THE IMPACT OF COGNITIVE AGE ON SENIORS' LIFESTYLES

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This study found that, as seniors' cognitive age increases, their participation in culturally-related activities decreases, their fashion interest decreases, and their degree of innovativeness decreases in terms of Internet shopping. Their brand loyalty/loyalty proneness, however, increases with an older cognitive age. The results suggest that marketers cannot segment all senior citizens into one group as there are significant differences in their lifestyles based on cognitive age. Seniors, who are younger in terms of their cognitive age, may still be an attractive market for cultural, fashion, or innovative products, particularly those sold on the Internet. Additionally, the results suggest that even those seniors who see themselves as older, based on their cognitive age, are still an attractive segment for marketers due to their brand loyalty.

INTRODUCTION

The senior citizen market is becoming increasingly important for marketers to understand and address. Americans are living longer than ever before, causing a senior boom, while a low birth rate continues to minimize the size of younger age segments (Schewe and Noble 2000). In the U.S., the number of people age 65 and older is 36.3 million (U.S. Department of Health and Human Services 2006) and is projected to increase to 50 million by 2010 (Lambert-Pandraud, Laurent and Lapersonne 2005), or one out of seven people, compared to one in ten in 1970 (Oumlil and Williams 2000). In the aggregate, they are the most rapidly expanding group in the United States (Jones 2001) and the 85-plus population is the fastest growing subset of this group (Jones 2001; Schewe 1991).

Senior citizens control a substantial portion of the wealth and disposable income in the United States (Nwogugu 2005). The size and buying power of the segment, combined with the fact that not all seniors behave the same in terms of consumption, justifies the need for research in this area. A better understanding of the characteristics of the senior consumer will enable marketers to more accurately define the segments of this large and lucrative market.

Many academicians researching the older consumer cite the increasing heterogeneity of the group (Moschis, Curasi and Bellenger 2003; Schiffman and Sherman 1991). Segments clearly exist within the large senior market (Moschis, Curasi and Bellenger 2003); yet segmenting this group based on chronological age may not be a good segmentation strategy for older consumers who age differently and at different rates. One method of differentiating consumers has been by their self-perceived age (Barak and Schiffman 1981) or cognitive age, which may ultimately present a useful approach to segmenting the older market (Szmigin and Carrigan 2001a). There are a variety of activities, interests, and products that are embraced by those who feel younger than their chronological age (Ebenkamp 2002; Reid 2006).

Thus, the purpose of this study is to examine the impact of cognitive age on the consumption lifestyles of seniors. The research will build upon the work already done in the area of seniors and cognitive age (see Barak and

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Schiffman 1981; Chua, Cote and Leong 1990; Eastman and Iyer 2005; Mathur and Moschis 2005; Schiffman and Sherman 1991; Sherman, Schiffman and Mathur 2001; Szmigin and Carrigan 2001a; Van Auken, Barry and Bagozzi 2006; Weijters and Geuens 2006; and Wilkes 1992). In this paper, we intend to contribute to the literature by addressing the impact of cognitive age on seniors' lifestyles, such as in the area of culturally-related activities and fashion interest, as well as consider the impact of cognitive age on innovativeness with the domain of Internet shopping and brand loyalty, which are not addressed in the cognitive age literature. This paper will first present a literature review on cognitive age and the lifestyle variables of culturally-related activities, fashion interest, innovativeness in terms of Internet shopping, and brand loyalty. Then, we will discuss our methodology, results, and implications of those results for marketing managers.

LITERATURE REVIEW

Schewe (1989) states that aging is an individual event as no two persons age the same way at the same time. The biology of aging is dependent on genetic inheritance and on the environment. Consumers not only inherit their physical features, but also their susceptibility to disease and the predisposition to other facets of aging, such as wrinkling, weight change, and hair alterations. The environment also affects longevity (Schewe 1989). Moreover, personal intervention of the aging process can be achieved by weight control, diet, smoking cessation, and a reduction of psychological stress (Schewe 1988). Therefore, some individuals really do age more gracefully than others and it is improper to group people by chronological age and assume the same physiological and psychological changes have taken place.

