

Future Orientation and Preferences

The data reported demonstrate that consumers' preferences for attribute type is contingent on their future orientations, specifically, their goal orientations. The findings from the study support the notion of future-orientation-attribute compatibility advanced in this study, whereby product attributes that are compatible with an individual's future orientation tend to receive greater preference. SST suggests that emotional (hedonic) goals are more important to people with a limited time view as compared to those with an expansive time view, and knowledge-related (practical) goals are more important to people with an expansive time view as compared to those with a limited time view. When time view changes from open-ended to limited, social goals change from knowledge-related to emotion-related, and preferences for product features change from preferences for functional or instrumental attributes that provide future preparedness to attributes with more immediate payoffs. Thus, those who hold an expansive time view show stronger preference for utilitarian attributes, which cater to knowledge-related life goals. Those who have limited time view show stronger preference for hedonic appeals, catering to emotionally meaningful social goals. Similarly, the results indicate that future orientation changes with age. Thus, older adults are more likely to prefer hedonic appeals than the younger ones.

The effects of future orientation were found in both the manipulated and measured condition. The future orientation scale was placed at the beginning of the questionnaire and measured before the time manipulation materials, so the scores should reliably reflect an individual's dispositional temporal condition. The fact that the measured future orientation was not different across the four cells indicates that the predesigned time manipulation was weak in this study. But the future orientation has significant impact on consumer preferences for different types of attributes. Therefore, this pattern of findings still leads one to conclude that internal time view does decrease older adults' desire for utilitarian attributes but increases their desire for hedonic ones.

The effects of future orientation on the relationship between attribute evaluation and preference were found in covariate of physical health status. Subjects in poor health showed stronger preferences for hedonic products while subjects in good or better health show stronger preferences for utilitarian products. The findings lend more support to the Hypothesis 1 and 2.

Age Differences in Preferences

Another finding which deserves further emphasis is the age differences in attribute type preference. Results from this study support the prediction that age differences exist in attribute type preferences. Chronological age is negatively related to individual future orientation. As an irreversible process, aging has tremendous impact on temporal view, particularly on that of elderly people. Aging seems to keep reminding people of the time limitation in life, which in turn increases the importance of emotionally meaningful goals. Emotional goals motivate older adults to form positive attitudes toward product attributes that can fulfill their emotional meaningful purposes.

The notion that preference for hedonic attributes will increase as consumers grow older suggests that preferences for hedonic attributes will be stronger for older adults. Thus, this study also produces practically important insights as to the type of product that mature consumers may prefer. Even when a hedonic and a utilitarian product are equally valued by older consumers, the future orientation (hedonic product) will lead older consumer to prefer hedonic ones. Further, if future orientation is experimentally expanded, one would expect to see preference to be stronger for hedonic rather than for utilitarian products. Correspondingly, preferences for utilitarian product would decrease as people grow older.

This research found that relative to older adults, younger people seem to be more likely to prefer utilitarian attributes that fulfill knowledge-related goals. Older consumers seem to be more likely to be attracted by hedonic attributes that appeal to emotionally meaningful goals and bring in more emotionally meaningful satisfaction. These findings confirm the hypotheses that age differences exhibited in different goals are also reflected in product attribute preferences.

Implications

Marketers have recognized that a static understanding of customers (e.g., demographics, psychographics), is insufficient. Marketers need to understand their consumers in a dynamic, changing temporal condition. Overall, the findings from this study provide evidence for the postulate that consumer preference for different types of attributes change with future orientations through adulthood. The Future–Orientation model of consumer preference provides significant insights for marketing managers and their consumers. Theoretical insights gained from this research also have practical implications for the way marketers should design, produce and advertise products and services. The study contributes to the marketing literature on consumption change across adulthood in several ways. The derived managerial and theoretical implications are discussed in the following sections.

Managerial Implications

The dissertation study provides four managerial implications in the domains of marketing strategy, product development, advertising, and loyalty programs. Future orientation could arise from physiological needs such as aging, moods such as sadness due to the death of beloved ones, or social needs such as role prescriptions. People with different future orientations will assign different importance to the same goal of a choice alternative as a function of the relevance of the goal to their future orientations. This time-perception-goal fit increases the value of what people are doing or buying. Expansive time view engenders a utilitarian goal, in which people are concerned with preparedness for the future, with self-actualization, and success. Limited time view engenders emotionally meaningful goals, in which people are concerned with finding meaning in life, gaining emotional intimacy, and establishing feelings of social embeddedness.

The natural strategy for an expansive time view is to delay gratification, but prepare for future needs, whereas strategy for a limited time view is to seek present gratification. At any moment in time, a person has particular future orientation that guides his/her concerns or interests. Consumers in an expansive time view will treat utilitarian product attributes as more important in their decisions than hedonic ones, whereas the reverse will be true for consumers in a limited time view. Further, expansive and limited time views are not conceived as bipolar constructs. Situations and tasks can also vary in future orientations. This conceptual proposition, in conjunction with the evidence about the moderating effect of future orientation on the association between evaluation and preferences, can provide a foundation for the enhancement of various consumptive and shopping experiences. These findings provide marketing implications as discussed in the following sections.

