Subjective-age in US advertising targeting the older consumer

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Abstract

**Purpose** – The purpose of this study is to identify the extent subjective-age as a construct, is present in the design product of current American advertising targeting older adults.

**Design/methodology/approach** – This pilot study utilized a conversion mixed methods research design. Initially data were collected and analyzed qualitatively through content analysis of print, online, and television ads. The output was then transformed into quantitative data for inferential statistical analysis.

**Findings** – This research is the first in the literature analyzing the ratio of chronological to subjective-age age as a construct in ad design with chronological age occurring 0.6% of the time over that of subjective-age. The slight preponderance of the former has shown that subjective-age is not a driving or overriding consideration in marketing to the older demographic during ad creation despite efforts described in the literature which has consistently called for its incorporation and implementation.
Research implications – This paper points the way to further explore the demonstrable effects of age variables other than chronological age, as they involve the consumption behavior of older adults.

Practical implications – Marketers might consider our findings during the theoretical stages of promotional design and implementation, particularly when it has been suspected that chronological age as an objective determinant variable to consumer behavior has been problematic or has led to ‘underperformance’ of product sales.

Originality/value - Since the inception of subjective-age as an alternative or additional construct to chronological age in the field of consumer behavior and marketing, most research has dealt with methodology, particularly measurement, rather than being theory driven. We believe this study is the first to examine the extent that subjective age is actually present in current advertising targeting the older consumer. Given the importance with which seminal researchers in the field have considered it, we also believe the singularity of this study demonstrates its value.

Keywords – Older Consumers  Subjective Age  Cognitive Age  Marketing  Alternative Age  Content Analysis Advertising  Pilot Study

Paper Type - Research paper

Introduction
Subjective-age is the element of self-concept that reveals how old one feels irrespective of one's chronological age; it can be operationalized as cognitive-age (Cleaver and Muller, 2002). The construct has been variously called self-classification, self-perceived agedness, personal-age, perceived-age, age-identity or identification, and even semantic age identification depending on what context it is under consideration (Cutler, 1982; Tongren, 1988; Westerhof, 2003). It made its first published appearance linked to consumer behavior and marketing in 1981 when researchers investigating cognitive age, created a scale to operationalize the construct (Barak and Schiffman, 1981). Delimiting the older consumer segment of a market is also a subjective affair; some say 50 and over defines the segment, others 65 and older, and still others 45 and above. For the purpose of this study it was decided to use 60 as the point to delimit chronological age.

The “Demographic Aging Wave” long foretold, has been known for the potential it represents as a vast and promising market (Le Serre and Chevalier, 2002). Having captured the attention of marketing experts, it had been observed that products and services created for the older population segment had had demonstrably less than adequate acceptance by it (Moschis and Mathur, 2006; Le Serre and Chevalier, 2002). For example, research on products and services targeting the older demographic contended that “current senior travelers behave differently from what we used to call – at the same age - older people” (Le Serre and Chevalier, 2002).
Theories on the consumer behavior of this burgeoning market abound; the construct of subjective-age has received more or less steady albeit somewhat sparse attention since the mid-1950s. One might consider 1956 until 1980 as its ‘time of theory generation’ and the period ending with the millennium as one of hypotheses. More recently subjective-age has entered a time of proposal toward practical and critical application. It had appeared a most promising marketing tool; how is it being implemented today in advertising across media aimed at older consumers? The work presented here will attempt to answer that question.

**Literature Review**

**Time of Theory**

In 1951 and 1952-1953 two studies in Elmira and Kips Bay, NY were conducted by social gerontologists, psychologists, and researchers from related disciplines. The work was mainly concerned with socio-psychological changes associated with aging and the negative impact that had been noticed to co-occur with retirement or other later life events. In 1956 Zena Smith Blau, working with the Elmira material, found that there existed significant variation in age-identification among individuals of the same cohort; she concluded that chronological (life or actual age) did not and could not explain changes in age-identification across an individual’s lifespan. She was the first to highlight the role of age-identification as a “crucial intervening variable” for an individual’s perception of shifts in obvious, objective, and undeniable changes that were evidence of chronological aging (Blau, 1956). Blau noted that awareness of one’s “white hair, wrinkles, and
calendar years” could not induce individuals to acknowledge they had changed and concluded that age-identification or subjective-age explained perceptual shifts as they occurred by constraining one’s recognition of such changes (Blau, 1956).

**Alternative ages**

In 1972 three Wayne State psychologists produced the seminal article “The Ages of Me” (Kastenbaum et al., 1972) in which they defined and proposed three alternative ages to chronological age: personal (“I feel ___”), interpersonal (“They look ____”), and consensual (the degree of agreement between these two ages). Their goal was to either augment or challenge functional criteria of chronological age in biological, social, and psychological spheres as gerontologically related. They found that personal age had two components, how old one thought one looked and how old one felt, and that regarding their participants, there was a bias toward reporting ages younger than one’s chronological age would indicate and this discrepancy became more pronounced with advancing calendar years.

