

AN INVESTIGATION OF CHRONOLOGICAL VERSUS COGNITIVE AGE IMPACT IN THE KUWAIT COFFEE SHOP MARKET

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Abstract. *Given the growing body of research dedicated to self-perceived age and the cognitive age construct, it is widely believed that one's self-perceived age may actually be a better predictor of age-related psychological states or attitudes than mere chronological age. Extending the research on cognitive age, the current study examines the impact of both cognitive age and traditional chronological age on the behaviors of coffee shop users in Kuwait. The study finds that chronological age and cognitive age are highly correlated, both in age levels and in terms of consumer behavior. Nevertheless, a large portion of the sample perceived themselves to be younger than their chronological age. This is especially true of consumers aged 55 and over. The main findings that differentiate chronological age from cognitive age are that as Kuwaiti consumers become chronologically older, coffee drinks become more important to them. Also, as cognitive age increases, consumers are less likely to drink coffee with friends.*

Key words: *retailing, consumer psychology, emerging/transitional economies*

1. Introduction

With longer life expectancies and declining fertility rates, the world's population is slowly and inexorably moving towards an older average age (Guido, Amatulli & Peluso, 2014). In fact, it has been suggested that the ageing of the world's population is the most significant demographic change in the history of humankind (Kohlbacher, Sudbury & Hofmeister, 2011). In light of this trend, understanding how age interacts with consumption patterns has become essential to the world's marketers. This is especially true in global markets where little is known about the unique behavioral patterns of the various age segments. In addition, researchers have begun to consider a variety of age-oriented constructs, including the concept of "cognitive age". Cognitive age can be thought of as the psychological or self-perceived age of a given consumer. First introduced in 1981 by Barak and Schiffman,

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the concept of cognitive age has proven to be a valuable psychological construct not only in the field of marketing, but in the fields of psychology and gerontology as well (Goldsmith & Heiens, 1992; Mathur & Moschis, 2005; Van Auken, Barry & Bagozzi, 2006). Moreover, recent research indicates that the tendency for consumers to possess and be influenced by cognitive age self-perceptions is a global phenomenon, applying to consumers in markets as diverse as the U.S., Western Europe, Japan, and China (Eastman & Iyer, 2012; Gianlugi, Amatulli & Peluso, 2014; Teller, Gittenberger & Schnedlitz, 2013; Van Auken, Barry & Bagozzi, 2006; Wei & Talpade, 2009). Yet little research has been conducted on the impact of either age or age-related psychological constructs on consumer behavior in the rapidly growing Middle Eastern market.

Over the last several decades, the Middle East has become more significant as a potential market. For example, the countries of the Gulf Cooperation Council (GCC), including Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates, in aggregate now represent one of the 20 largest economies in the world (Yates, 2013). In particular, the retail market in Kuwait is expected to grow at a steady annual rate of more than seven percent over the next several years (Gavin, 2013). Yet there is one essential characteristic of Middle Eastern society that differentiates it from the majority of consumer markets throughout the world. This unique difference is the restriction on the Arab lifestyle driven by the social and religious precepts of the Muslim faith, which include regulations that preclude the sale and use of alcohol. Consequently, social interactions in the Muslim world that might normally occur in venues as iconic as the English pub, German beer garden, Italian wine bar, or even the old American saloon, have been redirected to the Arab coffee house. In Kuwait, for instance, sitting rooms known as “Dewaniya” have served as gathering places where men would congregateto discuss politics or social issues while nibbling snacks, smoking, and enjoying the mildly stimulating effect of Arab coffee. These gathering places take the form of either the family “Dewan” or the public “Dewan”. Hence, coffee has long been featured as prominent in the social life of the typical Arab consumer. Coffee, in fact, is one of the most widely consumed beverages throughout the entire world, and the retail coffee industry is currently poised to undergo a sustained period of growth (Coffer, 2014). Consequently, the investigation into the relationship between age (including both chronological and cognitive age) and coffee consumption in the Kuwait coffee shop market, the focus of the current study, is especially germane to service marketers seeking to understand the demographic and psychological factors that may impact retail coffee sales in the potentially lucrative markets of the GCC and the Middle East as a whole.

