

## Cognitive Age and Tourism Behavior: An Alternative Segmentation Tool

Jill Naar  
*Recreation and Leisure Studies East Carolina University*

Paige Schneider  
*Recreation and Leisure Studies East Carolina University*

Follow this and additional works at: <https://scholarworks.umass.edu/ttra>

---

Naar, Jill and Schneider, Paige, "Cognitive Age and Tourism Behavior: An Alternative Segmentation Tool" (2016). *Travel and Tourism Research Association: Advancing Tourism Research Globally*. 28.  
<https://scholarworks.umass.edu/ttra/2010/Visual/28>

This is brought to you for free and open access by ScholarWorks@UMass Amherst. It has been accepted for inclusion in Travel and Tourism Research Association: Advancing Tourism Research Globally by an authorized administrator of ScholarWorks@UMass Amherst. For more information, please contact [scholarworks@library.umass.edu](mailto:scholarworks@library.umass.edu).

## **Cognitive Age and Tourism Behavior: An Alternative Segmentation Tool**

Jill Naar  
Recreation and Leisure Studies  
East Carolina University  
jjn1016@ecu.edu

and

Paige Schneider  
Recreation and Leisure Studies  
East Carolina University  
schneiderp@ecu.edu

### **INTRODUCTION**

Subjective age (operationalized as cognitive age) is the element of self-concept that reveals how old one feels versus one's actual or chronological age (Blau, 1956; George et al., 1980; Wylie, 1974). Chronological age has been examined in tourism research (Collins & Tisdell, 2002; Mak, Carlile, & Dai, 2005; Weber & Roehl, 1999); however, the concept of subjective age has received little attention. Chronological age reflects number of years passed since birth, but aging is not necessarily a one-dimensional process; "younger" and "older" are relative terms - implying that one's age is not bound to chronological time constraints and orientations. Barak and Schiffman (1981) called attention to the challenges in using chronological age as a predictor of attitudes and behaviors proposing that an individual's identity and behavior may depend more on perceived or felt age. The current research explores the concept of cognitive age in the context of tourism behavior as an alternative segmentation tool.

### **LITERATURE**

Chronological age refers to years since birth. Travel research has considered chronological age as an indicator for travel related to motivations, constraints and behaviors (e.g., Collins & Tisdell, 2002; Mak, Carlile, & Dai, 2005; Weber & Roehl, 1999). In contrast, cognitive age explains how one feels related to one's feel-age, look-age, do-age and interest-age (Barak, 1981). According to Barak (1987) factors such as higher levels of education, income, employment and good health result in a younger perceived age. In a study conducted by Mathur and Moschis (2005), they found that previous life experiences create transitions related to what is expected of people at different life stages, which was supported by a recent cross-cultural study suggesting that cognitive age was younger than chronological age in eighteen countries (Barak, 2009).

Cognitive age has received less attention in research than chronological age. Clark, Long and Schiffman (1999) investigated cognitive age related to physical activity to suggest younger cognitive age as well as greater life satisfaction scores resulted from physical activity such as vigorous exercise and long walks. Consumer behavior researchers have considered the felt age of the consumers as opposed to the chronological age but few studies have considered the purchase of a tourism experience related to cognitive age. By viewing tourism as a product purchased by a consumer, tourism professionals should consider how travel consumers view themselves in order to provide more appropriate services and marketing.

Tourism researchers (Muller & O’Cass, 2001) have divided seniors into those who feel younger and those who feel older. In order to provide the perceived travel experience, the tourism industry may benefit from understanding the perceived age of the tourist to match the expectation of the tourist. Szmigin and Carrigan (2001) emphasized that older consumers will take their business elsewhere if they are not communicated to effectively and directly which may relate to understanding their cognitive age as opposed to their chronological age.

Sonmez and Graefe (1998) suggested that past travel experiences contribute to future travel. Although studies have considered past travel with chronological age indicators (Pearce & Lee, 2005), few have tested cognitive age related to past travel. Therefore, in order to assist the tourism industry in understanding intended tourism behaviors related to cognitive age, this study considered the past travel behaviors including destinations visited and participation in destination activities. Focusing on destinations visited and participation in travel activities, this study had three hypotheses. First, there would be a significant relationship between the respondents’ chronological and cognitive ages. Then, the researchers hypothesized that there would be a significant difference between the two age groups (younger and older cognitive ages) related to destinations visited and travel activities experienced.

## **METHODOLOGY**

Following Dillman’s mail survey method, self-administered questionnaires were mailed and data collected during the fall of 2007. From 1,000 surveys, 17 were undeliverable, and 339 were returned and completed for an overall response rate of 34%. For the analyses, respondents who provided their year of birth and responses to calculate their cognitive age were included for a total of 153 usable surveys.

Adapting measures developed by Barak and Schiffman (1981) cognitive age was measured in four ways: 1) feel age (“I feel as though I am in my...”) 2) look age (I look as though I am...”); 3) act age (“I do most things as though I were...”); 4) interest/age (“My recreation and travel interests are mostly of those of a person...”). Feel/age, look/age, do/age and interest/age were scored independently through midpoints of each age-decade (preteens, teens, 20s, 30s, etc) a respondent indicated. For example, a respondent who indicated feeling as though she was in her 20s received a score of 25 years for feel age. The cognitive age was then computed through an average of the four scores: Cognitive Age= (Feel/age + look/age + do/age + interest/age) /4.