**A Demographic Apart**

In 1964 Reinecke had maintained that the older population had negligible buying power, were not affluent, and were not becoming so. Thus, he concluded they did not represent a distinct and viable market (Reinecke, 1964). Ten years later at the University of Chicago, Bernice Neugarten marked the rise of a group she called the “Young-Old”, people aged from 55 to 74. She suggested this sub-segment of the population enjoyed relative good health, affluence, and freedom
from work and family related responsibilities, and that they wanted wider options and more than what they saw as available to them (Neugarten, 1974).

By 1981 Meadows noticed Reinecke’s recommendation that marketers not be overly concerned with the older consumer had perhaps been heeded; he observed academia’s lack of interest as evidenced by its generating a mere two to four studies a year on the subject. Was age itself being seen as a less salient determinant or regulator of consumer behavior (Meadows, 1981; Neugarten, 1974)? Writing of that period in the UK, Szmigan and Carrigan (2001) observed that throughout the 1980s if older SAMs (Spokesperson – Actor - Model) were used in advertising they were shown as feeble, stupid, or as sources of amusement despite the fact, the authors wrote, that by the end of the 90s the over 45 demographic would hold approximately 80% of the wealth. In the US, defining the older consumer as over 60, Harwood and Roy, in their content analysis of TV advertising found that although comprising 16.75% of the population, their demographic was represented in only 6.9% of advertising (Roy and Harwood, 1997).

**Period of Hypotheses**

That same year Barak and Schiffman discussed the limitations of actual-age and recommended using self-perceived-age as an alternative. They settled on the term cognitive-age, designed a definitive scale to measure it, and demonstrated that it could perform well as a dependent/behavioral variable under examination. They suggested cognitive-age be operationalized in order to facilitate the study of
“cognitively young” older consumers. This was the first time the construct had been linked to marketing in published research (Barak and Schiffman, 1981). Creating the scale, Barak and Schiffman ushered in the time of hypotheses. That same year Schewe (1981) argued for dichotomizing older consumers as distinct subsets of young-old (55-74) and old-old (75 and over). He posited, that older adults held increasingly positive identification with their ages while simultaneously distancing themselves from what they perceived as negative stereotypes of aging. Perhaps more relevant to marketing, Schewe repeated the complaint by his study participants of being generally dissatisfied with the offhand treatment they experienced by retailers and marketers.

**Measuring the Construct**

A prolific publisher, Barak in 1985 together with co-author Stephen Gould, explored six alternative ages to chronological age, among these finding three to be the most interesting: the self-image measure of cognitive-age, the ideal-age an individual would like to be, and disparity-age which was the arithmetical difference between cognitive and actual ages. Among the many instruments developed to measure age as a self-construal, Barak’s Age Decade Scale, which had been created from Kastenbaum’s 49 item “Ages of Me” interview, is arguably the most often and widely used scale by researchers (Stephens, 1991; Kastenbaum et al., 1972).

Cognitive-age, as it focused on identification with age role reference groups, was recommended for further marketing defined research (Barak and Gould, 1985).
Six years later Stephens (1991) hypothesized whether using the construct could gain advertising advantages, citing the then current and exploding popularity of “Life-Style” advertising which featured target consumer self-construal as a design concept. She cautioned marketers with the advice that research had supplied about SAMs, specifically they should be 10-15 years younger than the intended target in order to conform to results from data collected in at least 18 different countries across various cultures and ethnicities (Cleaver and Muller, 1990; Stephens, 1991; Barak et al., 2001; Westerhof, 2003; Uotinen, 2006; Guiot, 2007; Barak et al., 2011). Barak and Gould warned the industry as well that when utilizing reference groups or SAMs in a promotional context, the ages of such must match the target consumer's discrepancy-age (one of their 6 alternative ages and the middle ground between ideal and cognitive ages) lest the older consumer find it difficult or impossible to identify with the reference group or SAM and in turn, the product or service being promoted (Barak and Gould, 1985).

A 1988 meta-analysis of the literature revealed that 67 studies specifically on older adult consumers had been published from 1958 to that year reflecting the older demographic's increasing influence in the marketplace (Tongren, 1988). Tongren concluded that older consumers should be treated according to their self-perceived ages; otherwise he warned, when presented with stereotypical “old folks” images or SAMs, they would become alienated both from the product and the message (Tongren, 1988).