2. Literature review

Age is a descriptor variable of tremendous significance and interest to virtually all of the social sciences. Its use by marketers as a basis for segmenting and targeting consumer populations is widespread, and a great many segmentation schemes and typologies

employ age in some respect. This is largely because the monochromic time perspective, which views time as a linear and stable construct, dominates the Western mindset, and leads to the expectation that all populations experience the effects of aging at a constant and unvarying rate (Bluedorn, Kaufman, & Lane, 1992). Chronological age, as we are all aware, is the actual age of a person as measured in years, months, and days from the date the person was born. Nevertheless, it has been proven in the physical sciences that time is actually a relative concept, the value of which depends on perspective, measurement, and context (Einstein, 1905). Therefore, the influence of time and age on consumers may be subject to a wider array of interpretations than the standard linear model may imply. Instead, a personal and subjective view of one's age could possibly provide greater insight into the behavior and lifestyle patterns of consumer segments than chronological age alone.

According to Birren (1960), ageing is a multi-dimensional construct comprised of three independent yet inter-related mechanisms. These include biological aging, psychological aging, and sociological aging. Each of these aging mechanisms is driven by subjective consumer self-perceptions. The theoretical basis for the notion that one's "age" may be subjectively determined is self-concept theory. According to self-concept theory, an individual tends to possess a wide variety of thoughts and feelings regarding themselves as a distinct "attitude object" (Rosenberg, 1979). Consequently, chronological age is at best a proxy measure for the biological and psycho-social changes that occur throughout a person's life. Instead, it has been argued that when we consider the unique temperament and make-up of a person, people may actually "age" at different rates (Barak & Schiffman, 1981).

The most influential measure of self-perceived age in a marketing context has been the concept of "cognitive age", first proposed by Barak and Schiffman (1981). As originally developed by Barak and Schiffman (1981), the cognitive age construct is comprised of four sub-dimensions, "feel-age", "look-age", "act/do-age", and "interest-age". In terms of self-concept theory, it is the "age reality" that is perceived subjectively, rather than the "age reality" that can be measured objectively, that is the basis of the age-oriented dimension of one's self-concept (Barak & Gould, 1985). Over the years, as researchers began to accept the concept of self-perceived age, additional dimensions were added to the cognitive age construct. For instance, Clark, Long, and Schiffman (1999) extended the construct by adding the dimensions of "health age" and "think age". Whether consisting of four or even six dimensions, the reliability and validity of the cognitive age construct has been well-established (Clark, Long & Schiffman, 1999; Moschis & Mathur, 2006). This is true even when using a variety of different measurement techniques, including ratio scales, semantic differential scales, Likert scales, and age-decade scales (Eastman & Iyer, 2012).

Additional evidence for the validity of the cognitive age construct comes from the fact that, although the magnitude of age discrepancies may vary across chronological age segments, the percentage of people who perceive themselves exactly at their actual

chronological age is relatively low. In most cases, respondents tend to see themselves as perceptually younger than their chronological age. This is especially true of older consumers, whose cognitive ages are often ten years or more below their chronological ages (Catterall & Maclaran, 2001). Consistent with these previous studies, Chang (2008), in a study focusing specifically on younger consumers, discovered that the majority of the respondents, despite an average chronological age of only 19.54, also reported feeling younger than their chronological age. Indeed for much a consumer's adult life, cognitive age tends to lag chronological age, at least until the decline of one's health or some other significant life-stage event (Van Auken, Barry & Bagozzi, 2006).

Given the growing body of research dedicated to self-perceived age and the cognitive age construct, it is widely believed that one's self-perceived age may actually be a better predictor of age-related psychological states or attitudes than mere chronological age (Iyer & Reisenwitz, 2010; Teller, Gittenberger & Schnedlitz, 2013). It is also increasingly apparent that an individual's time perspective may do a better job of predicting customer loyalty patterns than one's chronological age (Kuppelweiser & Sarstedt, 2014). In summary, the growing body of research on cognitive age has challenged the complete reliance on chronological age as a proxy for life-stage oriented behavioral tendencies. As the explanatory and predictive powers of chronological age continue to be questioned, there have been calls for still additional research regarding the relative impact of chronological versus cognitive age on specific patterns of consumer behavior across a wider range of industries (Teller, Gittenberger & Schnedlitz, 2013). Coffee is a ubiquitous consumer product with global appeal. Consequently, in order to examine the impact on consumer behavior of cognitive age versus chronological age, the investigation of coffee shops as a retail service category allows for possible future replication of the study across multiple national or regional contexts.

