DOES COGNITIVE AGE PLAY A ROLE AT THE INTERSECTION OF AGE AND LEISURE? AN EXPLORATORY ANALYSIS

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ABSTRACT

The authors explore the possibility of cognitive age coming into play in an activity falling at the intersection of age and leisure. Specifically, they study coffee shop customers in Kuwait to determine if people act based on their chronological age or their cognitive age. The authors analyze respondents in matched-groups, where groups with the same cognitive and chronological age are compared to groups where cognitive age differed from chronological age. Findings show that chronological age and cognitive age are highly correlated, but slightly different. Correlations reveal that one or both age indicators are related to most of the coffee variables in the study. However, only three out of fifty-one tests of differences revealed a significant test statistic necessary to support cognitive age. In other words, a vast majority of the tests support chronological age as more relevant than cognitive age, at least in the context of coffee shop customers in Kuwait.

Keywords: Cognitive age, chronological age, age, leisure, coffee shops, Kuwait

INTRODUCTION

Consumer research is governed and characterized by the myriad aspects resulting from interactions among three fundamental factors, viz., age, leisure, and culture (Nataraajan, 2012; 2016). Environmental factors including the technological one further impact these aspects giving rise to even more aspects of consumer behavior (Nataraajan, 2012; 2016). Clearly, one's age as well as perceptions of it are the dominant drivers of consumer behavior. First, and inarguably, age is a fleeting concept and ephemeral in nature; it begins when one is born and ends when one dies. Second, in anybody's life, age profoundly influences the perceptions of leisure and culture. It follows therefore that the continued study of age in the context of consumer research be it from the supply side (e.g., the study of consumer behavior by a for-profit or not-for-profit company) or the demand side (e.g., consumer education) is of paramount salience. This article is an endeavor to contribute to extant knowledge in this regard.

Age, often construed as the time from inception to present, is a well-established demographic variable used extensively both in market research and academic marketing literature. Studies show that the passage of time directly affects human biological properties, cognitive processes, and emotional operations (e.g., Tepper, 1994; John and Cole, 1986; Phillips and Sternthal, 1977). Considering such profound effect of age on consumer behavior, societies actively enforce age restrictions on several buying behaviors and consumptions (e.g., voting, buying cigarettes, movie age limitations, etc.) to protect the public welfare. Marketers also recognize that over time, consumers' needs, lifestyles, attitudes, and aspirations tend to change in subtle ways (Leventhal, 1997). In turn, consumer preferences and choices vary with time as clothing styles (Badaoui et al., 2012), luxury purchasing (Amatulli et al., 2015), leisure travel

destinations (Chen and Shoemaker, 2014), e-banking vs traditional banking (Harris et al., 2016), and medical tourism (Gan and Frederick, 2013).

While the importance of age in consumer research is obvious, it suffers from two major shortcomings. First, age can potentially act as a mediating variable that confounds or masks motivation since all behaviors occur in time. In reality, time can serve as a composite measure correlated with many consumer variables of interest. Second, while time flows in a physically well-measured fashion, predicting behaviors from age-segmentation has proven to be difficult even for elder groups (Tepper, 1994). This has led many researchers to dispute the prominence of age as "passed time" and paving the way to advance "cognitive age" as a modified concept of chronological age (Amatulli et al., 2015; Lin and Xia, 2012; Gwinner and Stephens, 2001; Barak and Schiffman, 1981).

While the common definition of chronological age reflects the passage of time since birth, cognitive age refers to how persons mentally perceive their age. This perceptual nature of cognitive age is more appealing as an explanatory variable for many consumer behaviors. For example, underage teens oftentimes mimic adult behaviors by buying cigarettes and alcohol. This suggests a cognitive age larger than the relevant chronological age (Dalton at al., 2005). Researchers consider cognitive age to affect consumers' self-image, lifestyle, and ultimately behaviors related to consumption than chronological age (Gonzales et al., 2009). Lin and Xia (2012) found cognitive age a determinant of fashion preferences. Thus, marketing efforts may fall short of expected results when chronological age is used as the primary 'age' indicator in situations where cognitive age is more appropriate. For example, Chang (2008) found that young consumers accept products more when the cognitive age of customers matched the perceived age of the model featured in the advertisement.

In line with the title, the core purpose of this research is to check whether or not cognitive age (a relatively newer concept as compared to chronological age) comes into play at the intersection of age and leisure; more specifically, whether consumers act in relation to their chronological age or their cognitive age in purchasing situations that are often conducted in groups and in public. To accomplish this, the authors focus on customers of all ages in coffee shops in Kuwait. Note that this context could be considered to be at the intersection of age and leisure. Activities falling in the area of such intersection could cover the entire gamut from sipping coffee at the local coffee shop to a vacation at a carefully chosen exotic location. Of course, depending on the location, any of such activities could also be at the intersection of age and culture or, to cover the gamut, in the joint spaces created by the intersections of age, leisure, and culture (Nataraajan, 2012; 2016).

CHRONOLOGICAL AGE

Competitive market strategies require an adequate definition of target markets to maintain proper product positioning. Chronological age is among the key demographic segmentation variables used to define target markets, often considered as a well-defined continuous variable that lends itself to be directly applicable to clear and logical market segmentation. The apparent attractiveness of this perspective regarding life cycles is reinforced by the obvious subtle physical and mental changes that actually occur with the progression of age. Not only are many aspects of behavior affected by these changes, but also chronological age itself in world population has been changing.

During the last century, increased life expectancy was propelled by a variety of factors including improved health care & hygiene, and advances in food/water production. These positive conditions resulted in significant numbers of customers in the higher age groups. Although marketing to relatively older customers is still evolving, marketers often perceive senior customers as one contiguous group with similar characteristics. However, research is pointing to the opposite (Sudbury and Simcock, 2009).

Researchers have called for better identification of these elderly groups (Moschis, 1993). Experts are gradually abandoning the typical "Population Pyramid" to use the term "Population Dome" to more accurately reflect the rapidly increasing mature market relative to other age groups (Economists, 2014). When considered with the growing size of these population segments, the older consumers can be a lucrative market segment. According to Oates et al. (1996), as consumers age, their income and spending patterns change dramatically. Older consumers with consistent jobs and sensible saving propensities typically have considerable home equity, private retirement plans, and social security, which allow more discretionary spending compared to younger consumers.