Marketing Strategies

This research found that consumers are different not only because of age, but also because of their future orientations. At a strategic level, companies must include consumer future orientation as a main component of consumer profiles in addition to personality, involvement, family structure, and life stage change. To the extent that companies must segment their markets more efficiently based on the different time orientation, they have an opportunity to maximize their financial performance. Jones and Sasser (1995) found that a customer will not be completely satisfied until she/he believes the company understands and addresses her/his personal preferences, values, needs or problems. For example, older adults are more motivated by the emotional meaningful goals and they are more likely to purchase those products/services that can increase emotional intimacy, meaningful emotions, and social embeddedness. If these emotional demands are incorporated into products/services designed for them, marketers can expect to gain higher levels of satisfaction and loyalty.

Marketers must also track consumer future orientations to identify their latest needs and wants gaps to fill out or improve. For example, a new concept of “Harry Porter Marketing” suggests that as the customer mature, the brands should grow with them, matching the “needs of that cohort at any moment in time” (Dalsace 2007, p.24). Firms can infer the future orientation of their current and potential consumers with satisfactory precision with the help of new customer management technology. For instance, product attributes (hedonic vs. utilitarian), the time of the year (a holiday or non holiday season), and spokesperson (young vs. older celebrity) can provide an accurate indication of the predominant future orientation of consumers. By creating and maintaining different future orientations, marketing management should be able to facilitate the adoption of the product and diminish the salience of consumer guilt associated with consumption of the hedonic product. Specifically, marketing management can deduce the prevailing future orientations, change some components of the marketing mix (e.g., price, distribution channels, package, advertising messages), or modify the marketing stimuli (e.g., shopping ambience) in an appropriate manner.

Product Development

Given that product attribute choice effectively reflects life goals (Chernev 2004a/b) the findings confirm that SST can be used to predict adults' development of interest in hedonic products as they grow older. The findings in this study could provide significant implications for decision makers in product development. Product type choice occurs when consumers choose among consumption alternatives that possess some attributes in common. At the product level, the same product attributes can have different subjective value to different people or to the same person at different times. Put differently, the design and integration of future orientation with hedonic or utilitarian attributes of a product could be a source of sustainable competitive advantage. Companies must understand the influence of future orientation on consumer evaluation processes and design products/services that incorporate those attributes to satisfy different needs of consumers with different future orientations. For example, Dalsace

(2007) suggested that L'Oreal, a nutricosmetics in France, should properly integrate aging process of its target segments in its product design; when the majority of the cohort had reached the age of 65, its products and services should be updated to retain the current consumers.

Moreover, companies must focus on satisfying the utilitarian and hedonic needs of its customers at different life stages. A recommended strategy would be to project what consumers may want in the future --- when they grow old --- and ensure that it is provided. If firms fail to take future orientations into account, they will miss a key opportunity to better satisfy their customers. Therefore, by understanding how future orientations differentially influence older and young adults' preferences for different types of product attributes marketers can determine the most effective way to manufacture and present information to each group. For example, will a new product attribute more likely encourage older or young customers to use the product? What product attributes should be emphasized in the advertisements or on the website of the company?

Marketing Communications

The psychological literature suggests that people are efficient at evaluating information along a dimension relevant to their personal concerns (Lindenberger and Baltes 1994). For example, previous literature found that whether people preferred a product depends on which features were more relevant to their momentary concerns (Bettman and Sujan 1987; Hong and Zinkhan 1995; Maheswaren and Sternthal 1990). For a limited time view, the valued dimensions would include hedonic attributes that reflect emotional meaningfulness (emotional satisfaction). For an expansive time view, the valued time view includes knowledge/ information acquisition and preparing for the future (utility).

Traditional marketing communications (e.g., product advertisements) seem to place more emphasis on utility aspects of product features and tend to neglect emotional components (e.g., social embeddedness, intimacy, and emotional meanings) (Fung and Carstensen 2003; Williams and Drolet 2005). Consequently, the advertisements have limited impact on the target audience. The findings from the study specifically point out the type of product attributes that younger and older adults prefer. Marketing managers are likely to find this information particularly useful in communicating (e.g., advertising) their products to different population targets. They might consider using different appeals within an advertisement. By emphasizing the different appeals (i.e., hedonic vs. utilitarian, knowledge vs. emotional appeals), marketing communications can be expected to induce more consumer trials and purchases.

As is well known, advertising is not the only source from which consumers get product information. Consumers also obtain product information from many other sources today including the Internet, manufacturers' websites, word of mouth, and new product exhibitions and so on. This dissertation does not use advertisements as a research context, but the model can apply to the above-mentioned information sources including ads, and thus can provide more implications for marketers, manufacturers, and advertising agencies as well.

Loyalty Programs

This research also provides implications for designing loyalty programs. Marketing literature indicates that marketers do not know consumers well enough and they always chase wrong consumers (Reichheld 1996). This research may tell marketers that it is best to know the future orientations of their consumers before designing loyalty programs. If a firm wants to retain current customers, customers' future orientation should be a primary focus. The subjective importance of future orientation brings about a host of associated needs. Could consumers be induced to adopt a particular future orientation or view? This is a topic that merits further study; however, some preliminary insights can be gained from the limited data collected in the present study.

Future orientation is amenable to managerial influence. For instance, an individual consumer may adopt an expansive time view if he/she stays with younger people or work with younger colleagues. The same individual may assume a limited time view when he/she goes to a nursing home to visit his/her ailing parents. Seeing a movie with a sad story (e.g., *Titanic* or *Life Is Beautiful*) may have a similar effect on future orientation. When expansive time view prevails, an individual may be more interested in utilitarian products. When the individual adopts a limited time view temporarily, he/she may assign less importance to utilitarian product, but more importance to hedonic counterpart.