Cognitive Age

Some researchers have noted (see Barak and Schiffman 1981; Van Auken, Barry, and Bagozzi 2006; Wilkes 1992) that self-perceived age, non-chronological age, or cognitive age may contribute more than chronological age in understanding how older consumers view themselves and how they consume. As consistently shown in the research, older persons frequently see themselves as perceptually younger, perhaps ten or more years younger, than their chronological age (Catterall and Maclaran 2001; Leventhal 1997; Van Auken, Barry and Anderson 1993). Some may act and even look far younger than any age cohorts before them (Barak and Schiffman 1981; Eastman and Iyer 2005; Leventhal 1997; Schewe and Meredith 1994; Wilkes 1992).

Defining Cognitive Age. Barak and Schiffman (1981) noted the problems with the use of chronological age as a predictor of attitudes and behaviors and defined cognitive age in terms of four dimensions (feel-age, look-age, do-age, and interest-age) and found that cognitive age captured different and separate aspects of age than chronological age. The reliability and validity of this cognitive age measure has been well established both in the United States and abroad (Van Auken, Barry and Anderson 1993; Van Auken, Barry and Bagozzi 2003; Wilkes 1992). Van Auken and Barry (2004, p. 229) found that those Japanese seniors who are younger in terms of cognitive age "had a better perception of health, economic comfort, and overall life satisfaction" than those seniors who were of the same chronological age but older in terms of cognitive age. Additionally, those seniors who were of younger cognitive age had less anxiety and concern about aging, more satisfaction with aging, and engaged in more activities (Van Auken and Barry 2004).

Schiffman and Sherman (1991) describe what they call the new-age elderly, who see themselves as younger in age and outlook, who feel more self-confident and are less concerned with the accumulation of possessions and more involved in seeking new experiences, challenges, and adventures. The idea of the new-age elderly augments and enriches the concept of cognitive age and illustrates two distinct differences from traditional elderly: (1) greater self-confidence in making consumer

decisions, and (2) greater ability to change and to accept new products that make them feel more in control of their lives (Sherman et al. 2001). Mathur et al. (1998) also found that new-age elderly, compared to traditional elderly, are more decisive consumers, more individual decision makers, feel more in control of their lives, report greater satisfaction with their health and social life, and have a greater interest in outdoor activities, travel, financial markets, volunteer work/self-enrichment, learning new things, and computers. Additionally, Sherman et al. (2001) found that new-age elderly are more responsive to gathering lots of information.

Segmenting by Cognitive Age. Gwinner and Stephens (2001) state that cognitive age may explain some consumer behaviors as well or better than more commonly used variables, such as income, education, health, attitude toward seniors, and social contacts. Johnson (1996) noted that those marketers who should use cognitive age as a segmentation variable, but do not, may actually alienate older consumers. Her findings revealed that marketers of recreation, travel, entertainment, and other related services should use cognitive age as a key segmentation variable. Otherwise, inappropriate segmentation based on chronological age may contribute to feelings of consumer alienation. Thus, cognitive age may be a better means for understanding and segmenting the senior market.

Others (Moschis, Bellenger and Curasi 2003; Moschis, Curasi and Bellenger 2003) have used the segmentation technique, called "gerontographics," to group senior citizen consumers into four segments based on life circumstances and aging factors they have experienced: healthy hermits, ailing outgoers, frail recluses, and healthy indulgers. Thus, the literature recognizes that seniors need to be segmented by means other than chronological age.

The Impact of Cognitive Age. The literature has consistently shown that cognitive age can impact as well as be impacted by the attitudes and activities of senior citizens. Chua et al. (1990) found that younger cognitive age was related to greater life satisfaction, activity and social involvement; older cognitive age was correlated with poorer perceived health and signs of aging. Eastman and Iyer (2005) found that seniors with a younger cognitive age used the Internet more than those seniors with an older cognitive age. Wei (2005) also found that cognitive age impacted the adoption behaviors of high-tech products.

In examining the relationship between cognitive age and other variables, researchers such as Chua et al. (1990) found that higher levels of activity (defined in terms of general activity levels, social activities, enthusiasm, and work), life satisfaction, and health resulted in a younger age. They also found with their Singapore sample that those inclined to the Western culture (defined in terms of extent of English speaking) had a younger cognitive age than those inclined to a Chinese culture; they did not find, however, a link between close family relationships and cognitive age (Chua et al. 1990). Catterall and Maclaran (2001) likewise concur that there is a Western preoccupation with youthfulness and thus age and aging are socially constructed. In contrast, Van Auken and Barry (2004) and Van Auken, Barry and Bagozzi (2006) found clear evidence of the universality of cognitive age when comparing seniors in Japan and the United States.