Increasing chronological age can directly influences cognitive and attitudinal processes. Past studies have shown that, as humans age, information processing slows, differences occur in selection of information sources, and the general ability to learn varies (John and Cole, 1986; Lynn and Sternthal, 1977). When considering attitudinal tendencies, Li and Fung (2012) found older customers to more trusting than did younger individuals to maintain social connectedness. Older shoppers, when compared to younger, are more likely to view shopping as a social or leisure activity, rather than a chore (Myers and Lumbers, 2008). Williams and Drolet (2005) found experimental evidence showing ad-recall differences and preference dissimilarities in ad design related to emotions between older and younger consumers. As consumers age, they seem to attach greater importance to contacts such as family and friends (Carstensen et al., 2003).

A large volume of research touches on age and buyer behaviors are generally showing that consumer behaviors often differ from one (chronological) age group to another. Dittmar (2005) cited several studies linking young age to overspending and bankruptcies, and his study found younger consumers to be more prone to compulsive buying than their older counterparts. Consumption differences over time are not evident in every category, but it is common enough to be relevant. For example, older consumers, when compared to younger, are shown to be less demanding, more likely to build long-term relationships, and are more loyal (Berbel-Pineda et al., 2011; Karani and Fraccastoro, 2010). Moreover, progressing age has its affects, with lower mobility and less active lifestyles associated with increasing age (Mathur and Moschis, 2005; Karani and Fraccastoro, 2010).

COGNITIVE AGE

It is common knowledge that when people are younger, they long to become older, and vice-versa. And, by and large, they endeavor to behave as such. The perception of "cognitive age" is aided by this desire, although genetic factors can make "cognitive age" real and factual (e.g., a child prodigy, a youthful looking 50-year-old, a 70-year-old marathoner etc.).

Recent research suggests that, with relatively higher net worth than other age groups, older consumers may act or aspire to mimic behaviors often found in younger age groups (Guido et al., 2014; Barak and Rahtz, 1989). Considering that chronological age has been shown to influence consumer cognitions, attitudes and behaviors, there are increasing numbers of instances when it

can be overshadowed by a similar but distinct construct. Cognitive age, originally coined by Tuckman and Lorge (1954), reflects the mental perception of age and the way it relates to self-image. Cognitive age can diverge from chronological age as our lifespans continue to expand. Social forces, such as media and pop culture, continue to emphasize youth and vitality, leading "desired" age to be increasingly different and younger from chronological age (i.e., "Pepsi, the drink of the younger generation"). Alternatively, in our ever more connected world younger people are exposed to age-restricted products and services long before it is appropriate resulting in aspiring to a perceived age that may be larger than their actual chronological age.

Empirical research has uncovered disparities between cognitive and chronological age in a variety of settings, revealing that cognitive age is correlated with both attitudes and behaviors (Kohlbacher and Cheron, 2012). In this regard, incongruence between chronological age and cognitive age was offered to explain seemingly contradictory behaviors of consumers of older groups. Moschis (1991) revealed that while older customers have relatively larger net-worth and discretionary income, actual spending was inconsistent due to the variability in their psychological perceptions of their age. Furthermore, elderly females with active lifestyles were found to be cognitively younger scoring d higher on life satisfaction than less active females (Clark et al., 1999). Individuals with a younger cognitive age expressed higher levels of self-respect and confidence compared to those with an older cognitive age (Barak and Rahtz, 1989). Moreover, consumers with a higher cognitive age may visit fewer unfamiliar venues outside the home than do old consumers with a younger cognitive age (Guido et al., 2014). More importantly, Barak and Schiffman (1981) called for cognitive age to be investigated cross-culturally to identify differences across cultures and the impact of these differences on consumer behavior. Research of mismatch between cognitive age and chronological age was also evident cross-culturally (Barak et al., 2001).

In light of above discussion, it could be inferred that consumer cognition, emotions and behaviors are correlated with age, especially as the plethora of research on chronological and cognitive age indicates a direct influence of age, actual or perceived, on consumer behaviors. However, it is still debatable whether chronological age exert more influence on these constructs than cognitive age. In ideal situations where chronological age and cognitive age are aligned in the target market segments, it would seem that marketers do not need to differentiate between the two when designing their marketing mix. However, as cognitive age becomes more influential on consumer behavior while varying considerably among members of the same age group, it would be prudent to state that more investigation is warranted across product categories before concrete conclusions can be drawn.

Further, while age is a prime influence on how consumers behave (Settersten and Mayer, 1997), cognitive age is considered as the basis of "gerontographics", which aims to uncover age-relevant dimensions suitable for appropriate market segmentation (Moschis et al., 2011; Moschis, 1992). Barak and Rahtz (1990) found a significant relationship between cognitive age and perceptions of health care quality and several psychographic variables. Mathur and Moschis (2005) explored the relationship between cognitive age and chronological age and found that major life and age marker events reduced the disparity between cognitive age and chronological age. According to Sim Ong et al. (2009), Asian consumers viewed themselves generally many years younger than their actual age, while consumption of age-defying products was lower for those with younger cognitive age.

As indicated earlier, the setting for our study are the coffee shops in Kuwait. Such shops constitute a common meeting place for people of all ages. People frequent a coffee shop for a variety of reasons: to meet friends, study, grab a quick pick-me-up, relax, get out of office or home

for a break, business meetings, etc. Regardless of the purpose, and whether the buyer is alone or with a group, the purchase/consumption takes place in a public setting. Research has shown that people act or decide differently when purchases or consumption is done publicly (Bearden and Etzel, 1982). It may be that coffee shop consumers will act based on their cognitive age - either younger or older than the chronological - due to the presence of others during the consumption process. These friends or colleagues may act as a reference group during the consumption occasion and lead the consumer to act differently than they normally might. For example, bottled water can have a wide price range where higher end brands cost more than 800% of lower end brands. This presents buyers with an opportunity to engage in conspicuous consumption.

Given the foregoing findings, and the chosen context, it seems reasonable to believe that buyers will act similar to their cognitive age rather than their chronological age across a variety of coffee consumption-related variables (H_R). In this research, the authors explore the credibility of this belief, and as such, no other separate and formal hypothesis is stated.