Meanwhile, since future orientation changes with age, the induction of the particular time view as motivational propensity can cancel out the age effect. When targeting older consumers, for instance, marketers should try to alleviate the influence of default time view inherent with age on consumers and induce a desirable time view. If older consumers assume an expected time view, their preferences for products will remain the same. Consumer preferences change gradually. Marketing managers must integrate future orientations into retention-based marketing strategies and other interactions with the customer. If a firm finds that some customers do not rebuy, or respond to loyalty incentives for the products/services, the firm should reexamine its loyalty strategies and pay attention to the time view of these customers. In the long run, a firm can either drop these consumers or design new products with new appeals that meet their new goals derived from new time views. By manipulating time view to different customers, a firm should be able to reduce churn rates and even get a "second chance" to turn a dissatisfied customer into a satisfied one.

In conclusion, these findings draw attention to some new questions that are of particular importance to marketing. Drawing on SST, this research found that it is possible to predict that consumers with an expansive time view (younger) are more attracted by the functional attributes of products while consumers with a limited time view (older) are more attracted by emotional meaningfulness of products. Therefore, marketers should place future orientation in the center of loyalty programs when targeting different consumers. Marketing strategies for both older and young customers should take future orientations into account, considering how each element of the marketing mix may affect customers' current usage levels and expectations of future use. This may help marketers to retain their current customers as long as possible and thus maximize their economic benefits.

Theoretical Implications

The findings expand the application scope of SST in marketing. They suggest that the age-related differences in social goals postulated by SST are evident not just in how people interact with social partners, but also in how they evaluate and prefer different types of product attributes. This research provides several theoretical implications for researchers. First, SST presents a Future-Orientation-Behavior model. This dissertation tests the model in the context of two types of product attributes. The hypothesized model is supported, implying that the theory can be used to explain and predict consumer choice of different types of product attributes (hedonic vs. utilitarian). This extends the consumer research to a new theoretical horizon and thus enable researchers to be in a better position to answer questions such as “why are identical products perceived differently by an individual at different life times?”

Second, this research suggests that motivational consequences of time constraints imposed by advanced age should play a contributory role in older adults’ consumption behavior. Generally speaking, SST provides three revolutionary perspectives from which the mature consumers can be understood: 1) the traditional age-related theories (e.g., life-course, adult development, and roles) suggest that older people are more past-oriented and their consumption behaviors are determined by their past experiences. The results of this study show that older people are not past-oriented nor future-oriented but present-focused. 2) Traditional theories posit that consumption behavior in old age is motivated primarily by the inner desire to cope with loss, both physiological and social losses. Thus, consumption is conducted in a passive manner. SST however, suggests that older adults are more often active pursuers of emotional goals, and would optimize the experience of positive aging and well being through consuming meaningful goods. 3) SST does not construe age as a fixed, intractable state; rather future orientation is conceptualized as providing a set of conditions that frequently alter behavioral, cognitive, and emotional goals that operate throughout life (Carstensen et al 1999). This indicates that SST provides a dynamic perspective for mature consumer research.

Third, the findings also pose several questions for SST: 1) the theory argues that younger adults prioritize knowledge-related goals over emotionally meaningful goals while older adults show the reverse preferences. However, our results suggest that some younger adults do not reject hedonic attributes and some older adults do not reject utilitarian attributes either. Instead, younger group is likely to prefer hedonic attributes whereas the older group is likely to prefer utilitarian ones. 2) previous research using SST in the other areas of social preferences (Fredrickson and Carstensen, 1990; Fung, Carstensen, and Lutz 1999; Fung 2000) have reliably found that future orientation , not age per se, accounts for the observed differences in goals by age. Yet, findings from this dissertation suggest that chronological age is closely related to future orientations and seems to have greater influence on the effects of perceived time on goals, which is reflected in preferences for two different types of attributes.

In sum, the theoretical contribution of the present research consists of the extension and amplification of the basis for understanding future orientations and age differences in the preferences for different types of product attributes. More specifically, it investigates how future orientation can interact with evaluation of product attributes (hedonic vs. utilitarian attributes) to exert a moderating influence on product preferences.

This study provides strong support for the notion that people with different future orientations show distinct preferences for different types of products attributes.

Conclusions

Recent developments in the market place have brought attention to the growing importance of hedonic (luxury) products. Marketing scholars and practitioners have recognized this trend and many articles have been written about this area (Bartra and Ahtola 1990; Dhar and Wertenbroch 2000; Hirschman and Holbrook 1982; Holbrook and Hirschman 1982; Mano and Oliver 1993; Okada 2005; Raghunathaan and Irwin 2001). In essence, if future orientation and product attributes are critical dimensions of consumer decision making process, it is important to examine their interplay in product preference contexts. The current study builds on past research in the area of attribute choice by formally incorporating the concept of future orientation and investigating its effect on a fundamental facet of product type choice, namely, utilitarian vs. hedonic product type.

The objective of this dissertation was to investigate how consumer future orientations and chronological age influence consumer goals, and how this influence relates to evaluation and preferences for different types of product attributes. Through pretesting, one product with two types of attributes was chosen to accomplish this, and manipulation checks indicated that this goal was realized. The theory seems to have the capacity to explain consumption behavior. The goal-derived view of SST provides the framework for a model of attribute preference formation. Hypotheses concerning influences of future orientations on evaluation and preferences formation are drawn from the model and tested using data gathered through a mixed method (experiment and survey). Subjects identified their own consumption goals through the selected product attributes (benefits) and evaluated product attributes to fulfill that goal. The results highlight the importance of future orientations to preferences for both utilitarian and hedonic product attributes. Both future orientation in goal-relevant contexts and the nature of attributes possessed by product types were shown to influence their evaluation and preference. The findings in the current study support the recommendation that marketing practitioners would benefit by integrating future orientations into new product development, marketing strategies, marketing communications, and loyalty programs.