Wilkes (1992) found in a sample of senior females that a younger cognitive age led to higher self-confidence, greater fashion interest, a greater work-orientation, and more participation in entertainment and cultural activities. Building upon the work of Wilkes (1992), Mathur and Moschis (2005) found that differences in cognitive age did not merely reflect differences in chronological age, and that a person's cognitive age was influenced by life events that serve as markers of transitions into social roles. People are expected to enter into these social roles at different stages in life; additionally, health-related events, particularly chronic conditions, make people aware of their

aging, thus affecting their cognitive age (Mathur and Moschis 2005).

HYPOTHESES

In this study, we examine the impact of cognitive age on the lifestyle variables of participating in culturally-related activities and fashion interest for both senior men and women. Additionally, we build on the literature through considering the impact of cognitive age on innovativeness and brand loyalty, which has not been examined in the senior literature. The model in which we are testing our hypotheses is shown in Figure 1.

Culturally-Related Activities

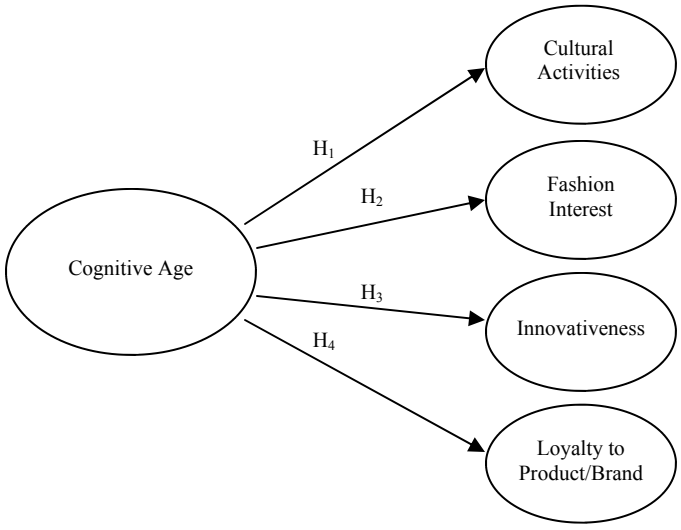
Robinson (1994) notes that education remains the best predictor of a person's participation in an arts event (defined as a performance of jazz or classical music, operas, musicals, plays, or ballets, plus art museums and galleries). He found that 77 percent of adults with post-graduate degrees attend at least one arts event a year, compared with less than 10 percent of those with no high school education. Robinson (1994) concludes that, generally, senior consumers participate less than do younger adults. Nimrod and Adoni (2006) note that a large proportion of retired people are not prepared for participating in some leisure activities, though Agahi and Parker (2005) note that in general, seniors now are participating in more activities, particularly social and cultural activities, than they were ten years ago, which may be due to more resources for leisure. Wilkes (1992) suggests that those senior females with a younger cognitive age are more likely to participate in culturally-related and entertainment-related activities. Thus, the following hypothesis is proposed:

H_1: Senior consumers with higher cognitive age will engage less in culturally-related activities.

Fashion Interest

Although data indicate that older households purchase less clothing (Lee, Hanna, Mok and Wang 1997; Wilkes 1992), opinions vary regarding the fashion interest of older women. Martin (1976) found that two-thirds of the senior women surveyed perceived themselves as being fashion conscious and over half claimed to shop in high-fashion, women's specialty stores. Tongren (1988) reported that most senior women perceived themselves as fashion conscious. Older females have an active interest in dressing well (Reynolds and Wells

FIGURE 1
Hypothesized Model



1977), though females' stronger preference for spending on apparel may be somewhat inhibited when living with a spouse (Lee et al. 1997). The Center for Mature Consumer Studies (1989) concluded that interest in clothing and fashion tends to decline with age among males and remains fairly high among older females, yet over a third of senior males and females perceived themselves as active fashion opinion leaders for apparel (Lumpkin 1985). Finally, Joung and Miller (2006) found that female seniors' appearance management had a direct positive influence on their social participation and their self esteem; their fashion involvement likewise had a direct positive influence on social participation and a positive indirect influence on self esteem through social participation.