3. Hypotheses

According to Guido, Amatulli, and Peluso (2014), it must be acknowledged that cognitive age is not an absolute concept, but is instead relative in nature. Thus, Guido, Amatulli, and Peluso (2014) suggest that cognitive age must always be compared to chronological age in order to make sense. Consequently, in order to determine whether or not differences exist between the two constructs on a variety of dimensions related to the Kuwait retail coffee market, we offer a series of hypotheses related to both chronological age and cognitive age. To begin with, a great deal of evidence exists to suggest that different patterns of attitudinal loyalty, behavioral loyalty, and customer expectations exist between chronologically older and chronologically younger consumers. For example, Berbel-Pineda et al. (2011) report that younger customers are more demanding of service based retailers, while older customers are more likely to build long-term relationships and exhibit greater degrees of attitudinal and behavioral loyalty. The work by Berbel-Pineda et al. (2011) suggests that older consumers are likely

to have more stable satisfaction ratings with the retailers that they choose to patronize, giving rise to the first set of research hypotheses.

H_{1a}: As chronological age increases, consumers exhibit greater satisfaction with their retail coffee shop choices.

H_{1b}: As cognitive age increases, consumers exhibit greater satisfaction with their retail coffee shop choices.

One of the most important motives that drives older shoppers is the need for social interaction. According to Myers and Lumbers (2008), older consumers tend to view shopping as both a means of socialization and a leisure pursuit. Moreover, in the Kuwait market, there is a long tradition of drinking coffee in social gathering places and sitting rooms known as “Dewaniya”, particularly among tribal elders and leaders. Given the traditional role of the coffee shop in the Middle Eastern social structure, retail coffee shops are particularly well-positioned to fulfill an important lifestyle need for Kuwaiti consumers, leading to the second set of hypotheses.

H_{2a}: As chronological age increases, consumers are satisfied with more retail coffee shops overall.

H_{2b}: As cognitive age increases, consumers are satisfied with more retail coffee shops overall.

If age does have an impact on customer satisfaction, it is also likely to positively impact a consumer’s degree of behavioral consistency as well. According to Evanschitzky and Woisetschläger (2008), age has a negative influence on a consumer’s willingness to gather information about new products and services. Moreover, their research indicates that age is positively related to brand loyalty. Similarly, Karani and Fraccastoro (2010) find that older consumers resist switching brands once they have established a favorite. Lambert-Pandraud and Laurent (2010) suggest that older consumers may form affective links and even emotional attachments over time with particular brands, leading to H_{3a} and H_{3b}.

H_{3a}: As chronological age increases, the percentage of visits to the most preferred retail coffee shop also increases.

H_{3b}: As cognitive age increases, the percentage of visits to the most preferred retail coffee shop also increases.

According to Dick and Basu (1994), customer loyalty is a multidimensional construct which includes several different and distinct conceptualizations of loyalty based on attitude and behavior. Specifically, “no loyalty” can be defined as the absence of either positive attitudes or repeat purchase behavior. “Spurious loyalty” exists when consumers exhibit positive behaviors towards a brand, but their attitudes are not fully supportive. Instead, their actions are driven by convenience or circumstances. “Latent loyalty” exists when consumers possess positive attitudes toward a brand, yet are prevented from exhibiting repeat purchase behavior due to external factors. Finally, “true loyalty” only exists when repeat purchases are driven by positive consumer

attitudes. Based on the Dick and Basu (1994) conceptualization of true loyalty, we offer the next set of hypotheses.

H_{4a}: As chronological age increases, the percentage of retail coffee shops toward which consumers exhibit “true loyalty” also increases.

H_{4b}: As cognitive age increases, the percentage of retail coffee shops toward which consumers exhibit ‘true loyalty’ also increases.