A study in Singapore hypothesized that cognitive-age might have been the intervening variable affecting observed differences in responses by older
consumer activists to fraud and victimization in marketing aimed at their cohort (Chua et al., 1990). Other hypotheses tested throughout that decade included that of Stephens’ “catalytic event” postulate which investigated the likelihood of greater discrepancy between cognitive and chronological ages being found when an individual experiences retirement or loss of social role (Stephens, 1991).

Schiffman and Sherman (1991) studied internal locus of control as an independent variable in age-discrepancy, coined the term “New-Age Elderly” for those perceiving themselves as younger than their actual ages indicated, and maintained that throughout cognitive-age research, the construct had consistently demonstrated a “richness or range” that chronological-age did not. Another concurrent study also maintained that non-chronological age measures such as cognitive-age might contribute more to consumer behavior than did actual age (Wilkes, 1991). Jinkhan and Hong (1991) reinforced findings that consumers preferred and sought out products, services, and stores that promoted images or SAMs congruent with their self-perceptions; if such congruency occurred higher purchase intentions were elicited.

Research in the UK published in the Journal of Marketing Management and elsewhere proposed that the value orientations of the cognitively young consumer differ from others of their cohort with older cognitive-ages; the ‘younger’ are more innovative during selection processes, less cautious when buying, and are not reluctant to switch brands (Szmigan and Carrigan, 2000; Catterall and Maclaren, 2001). The overarching hypothesis that cognitive-age more than actual age might be more useful in predicting consumer behavior was
upheld. Another study of that time published in Psychology & Marketing argued against relying on cognitive-age as a predictor or determinant variable. Instead it instructed those in the field to examine direct links between variables thought to be antecedents to cognitive-age (i.e. demographics and health) as antecedents to alternative-age might both drive and describe the behavior (Gwinner and Stephens, 2001). It is important to note that studies investigating the possible significance of demographic antecedents have been many. To date no hypothesis suggesting gender, SES, income, education, or other demographic variable plays a role as determinant of cognitive-age bias has withstood testing. Health status alone has been shown to be a significant and robust predictor of the construct (Henderson, 1995; Barak et al., 2001; Rubin, 2006; Hess, 2010). In fact, research demonstrated accumulating evidence that “age-identity and age perceptions related to a wide array of health outcomes” (Demakakos et al., 2007).

Toward a Time of Application

By 2008, the cognitive-age construct as it applies to consumer behavior, and thus marketing, had entered its adulthood; studies had consistently revealed a bright future might be on the horizon of older consumer marketing design if those in advertising attended to cognitive-age. Researchers in the duty-free enclave of Singapore were particularly interested in investigating the possibilities. Chang found that a high congruency between a consumer’s cognitive-age and that of the SAM made for higher degrees of “for-me” perceptions while promising consumer affinity with the brand, higher brand evaluation involvement, self-
referencing, and positive attitudes toward the brand (Chang, 2008). She went on to say that a consumer sought to match products congruent with their self-image resulting in “for-me” or “not for me” attitudes. Perhaps most interesting was her finding that a SAM’s chronological age was not a predictor of brand evaluation; participants in the Singaporean study did not rate products unfavorably if a SAM was chronologically older; instead they gave an unfavorable rating when a model’s age markedly differed from their own cognitive-age. Echoing researchers of the 1990s, Chang recommended using SAMs close to the target's perceived-age.

**Universal Construct**

Soon after, Barak described the universality of the construct providing results from then recent international surveys across 18 culturally disparate countries. As did his contemporaries, Barak encouraged consumer researchers to accept findings that both alternative-age measures, cognitive and ideal, are superior to chronological age as a psychographic tool for market segmentation. One well conducted study further seeking to demonstrate the construct’s psychological capacity as a constant found that people who have animals as companions readily transfer subjective-age onto their animals (Staats et al., 2011).

Around that same time consumer studies within academia also promoted age-branding as a different type of age-based marketing segmentation that might have been developed from alternative-age constructs. The strategy explained that any brand targeting the older consumer should fall into one of four
categories: Age-denial (best exemplified as “I don’t have to get old.”), Age-adaptive (“Problems come with age but I can deal with them.”), Age-irrelevant (“Mind over matter- if you don’t mind, it doesn’t matter.”), and Age-affirmative (“Let’s celebrate; the best is yet to come!”) (Moody and Sood, 2010).

With the beginning of the millennium’s second decade, researchers continued to advise those in the field of consumer behavior to pay closer attention to the ‘psychological-state’ of self-perceived-age. A 2012 Chinese study found its participants consistently reporting cognitive-ages 30 years younger than their actual ages; these same participants objected to being labeled old and elderly, preferring SAMs to portray healthy and vigorous lifestyles. Not taking subjective-age into account represented an abyss marketers could easily fall into (Ying and Yao, 2012). Hess also maintained that “the stronger one’s impression of ageism on their age group, the less they will identify with that group” (Hess, 2010). In the past, advertising had often found marketing to the older demographic to be a conundrum better avoided, instead they had targeted the younger consumer while throwing the ancillary message to the older ones from time to time as needed. Indeed, until the late 1980s the A. C. Nielsen Company, of Nielsen Ratings, would only gather information on consumers under the age of 50 (Szmigan and Carrigan, 2011).