In terms of cognitive age, the research suggests that those elderly females with a younger cognitive age are more likely to have a greater interest in fashion (Wilkes 1992) and be more fashion conscious (Nam, Hamlin, Gam, Kang, Kim, Kumphai, Starr and Richards 2007). Thus, the following hypothesis is proposed:

H_2: Senior consumers with higher cognitive age will report lower fashion interest.

Innovativeness

Wei (2005), with an adult but non-senior sample, found that cognitive age was negatively related to technological anxiety, to information-seeking behaviors of high-tech products, and to adoption behaviors of high-tech products. Eastman and Iyer (2005) found that seniors who reported a younger cognitive age were more likely to use the Internet more. These results suggest that those with a younger cognitive age are more likely to be innovators. Thus, to build on the work done by Wei (2005) and Eastman and Iyer (2005) regarding technology use, the following hypothesis is proposed:

H_3: Senior consumers with higher cognitive age will be less innovative in the domain of Internet shopping.

Brand Loyalty

A traditional assumption is that younger age groups are more likely to switch brands and that older consumers are more brand loyal and thus difficult to persuade to buy a new brand or product (Parpis 2002). Lambert-Pandraud, Laurent and Lapersonne (2005) found that in terms of automobile purchases, older consumers repurchase an automobile brand more frequently as they consider fewer brands, fewer dealers, fewer models and choose long-established brands more often. Much research has shown that younger consumers are more likely to experiment with brands, while older consumers are more likely to remain brand loyal, which simplifies the purchasing process.

Seniors have relatively high levels of brand loyalty due to their early relationship with brands. Seniors grew up with far fewer brands from which to choose. Also, for seniors, an early challenge was simply being able to afford many consumer durables, such as a car or television, so brand differentiation was not that important. This generation's respect for authority and conformity meant that brand loyalty was a virtue (Coeyman 1996).

However, brand loyalty is on the decline among all age groups, and the most significant drops are in the older age cohorts. The view that the mature market is a monolithic, stodgy group that is not interested in new brands or products is rapidly becoming a myth (Lipke 2001). An AARP study found that adults 45 years of age and older are no more brand loyal than those 18-34, and these older adults are always looking for better products (Parpis 2002). In terms of cognitive age, Szmigin and Carrigan (2001a) found that cognitively younger consumers are more willing to try new brands, more likely to be brand switchers, and are more self-confident about their purchasing skills. Thus, the literature on brand loyalty and seniors is somewhat mixed. To build on this literature by looking specifically at the relationship of cognitive age and brand loyalty, the following hypothesis is proposed:

H_4: Senior consumers with higher cognitive age will be more brand loyal.

METHODOLOGY

Data Collection and Sample

The study sample was a regional sample. The respondents consisted of people who had been recently contacted by upper level undergraduate marketing students who were trained in data collection procedures and used as interviewers. This approach has been successfully used in previous research (e.g., Arnold and Reynolds 2003; Bitner, Booms and Tetreault 1990; Jones and Reynolds 2006). Interviewers were instructed to recruit non-student participants only. To ensure accurate responses, the respondents were promised complete confidentiality and were asked to return the questionnaire where the research was conducted. A total of 374 respondents participated in the study. Many researchers and organizations define the elderly or senior citizens as those 65 years of age and older (Eastman and Iyer 2005; Miller, Kim and Schofield-Tomschin 1998). Thus, only respondents who were 65 years or older were included in this study. This convenience sample was deemed appropriate because the purpose of the study was not to provide point estimates of the variables but to test the relationships among them (Calder, Phillips and Tybout 1981). A description of the demographic information about the sample is provided in Table 1.

In comparing our demographic results to that of seniors in the United States in general, our sample was similar to the statistical profile of Older Americans Aged 65+ (U.S. Department of Health and Human Services 2006). Per the U.S. Department of Health and Human Services (2006), 58 percent of those over 65 years old in the U.S. were female (42 percent male); 81.9 percent were Caucasian (8.2 percent African-American and 6 percent Hispanic), 54 percent were married, and the median household income was $35,825.