Limitations

As with any research, this study has some limitations that suggest the need for additional work. One of the most pressing needs include testing the hedonic vs. utilitarian trade-off framework with more product stimuli in each product category. Given that participants are presented with only one product, this design does not provide the researcher with much room to test the preferences for other products in the different categories. Some older participants in the study told the researcher that they did not use a digital camera very often and thus were not familiar with the importance of the attributes studied. Also, maybe older adults would show stronger preferences for products that are related to fun experience or other aspects of life that have been considered more important to them. The future research may use several products in the study and allow the researcher to study multiple reactions to product attributes. For example, future research may achieve this by studying the research questions in other product categories (e.g., food, clothing, health care, media, cars, and holidays) that are more important to older adults than is a camera in terms of emotional bonding, and more relevant to the lives of older adults than the digital camera employed in this research.

In order to strengthen support for the causal nature of the relationships such as future orientations----goals---product attribute preferences, future studies are needed to further examine those relationships by finding evidence for the results in the data from the various retailers or more outlets such as specialty stores vs. general stores. Further, this dissertation used both experiment and survey methods in the data collection but no qualitative method was employed. Future research may find evidence for the results by using focus group or depth interview of some consumers.

To avoid experimental confounding while producing a strong manipulation, this study held many factors constant such as the graphic, but highlighted the product appeals of one type of product by asking participants to indicate their preferences. It is possible that other factors not explicitly measured may have had an impact on the results. Therefore, this design does not allow the researcher to study interactions between other factors and product attributes so as to compare their preferences. For example, price and quality (which were experimentally held constant in the research) may play important roles in consumer decisions. Also, subjects' familiarity with the product may play an important role in their evaluation and preference. Future research may want to test the influence of those factors on preference.

This dissertation used a cross-sectional design, in which it compared samples of people assumed to be representative of different age-groups. Some factors such as interest and prior knowledge about the study domain were controlled to ensure the internal validity of our experiment and in so doing, a compromise in external validity was necessitated. However, younger and older subjects were not carefully screened and matched for physical health status, income and educational levels, so there might be the influence of potential confounds of those factors. For example, the elderly in my sample are far wealthier than those of the general population, better educated and healthier (otherwise they could not engage in volunteer work). This might be the reason for the manipulation failure in the study. In order to guard against those confounds, future research should screen subjects for those factors.

Another limitation of this study involves the equality comparison of regression coefficients for several subsamples. According to Cohen and Cohen (1975) and Cohen (1983), when a regression model is fitted to two different subsamples, the regression coefficients for the two subsamples may not be statistically different even if they are mathematically different. In this circumstance, it is recommended to compare the regression coefficients for the two subgroups to test the null hypothesis H_0: $B_1=B_2$. If the null hypothesis is rejected, that means the regression coefficients are significantly different between the two subsamples, and thus the difference between the two regression coefficients is meaningful. The comparison of regression coefficients across subsamples is relevant to this dissertation study in which one linear model was fitted to two subsamples to measure the effect of future orientations and age on the relationship between evaluation and preference for different types of attributes. Due to the time constraints, statistical method suggested by Cohen and Cohen (1983) and Cohen (1983) were not utilized in this dissertation, but it will be employed when some results of this dissertation are written into articles and submitted to academic journals for publications.

Finally, the subject pool for this study was homogeneous in nature, which improves power for theory testing, but may limit generalizibility to other populations. Although it might be argued that about half of American adults are involved in volunteer work sometime in their life, we need to be cautious nonetheless in drawing conclusions about age-related differences with regard to product attribute preferences in real-world consumer contexts. It is thus important to keep in mind that any conclusions drawn from the research may be limited to only selected group of people. As such, insights gained from this study might be most useful to marketers of hedonic products whose target market is comprised of well-educated, healthy, and relatively wealthy elderly consumers.

APPENDIX A:

Pretest One Quantitative Questionnaire and Cover Letter

PRODUCT IDENTIFICATION SURVEY (I)

Summer 2006

SECTION A PRODUCT IDENTIFICATION

Instructions: the following 30 products listed in the table can be practical, frivolous, both practical and frivolous or neither practical nor frivolous. Please read the definition provided below first and then rate each of them according to the definitions. Please choose only one from the four choices. There is no right or wrong about your answer. The results of this participation will be confidential and used for research purpose only.

Definition of frivolous product:

Pleasure-oriented consumption. Something fun, experiential, and perhaps even "decadent." Purchasing such goods or experiences for oneself may sometimes bring on feelings of guilt, and this guilt may diminish the pleasure of consumption.

Definition of practical product:

Goal-oriented consumption. Something which one ordinarily buys to carry out a necessary function or task in one's life. No guilt is brought about from purchasing these products, and relatively little pleasure is associated with their consumption.