In a previous study of the Kuwait retail coffee market, Pleshko and Heiens (2015) demonstrated that satisfaction and loyalty are positively related. In other words, as satisfaction levels increase, levels of loyalty also increase. Also, according to Bogomolova and Grudinina (2011), as consumers gain knowledge and experience with a given product category, they are able to make more informed decisions. Consequently, it is likely that satisfaction levels with a particular coffee retailer that develop over time would also be correlated with patterns of true loyalty, leading to H_{5a} and H_{5b}.

H_{5a}: As chronological age increases, the number of retail coffee shops toward which consumers are considered both “true loyal” and satisfied also increases.

H_{5b}: As cognitive age increases, the number of retail coffee shops toward which consumers are considered both ‘true loyal’ and satisfied also increases.

According to Richelieu and Korai (2014), the consumption of coffee at retail coffee shops is a ritualized experience associated with pleasure, companionship and extended relationships. Although there have not been any studies that have specifically looked at the relationship between age, either chronological or psychological, and the consumer coffee experience per se, Richelieu and Korai (2014) note that coffee is a consumer product capable of becoming symbolically charged in the minds of consumers. Given the likelihood that the symbolic and ritualistic associations linked to the coffee shop experience may develop over time, we present the following two sets of hypotheses.

H_{6a}: As chronological age increases, the importance attached to coffee as a reason for visiting a retail coffee shop increases.

H_{6b}: As cognitive age increases, the importance attached to coffee as a reason for visiting a retail coffee shop increases.

H_{7a}: As chronological age increases, the number of coffee drinks consumed per day increases.

H_{7b}: As cognitive age increases, the number of coffee drinks consumed per day increases.

Previous research suggests that people who feel relatively older tend to live less active lifestyles (Mathur & Moschis, 2005). It has also been shown that as consumers age, they generally become less mobile (Karani & Fraccastoro, 2010). Finally, it has been suggested that consumers with a higher cognitive age may visit fewer unfamiliar venues outside the home than do older consumers with a lower cognitive age (Guido, Amatulli, & Peluso, 2014). Thus, we propose H_{8a} and H_{8b}.

H_{8a}: As chronological age increases, the percentage of coffee drinks consumed at home increases.

H_{8b}: As cognitive age increases, the percentage of coffee drinks consumed at home increases.

Finally, it has been demonstrated that older consumers attach greater importance to familiar and emotionally close contacts (Carstensen, Charles & Fung, 2003). Also, as previously discussed, there is a long tradition in the Kuwaiti market of drinking coffee in a social setting. Therefore, rather than consuming coffee alone, we expect both chronologically and cognitively older consumers to be more likely to pursue the traditional practice of consuming coffee with friends, leading to H_{9a} and H_{9b}.

H_{9a}: As chronological age increases, the percentage of coffee drinks consumed with friends increases.

H_{9b}: As cognitive age increases, the percentage of coffee drinks consumed with friends increases.

4. Research methodology

The data for the current study were generated from a sample of Kuwaiti coffee shop patrons. At the time of this study, thirty-nine coffee shop retailers were operating in Kuwait. Most of these coffee shop retailers had multiple locations throughout Kuwait City. At the time of this study, these thirty-nine retailers were operating approximately two hundred and fifty coffee shops (Kuwait Chamber of Commerce, 2011). In Kuwait, there are no bars nor are there similar entertainment complexes that serve alcohol. Therefore, coffee shops are places of gathering for many in the population wanting to meet with friends outside the home. Thus, the list of shops includes a wide variety of both local and international coffee shops.

Data for the project were collected using personal interviews to administer a standard questionnaire. Seventy interviewers were recruited for the study, and the interviewers were assigned ratios to guide the collection of data and to ensure representativeness of the sample with regard to the population as a whole. As detailed demographic, behavioral, or psychographic information is difficult to obtain in Kuwait, the authors selected two available descriptors, age and gender, to provide guidelines for selecting the sample. Secondary data sources provided the age and gender statistics which were used as guidelines for the percentages of adults to be included in each age and gender category (CIA World Fact Book, 2011; Kuwait Public Authority for Civil Information, 2011). A test of the expected versus sample frequencies revealed no significant differences in age or gender between the sample and the population as a whole ($X^2 = 2.03, p = 0.37$).