Research Design

Phase 1
This study was planned and carried out as a pilot study and utilized a conversion mixed methods design to classify qualitative information in order to obtain data amenable to quantitative manipulation. A parsimonious three dimension set (a. locus of control; b. presentation of vigor; and c. apparent age) was created to investigate three research questions:

RQ1. How much of today’s advertising aimed at the older consumer (as represented by this study’s ads) has been generated incorporating the construct of subjective-age?

RQ2. Is there a relationship between SAM locus of control and SAM vigor as expressed in ads?

RQ3. Is there a relationship between SAM vigor as expressed in ads and the SAM’s appearing younger than 60?

Data Collection and Analysis

Data were collected from 368 ads (print, online, and television) by the researcher. As selection criteria the body of work containing the ad could not have been published before 2010 and an ad must have been aimed at the market represented by the older consumer demographic. Opportunities for obtaining potentially useable print ads were public libraries, big box stores such as Barnes and Noble and Books-a-Million, waiting rooms, book and magazine donation drop-offs, and anywhere a magazine might be found during the course of an ordinary day. No publication, save the obviously unsuitable such as Parents, Sports Illustrated, etc., was ruled out as a possible source. Magazines
from all genres were examined; the following yielded suitable material for the research: Allure AARP publications, Time, Newsweek, Good Housekeeping, Coastal Living, Southern Living, Our State, Reader’s Digest and RD Large Print, Reminisce, Money Magazine, American Legion, Afar Magazine, Family Circle, Spirituality & Health, Better Homes & Gardens, Oprah, Archeology, Sierra Magazine, People, Prevention, Cosmopolitan, Soap Opera Digest and WebMD 2012. Having held certain subjective criteria in mind before and during the planning of the study, the researcher looked for ads that featured older adult SAMs or that represented products or services typically associated with age-related decline and/or concomitant lifestyle disease and that fell into one or more of the 15 categories below.

Online portals such as worldnewspapers.com, magatopia.com, and seniormag.com, which gave links to virtually all online magazines for older adults, were sourced providing roughly 28% of the ads used in this study. Television as a medium of ad presentation furnished approximately 7% of the material needed for analyses, and ads were logged by randomly monitoring both broadcast and cable channels, without regard to day and time, for a period of 6 months.

To keep within a context of parsimony and ease of implementation, it was decided to include individuals over the age of 60 as potential older consumers for this study. The medium in which an ad was presented was not a concern; ads were sought, recorded, and logged (date, medium, product, product category) where and whenever they could be found by the researcher with the intent to
procure as many unique ads as possible within the study’s 6 month time frame).

Each ad fell into one of 15 possible categories:

1) Drugs (OTC and prescription), supplements
2) Retirement living, residential
3) Media (internet, telephone, TV)
4) Medical supply (e.g., oxygen)
5) Orthopedic (power chairs etc.)
6) Vision, oral care, audiology, incontinence
7) Miscellaneous (Peace Corps, memberships, volunteerism, etc.)
8) Elective purchases (vehicles, apparel, home improvement, etc.)
9) Defensive aging (cosmetic surgery, cosmeceuticals, anti-aging strategies,
10) Adult education opportunities
11) Entertainment, travel, recreation
12) Security (e.g., personal alerts)
13) Finance, insurance
14) Attorneys, agents, advisors, case managers
15) Wellness (yoga, gym, rehab etc.)
Each ad was interpreted for content analysis on three dimensions. Each dimension represented by one question, the answer to which yielded binary coding resulting from dichotomous judgments by a single rater, the student researcher. An answer of "yes" was coded as 1, "no" as 2. The study worked with abstract concepts that may or may not have been shared with the sources of text being analyzed; in the interest of the research questions and hypotheses, descriptives needed to simplify abstracts. Rather than using instruments that could have been developed from Resnick and Stern’s classification system, the Plutchik scale, or a system which likewise yielded polynary coding, the researcher, mindful of conducting a pilot study, chose to create their own instrument.

The three dimensions expressed as questions were:

1. Did the SAM exhibit being in control of their situation?
   Code 1 for yes; 2 for no.

2. Did the ad portray the SAM as vigorous?
   Code 1 for yes; 2 for no.

3. Does the SAM appear to be chronologically younger than 60 years old?
   Code 1 for yes; 2 for no.

**Research Questions**
RQ1. How much of today’s advertising aimed at the older consumer is designed incorporating or around the construct of subjective age (or cognitive age)?