TABLE 1
Descriptive Information on Sample

Items	
Gender:	
Male	43%
Female	57%
Income:	
0-$10k	11%
$10,001-$30k	32%
$30,001-$50k	24%
$50,001-$70k	16%
Above $70k	17%
Occupation:	
Homemaker/Not Employed	32%
Self-Employed	10%
Educator	4%
Professional	7%
Work for Company/Business	17%
Other	30%
Education Completed:	
GED	7%
High School	54%
Undergraduate	15%
Graduate	14%
Professional Degree	10%
Marital Status:	
Married	61%
Single	6%
Living with another	3%
Widowed	24%
Divorced	5%
Rather not say	1%
Race:	
White Caucasian	87%
African American	11%
Hispanic American	1%
Asian American	1%

All scales used to test the proposed model can be found in Table 2. In addition, sources used in the creation of the scales are also provided. All the scale items were measured on a seven point Likert scale from "1 = strongly disagree" to "7 = strongly agree." Each scale was first investigated using exploratory factor analysis and the results supported a single dimension for each scale. In addition, item-total correlations were higher (greater than 0.50) for each

construct. Descriptive statistics for each scale as well as correlations between all constructs are presented in Table 3. A measurement model using LISREL with maximum likelihood estimation was then conducted, consistent with Anderson and Gerbing's (1988) two-step approach. The results indicated an acceptable measurement model fit ($\chi^2_{(94)} = 237.88$, $p<0.01$; RMSEA = 0.07, CFI = 0.95; IFI= 0.95; NNFI = 0.94) (Hair et al. 1998). The results supported the internal consistency of all scales as the composite reliability was greater than 0.80 for all scales (see Table 2). The variances extracted for all scales were greater than the generally acceptable value of 0.50 (see Table 2), indicating a high level of shared variance between the indicators of cognitive age. The completely itemized standardized loadings for all measurement items are also included in Table 2.

The results also support the convergent and discriminant validity of all of the scales. The items of each scale loaded highly on their respective constructs (t-values ranging from 12.07 to 19.91), providing evidence of convergent validity (Anderson and Gerbing 1988). As evidence of discriminant validity, none of the confidence intervals of the phi matrix included 1.00 (Anderson and Gerbing 1988). Discriminant validity was also tested by comparing variance extracted estimates with the squared phi estimates (Fornell and Larcker 1981). The variance extracted estimates were greater than the squared phi estimates for all sets of constructs, supporting discriminant validity.

TABLE 2
Measurement Items

Scale/Items [a]	Standardized Loading	Source/Adapted From
Cognitive Age (CR=0.91, VE=0.71)		Barak and Schiffman (1981)
Most of the time…		
I feel like I'm in my:	0.83	
I look like I'm in my:	0.74	
My interests are those of a person in his/her:	0.90	
I do the things a person does in his/her:	0.90	
Cultural Activities (CR=0.81, VE=0.59)		Wilkes (1992)
I have attended lecture presentations.	0.70	
I have attended concerts.	0.84	
I have visited a gallery or museum.	0.76	
Fashion Interest (CR=0.82, VE=0.63)		Reynolds and Darden (1971);
I usually have one or more outfits that are of the very latest style.	0.76	Summers (1970); Wilkes (1992)
an important part of my life and activities is dressing smartly.	0.71	
I like to shop for clothes.	0.80	
Innovativeness (Study 1: CR=0.90, VE=0.76)		Goldsmith and Hofacker (1991)
I know more about shopping over the Internet than other people.	0.81	
If I heard that a new product that I was interested in, was available over the Internet, I would be interested enough to buy it.	0.88	
I will consider buying something over the Internet, even if I haven't heard of it before.	0.87	
Loyalty to the Brand (Study 1: CR=0.94, VE=0.83)		Lichtenstein, Netemeyer and
Once I get used to brand I hate to switch.	0.93	Burton (1990); Raju (1980)
Even though certain products/services are available in a different number of brands, I always tend to buy the same brand.	0.90	
Even though certain products/services are available in a different number of brands, I always tend to buy the same brand.	0.91	

[a] Composite Reliability (CR) and variance extracted (VE) are provided for each scale

TABLE 3
Construct Correlations, Means, Standard Deviations and Coefficient Alphas