MODUS OPERANDI

The stated purpose of this study is accomplished by comparing the tests between matched age groups to a normative guide derived from correlations of age with a variety of consumption-related variables. The authors focus on coffee drinkers of all ages, who score high on power distance, fatalism, and collectivism (Raven and Welsh, 2004; Hofstede, 1980). Initially, the coffee consumption-related variables are correlated with age, both chronological and cognitive. This gives a directional baseline for use in the primary analysis (i.e., as age increases, so does time spent in coffee shops increase). Then, by comparing the matched groups on these variables (group with same chronological and cognitive age vs. group with different chronological and cognitive age), the authors can determine which age variable is more relevant to each of the consumption variables.

SAMPLE, CATEGORY, AND DATA COLLECTION

The data for the current study are derived from a group of consumers who are coffee drinkers in the State of Kuwait. Coffee drinking is an integral part of Arabic customs that has undergone significant modernization like almost every other aspect of Kuwaiti life after the discovery of oil. The focus of this research is on western-style coffee shops in Kuwait. At the time of the study, thirty-nine western-style coffee shop retail brands (i.e. Caribou Coffee, Costa Coffee) were operating in Kuwait. Prior to the study, these thirty-nine retailer brands were operating approximately two hundred and fifty western-style coffee shops; including standard coffee shops, eateries, and specialty foods shops (Kuwait Chamber of Commerce, 2009 & 2011). Any retailer brand is included in the study if coffee is one of the main reasons that consumers might frequent the business. The list of coffee brands originated from a variety of sources: the Kuwait Chamber of Commerce, from activity websites in Kuwait, and from exploratory interviews with coffee shop users.

The authors selected two available descriptors, age and gender, to provide guidelines for selecting a sample that would reflect the coffee-drinking population of Kuwait. Secondary data sources provided the age and gender statistics used as guidelines for the percentages of adults to be included in each age/gender category (CIA World Fact Book, 2011; Kuwait Public Authority for Civil Information, 2011). A test of the expected versus sample frequencies reveals no

differences in age and gender were evident between the sample and the population (X^2=2.03, p=0.37).

Regarding the potential sample respondents, only those coffee drinkers who had visited a western-style coffee shop within the past three months were included in the study. Data were collected using personal interviews to administer a standard questionnaire. About seventy volunteer and paid workers associated with Kuwait University were trained and assigned the task of collecting information from ten respondents each taken from their family and friends. The ten respondents for each interviewer were to be collected in the following ratios in order to match the adult population in Kuwait: two young males, two young females, two middle-aged males, two middle-aged females, one older male, and one older female. Approximately 82 surveys were discarded due to incomplete questionnaires, resulting in 618 usable respondent surveys.

MEASUREMENT

The study included a variety of constructs. Note the twenty measures' names are shown in parentheses. There are two general age indicators (i) chronological age (*Age*$_{chr}$) and (ii) cognitive age (*Age*$_{cog}$). Also, the eighteen coffee-related variables are (iii) minutes per visit (*Min*), (iv) spending per visit (*Spend*), (v) the importance of coffee drinks (*Cofi*$_{imp}$), (vi) whether coffee is consumed at home or not (*Cofi*$_{hom}$), (vii) whether coffee is consumed with friends or not (*Cofi*$_{frn}$), (viii) the number of coffee drinks per day (*Cofi*$_{day}$), (ix) coffee drinks as percent of total drinks (*Cofi*$_{\%dr}$), (x) coffee shop coffees as a percent of coffee drinks (*Cofi*$_{\%cs}$), (xi) the percent of coffee shop visits to standard coffee shops (*Cofi*$_{\%st}$), (xii) the percent of coffee shop visits to specialty-food coffee shops (*Cofi*$_{\%sp}$), (xiii) the percent of coffee shop visits to eatery coffee shops (*Cofi*$_{\%ea}$), (xiv) the average satisfaction (*Sat*$_{avg}$), (xv) the percent of brands the buyer is using and considered as satisfied (*Sat*$_{\%cu}$), (xvi) the true loyalty percent (*Brands*$_{\%loy}$), (xvii) the brands for which the user is satisfied and loyal (*Brands*$_{\%s+l}$), (xviii) consumer experience as measured in brands tried (*Brands*$_{\#tr}$), (xix) he number of brands a respondent is currently using (*Brands*$_{\#cu}$), and (xx) the number of purchase occasions/visits to coffee shops per year (*Visits*$_{tot}$).

The Age Indicators

Chronological age (Age$_{chr}$*).* Respondents were asked to write down their year of birth in hopes of getting a more honest response than simply asking the age. Then, Age$_{chr}$ was calculated for each respondent by subtracting the year of birth from the current year. Note that the study only considered those eighteen years or above and used whole numbers which were rounded down for the age. The range of Age$_{chr}$ was from 18 to 70 with a mean of 34.69 years and a standard mean error of 0.540.

Cognitive age (Age$_{cog}$*).* Previously, studies have included a variety of dimensions that represent cognitive age: feeling, looks, thoughts, acts, and interests (Wilkes, 1992; Barak and Schiffman, 1981). To be thorough, this study includes all five of the items. To measure cognitive age 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 used in calculating Age$_{cog}$: 'teens'=17, '20s'=24.5, '30s'=34.5, '40s'=44.5, '50s'=54.5, '60s'=64.5, and '70s or older'=75. 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 their…, and (v) I think like a person in their ….

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 is 0.949 for the five items which is indicative of a reliable indicator. In order to estimate perceived age in years, an arithmetic mean is found for the five items. Note that only whole numbers that were rounded down were used. The level of this scale is arguable. However, even if it is interval or ratio, the transformation of ordinal/nominal data into higher-level rating or ratio scales has a history in scaling research (Emory, 1980; Thurstone, 1927). The range of Age_{cog} was from 17 to 68 with a mean of 33.53 years and a standard mean error of 0.434.

The Outcome/Consumption Variables

The time that a respondent spends at each visit to a coffee shop (*Min*) is measured in minutes. Respondents are asked to estimate the average time that he/she takes inside the coffee shop on an average visit by writing the number of minutes in a blank. Min ranged from 2 to 240 minutes with a mean of 58.55 minutes and a standard mean error of 1.446.

The amount of money that a respondent spends per visit (*Spend*) is measured in Kuwaiti Dinars (KD). Respondents are asked to estimate the average amount of money that he/she spends during an average visit by writing the number of dinars in a blank. Spend ranged from one to 20 KD with a mean of KD4.34 and a standard mean error of 0.099.