As an initial screening procedure, only those consumers who had visited a coffee shop within the past three months were considered for inclusion. Considering the statistical tests to be performed, the number of companies being studied, and the desirability of obtaining reliable parameter estimates, a sample size of 600 was the goal

for the project. A sample of 700 was actually taken with the knowledge that some of the surveys would likely be discarded as incomplete or on the basis of interviewer error. Ultimately, 82 surveys were discarded due to incomplete questionnaires, resulting in 618 usable surveys.

The study included a variety of constructs. Two general age indicators were employed: (i) chronological age and (ii) psychological age. A third age variable, Age_{diff} , is calculated by finding the difference between Age_{chron} and Age_{cog} . Eight consumer variables were employed as well: (iii) average satisfaction, (iv) percent of brands to which the buyer is considered as satisfied, (v) percent of total visits to most preferred brand, (vi) true loyalty as a percent of brands currently in use, (vii) brands which the user is satisfied with and loyal to as a percent of brands currently used, (viii) experience as in the number of brands tried, (ix) number of brands currently used, and (x) number of purchase occasions/visits per year. Finally, four coffee-related variables were utilized: (xi) importance of coffee drinks, (xii) the number of coffee drinks per day (xiii), whether coffee is consumed at home or not, and (xiv) whether coffee is consumed with friends or not.

4.1. The Age indicators

Chronological age, Age_{chron} , refers to the age of a respondent as measured in years. Respondents were asked to write down their year of birth. Then, Age_{chron} was calculated for each respondent by subtracting the year of birth from the current year. Note that the study only included consumers eighteen years or above. The range of Age_{chron} was from 18 to 70 with a mean of 34.69 years and a standard deviation of 0.540.

Cognitive age, Age_{cog} , was also calculated in years. With cognitive age, however, the years refer to how old the respondents perceived themselves to be. To measure cognitive age, the authors utilized age-decade scales, which have the advantage of providing respondents with scale reference points (Van Auken, Barry & Bagozzi, 2006). Specifically, respondents were asked to answer five questions by circling an answer from the following scale for each question: 'teens', '20s', '30s', '40s', '50s', '60s', or '70s or older'. The scale values were taken as the midpoint of each choice, except for the 'teens' and '70s and older' categories, resulting in the following scale values: 'teens'=17, '20s'=24.5, '30s'=34.5, '40s'=44.5, '50s'=54.5, '60s'=64.5, and '70s or older'=75. Consistent with Barak and Schiffman (1981) and Clark, Long, and Schiffman (1999), the five questions were: (i) I feel like I am in my, (ii) I look like I am in my, (iii) I act like I am in my, (iv) my interests are like those of a person in his or her, and (v) I think like a person in his or her. The five items were subjected to a principal components factor analysis with results explaining 83.24% of total variance in a single factor. Cronbach's alpha statistic was 0.949 for the five items, which is indicative of a reliable indicator. Then, as it was necessary to estimate an age in years, Age_{cog} was calculated by summing the five items and dividing by five. Note that only whole numbers rounded down were used. The process used to produce the final scale is consistent with scaling research methods

historically utilized in the transformation of ordinal data into higher-level rating or ratio scales (Thurstone, 1927; Emory, 1980). The range of Age_{cog} was from 17 to 68, with a mean of 33.53 years and a standard deviation of 0.434.

4.2 *The consumer variables*

The satisfaction variable, Sat_{avg}, refers to the average satisfaction rating given by the respondents for each of the thirty-nine coffee shop retailers for which they were considered to be users. To be considered a user, the respondent had to have visited a given coffee shop retailer within the past three months. Respondents were asked to indicate their general experiences with those coffee shop retailers by writing an appropriate number on a scale ranging from one - not at all satisfied - to ten - extremely satisfied (Pleshko & Cronin, 1997; Dawes & Smith, 1985). The Sat_{avg} variable was calculated for each respondent by summing the satisfaction responses and then dividing those satisfaction totals by the number of retail brands used in the past three months. Values for the variable Sat_{avg} ranged from 3.29 to 10, with a mean of 7.22 and a standard deviation of 0.048.