Construct	Mean	Standard Deviation	Alpha	Coefficient 1	2	3	4	5
1. Cultural Activities	4.00	1.78	0.76	1				
2. Cognitive Age	3.64	1.06	0.89	-0.219**	1			
3. Fashion Interest	3.97	1.65	0.76	0.267**	-0.254**	1		
4. Innovativeness	2.06	1.34	0.82	0.177**	-0.264**	0.118*	1	
5. Loyalty to Brand/Product	5.06	1.60	0.91	0.022	0.085	0.051	-0.175**	1

* correlation significant at $p < 0.05$
** correlation significant at $p < 0.01$

RESULTS

The structural model using LISREL was then estimated to test the proposed relationships. The fit statistics indicated an acceptable model fit ($\chi^2_{(100)} = 302.15$, $p<0.01$; RMSEA = 0.08, IFI = 0.94; CFI = 0.94; NNFI = 0.92) (Hair et al. 1998) and the results can be found in Table 4.

Hypothesis 1 was supported. Senior consumers who reported a higher cognitive age engaged in fewer culture-related activities (t=-3.49). Hypothesis 2 was supported. Senior consumers who reported higher cognitive age were less interested in fashion (t=-3.60). Hypothesis 3 was supported. Senior consumers who reported a higher cognitive age were less innovative in the domain of Internet shopping (t=-4.86). Hypothesis 4 was supported. Senior consumers who reported a higher cognitive age were more brand loyal (t=2.06).

DISCUSSION AND IMPLICATIONS

"Under-appreciation of mature consumers as a numerous and comparatively wealthy segment has resulted in not only lost revenues for business, but also lost consumption and service opportunities for the elderly" (Nam et al. 2007, p. 102). Marketers have a responsibility to communicate effectively with seniors and with empathy to their needs (Szmigin and Carrigan 2001b). In this study, we were able to illustrate that cognitive age impacts seniors' lifestyles in a variety of ways. Similar to Wilkes (1992), but in looking at both men and women, we found that seniors who perceive themselves as having a higher cognitive age were less likely to participate in culturally-related activities and have a lower fashion interest. Van Auken and Barry (2004) also found that seniors with a higher cognitive age are less engaged in a variety of activities.

In terms of fashion, as seniors who focus on fashion and maintaining their appearance may have higher levels of social participation and self esteem (Joung and Miller 2006), marketers need to communicate these benefits in targeting seniors for fashion and beauty products. Nam et al. (2007) stress that, while senior females with a younger cognitive age are more fashion conscious, preference for fit and comfort are somewhat more valued than fashion. Baker (2003) discusses the need for clothes to both be stylish as well as easy for seniors to dress. Gardner (2005) stresses that mature women want simple, elegant, well-cut clothing that is not frumpy, but also not inappropriate for mature women to wear. As suggested by Wilkes (1992, p. 298), while older people are interested in fashion and how they look, "how one looks is less important in defining one's self-perceived age" than other aspects. Thus, being the latest fashion is not enough for this segment. Fashion items for this segment need to both feel and look good. Marketers need to show how these types of products may help seniors feel younger and better about themselves while meeting the needs of fit and comfort.

TABLE 4
LISREL Results For The Hypothesized Model

Hypothesis	Path	Standardized estimate	t-value	Result
H_1	Higher cognitive age → lower cultural activities	-0.25	-3.49	Supported
H_2	Higher cognitive age → lower fashion interest	-0.26	-3.60	Supported
H_3	Higher cognitive age → lower innovativeness	-0.32	-4.86	Supported
H_4	Higher cognitive age → more loyalty	0.13	2.06	Supported

In terms of cultural activities, we found those seniors with a higher cognitive age are less interested in lectures, concerts, galleries or museums. This suggests that chronological age is not a good means to segment for cultural activities, but cognitive age may be. Marketers of cultural activities need to promote how these activities can help seniors stay active and feel younger.

Next, we were able to build on the work done by Wei (2005) and Eastman and Iyer (2005) to demonstrate that those seniors who perceive themselves as having a higher cognitive age were less likely to be innovators in the domain of Internet shopping. One's level of innovativeness is not impacted by chronological age (Szmigin and Carrigan 2001b), but rather by cognitive age, as our results illustrate. Thus, Internet marketers do not have to limit themselves to just those chronologically younger, but those who are cognitively younger throughout different age groups (Wei 2005). Marketers of innovative, technological products may also find cognitively younger seniors to be a possible segment.