The importance to which a respondent attaches to coffee drinks at the coffee shops as a reason for visiting ($Cofi_{imp}$) refers to the rating for the respondents on a scale from one (not at all important) to ten (extremely important). $Cofi_{imp}$ ranged from 1 to 10 with a mean of 8.27 and a standard mean error of 0.100.

Whether coffee is consumed at home or not ($Cofi_{hom}$) is determined by asking the respondents to check a box next to the item if he/she uses coffee at home. The $Cofi_{hom}$ variable ranged from 0 (no) to 1 (yes) with a mean of 0.64 and a standard mean error of 0.019. Therefore, approximately 64% of respondents use coffee at home.

Whether coffee is consumed with friends or not ($Cofi_{frn}$) is determined by asking the respondents to check a box next to the item if he/she uses coffee with friends while visiting coffee shops. The $Cofi_{frn}$ ranged from 0 (no) to 1 (yes) with a mean of 0.81 and a standard mean error of 0.022. Therefore, approximately 81% of respondents use coffee with friends at coffee shops.

The number of coffee drinks per day for each person ($Cofi_{day}$) is found by asking the respondents to estimate the number of coffees they have per day by writing a number in a blank. It was possible to have fractions (i.e. 1/month, etc.). The coffee drinks could be anywhere: home, coffee shops, at work, etc. The $Cofi_{day}$ ranged from 0.008 to 10 with a mean of 2.07 and a standard mean error of 0.059.

The number of coffee drinks as a percentage of total drinks per day ($Cofi_{\%dr}$) is found by dividing the number of coffees per day (see $Cofi_{day}$ above) by the total drinks per day for each person. The respondents are asked how many drinks they normally have in a variety of categories per day: coffee, water, milk, soda, etc. The total of the drinks in the categories is taken as an estimate of drinks per day. $Cofi_{\%dr}$ ranged from 0.1% to 100% with a mean of 0.181 and a standard mean error of 0.005. Therefore, an estimated 18% of all drinks are some form of coffee.

The number of coffee shop drinks as a percentage of coffee drinks ($Cofi_{\%cs}$) is found by dividing the number of visits per day to coffee shops by the coffee drinks per day (see $Cofi_{day}$ above). $Cofi_{\%cs}$ ranged from 0.3% to 100% with a mean of 0.283 and a standard mean error of 0.186. Therefore, approximately 28% of all coffee drinks are purchased in coffee shops.

The number of visits to the coffee shop sub-categories is found by finding the visits to coffee shop brands for each sub-category and dividing by the total coffee shop visits. Note, the categories were established by MBA students working in groups to determine the number of categories within the western coffee shop market. Inter-group discussions arrived at the following three categories: (i) standard coffee shops (i.e., Starbucks, Gloria Jeans), (ii) specialty foods coffee shops (i.e., Krispy Kreme), or (iii) eatery coffee shops (i.e., Casper & Gambini). Three separate class sections then assigned the coffee shops to the specific categories. Then, the number of visits as a percentage of total visits to (i) standard coffee shops (*Cofi*$_{\%st}$), (ii) specialty foods coffee shops (*Cofi*$_{\%sp}$), and (iii) eatery coffee shops (*Cofi*$_{\%ea}$) are found by dividing the totals for each sub-category for each respondent by the total visits for each respondent. Cofi$_{\%st}$ ranged from 0% to 100% with a mean of 0.624 and a standard mean error of 0.009. Cofi$_{\%sp}$ ranged from 0% to 95% with a mean of 0.286 and a standard mean error of 0.008. Cofi$_{\%ea}$ ranged from 0% to 89% with a mean of 0.101 and a standard mean error of 0.005.

The satisfaction variable (*Sat*$_{avg}$) refers to the average satisfaction rating for the respondents for each of the thirty-nine coffee shop retailers for which they were considered users. To be considered a user, the respondent had to have visited a given coffee shop brand in the past three months. Respondents were asked to indicate their general experiences with those coffee shop retailers which they had visited in the past three months by writing an appropriate number on a scale ranging from one (not at all satisfied) to ten (extremely satisfied) (Pleshko and Cronin, 1997; Dawes and 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 brands they were currently using. Sat$_{avg}$ ranged from 3.29 to 10 with a mean of 7.22 and a standard mean error of 0.048.

The percent of brands buyer is considered as satisfied (*Sat*$_{\%cu}$) refers to the number of brands with which the respondent is satisfied divided by the number of brands that the respondent is currently using (Pleshko & Heiens, 2015). A buyer is considered satisfied with a given brand if the satisfaction rating for the brand is greater than five on a scale to ten (see Sat$_{avg}$ above). For each respondent the number of brands for which the customer is considered satisfied is totaled and then divided by the number of brands they were currently using. Sat$_{\%cu}$ ranged from 10.5% to 100% with a mean of 0.769 and a standard mean error of 0.009.

The true loyalty percent (*Brands*$_{\%loy}$) refers to the number of brands for which the respondent is considered to be truly loyal divided by the number of brands currently using. A respondent is considered to be truly loyal if he/she has both high attitudes and high behaviors towards a given brand (Pleshko, 2006; Dick and Basu, 1994). Attitudes in this study are indicated by preference rankings. A respondent is considered to have a high attitude towards a brand if he/she has ranked the given brand in the top five. Similarly, a respondent is considered to have a high behavior towards a brand if he/she has indicated the given brand has been one of the top five most visited coffee shops. Combining the preferences and visits data together leads to an indication of whether a respondent is truly loyal or not. The maximum number of truly loyal brands is five for each respondent. Brands$_{\%loy}$ is calculated by totaling the number of brands to which the respondent is considered to be both high attitudes and high behaviors and then dividing this total by the number of brands currently using. Brands$_{\%loy}$ ranged from 0% to 100% with a mean of 0.471 and a standard mean error of 0.010.

The brands for which the user is satisfied and loyal (*Brands*$_{\%s+l}$) refers to the number of brands for which the respondent is considered both truly loyal (see Brands$_{\%loy}$ above) and satisfied (see Sat$_{avg}$ above) divided by the number of brands currently using (Pleshko and Heiens, 2015).

$Brands_{\%s+l}$ is calculated by totaling the number of brands to which the respondent is considered to be both satisfied and truly loyal and then dividing this total by the number of brands currently using. $Brands_{\%s+l}$ ranged from 0% to 100% with a mean of 0.426 and a standard mean error of 0.010.