The Sat_% variable refers to the percentage of retail brands each respondent was more than marginally satisfied with. Consistent with Pleshko and Heiens (2015), a buyer was considered satisfied with a given retail brand if the satisfaction rating for the retailer was greater than five on a scale of one to ten. Specifically, for each respondent, the number of retail brands with which the customer was considered satisfied was totaled and then divided by the number of brands they were currently using. Values for the variable Sat_% ranged from 10.5% to 100%, with a mean of 0.769 and a standard deviation of 0.009.

The percent of visits to the most preferred retail brand is referred to as Visits_{%pr}. Respondents were asked to indicate their top five favorite coffee shop retail brands. Then, for each respondent, the total number of visits to retail coffee shops was found, allowing for the calculation of the percentage of total visits allocated to the number one most preferred retailer. Values for the variable Visits_{%pr} ranged from 6.82% to 100%, with a mean of 0.400 and a standard deviation of 0.007.

The true loyalty percent, Brands_{%loy} refers to the number of brands to which the respondent is considered to be truly loyal divided by the number of brands currently in use. Consistent with Dick and Basu (1994), a respondent was considered to be truly loyal if he or she had both high attitude and high behavior towards a given retail brand. Attitude in this study was indicated by preference rankings (see Visits_{%pr} above). Specifically, a respondent was considered to have a high attitude towards a retailer if he or she ranked the given retailer in the top five. Similarly, a respondent was considered to have a high behavior towards a retailer if he or she indicated the given retailer as one of their top five most visited coffee shops. Combining the preferences and visits data together leads to an indication of whether a respondent was truly loyal or not. The maximum number of truly loyal brands was five for each respondent. Brands_{%loy} was calculated by totaling the number of brands towards which the respondent was

considered to have both high attitude and high behavior and then dividing this total by the number of retail brands currently in use. Values for the variable $\text{Brands}_{\%loy}$ ranged from 0% to 100%, with a mean of 0.471 and a standard deviation of 0.010.

The variable $\text{Brands}_{\%s+l}$, or the percentage of retail brands both satisfied and loyal, refers to the number of retail brands which the respondent was considered both truly loyal to (see $\text{Brands}_{\%loy}$ above) and satisfied with (see Sat_{avg} above) divided by the number of brands currently in use. Values for the variable $\text{Brands}_{\%s+l}$ ranged from 0% to 100%, with a mean of 0.426 and a standard deviation of 0.010.

4.3 *The coffee-related variables*

The importance a respondent attached to coffee drinks as a reason for visiting a retail coffee shop, Cofi_{imp} , was calculated on a scale from one (not at all important) to ten (extremely important). Values for the Cofi_{imp} variable ranged from 1 to 10 with a mean of 8.27 and a standard deviation of 0.100.

The variable that indicated whether coffee was consumed at home or not, Cofi_{hom} , was determined by asking the respondents to check a box on the questionnaire. A dichotomous question for Cofi_{hom} was constructed with the response options being either 0/no or 1/yes. With a mean of 0.64 and a standard deviation of 0.019, approximately 64% of respondents indicated that they consumed coffee at home.

Whether coffee was consumed with friends or not, Cofi_{frn} , was determined by asking the respondents to check a box next to the item that asked if he or she consumed coffee with friends while visiting coffee shops. The variable Cofi_{frn} was measured via a dichotomous question with 0/no or 1/yes. With a mean of 0.81 and a standard deviation of 0.022, approximately 81% of respondents consumed coffee with friends on their visits to coffee shops.

The number of coffee drinks per day for each person, Cofi_{day} , was found by asking the respondents to estimate the number of coffee drinks they typically consume per day in any location, including at home, in retail coffee shops, or at work. If a respondent indicated fewer than one coffee drink per day (for example, one per month), a fraction was calculated for the variable. Values for the variable Cofi_{day} ranged from 0.008 to 10 with a mean of 2.07 and a standard deviation of 0.059.

5. Analyses and results

The hypotheses pertaining to the relationship between chronological and cognitive age on a variety of coffee-consumption outcome variables were tested using correlations, t-tests, and F-tests where appropriate. Prior to addressing the hypotheses, the authors investigated the two age indicators to determine their relationship. First, it should be noted that Age_{chron} and Age_{cog} exhibited a Pearson correlation of $r' = +0.88$ with a $p' = 0.000$. A test of mean differences revealed that within the sample, Age_{chron} (34.69 years) was slightly greater than Age_{cog} (33.53 years) with a difference of 1.16 years, $t' = 4.18$,

and the $p=0.000$. This suggests that while the two age indicators are highly correlated, there is a statistically significant difference between the two age measures. Consistent with previous studies, the respondents in the sample perceived their age to be slightly younger than their actual chronological age. This is examined in greater detail.