ITEM #	PRODUCTS	PLEASE CHECK ONLY ONE ANSWER FOR EACH ITEM. A. Practical B. Frivolous C. Both practical and frivolous D. Neither practical nor frivolous
1	**Automobile**	A. ----- B. ----- C. ----- D. -----
2	**Barbecue sauce**	A. ----- B. ----- C. ----- D. -----
3	**Color TV**	A. ----- B. ----- C. ----- D. -----
4	**Cereal**	A. ----- B. ----- C. ----- D. -----
5	**Shampoo**	A. ----- B. ----- C. ----- D. -----
6	**Toothpaste**	A. ----- B. ----- C. ----- D. -----
7	**Digital Camera**	A. ----- B. ----- C. ----- D. -----
8	**Eyeglasses**	A. ----- B. ----- C. ----- D. -----
9	**Hair coloring**	A. ----- B. ----- C. ----- D. -----
10	**Vacation accommodation**	A. ----- B. ----- C. ----- D. -----

11	**Air travel**	A. ----- B. ----- C. ----- D. -----
12	**Greeting card**	A. ----- B. ----- C. ----- D. -----
13	**Coffee**	A. ----- B. ----- C. ----- D. -----
14	**Ice scream**	A. ----- B. ----- C. ----- D. -----
15	**Electronic calculator**	A. ----- B. ----- C. ----- D. -----
16	**Fruit**	A. ----- B. ----- C. ----- D. -----
17	**Soft drinks**	A. ----- B. ----- C. ----- D. -----
18	**Salty snacks**	A. ----- B. ----- C. ----- D. -----
19	**Beer**	A. ----- B. ----- C. ----- D. -----
20	**Salad oil**	A. ----- B. ----- C. ----- D. -----
21	**Wine**	A. ----- B. ----- C. ----- D. -----
22	**Rake**	A. ----- B. ----- C. ----- D. -----
23	**Canned tomatoes**	A. ----- B. ----- C. ----- D. -----
24	**Motor oil**	A. ----- B. ----- C. ----- D. -----
25	**Battery**	A. ----- B. ----- C. ----- D. -----
26	**Paper towels**	A. ----- B. ----- C. ----- D. -----
27	**Headache remedy**	A. ----- B. ----- C. ----- D. -----
28	**Razor**	A. ----- B. ----- C. ----- D. -----
29	**Liquid cleaner**	A. ----- B. ----- C. ----- D. -----
30	**Washer/dryer**	A. ----- B. ----- C. ----- D. -----

SECTION B CLASSIFICATION QUESTIONS

The following questions are for statistical purposes only. Please circle the letter corresponding to the response category which most closely describes you.

1. Sex: a). Female b). Male

2. Your education:

A. Some or no high school
B. High school graduate
C. Some college
D. College graduate
E. Graduate school

3. Your birth year 19________

4. What was the estimated total income of your household before taxes last year?

A. UNDER $15,000

B. $15,000 - $29,999

C. $ 30,000 - $44,999

D. $45,000 - $59,999

E. $60,000 - $74,999

F. $75,000 -$99,999

G. $100,000 OR MORE

Thank you for taking the time to complete this survey!

Have a wonderful summer!

The Cover Letter to Participants

Dear Participants,

Thank you for taking time to participate in the study conducted by Mr. Yujie Wei. This is part of Mr. Wei's dissertation required by the Department of Marketing as partial fulfillment of his PhD degree. I would like to take this opportunity to provide you with some details about the study. Mr. Wei's dissertation is to investigate how consumers evaluate different types of products. This has far-reaching managerial implications for the understanding of consumers and their product preferences.

Should you have any concerns about this study, please feel free to contact Mr. Yujie Wei at (404)-651-1931.

Again, we appreciate your help with this investigation.

Sincerely yours,

Kenneth L Bernhardt, Ph.D.
Professor of Marketing
Department of Marketing
Georgia State University
Atlanta, GA 30303

Yujie Wei
Doctoral Candidate
Department of Marketing
Georgia State University
Atlanta, GA 30303

APPENDIX B:

Pretest Two Quantitative Questionnaire and Cover Letter

PRODUCT ATTRIBUTES IDENTIFICATION SURVEY (II)
Summer 2006

SECTION A FRIVOLOUS ATTRIBUTES IDENTIFICATION

Instructions: In this section, please list five frivolous attributes that a **camera** may possess. Please read the definitions of frivolous attributes before you write down your answers. For each attribute you write, please rate its importance in your purchase decision.

Definition of frivolous attributes:

Product features or functions designed for pleasure-oriented consumption. Something fun, experiential, and perhaps even "decadent". To illustrate, for automobiles, a top speed of greater than 130 miles per hour would be an example of a frivolous attribute.

Attribute #1	… 1. Not very important	2. Important	3. Extremely important
Attribute #2	… 1. Not very important	2. Important	3. Extremely important
Attribute #3	… 1. Not very important	2. Important	3. Extremely important
Attribute #4	… 1. Not very important	2. Important	3. Extremely important
Attribute #5	… 1. Not very important	2. Important	3. Extremely important

SECTION B PRACTICAL ATTRIBUTES IDENTIFICATION

Instructions: In this section, please list five practical attributes that a **camera** may possess. Please read the definitions of practical attributes before you write down your answers. For each attribute you write, please rate its importance in your purchase decision.

Definition of practical attributes:

Product features or functions designed for goal-oriented consumption. Something useful, helpful and reliable. To illustrate, for automobiles, a good gas-mileage would be an example of practical attribute.

Attribute #1.	… 1. Not very important 2. Important 3. Extremely important
Attribute #2	… 1. Not very important 2. Important 3. Extremely important
Attribute #3	… 1. Not very important 2. Important 3. Extremely important
Attribute #4	… 1. Not very important 2. Important 3. Extremely important
Attribute #5	… 1. Not very important 2. Important 3. Extremely important

SECTION C CLASSIFICATION QUESTIONS

The following questions are for statistical purposes only. Please circle the letter corresponding to the response category which most closely describes you.