The consumer experience variable ($Brands_{\#tr}$) refers to the number of brands out of thirty-nine that the respondent has tried at least once. Respondents are asked to indicate with a checkmark which retail coffee shops they had visited at some time in their lives in the Kuwait market. $Brands_{\#tr}$ ranged from 1 to 37 with a mean of 11.48 and a standard mean error of 0.229.

The number of brands a respondent is currently using ($Brands_{\#cu}$) refers to the total number of brands out of thirty-nine which the respondent has visited at least once in the past three months. Respondents are asked to estimate how many times he/she had visited each of the coffee shops in the past three months. If a coffee shop has a number greater than zero, then the respondent is considered to be a current user of that shop. $Brands_{\#cu}$ ranged from 1 to 27 with a mean of 9.07 and a standard mean error of 0.185.

The number of purchase occasions/visits to coffee shops per year ($Visits_{tot}$) is found by asking respondents to estimate their usage on a three-month period (see $Brands_{\#cu}$ above) and then adjusting it for a full year. $Visits_{tot}$ ranged from three to 780 coffee shop visits per year, with a mean of 131.73 and a standard mean error of 5.821.

ANALYSES

The study attempts to provide supporting evidence for the general hypothesis pertaining to whether people act based on their chronological age or their cognitive age. Prior to addressing the hypothesis, the authors proceed by performing two analyses. First, the two age indicators are investigated to determine their relationship, if any. Note that the basic measurement process and statistics for the two age indicators were presented in the measures section. Second, the two age indicators are then correlated with the eighteen outcome variables described in the measures section (i) to determine if and how the age indicators are correlated with the outcomes and more importantly (ii) to establish a baseline for comparison purposes in testing for the dominance of either chronological or cognitive age. These analyses follow.

Age_{cog} and Age_{chr} exhibited a Pearson correlation of r=+0.88 with a 'p'=0.00. A test of mean differences reveals that Age_{chr} (34.69 years) is slightly greater than Age_{cog} (33.53 years) with a mean difference of 1.16 years ('t'=4.18, 'p'=0.00). This suggests that, while the two age indicators are highly correlated, they are slightly different. In other words, the respondents in the sample perceive their age to be slightly younger than their actual chronological age.

A similar but different perspective in comparing the age indicators is shown in Table 1, which presents a cross-tabulation of the two age indicators after combining the respondents into three similar age groups for each: age less than thirty, age between thirty and fifty-four, and age fifty-five or greater. These categories will be used later to test whether people act their chronological age or not (H_R). As with the t-test previously mentioned, a statistical test reveals that the age groups are not distributed as would be expected if the respondents perceived their ages to be the same as their chronological ages (X^2=435.4, 'p'=0.00). Closer inspection of the table reveals that most (76%) of the sample perceives their age to be similar to their actual age but that a significant portion (34%) considers themselves to be younger or older.

Table 1
Cross-tabulation of Age_{chr} and Age_{cog}

		Age_{cog}			
		<30	30 - <55	55+	Total
Age_{chr}	<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, d.f.=4, 'p'=0.000					

The initial tests for baseline purposes is predicated on age being relevant to the various outcome variables. It is necessary to show that age correlates with the outcome variables in order to proceed onward to test the hypothesis. In this case, we are not concerned with the direction of the correlations, just that they are significant. A few, but not all, of these correlations were reported in Pleshko and Heiens (2015). All thirty-six correlations are revealed in Table 2. Note with the table, the 'n' values are between 613 and 616. In total, 30 of 36 (83.33%) outcome variable correlations exhibit a *p*-value of 0.05 or less. Obviously, the t-tests show that both Age_{chr} and Age_{cog}, are relevant predictors of the coffee consumption/outcome variables. It is important to note that in the case of every variable Age_{chr} and Age_{cog} move in the same direction. An explanation of the baseline results follows.

From table 2, the statistical tests of correlations reveal that one or both age indicators are related to most of the outcome variables in the study. As it is useless to include variables without a correlation to age in the matched-group analyses, those without a significant correlation are excluded from further study. In this case, Table 2 reveals that $Cofi_{\%st}$ exhibited an unimportant correlation and is eliminated from further analyses, leaving seventeen outcome variables in the remainder of the study. The direction of the correlations shown in Table 2 are used to develop the expected direction of the differences between the matched groups in the analyses to follow.

To summarize the expectations to be used in the matched-pair comparisons, the tests summarized in Table 2 reveal the following. The relationship with age is shown in parentheses. As age increases then people (i) take more time with each visit to a coffee shop (+), (ii) spend more money with each visit to a coffee shop (+), (iii) perceive coffee drinks to be more important (+), (iv) consume more coffee at home (+), (v) consume less coffee with friends (-), (vi) drink more coffees per day (+), (vii) consume coffee as a larger percentage of total drinks (+), (viii) consume fewer coffees from coffee shops (-), (ix) consume fewer coffees from specialty foods coffee shops (-), (x) consume more coffees from eatery coffee shops (+), (xi) exhibit a higher level of satisfaction with those brands which they are using (+), (xii) are satisfied with more of those brands that they are using (+), (xiii) exhibit higher levels of loyalty (+), (xiv) are more likely to be satisfied and loyal to those brands which they are using (+), (xv) are less likely to try new coffee shops (-), (xvi) are currently using fewer brands (-), and (xvii) visit coffee shops less often (-). The reader is referred to Table 6 towards the end for a summary of the expectations and the matched-group results.