RQ2. Is there a relationship between locus of control and demonstration of vigor as expressed in ads?

RQ3. Is there a relationship between vigor as expressed in ads and the SAM’s apparent age?

**Hypotheses**

H01. There is no significant relationship between SAM locus of control and vigor as expressed in ads.

H1. There is a significant relationship between SAM locus of control and vigor as expressed in ads.

H02. There is no relationship between the vigor as expressed in ads and the SAM’s appearing younger than 60.

H2. There is a relationship between vigor as expressed in ads and the SAM’s appearing less than 60.

RQ1 one was answered with descriptive statistics; expressions of vigor as expressed in the ads by the SAMs were tabulated and recorded as a percentage of the total ads reviewed (See Table 1).

RQ2 and H1 were investigated with the chi-square test for independence. Specifically, this was a 2 (control of situation) \( \chi^2 \) (demonstration of vigor: yes or
no) design to investigate whether there was a relationship between the variables. Assumptions of the chi-square test for independence included independence of observations and the size of expected frequencies. RQ3 and H2 were investigated with the chi-square test for independence. This was a 2 (control of situation: yes or no) $X^2$ (SAM appears to be younger than 60: yes or no) design. For this study, an alpha level of $p < .05$ was utilized.

**Findings**

Descriptive statistics were utilized in order answer RQ1. The ratio of those who answered “Yes” to “No” on whether the ad portrayed the SAM as vigorous (Vigor) is 49.7% ($N = 183$) to 50.3% ($N = 185$), respectively, $p = .958$; refer to Table 1. RQ2 (H1) and RQ3 (H2) were determined via a Chi-square test of independence of categorical variables. Following this initial significance test, a Spearman’s rho correlation was used to determine the strength of the correlation between SAM locus of control (LOC) and SAM portrayal of Vigor (i.e., RQ2; H1) and between the SAM’s portrayal of Vigor as expressed in the ads and the SAM’s appearing younger than 60 years of age (i.e., RQ3; H2)

The Chi-square test revealed that for RQ2, the H01 is to be rejected; there is significant evidence that whether Internal (yes) or External (no) LOC was selected for, SAM exhibition of being in control or not in control of their situation had a significant influence on whether “Yes” or “No” for the ad portraying the SAM as vigorous (Vigor) was selected, $X^2 (1) = 130.63$, $p = .000$. The Spearman’s correlation analysis determined that there is a significant, positive
correlation, \( \rho = .596, p = .000 \), between choosing Internal LOC and “Yes”, Vigor \((n = 177 = 48.1\% \text{ of sample})\) or External LOC and “No”, Vigor \((n = 108 = 29.3\% \text{ of sample})\).

The Chi-square test revealed that, for RQ3, the H02 is to be rejected. There is significant evidence that whether “Yes” or “No” was selected, Vigor had a significant influence on whether “Yes” or “No” for the SAM’s appearing to be chronologically younger than 60 years old (Age) was selected, \( \chi^2 (1) = 254.06, p = .000 \). The Spearman’s correlation analysis determined that there is a significant, positive correlation, \( \rho = .831, p = .000 \), between choosing “Yes”, Vigor and “Yes”, Age \((n = 152 = 41.3\% \text{ of sample})\) or “No”, Vigor and “No”, Age \((n = 183 = 49.7\% \text{ of sample})\).

**Table I**

*Frequency and Percentage of expressions conveyed by ads*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Response</th>
<th>Frequency (N)</th>
<th>Percent</th>
</tr>
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<tbody>
<tr>
<td>Internal LOC</td>
<td>Yes</td>
<td>254</td>
<td>69.0</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>114</td>
<td>31.0</td>
</tr>
<tr>
<td>Vigor</td>
<td>Yes</td>
<td>183</td>
<td>49.7</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>185</td>
<td>50.3</td>
</tr>
<tr>
<td>Age</td>
<td>Yes</td>
<td>154</td>
<td>41.8</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>214</td>
<td>58.2</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>368</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*Note.* Internal LOC = expression of internal locus of control over situation; Vigor = portrayal of the SAM as vigorous; Age = SAM appears chronologically younger than 60 years old.
Subjective-age content was demonstrated by way of obtaining significant positive correlations between locus of control and vigor, vigor and age appearance, and thus, indirectly between locus of control and a SAM's being over or under the age of 60. The occurrence of subjective-age as a fundamental construct in ad design was demonstrated in slightly less than half the ads to (49.7% to 50.3%).