1. Sex: a). Female b). Male

2. Your education:

A. Some or no high school
B. High school graduate
C. Some college
B. College graduate
E. Graduate school

3. Your birth year 19________

4. What was the estimated total income of your household before taxes last year?

A. Under $15,000
B. $15,000 - $29,999
C. $ 30,000 - $44,999
D. $45,000 - $59,999
E. $60,000 - $74,999
F. $75,000 - $ 99,999
G. $100,000 or more

Thank you for taking the time to complete this survey!
Have a wonderful summer!

The Cover Letter to Participants

Dear Participants,

Thank you for taking time to participate in the study conducted by Mr. Yujie Wei. This is part of Mr. Wei's dissertation required by the Department of Marketing as partial fulfillment of his PhD degree. I would like to take this opportunity to provide you with some details about the study. Mr. Wei's dissertation is to investigate how consumers evaluate different types of products. This has far-reaching managerial implications for the understanding of consumers and their product preferences.

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Again, we appreciate your help with this investigation.

Sincerely yours,

Kenneth L Bernhardt, Ph.D.
Professor of Marketing
Department of Marketing
Georgia State University
Atlanta, GA 30303

Yujie Wei
Doctoral Candidate
Department of Marketing
Georgia State University
Atlanta, GA 30303

APPENDIX C:

Pretest Three Questionnaire and Cover Letter

Consumer Product Evaluation Survey
(Pretest 2006)

SECTION A QUESTIONS about Your Perception of the Future

Following are statements regarding your perception of the future. For each statement please CIRCLE ONE NUMBER to show your feelings of agreement or disagreement with the statement.

	Very Untrue						**Very true**
1). Many opportunities await me in the future.	1	2	3	4	5	6	7
2). My future is filled with possibilities.	1	2	3	4	5	6	7
3). Most of my life lies ahead of me.	1	2	3	4	5	6	7
4). My future seems infinite to me.	1	2	3	4	5	6	7
5). I could do anything I want in the future.	1	2	3	4	5	6	7
6). Here is plenty of time left in my life to make new plans.	1	2	3	4	5	6	7
7). I have a sense that time is running out.	1	2	3	4	5	6	7
8). There are only limited possibilities in my future.	1	2	3	4	5	6	7
9). As I get older, I begin to experience time as limited.	1	2	3	4	5	6	7
10). I expect that I will set many new goals in the future.	1	2	3	4	5	6	7

Digital Camera Photo Examination

Please examine the digital camera photo and description below before you answer the questions on the next page.

Tomorrow Is Endless.
Prepare for a Brighter Future!!!

It has the following features	Function
Picture clarity	Very good photo quality No soft, smudged details
Auto focus	Have several auto-focus modes, including two high speed options Good low light focusing performance
Ease of use	Easy to hold and operate Elaborate in-camera help system
Picture storage	Very large built-in memory Can swap memory cards while on a tripod
Flash	Powerful flash

Life Is Limited.
Who Knows What Will Happen Tomorrow?
Enjoy Life Today!!!

It has the following features	**Function**
Special functions	Audio recording (on/off) can record a 5 sec audio clip with each picture, in WAV format; Talking camera; Voice commands; Self-timer (on/off)
Color	Color effects (Off, cool, warm, black & white, sepia); Built-in color filters
Look	Compact, very stylish and well built body
Underwater capabilities	Waterproof, and you can use camera under water as you use in normal situations
Video recording	It takes pictures and video clips; It also can play your MP3 and video files just like your iPod or other portable media player; It has a unique text viewer as well; You can watch movies to your hearts content

SECTION B Your Opinion of Camera Attributes

The following questions are based on the photo and list of features on the next page. Please examine the photo and the features before you choose the number from 1 to 7 that best represents how you feel about the attributes.

1). Would you characterize these camera attributes as primarily:

Practical -------1-------2-------3------ 4------ 5------ 6 ------7------Frivolous

2. Do you use a camera primarily for:

Practical purpose -----1-----2------3----- 4----- 5---- 6 ----7---- Frivolous purpose

3). I feel that the appeals of the camera are:

Not plausible-------1-------2------- 3------ 4------ 5------ 6 ------7----------Plausible
Not credible -------1-------2------ 3------ 4------ 5------ 6 ------7----------Credible
Didn't make sense -----1-------2------- 3------ 4------ 5------ 6 ------7----------Did make sense

4). I feel that the appeals of the camera are:

Unimportant --------1-------2-------3-----4------ 5------6 ------7------ Important
Of no concern to me------1------2------3------4------5------6 ------7-------Of concern to me
Irrelevant --------1------2------3------- 4----- 5-----6 ------7------ Relevant
Mean nothing to me ----1------2------3------- 4 ----- 5-----6-------7------- Mean a lot to me
Don't matter ----1------2------3------ 4------5 ---- 6-------7------ Matter to me
Insignificant ------1------2-------3------ 4------5----- 6 --- 7------- Significant

SECTION C Your Impression of Camera Attributes

The following questions are about the attributes of the camera in the photo. For each of the statements below, please circle the number from 1 to 7 that best represent how you feel about the statements.

	Completely Disagree						Completely Agree
1). The attributes made me focus on the frivolous aspects of the camera……...	1	2	3	4	5	6	7
2). The attributes are directed at making me feel frivolous about the camera…	1	2	3	4	5	6	7
3). The attributes made me focus on the practical aspects of the camera……..	1	2	3	4	5	6	7
4). The attributes are directed at making me think of usefulness of the camera.	1	2	3	4	5	6	7

SECTION D   Your Evaluation of this Camera

The following questions are based on the above photo description of the camera. Please circle the number from 1 to 9 that best represents the degree of your agreement or disagreement with each statement below.