Table 2
CORRELATIONS OF AGE WITH OUTOME VARIABLES

	Age_{chr}		Age_{cog}		Findings
	'r'	*' 'p*	*'r'*	*' 'p*	
Min	0.120	0.003	0.071	0.080	as Age increases, so does coffee shops time
Spend	0.156	0.000	0.147	0.000	as Age increases, so spending in coffee shops
$Cofi_{imp}$	0.089	0.028	0.051	0.210	as Agechr increases coffee drinks more important
$Cofi_{hom}$	0.152	0.000	0.129	0.000	as Age increases, more coffee consumed at home
$Cofi_{frn}$	-0.057	0.160	-0.094	0.020	as Age_{cog} increases, people are less coffee with friends
$Cofi_{day}$	0.154	0.000	0.161	0.000	as Age increases, people drink more coffee
$Cofi_{\%dr}$	0.209	0.000	0.159	0.000	as Age increases, more coffee drinks
$Cofi_{\%cs}$	-0.216	0.000	-0.202	0.000	as Age increases, fewer coffees in coffee shops
$Cofi_{\%st}$	-0.023	0.572	-0.014	0.730	none
$Cofi_{\%sp}$	-0.148	0.000	-0.130	0.000	as Age increases, fewer coffees in specialty foods shops
$Cofi_{\%ea}$	0.206	0.000	0.140	0.000	as Age increases, more coffees in eateries
Sat_{avg}	0.077	0.057	0.069	0.090	as Age_{chr} increases, people are more satisfied
$Sat_{\%cu}$	0.157	0.000	0.147	0.000	as Age increases, people satisfied with more of their choices
$Brands_{\%loy}$	0.109	0.007	0.118	0.000	as Age increases, people more loyal
$Brands_{\%s+l}$	0.126	0.002	0.125	0.000	as Age increases, satisfied people more likely to be loyal
$Brands_{\#tr}$	-0.202	0.000	-0.196	0.000	as Age increases, people less likely to try new coffee shops
$Brands_{\#cu}$	-0.134	0.001	-0.147	0.000	as Age increases, people using fewer brands
$Visits_{tot}$	-0.281	0.000	-0.241	0.000	as Age increases, people visit coffee shops less often

The primary hypothesis H_R suggests that people will act similarly to their cognitive age rather than their chronological age. This is tested using matched groups, as shown in Table 1, where the groups are paired by chronological age and cognitive age. The t-tests pair an expected group (i.e. middle-Age_{chr} + middle-Age_{cog}) with the variant group (i.e. middle-Age_{chr} + young-Age_{cog}) to determine if differences across the seventeen remaining coffee variables are evident. The three group combinations with large enough observations are the following:

(i) (middle-Age_{chr} + middle-Age_{cog}) vs. (middle-Age_{chr} + young-Age_{cog}),
(ii) (older-Age_{chr} + older-Age_{cog}) vs. (older-Age_{chr} + middle Age_{cog}), and
(iii) (young-Age_{chr} + young-Age_{cog}) vs. (young-Age_{chr} + middle-Age_{cog}).

Again, the reader is referred to Table 6 towards the end for a summary of the expectations and the matched-group results.

For the (middle-Age_{chr} + middle-Age_{cog}) with the (middle-Age_{chr} + young-Age_{cog}) comparison, Table 3 reveals the t-tests with the seventeen outcome variables. Based on the findings from Table 2, if people acted based on their cognitive age, then we would expect the (middle-Age_{chr} + young-Age_{cog}) group to have *smaller* means than the other group on Min, Spend,

$Cofi_{imp}$, $Cofi_{hom}$, $Cofi_{day}$, $Cofi_{\%dr}$, $Cofi_{\%ea}$, Sat_{avg}, $Sat_{\%cu}$, $Brands_{\%loy}$, and $Brands_{\%s+l}$ while having *larger* means than the other group on $Cofi_{frn}$, $Cofi_{\%cs}$, $Cofi_{\%sp}$, $Brands_{\#tr}$, $Brands_{\#cu}$, and $Visits_{tot}$.

The results of this pairing show little evidence to support H_R, with only one of 17 (5.88%) tests significant at the p=.05 level. This is almost what would be expected by chance.
The results present evidence suggesting, with the (middle-Age_{chr} + middle-Age_{cog}) vs. the (middle-Age_{chr} + young-Age_{cog}) pairing, that the sixteen non-significant tests provide no evidence supporting cognitive age as the driver of coffee consumption. In other words, most of the outcome-variable means for the perceived-younger group are not different from the older group, as would be expected if people act based on their chronological age.

Table 3

TEST RESULTS: Middle-Age_{chr} + Middle-Age_{cog} vs. Middle-Age_{chr} + Young-Age_{cog}

Outcomes	Mean: $MAge_{chr}$+ $MAge_{cog}$ (n=219)	Mean: $MAge_{chr}$+ $YAge_{cog}$ (n=38)	*'t'*	*d.f.*	*'p'*	Findings
Min	63.49	52.63	2.178	255	0.030	$MAge_{chr}$+$MAge_{cog}$ > $MAge_{chr}$+$YAge_{cog}$
Spend	4.62	4.64	-0.055	255	0.960	none
$Cofi_{imp}$	8.62	8.63	-0.026	255	0.980	none
$Cofi_{hom}$	0.62	0.74	-1.421	254	0.160	none
$Cofi_{frn}$	0.84	0.74	1.340	254	0.190	none
$Cofi_{day}$	2.30	2.18	0.421	255	0.670	none
$Cofi_{\%dr}$	0.20	0.19	0.474	255	0.640	none
$Cofi_{\%cs}$	0.24	0.25	-0.076	255	0.940	none
$Cofi_{\%sp}$	0.29	0.26	0.848	255	0.400	none
$Cofi_{\%ea}$	0.10	0.12	-1.086	255	0.280	none
Sat_{avg}	7.19	7.35	-0.755	253	0.450	none
$Sat_{\%cu}$	0.77	0.79	-0.552	253	0.580	none
$Brands_{\%loy}$	0.46	0.42	0.896	255	0.370	none
$Brands_{\%s+l}$	0.42	0.39	0.632	255	0.530	none
$Brands_{\#tr}$	11.70	13.42	-1.668	255	0.100	none
$Brands_{\#cu}$	9.39	9.84	-0.526	255	0.600	none
$Visits_{tot}$	102.93	129.68	-1.360	255	0.180	none

For the (old-Age_{chr} + old-Age_{cog}) with the (old-Age_{chr} + middle-Age_{cog}) comparison, Table 4 reveals the t-tests with the seventeen coffee outcome variables. From the findings shown in Table 2, if people acted based on their cognitive age, then we would expect the (old-Age_{chr} + middle-Age_{cog}) group to have *smaller* means than the other group on Min, Spend, $Cofi_{imp}$, $Cofi_{hom}$, $Cofi_{day}$, $Cofi_{\%dr}$, $Cofi_{\%ea}$, Sat_{avg}, $Sat_{\%cu}$, $Brands_{\%loy}$, and $Brands_{\%s+l}$ while having *larger* means than the other group on $Cofi_{frn}$, $Cofi_{\%cs}$, $Cofi_{\%sp}$, $Brands_{\#tr}$, $Brands_{\#cu}$, and $Visits_{tot}$. The results of this

pairing again show little evidence to support H_R, with only 2 of 17 (11.76%) tests significant at the p=.05 level. This is only slightly more than would be expected by chance. The results present evidence suggesting, with the (old-Age_{chr} + old-Age_{cog}) vs. the (old-Age_{chr} + middle-Age_{cog}) pairing, that the fifteen non-significant tests provide no evidence supporting cognitive age as the driver of coffee consumption. In other words, most of the outcome-variable means for the perceived-younger group are not different from the older group, as would be expected if people act based on their chronological age.