**Phase 2**

During Phase 1 of data collection the study employed a single judge (the student researcher) to code on latent projective content in 368 ads; precedence was therefore put on judgments the coder had arrived at when elements of content caused them to tap into their own existing mental schema. Because coding judgments were subjectively derived from equally subjective interpretations, in the interest of face validity, it was particularly important to develop and implement a coding scheme that was logically consistent and that utilized clearly defined categories. It was felt that a complex set of micro-level coding rules would not be a satisfactory or efficient guide for rating (Potter and Levine-Donnerstein, 1999).

Instead the coder’s schema and 'primitive concepts' (“…concepts that most people understand and share common meaning with but for which it is impossible to provide an adequate definition”) were integrated and utilized in the creation of the categories (Potter and Levine-Donnerstein, 1999). The literature had agreed that experts in the field (here the researcher relied on three gerontology and psychology faculty members) ought to set the standard for what constitutes schema widely held across the public in the context of content analysis (Krippendorff, 2012). Thus, Phase 2 employed an expert (director of university gerontology program) as second rater to simultaneously code 88 randomly selected ads (out of the 368 pool) with the researcher. The primary
coder (the student researcher) gave full explanation and instructions for coding, set no time limitations, and coded separately from the expert. Early content analytic work in marketing found the demonstration of face and construct validities to be both necessary and sufficient (Kasserjian, 1977); it was equally necessary to attempt to establish a degree of reliability that inter-rater agreement might provide.

In phase 2, RQ2 (H1) and RQ3 (H2) were determined for each of the samples between Rater 1 (RQ2r1; RQ3r1) and Rater 2 (RQ2r2; RQ3r2) in the same manner as seen in phase 1, via a Pearson Chi-square test of independence of categorical variables. Likewise, following this initial significance test, a Spearman’s rho correlation was used to determine the strength of the correlation between SAM locus of control (LOC) and the SAM’s portrayal of Vigor (e.g., RQ2r1; H1) and between the SAM’s portrayal of Vigor as expressed in the ads and the SAM’s appearing younger than 60 years of age (e.g., RQ3r1; H2).

In order to determine reliability for the results of phase 1, assuming RQ2 and RQ3 results of phase 2 mimic those seen in phase 1, descriptive statistics were utilized to compare the differences in frequency of expressions conveyed by the ads surveyed by Rater 1 as compared to those surveyed by Rater 2 (See table 2). Finally, a Spearman’s rho correlation matrix was established to determine the significance of the relationships between these expressions.

Findings

Rater 1:
For RQ2r1, the Chi-square test of independence of categorical variables revealed that the H01 is to be rejected, with $X^2 (1, 88) = 61.343$ and $p = .000$. There is significant evidence that whether Internal (yes) or External (no) LOC was selected, the SAM exhibition of being in control of their situation had a significant influence on whether “Yes” or “No” for the ad portraying the SAM as vigorous (Vigor) was selected. The Spearman’s correlation analysis determined that there is a significant, positive correlation, rho = .835, $p = .000$, between choosing Internal LOC and “Yes”, Vigor ($n = 81 = 92.0\%$ of sample) or External LOC and “No”, Vigor ($n = 5 = 5.7\%$ of sample).

For RQ3r1, the Chi-square test revealed that H02 is to be rejected. There is significant evidence of correlation between Vigor and the SAM appearing to be chronologically younger than 60 years old (Age), with $X^2 (1, 88) = 14.494$ and $p = .000$. The Spearman’s correlation analysis determined that there is a significant, positive correlation (rho = .406, $p = .000$) between choosing “Yes”, Vigor and “Yes”, Age ($n = 70 = 79.5\%$ of sample) or “No”, Vigor and “No”, Age ($n = 5 = 5.7\%$ of sample).

The results demonstrated by the sample of Rater 1 in Phase 2 present as being similar to those seen in the sample of Phase 1.

**Rater 2:**

For RQ2rw, the Chi-square test failed to reject H01, with $X^2 (1, 88) = 3.085$, $p = .079$. Likewise, the Spearman’s correlation analysis (rho = .187, $p = .081$) determined that there is no significant correlation between any of the following
paired choices: Internal LOC and “Yes” to Vigor (n = 18 = 20.5% of sample),
Internal LOC and “No” to vigor (n = 44 = 50.0% of sample), External LOC and
“Yes” to Vigor (n = 3 = 3.4% of sample), or External LOC and “No” to Vigor (n =
23 = 26.1% of sample).

For RQ3r2, the Chi-square test resulted in rejection of H02, with $X^2 (1, 88) =
39.028, p = .000$. There is significant evidence that Vigor was related to the SAM
appeared to be chronologically younger than 60 years old. Also, the Spearman’s
correlation analysis determined that there is a significant, positive correlation,
with rho = .666, p = .000, between choosing “Yes”, Vigor and “Yes”, Age (n = 19
= 21.6% of sample) or “No”, Vigor and “No”,

The results demonstrated by the sample of Rater 2 in Phase 2 do not present as
being similar to those seen in the sample of Rater 1 nor to those seen in the
sample of Phase 1.