These results suggest seniors' lifestyles can vary significantly based on cognitive age. Cognitive age may be more reflective of seniors' and others attitudes and behaviors than their chronological age (Van Auken, Barry and Anderson 1993) and cognitive age may be a better segmentation variable for marketers to use than all the other demographic variables (Wei 2005). For marketers of culturally-related, fashion, and/or technological products, these results suggest that they can attract some consumers in the senior market to these types of products, but that they need to segment by cognitive age. Additionally, organizations may be able to reach cognitively younger seniors through marketing on the Internet, but they will not able to reach all seniors this way and thus should use the Internet as a complementing medium to their traditional communication (Eastman and Iyer 2005).

In terms of promoting to seniors, while seniors react negatively to the stereotypical image of being dowdy, frail grandparents (Parpis 2002; Van Auken, Barry and Anderson 2003), they also do not want models that deny evidence of aging (Wilkes 1992). This can be seen in the increased use of "older" actresses and models such as Catherine Deneuve at age 62 and Kim Basinger at age 52 to promote cosmetics (Tannen 2006). While these people may not be considered elderly, they are far older than the typical models used. Also, seniors want ads that show people living a full and active life. Weijters and Geuens (2006) recommend that marketers in trying to reach the senior market do not use age-related labels such as "third age" or "elderly" as these are perceived negatively, but should instead use the labels "50+" and "senior" (particularly for those over 65 years old). Finally, Wei (2005, p. 633) suggests that marketers can create a younger cognitive age in consumers through enhanced communication as cognitive age can be utilized as a controllable strategic variable.

We have also been able to build on the literature through consideration of the relation of cognitive age and brand loyalty. Our results suggest that seniors who perceive themselves as older are more brand loyal. This suggests that even those seniors who are older, in terms of

cognitive age, still constitute a worthwhile element of the senior market for marketers to pursue, due to their level of brand loyalty; they just might not be the best segment for culturally-related, fashion, and/or innovative products. In trying to build on this brand loyalty, firms need to develop trustful, long-term relationships with senior consumers (Lambert-Pandraud et al. 2005). Thus, seniors are a viable market for businesses to address, but marketers need to recognize that additional segmentation variables, such as cognitive age rather than chronological age, are needed to best understand and reach this market. Future research though is needed in this area.

One key limitation of this study was the use of a convenience sample. Additional research is needed using a national random sample. Future research needs to continue to build on previous results as well as consider other lifestyle and psychographic variables (Nam et al. 2007), such as physical, social, and volunteer activities (Griesse, 1998; Henderson and Ainsworth 2003). Additionally, future research needs to consider possible factors impacting cognitive age (Mathur and Moschis 2005) and participation in activities. For example, Agahi and Parker (2005) suggest that mobility restrictions have a significant impact on participation in a variety of activities. Thus, future research on cognitive age needs to consider the impact of seniors' physical mobility as well as transportation access to determine if this plays a role through either impacting cognitive age or participation in activities.

Finally, as more baby boomers start to reach sixty-five years old and beyond, they may redefine what it means to be a senior citizen and have a tremendous impact on how society and business view aging and the senior market (Catterall and Maclaran 2001). "Cognitive age has been demonstrated to be a useful concept for marketers, but this utility can alter with changing attitudes to aging" as the concepts of age and aging are socially constructed (Catterall and Maclaran 2001, p. 1128). Much of what we think we know now about seniors' consumption behavior may dramatically change as boomers age (Tannen 2006). Thus, as new cohorts become senior citizens, continuous research is needed to determine their impact on this segment and how marketers should approach reaching this market.

Thus, this paper finds that seniors are an important segment for marketers to better understand and serve. "As people age they do not necessarily become less interested in consumption and it is a mistake to ignore or alienate such a potentially lucrative market" (Szmigin and Carrigan 2001b, p. 113). What would be the best products to market to them and how, though, may vary based on their cognitive age. Given the size and importance of this heterogeneous segment to marketers, this paper hopes to spur additional research and discussion on the senior market and the impact of cognitive age on seniors' lifestyles.

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