Table 4

TEST RESULTS: Old-Age_{chr} + Old-Age_{cog} vs. Old-Age_{chr} + Middle-Age_{cog}

Outcomes	Mean: $OAge_{chr}$+ $OAge_{cog}$ (n=22)	Mean: $OAge_{chr}$+ $MAge_{cog}$ (n=62)	*'t'*	*d.f.*	*'p'*	Findings
Min	59.090	65.850	-0.748	82	0.460	none
Spend	4.480	5.190	-0.932	82	0.350	none
$Cofi_{imp}$	7.680	8.450	-1.232	82	0.220	none
$Cofi_{hom}$	0.860	0.770	0.891	82	0.380	none
$Cofi_{frn}$	0.640	0.730	-0.782	82	0.440	none
$Cofi_{day}$	2.200	2.400	-0.472	82	0.640	none
$Cofi_{\%dr}$	0.190	0.210	-0.662	82	0.510	none
$Cofi_{\%cs}$	0.150	0.140	0.143	82	0.890	none
$Cofi_{\%sp}$	0.160	0.220	-1.320	82	0.190	none
$Cofi_{\%ea}$	0.120	0.180	-1.078	82	0.280	none
Sat_{avg}	7.510	7.480	0.100	82	0.920	none
$Sat_{\%cu}$	0.900	0.840	1.190	82	0.240	none
$Brands_{\%loy}$	0.650	0.540	1.521	82	0.130	none
$Brands_{\%s+l}$	0.620	0.480	1.961	82	0.050	$OAge_{chr}$+$OAge_{cog}$ > $OAge_{chr}$+ $MAge_{cog}$
$Brands_{\#tr}$	6.180	8.520	-1.863	82	0.070	none
$Brands_{\#cu}$	5.270	7.610	-2.117	82	0.040	$OAge_{chr}$+$OAge_{cog}$ < $OAge_{chr}$+ $MAge_{cog}$
$Visits_{tot}$	64.450	73.610	-0.384	82	0.700	none

For the (young-Age_{chr} + young-Age_{cog}) with the (young-Age_{chr} + middle-Age_{cog}) comparison, Table 5 reveals the t-tests with the seventeen outcome variables. Based on the findings in Table 2, if people acted based on their cognitive age, then we would expect the (young-Age_{chr} + middle-Age_{cog}) group to have *larger* means than the other group on Min, Spend, $Cofi_{imp}$, $Cofi_{hom}$, $Cofi_{day}$, $Cofi_{\%dr}$, $Cofi_{\%ea}$, Sat_{avg}, $Sat_{\%cu}$, $Brands_{\%loy}$, and $Brands_{\%s+l}$ while having *smaller* means than the other group on $Cofi_{frn}$, $Cofi_{\%cs}$, $Cofi_{\%sp}$, $Brands_{\#tr}$, $Brands_{\#cu}$, and $Visits_{tot}$. The results of this pairing offers no evidence to support H_R, with none of 17 (0.00%) tests significant at the p=.05 level. The results present evidence suggesting, with the (young-Age_{chr} + young-

Age_{cog}) vs. the (young-Age_{chr} + middle-Age_{cog}) pairing, that the seventeen non-significant tests provide no evidence supporting cognitive age as the driver of coffee consumption. In other words, most of the outcome-variable means for the perceived-younger group are not different from the older group, as would be expected if people act based on their chronological age.

Table 5

TEST RESULTS: Young-Age_{chr} + Young-Age_{cog} vs. Young-Age_{chr} + Middle-Age_{cog}

Outcomes	Mean: $YAge_{chr}$+ $YAge_{cog}$ (n=226)	Mean: $YAge_{chr}$+ $MAge_{cog}$ (n=44)	*'t'*	*d.f.*	*'p'*	Findings
Min	52.99	58.86	-1.061	268	0.290	none
Spend	3.83	4.38	-1.611	268	0.110	none
$Cofi_{imp}$	7.92	8.18	-0.610	268	0.540	none
$Cofi_{hom}$	0.56	0.71	-1.908	268	0.060	none
$Cofi_{frn}$	0.83	0.80	0.319	268	0.750	none
$Cofi_{day}$	1.76	1.93	-0.790	268	0.430	none
$Cofi_{\%dr}$	0.15	0.15	0.360	267	0.720	none
$Cofi_{\%cs}$	0.37	0.36	0.249	268	0.800	none
$Cofi_{\%sp}$	0.31	0.32	-0.113	268	0.910	none
$Cofi_{\%ea}$	0.08	0.07	0.519	268	0.600	none
Sat_{avg}	7.12	7.27	-0.757	268	0.450	none
$Sat_{\%cu}$	0.73	0.75	-0.520	268	0.600	none
$Brands_{\%loy}$	0.46	0.44	0.646	268	0.520	none
$Brands_{\%s+l}$	0.41	0.40	0.303	268	0.760	none
$Brands_{\#tr}$	11.90	13.11	-1.397	268	0.160	none
$Brands_{\#cu}$	9.24	9.93	-1.013	268	0.310	none
$Visits_{tot}$	177.70	169.43	0.292	268	0.770	none

To help summarize the findings with the paired t-tests, the following Table 6 has been constructed. The results of all three matched-pair analyses reveal the same thing: little or no support that people act based on their cognitive age. Therefore, the authors must conclude that people act based on their chronological age in coffee consumption-related activities.