Overall, this camera looks …

Good -------1------2------3-------4------5------ 6 ------7-------8---------9------ Bad
Desirable------1------2------3-------4------5------ 6 -----7-------8--------9----- Undesirable
Worthwhile------1------2------3---- --4------5---- --6------7-------8--------9----- Worthless
Useful -------1------2------3-------4------5------ 6 ------7-------8--------9-----Useless

SECTION E   Your Perception of the Camera

The following questions are based on the above photo description of the camera. Please circle the number from 1 to 5 that best represents the degree of your agreement or disagreement with each statement below.

	Strongly Disagree				Strongly Agree
1). If I used the camera, I probably would like it……	1	2	3	4	5
2). Overall, I would describe this camera as extremely appealing…………	1	2	3	4	5
3). I would expect that most people using this camera would be satisfied...	1	2	3	4	5
4). People like myself would probably not like this product……	1	2	3	4	5

SECTION F Your Feeling of Healthiness

Please circle the number from 1 to 7 that best represents the degree of your agreement or disagreement.

	Completely Disagree						Completely Agree
1). Compared to others my age, I take less medicine.	1	2	3	4	5	6	7
2). Compared to others my age, I think I am in better health.	1	2	3	4	5	6	7
3). I really do not have any physical problems.	1	2	3	4	5	6	7

SECTION G   Your Perception of Sentences below the Camera Photo on Page 3

NOW please recall those sentences just below the camera photo on page 3 (Tomorrow is endless….). Please circle the number from 1 to 7 that best represents how you feel about those sentences.

	Completely Disagree						Completely Agree
1). Those sentences made me think about endings	1	2	3	4	5	6	7
2). Those sentences made me think time is limited……..	1	2	3	4	5	6	7
3). Those sentences made me think about the present….	1	2	3	4	5	6	7
4). Those sentences made me think about beginnings…..	1	2	3	4	5	6	7
5). Those sentences made me think time is limitless…….	1	2	3	4	5	6	7
6). Those sentences made me think about the future…….	1	2	3	4	5	6	7

SECTION H CLASSIFICATION Questions

The following classification questions are for statistical purposes only. Please circle the letter corresponding to the response category which most closely describes you.

1. **Are you….** a). Female   b). Male

2. **What is the highest level of education you have completed?**
   a). some or no high school
   b). high school graduate
   c). some college
   d). college graduate
   e). Graduate school

3. **In what year were you born?   19 _________________.**

4. **What age do you feel most of the time?** _____________ (years)

5. **Which of the following best describe your total annual household income? By household, we mean a family or other persons who share finances.**

   a). Under $15,000
   b). $15,000 - $29,999
   c). $ 30,000 - $44,999
   d). $45,000 - $59,999
   e). $60,000 - $74,999
   f). $75,000 - $99,999
   g). $100,000 or more

SECTION I Questions about Your Volunteering

This section asks you about your volunteering work for non-profit organizations. If for any reason you cannot answer one or more questions, please leave them blank.

1. For how many non-profit organizations (such as your church, United Way) do you work as a volunteer?
    A. None (skip to the next page)
    B. One
    C. Two
    D. Three or four
    E. Five or more

2. For which non-profit organization do you volunteer the most? ____. Please think of this organization as you answer the rest of the questions on this page.

3. Think of the organization you have worked for the longest period of time. How long have you worked for this organization as a volunteer?
    A. less than a year
    B. 1-2 years
    C. 3-5 years
    D. 6-10 years
    E. Over 10 years

4. How many hours per week do you work for this organization?
    A. Less than 1 hour
    B. 1-2 hours
    C. 3-5 hours
    D. 6-10 hours
    E. More than 10 hours

5. What do you like most about this organization?

This organization: …

____

6. What are the things you think this organization can do better?

This organization: …

____

SECTION J Your Opinions about This Questionnaire

Finally, would you please answer the following questions? Thank you very much for your comments!

1. Was there anything in the questionnaire that was unclear or confusing for you? Please explain.

____

____

2. Approximately how long did it take you to complete the questionnaire?
_____________Minutes.

3. How hard was it to answer the questions?

____

____

4. Any other comments that would be helpful to me as I prepare to conduct the study?

____

____

Cover Letter

Dear Neighbors:

My name is Jack Wei, and I am your neighbor living at 2215 Heritage Trace View. I am working on my dissertation in the Department of Marketing at Georgia State University. This survey is the pretest of my research instrument, a part of my dissertation. Would you please do me a favor by filling out the survey?

On the survey, there is no right or wrong answer to any question. I simply want to understand your opinions and feelings about digital cameras. Your responses will be given strict confidentiality. No individual's answers will ever be reported in such a way as to identify that individual.

As a token of my appreciation, I enclose a $1 bill in this questionnaire. When you are done with the questionnaire, please put the questionnaire into the plastic bag and put the bag under your mailbox. I will come to pick it up Monday morning.

Thank you so much for your help. Have a nice weekend!

Instructions

* Your responses are very important to my research. Incomplete surveys will substantially reduce my ability to conduct good research, so I kindly request your responses to all the questions in the surveys.

* You can assign your responses by circling the letter or number that best represents your opinion next to the corresponding question .