The Spearman’s correlation matrix (Table 3) established that there was, in fact, a
significant, positive relationship in expressions of internal versus external Locus
of Control between the sample of Rater 1 and that of Rater 2, rho = .379, p =
.000. There was a no significant relationship, however, in expressions of Vigor
between the sample of Rater 1 and that of Rater 2, rho = .165, p = .125, nor in
expressions of Age between the sample of Rater 1 and that of Rater 2, rho =
.090, p = .402.
The overall findings of the Phase 2 inter-rater data do not support those
demonstrated by the sample from Phase 1, and therefore it cannot be
determined that the original findings are generalizable to the population at large.

**Table II**

*Frequency and Percentage of expressions conveyed by participants surveyed by Rater 1 as compared to those surveyed by Rater 2*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Response</th>
<th>Frequency (N)</th>
<th>Percent</th>
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<tbody>
<tr>
<td></td>
<td>Rater 1</td>
<td>Rater 2</td>
<td></td>
</tr>
<tr>
<td>Internal LOC</td>
<td>Yes</td>
<td>83</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>5</td>
<td>26</td>
</tr>
<tr>
<td>Vigor</td>
<td>Yes</td>
<td>81</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>7</td>
<td>67</td>
</tr>
<tr>
<td>Age</td>
<td>Yes</td>
<td>72</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>16</td>
<td>58</td>
</tr>
</tbody>
</table>

*Note.* Internal LOC = expression of internal locus of control over situation; Vigor = portrayal of the SAM as vigorous; Age = SAM appears chronologically younger than 60 years old.
Table III

Spearman’s rho correlation matrix demonstrating the relationships between responses for the three expressions between those surveyed by Rater 1 and those surveyed by Rater 2

<table>
<thead>
<tr>
<th></th>
<th>Rater 1</th>
<th>Internal LOC</th>
<th>Vigor</th>
<th>Age</th>
<th>Rater 2</th>
<th>Internal LOC</th>
<th>Vigor</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rater 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal LOC</td>
<td>rho = 1.000</td>
<td>.835**</td>
<td>.393**</td>
<td>.379**</td>
<td>.137</td>
<td>.177</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>p = .000</td>
<td>.000</td>
<td>.000</td>
<td>.00</td>
<td>.202</td>
<td>.100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigor</td>
<td>rho = 1.000</td>
<td>.406**</td>
<td>.454**</td>
<td>.534**</td>
<td>.195</td>
<td>.090</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>p = .000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.125</td>
<td>.048</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>rho = 1.000</td>
<td>.000</td>
<td>.137</td>
<td>.534**</td>
<td>.195</td>
<td>.090</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>p = .000</td>
<td>.000</td>
<td>.069</td>
<td>.000</td>
<td>.090</td>
<td>.402</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rater 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal LOC</td>
<td>rho = 1.000</td>
<td>.187</td>
<td>.098</td>
<td>1.000</td>
<td>.137</td>
<td>.098</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>p = .081</td>
<td>.364</td>
<td>.000</td>
<td>.081</td>
<td>.364</td>
<td>.364</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigor</td>
<td>rho = 1.000</td>
<td>.666**</td>
<td>.000</td>
<td>.000</td>
<td>.666**</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>p = .000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>rho = 1.000</td>
<td>.000</td>
<td>.137</td>
<td>1.000</td>
<td>.137</td>
<td>.137</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>p = .000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Internal LOC = expression of internal locus of control over situation; Vigor = portrayal of the SAM as vigorous; Age = SAM appears chronologically younger than 60 years old.

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).
Phase 2 data reflected reliability only so far as the results from Rater 1 followed those seen from Phase 1. Data obtained from Rater 2 failed to reveal any correlation between LOC and Vigor, however; there was a significant positive correlation between Vigor and age appearance. Phase 2 could not be found to be a reliable indicator of subjective-age.

Inter-rater data showed a correlation only between LOC for each rater. Overall Phase 2 findings did not support what was found in Phase 1; therefore it cannot be determined that the Phase 1 findings are generalizable to the population at large.

**Phase 3**

The dimensional coding scheme of this study has been faithful to the research questions which sparked the inquiry and thus, an argument can be made for construct validity. The study design around latent ad content presented a methodological challenge to address if any modicum of validity was to be shown and utilizing a single coder prevented a claim to inter-rater reliability of study reproducibility. Recognizing the threats to validity that can occur with content analyses, Potter and Levine-Donnerstein recommended a series of pilot studies to discover a system that makes use of a coder’s ‘natural schema’ and they argued that the inherent subjectivity of interpretative judgments need not represent a threat to validity or cause a study to be unreliable (1999). This pilot study has taken substantive steps to define, design, and implement a coding system that may be of use to other researchers working with latent content analysis in marketing.