Table 6

SUMMARY OF PAIRED-GROUP FINDINGS

		(1) $MAge_{chr}$ + $MAge_{cog}$ vs (2) $MAge_{chr}$ + $YAge_{cog}$		(3) $OAge_{chr}$ + $OAge_{cog}$ vs (4) $OAge_{chr}$ + $MAge_{cog}$		(5) $YAge_{chr}$ + $YAge_{cog}$ vs (6) $YAge_{chr}$ + $MAge_{cog}$	
Outcomes	Age		(1) vs. (2)		(3) vs. (4)		(5) vs. (6)
	Findings	Expected	Findings	Expected	Findings	Expected	Findings
Min	+	(1) > (2)	**support**	(3) > (4)	no support	(6) > (5)	no support
Spend	+	(1) > (2)	no support	(3) > (4)	no support	(6) > (5)	no support
$Cofi_{imp}$	+	(1) > (2)	no support	(3) > (4)	no support	(6) > (5)	no support
$Cofi_{hom}$	+	(1) > (2)	no support	(3) > (4)	no support	(6) > (5)	no support
$Cofi_{frn}$	-	(2) > (1)	no support	(4) > (3)	no support	(5) > (6)	no support
$Cofi_{day}$	+	(1) > (2)	no support	(3) > (4)	no support	(6) > (5)	no support
$Cofi_{\%dr}$	+	(1) > (2)	no support	(3) > (4)	no support	(6) > (5)	no support
$Cofi_{\%cs}$	-	(2) > (1)	no support	(4) > (3)	no support	(5) > (6)	no support
$Cofi_{\%sp}$	-	(2) > (1)	no support	(4) > (3)	no support	(5) > (6)	no support
$Cofi_{\%ea}$	+	(1) > (2)	no support	(3) > (4)	no support	(6) > (5)	no support
Sat_{avg}	+	(1) > (2)	no support	(3) > (4)	no support	(6) > (5)	no support
$Sat_{\%cu}$	+	(1) > (2)	no support	(3) > (4)	no support	(6) > (5)	no support
$Brands_{\%loy}$	+	(1) > (2)	no support	(3) > (4)	no support	(6) > (5)	no support
$Brands_{\%s+l}$	+	(1) > (2)	no support	(3) > (4)	no support	(6) > (5)	no support
$Brands_{\#tr}$	-	(2) > (1)	no support	(4) > (3)	**support**	(5) > (6)	no support
$Brands_{\#cu}$	-	(2) > (1)	no support	(4) > (3)	**support**	(5) > (6)	no support
$Visits_{tot}$	-	(2) > (1)	no support	(4) > (3)	no support	(5) > (6)	no support

DISCUSSION, MANAGERIAL IMPLICAIONS, AND LIMITATIONS

The purpose of this manuscript was to investigate whether age is an important predictor variable in the western-style coffee shops sector of the Kuwait market. The study includes an alternative indicator for age, cognitive age, and presents evidence that it is similar but different to chronological age. Both indicators of age are shown to correlate with many outcome variables. Finally, evidence is provided suggesting that people act based on their chronological age rather than their cognitive age.

Specifically, regarding age and the coffee variables, the findings suggest that as age increases then people (i) take more time with each visit to a coffee shop, (ii) spend more money with each visit to a coffee shop, (iii) perceive coffee drinks to be more important, (iv) consume more coffee at home, (v) consume less coffee with friends, (vi) drink more coffees per day, (vii) consume coffee as a larger percentage of total drinks, (viii) consume fewer coffees from coffee shops, (ix) consume fewer coffees from specialty-foods coffee shops, (x) consume more coffees from eatery coffee shops,(xi) exhibit a higher level of satisfaction with those brands that they are

using, (xii) are satisfied with more of those brands that they are using, (xiii) exhibit higher levels of loyalty, (xiv) are more likely to be satisfied and loyal to those brands that they are using, (xv) are less likely to try new coffee shops, (xvi) are currently using fewer brands, and (xvii) visit coffee shops less often.

The empirical findings of this study portray an interesting relationship between chronological age and cognitive age as it relates to coffee consumption in Kuwaiti market. Cognitive age emerged as having a direct impact on coffee consumption (Pleshko and Heiens, 2015), but that it is not important enough to add to what chronological age already provides in understanding buyers in this market sector. Additionally, only three of fifty-one comparison tests support cognitive age, when compared to chronological age, as more important in coffee consumption. This finding that chronological age is more important than cognitive age is counter to previous research supporting the superiority of cognitive age in explaining consumer behavior when compared to cognitive age. (Lin and Xia 2012; Gwinner and Stephens, 2001; Barak and Schiffman, 1981).

When considering older consumers in this setting, there may be possible explanations for why cognitive age showed little differences in affecting coffee purchasing compared to chronological age. In this research, the neutrality of cognitive age can be explained more intuitively by understanding the attitude toward age in the Arab culture. Not only do people amass larger wealth as they age like many other western societies, they also establish greater social prominence in a highly collectivistic culture with strong tribal and extended family relationships. In fact, older Kuwaitis are more socially respected giving them strong prominence in their collectivities, and therefore they would be less willing to emulate younger customers (and act on their cognitive age). Evidence from previous research provides some support. Gram and Smed (2011) found that Danish customers tend to perceive age more positively as a privilege that carries some entitlements.

Another possible explanation/limitation for the findings is perhaps that the product category used, albeit widespread, may not be as conspicuous (in front of others) as other durable products used in public. If that were the case, then age-specific behavior would not be elicited. Since coffee consumption is less involving during purchase and consumption (low cost, inconsequential product, repeated frequency), memory decay my affect precise recall of previous consumption events, especially when they are not markedly distinct from each other. Products that signal particular age affiliation (i.e., clothing, jewelry, or car ownership) may provide more insight into the effects of chronological age on consumer decision making. Future research may extend this investigation to other product categories that may allow a better examination of the true nature of perceived age.

Also possibly limiting the present research is a distinction between coffee drinkers accompanying others and those who are drinking coffee alone. Pressure to act in ways different from the norm may increase age-related consumption when that consumption is public with others of whom their opinion matters to the buyer. This study did not differentiate between those coffee buyers who are alone with those who are in groups.

Finally, the correlational method adopted seems apt for this exploratory research. While correlation is no proof of causation, the Pearson product moment correlation has, over the decades, proven to be an effective first step toward more complex methods. Future research could use a causal modeling approach or better still, employ the relatively “newer on the scene” method of fuzzy set analysis to delve deeper into this area.

The above limitations notwithstanding the current study paves the way for similar and possibly deeper research using other contexts that are representative (perhaps, even more tellingly so) of the joint spaces formed by the intersections of age, leisure, and culture, as well as those further colored by the physical and the technological environments.

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