* If you have any questions regarding this study, please contact:

Jack Wei
Phone: 404-651-1931 (Office)
Email: mktywwx@langate.gsu.edu

APPENDIX D:

Main Study Questionnaire and Cover Letter

Consumer Product Evaluation Survey

(2006)

SECTION A Question about Your Perception of the Future

Following are statements regarding your perception of the future. For each statement please CIRCLE ONE NUMBER to show your feelings of agreement or disagreement with the statement.

	Very Untrue						Very true
1). Many opportunities await me in the future……	1	2	3	4	5	6	7
2). My future is filled with possibilities………	1	2	3	4	5	6	7
3). Most of my life lies ahead of me…………..	1	2	3	4	5	6	7
4). My future seems infinite to me……………..	1	2	3	4	5	6	7
5). I could do anything I want in the future………	1	2	3	4	5	6	7
6). Here is plenty of time left in my life to make new plans…	1	2	3	4	5	6	7
7). I have a sense that time is running out……	1	2	3	4	5	6	7
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9). As I get older, I begin to experience time as limited.	1	2	3	4	5	6	7
10). I expect that I will set many new goals in the future.	1	2	3	4	5	6	7

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Please examine the digital camera photo and description below before you answer the questions on the next page.

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It has the following features	Function
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Look	Compact, very stylish and well built body
Underwater capabilities	Waterproof, and you can use camera under water as you use in normal situations
Video recording	It takes pictures and video clips; It also can play your MP3 and video files just like your iPod or other portable media player; It has a unique text viewer as well; You can watch movies to your hearts content

SECTION B Your Evaluation of This Camera

The following questions are based on the above photo description of the camera. Please circle the number from 1 to 9 that best represents the degree of your agreement or disagreement with each statement below.

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Desirable-----1------2------3-------4------5------ 6 -----7-------8--------9-----Undesirable
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Useful -------1------2------3------4------5------ 6 ------7-------8--------9-----Useless

SECTION C Your Perception of the Camera

The following questions are based on the above photo description of the camera. Please circle the number from 1 to 5 that best represents the degree of your agreement or disagreement with each statement below.

	Strongly Disagree				Strongly Agree
1). If I used the camera, I probably would like it…	1	2	3	4	5
2). Overall, I would describe this camera as extremely appealing.	1	2	3	4	5
3). I would expect that most people using this camera would be satisfied...	1	2	3	4	5
4). People like myself would probably not like this product……	1	2	3	4	5

SECTION D Your Feeling of Healthiness

Please circle the number from 1 to 7 that best represents the degree of your agreement or disagreement.

	Completely Disagree						Completely Agree
1). Compared to others my age, I take less medicine………	1	2	3	4	5	6	7
2). Compared to others my age, I think I am in better health.	1	2	3	4	5	6	7
3). I really do not have any physical problems.	1	2	3	4	5	6	7

SECTION E   Your Perception of Sentences below the Camera Photo on Page 3

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1). Those sentences made me think about endings	1	2	3	4	5	6	7
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5). Those sentences made me think time is limitless.	1	2	3	4	5	6	7
6). Those sentences made me think about the future.	1	2	3	4	5	6	7

SECTION F CLASSIFICATION Questions

The following classification questions are for statistical purposes only. Please circle the letter corresponding to the response category which most closely describes you.

1. **Are you….** A. Female   B. Male

2. **What is the highest level of education you have completed?**

   A. some or no high school
   B. high school graduate
   C. some college
   D. college graduate
   E. Graduate school

3. In what year were you born?   19 _________________.

4. What age do you feel most of the time? _____________ (years)

5. Which of the following best describe your total annual household income?
   By household, we mean a family or other persons who share finances.

   A. UNDER $15,000
   B. $15,000 - $29,999
   C. $ 30,000- $44,999
   D. $45,000 - $59,999
   E. $60,000 - $74,999
   F. $75,000 - $99,999
   G. $100,000 OR MORE

SECTION G   Questions about Your Volunteering

This section asks you about your volunteering work for non-profit organizations. If for any reason you cannot answer one or more questions, please leave them blank.

1. For how many non-profit organizations (such as your church, United Way) do you work as a volunteer?
   A. None
   B. One
   C. Two
   D. Three or four
   E. Five or more

2. For which non-profit organization do you volunteer the most?
____. Please think of this organization as you answer the rest of the questions on this page.

3. Think of the organization you have worked for the longest period of time. How long have you worked for this organization as a volunteer?
   A. less than a year
   B. 1-2 years
   C. 3-5 years
   D. 6-10 years
   E. Over 10 years

4. How many hours per week do you work for this organization?
   A. Less than 1 hour
   B. 1-2 hours
   C. 3-5 hours
   D. 6-10 hours
   E. More than 10 hours

5. What do you like most about this organization?

This organization: …

____

6. What are the things you think this organization can do better?

This organization: …

____

Cover Letter

Dear Participants:

Thank you for taking time to participate in this study.

This is part of my dissertation required by the Department of Marketing as partial fulfillment of my PhD degree. My dissertation is to investigate how consumers evaluate different types of products. On the survey, there is no right or wrong answer to any question. I simply want to understand your opinions and feelings about digital cameras. Your responses will be given strict confidentiality. No individual's answers will ever be reported in such a way as to identify that individual. This has far-reaching managerial implications for the understanding of consumers and their product preferences.

Your responses are very important to my research. Incomplete surveys will reduce my ability to conduct good research, so I kindly request your responses to all the questions in the surveys.

You can assign your responses by clicking the letter or number next to the corresponding question that best represents your opinion.

As a token of my appreciation, I will be donating $5 to the organization you volunteer for.

If you have any questions regarding this study, please contact:

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