In the interests of methodology that could hold up under scrutiny and demonstrate reproducibility, a third phase of data collection was developed. Forty adults over the age of 60 enrolled in Osher Life Long Learning Institute, an adult education program at the University of North Carolina Wilmington, participated in
answering a brief questionnaire, which had passed IRB approval. The participants as a group were shown three scanned ads, which had been selected at random from the study pool of 368 ads. Each ad demanded the participant answer the same two questions: 1) Does the SAM appear over or under the age of 60 and 2) Is the featured product or service targeting young, middle age, or older (over 60) consumers?

Findings

Descriptive statistics were used to determine that (1) the ads in fact target older adults; the general population of participating adults over 60 responded with “yes, older” in reference to whether or not the ads are really targeting older versus younger adults (refer to Table 4), and (2) the majority of the general population of participating adults over 60 answered “Older” in response to whether the SAM appeared older or younger than 60 in the ads, therefore judging a SAM as over 60 would be generalizable (refer to Table 5).
Table IV

*Frequency and Percentage of older adults’ response to whether or not the ads are really targeting older versus younger adults*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Response</th>
<th>Frequency (N)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ad #1</td>
<td>Yes, older</td>
<td>32</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>No, younger</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Ad #2</td>
<td>Yes, older</td>
<td>32</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>No, younger</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Ad #3</td>
<td>Yes, older</td>
<td>31</td>
<td>96.9</td>
</tr>
<tr>
<td></td>
<td>No, younger</td>
<td>1</td>
<td>3.1</td>
</tr>
</tbody>
</table>

Table V

*Frequency and Percentage of older adults’ response to whether the SAM appears older or younger than 60 in each Ad.*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Response</th>
<th>Frequency (N)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ad #1</td>
<td>Older</td>
<td>31</td>
<td>96.9</td>
</tr>
<tr>
<td></td>
<td>Younger</td>
<td>1</td>
<td>3.1</td>
</tr>
<tr>
<td>Ad #2</td>
<td>Older</td>
<td>32</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>Younger</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Ad #3</td>
<td>Older</td>
<td>31</td>
<td>96.9</td>
</tr>
<tr>
<td></td>
<td>Younger</td>
<td>1</td>
<td>3.1</td>
</tr>
</tbody>
</table>

Phase 3 showed that data obtained on the target consumer of any given study ad was under or over the age of 60 (as indicated by featured product or service) as well as judgments made on whether a SAM appeared under or over the age of 60 are generalizable to a greater population.
Limitations

Developing and running a feasibility study examining the result of pre-testing a self-devised research tool to collect content analytic data, we were aware early on that a challenge would be faced over the establishment of reliability. It was hoped to, at the very least, obtain significant results that would spur additional interest and research on subjective-age in advertising targeting the older demographic. An argument may be made for this research as having succeeded in that. Certainly, more than one coder or even multiple coders and multivariate analyses could be incorporated into an optimal methodology in the future. The results indicated that a more elaborate coding scheme and method of teaching it to potential judges or coders could also form part of the foundation for subsequent research, therefore, reliability is not a limitation that cannot be addressed and overcome by research using like methodology in the future.

Conclusion

A thorough search and perusal of the relevant literature had imparted a sense of waiting for subjective-age to enter its ‘heyday’ as applied to marketing aimed at older consumers. Each reported study seemed to be passing the ball onto the next with the hope and expectation that future researchers would discover that subjective-age was in fact an increasingly powerful concern during ad design. The literature search for this study found no data on the actuality (or the absence of) subjective-age in ad creation; presumably there was no motive for interest in its investigation.
With an increase in the world’s older population and the significant buying power it represents, understanding the determinants of consumption patterns has become important to both marketers and academics alike. It might be of interest to explore whether subjective-age moderates the relationship between product and purchase intentions (of a specific product or product category selection), and at what stage of selection does it seem to have its effect?

This pilot study is the first among published research to answer the question: What percentage of American ads targeting the older consumer today are designed substantially incorporating the construct of subjective-age? It was found that slightly more than half of the 368 ads examined were designed around chronological age as a variable. Subjective-age evidently has still not entered its heyday.

The potential usefulness of the results of this pilot study, in which issues of reliability could be successfully addressed and overcome are undeniable. The difficulties that the older consumer presents to marketers have been written about and argued over and for the past 30 years subjective-age has been suggested by some as an alternative-age construct that could and should replace chronological age as an age segmentation device during ad design. This study has shown that despite the efforts of many researchers, their advice has not been taken up; subjective-age is still under-performing and not being considered in an attempt to solve at least some of the difficulties that have proven problematic in marketing.
References