Table 1 presents a cross-tabulation of the two age indicators after combining the respondents into three groups (76.18% of the sample): age less than thirty, age between 30 and fifty-four, and age fifty-five or greater. A Chi-square test reveals that the age groups are not distributed as would be expected if the respondents' cognitive ages were the same as their chronological ages ($X^2 = 435.4$, $p = 0.000$). Based on the raw numbers provided in the table, calculations show that while 76.18% of the sample perceived their cognitive age to be similar to their actual age, 16.31% of the sample actually perceived themselves to be younger than they actually are. This is especially true with older consumers. As mentioned previously, this finding is consistent with previous research in this area (Barak & Schiffman, 1981; Catterall & Maclaran, 2001; Teller, Gittenberger & Schnedlitz, 2013; Van Auken & Barry, 1995; Van Auken, Barry & Bagozzi, 2006; Wolfe, 1987). A smaller percentage of respondents considered themselves to be older than they actually are (46/613=7.50%).

TABLE 1. Cross-Tabulation of Age_{chron} and Age_{cog}

| | | Age _{cog} | | | Total |
|----------------------|----------|--------------------|----------|-----|-------|
| | | <30 | 30 - <55 | 55+ | |
| Age _{chron} | <30 | 226 | 44 | 1 | 271 |
| | 30 - <55 | 38 | 219 | 1 | 258 |
| | 55+ | 0 | 62 | 22 | 84 |
| Total | | 264 | 325 | 24 | 613 |

$$X^2 = 435.4 \quad d.f. = 4 \quad p' = 0.000$$

Table 2 shows the correlations of age with the consumer related and coffee related variables. Note that sample size varies between 613 and 616. The cut-off criterion for statistical significance is set at $p' = .05$. From Table 2, the statistical tests of correlations reveal that one or both age indicators are related to most of the consumer variables in the study. Specifically, the tests reveal that as age (both chronological and cognitive) increases, respondents (i) are satisfied with more of the retailer brands which they are using, (ii) exhibit higher levels of loyalty, (iii) are more likely to be loyal if satisfied with the brands which they are using, (iv) drink more coffee, and (v) consume more coffee at home.

Also from Table 2, the statistical tests of correlations reveal that one or both age indicators are related to most of the coffee variables in the study. Specifically, the tests reveal that as Age_{chron} increases, respondents (vi) perceive coffee drinks to be more important. Finally, as Age_{cog} increases, respondents (vii) are less likely to consume coffee with friends.

TABLE 2. Correlations of Age with Consumer and Coffee Variables

| | | Age _{chron} | Age _{cog} | Findings |
|---|-----|----------------------|--------------------|--|
| H ₁ : Sat _{avg} | 'r' | .077 | .069 | none |
| | 'p' | .057 | .088 | |
| H ₂ : Sat _% | 'r' | .157 | .147 | as both forms of Age increase, people are satisfied with more of their choices |
| | 'p' | < 0.01 | < 0.01 | |
| H ₃ : Visits _{%pr} | 'r' | -.049 | -.033 | none |
| | 'p' | .224 | .415 | |
| H ₄ : Brands _{%loy} | 'r' | .109 | .118 | as both forms of Age increase, people are more loyal |
| | 'p' | < 0.01 | < 0.01 | |
| H ₅ : Brands _{%s+l} | 'r' | .126 | .125 | as both forms of Age increase, satisfied people are more likely to also be loyal |
| | 'p' | < 0.01 | < 0.01 | |
| H ₆ : Cofi _{imp} | 'r' | .089 | .051 | coffee drinks become more important as Age _{chron} increases |
| | 'p' | < 0.05 | .209 | |
| H ₇ : Cofi _{day} | 'r' | .154 | .161 | as both forms of Age increase, people drink more coffee |
| | 'p' | < 0.01 | < 0.01 | |
| H ₈ : Cofi _{hom} | 'r' | .152 | .129 | as both forms of Age increase, more coffee is consumed at home |
| | 'p' | < 0.01 | < 0.01 | |
| H ₉ : Cofi _{frn} | 'r' | -.057 | -.094 | as Age _{cog} increases, people are less likely to drink coffee with friends |
| | 'p' | .160 | .020 | |

6. Discussion and managerial implications

As we seek to build on our knowledge of consumer behavior, service marketers utilize a wide variety of psychological constructs that promise to facilitate the process of segmenting and targeting important consumer segments. One such construct is the cognitive age measure, a variable that continues to prove to be relevant and viable in an increasingly large number of international markets. The current study extends previous research on cognitive age to the Middle East as well. Adding to the unique contribution of the study is the investigation of the impact of both chronological age and cognitive age on consumer loyalty and consumption patterns within the Kuwait retail coffee shop category.

The first finding of significance is the verification of the existence of the cognitive age construct in the Kuwait market. Although previous studies have validated the presence of distinctive psychological age profiles in international markets, no previous study has validated the use of the cognitive age construct in the Middle East. In addition, the patterns of cognitive age self-designations found in Kuwait are consistent with those discovered in markets throughout the world. Specifically, although there is a strong correlation between chronological age and cognitive age, many Kuwaiti consumers are inclined to view themselves as cognitively younger than their actual chronological age. This tendency appears to be most pronounced in the older age range of 55 plus.

In addition, the study reveals several interesting findings with regard to the impact of age on consumer loyalty and consumption patterns in the retail coffee shop market.

The first significant result is that age tends to be positively related to several indicators of consumer loyalty. Specifically, regardless of how age is measured, including both chronologically and cognitively, older consumers are satisfied with more of the retail brands which they are using. As a result, they also tend to exhibit higher levels of loyalty. Although previous research indicates that not all satisfied consumers necessarily become loyal (Pleshko & Heiens, 2015), there is greater consistency between satisfaction and loyalty in the case of both chronologically and cognitively older consumers, as these consumers are more likely to become loyal if satisfied with the brands which they are using.

Although up to this point the findings are equally consistent for both chronological and cognitive age, some behavioral differences were also observed between the two age constructs. First, it is only the chronologically older consumers who perceive coffee drinks to be more important. This may be at least partly due to the well documented health benefits of coffee. For instance, it has been shown that coffee consumption tends to be associated with lower risks of coronary heart disease, lower risks of congestive heart failure, and lower risks of stroke (O'Keefe et al., 2013). In addition, recent evidence suggests that coffee consumption has a positive effect on long-term memory (Mejia & Ramirez-Mares, 2014). Therefore, it may not be surprising that the chronologically older consumers, for whom the health benefits may be more essential, tend to view coffee as being more important than do the cognitively older consumers.

Nevertheless, as both chronological and cognitive ages increase, respondents consume more coffees per day. This means that coffee is a "mature" drink that appeals to both chronologically and cognitively older consumers, and that these consumers represent a potentially lucrative market for coffee retailers. Unfortunately, however, as both forms of age increase, these consumers tend to consume more coffee at home. Although the well-documented decrease in mobility associated with chronologically older consumers may help explain this pattern, it is more difficult to explain the higher consumption of coffee at home among cognitively older consumers. Finally, as cognitive age increases, respondents are less likely to consume coffee with friends. Perhaps the relative sequestration of the cognitively older consumer is one factor that actually contributes to their self-perceived maturity.

Although the current study helps to shed light on the value of alternative age constructs in the Middle Eastern retail coffee shop market, future studies examining other industries and product and service categories are needed to fully appreciate the use of cognitive age as a segmentation variable in this market. Nevertheless, the implications for retail managers in the Kuwait market are clear. Age is an important segmentation variable, and specific patterns of consumer behavior might be expected depending on consumer age classification. In addition, age is not a uniform chronological construct, but the psychological or cognitive self-perceptions that consumers may hold regarding age can be equally effective as a basis for consumer segmentation. Finally, although there are significant correlations between chronological and cognitive age categories and the consumer behaviors they may be associated with, there are several categories of

behavior that the two constructs impact in different ways. Therefore, both chronological age and cognitive age self-perceptions should be considered when seeking to fully and robustly profile consumer segments.

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