Respondents were divided into two groups based on their cognitive age: 55 years and older and younger than 55 years for the analyses (Bai, Jang, Cai & O’Leary, 2001; Muller & O’Cass, 2001; Shoemaker, 2000). The destinations visited and travel activities experienced were measured by close-ended questions. The destinations included seventeen continents and regions (e.g. Africa, Middle East, and South Pacific). Respondents indicated by marking a box, which destinations they had traveled to in the past. The survey identified 37 recreational and travel activities (e.g. backpacking, dining, and visiting friends and relatives). Respondents then indicated participation in activities during their travels in the past by marking a box. If respondents did not indicate (by marking the box), it was assumed they had not traveled to the continent/region nor experienced the travel activities in the past.

## **RESULTS**

Respondents consisted of 65.3 percent males (34.7 percent females) with 55 percent currently holding a United States passport. Respondents 55 and older represented 61 percent of

the sample (n=94) while 39 percent were younger than 55 years old (n=59). The majority of respondents were married (68.6 percent), white (91.3 percent) and working full time (58.8 percent). Over half of the sample (60.0 percent) possessed a degree of higher education and had a gross household income in 2006 between \$50,000 and \$149,000 (60.2 percent).

The majority of respondents had not traveled internationally (60.1 percent) within the last three years and did not plan to vacation outside of the United States in the next three years (42.5 percent). Domestic travel experience and plans had similar percentages with 11.8 percent not having travel experience within the United States and 8.5 percent not intending to travel domestically while approximately 25 percent had traveled and have the intention to travel one to two times within the United States. Approximately 30 percent of participants had traveled and plan to travel three to four times within three years.

To test the first hypothesis, researchers conducted a correlation analysis to determine if significant differences existed between chronological and cognitive age of respondents. Results indicated that the two variables were strongly correlated,  $r(1) = .874, p < .01$ . The second and third hypotheses examined the relationship between cognitive age and vacation travel behaviors (destinations visited and participation in travel activities) of respondents through chi-square analyses. Of the seventeen destinations provided three were significant, the Caribbean,  $X^2(1, n=152)=3.70, p<.05$ , the Middle East  $X^2(1, n=152)=3.85, p<.05$ , and South America  $X^2(1, n=152)=3.76, p<.05$ . Respondents with a cognitive age younger than 55 had visited the Caribbean, the Middle East, and South America more than respondents with a cognitive age of 55 and older. Of the 37 travel activities experienced over a lifetime, 19 were found to be statistically significant. In all cases, the cognitive age group younger than 55 years old was more likely to have participated in the travel activities. Significant relationships were found with hiking  $X^2(1, n=153)=7.96, p<.01$ , scuba  $X^2(1, n=153)=5.03, p<.03$ , swimming  $X^2(1, n=153)=12.95, p<.00$  and waterskiing/snorkeling  $X^2(1, n=153)=22.32, p<.00$ .

## CONCLUSION

The main objective of this research was to determine if cognitive age is a useful tool for segmenting travelers. Results indicated a statistically significant relationship between cognitive age and travel behaviors such as destinations traveled to and activities participated in while on vacation. Results indicated respondents with a cognitive age younger than 55 chose to participate in more active outdoor travel activities than those with a cognitive age of 55 and older. In accordance with Muller and O'Cass (2001) cognitive age may be a useful marketing segmentation approach for the tourism industry. It should be noted that consistent with previous research a relationship existed between chronological age and past travel behavior. Although it was outside the scope of this study, it should also be noted that significant relationships were found between future intentions to visit destinations and participate in travel activities, which suggests further research examining level of involvement and interest related not only to past travel behavior but future intention. The nominal format of the variables (continents/regions visited and participation in travel activities) limited the statistical analysis of this study suggesting that future research should incorporate degrees of interest and participation in vacation activities.

## REFERENCES

- Barak, B. (1987). Cognitive age: A new multidimensional approach to measuring age identity. *International Journal of Aging and Human Development*, 25(2), 109-128.

- Barak, B. (2009). Age identity: A cross-cultural global approach. *International Journal of Behavioral Development*, 33(1), 2-11.
- Barak, B., & Schiffman, L. G. (1981). Cognitive age: A nonchronological age variable. *Advances in Consumer Research*, 8(1), 602-606.
- Clark, S. D., Long, M. M., & Schiffman, L. G. (1999). The mind-body connection: The = relationship among physical activity level, life satisfaction, and cognitive age among mature females, *Journal of Social Behavior & Personality*, 14(2), 221-240.
- Collins, D., & Tisdell, C. (2002). Gender and Differences in Travel Life Cycles. *Journal of Travel Research*, 41(2), 133-143.
- Mak, J., Carlile, L., & Dai, S. (2005). Impact of Population Aging on Japanese International Travel to 2025. *Journal of Travel Research*, 44(2), 151-162.
- Mathur, A., & Moschis, G. P. (2005). Antecedents of cognitive age: A replication and extension. *Psychology and Marketing*, 22(12), 969-994.
- Muller, T. E., & O'Cass, A. (2001). Targeting the young at heart: Seeing senior vacationers the way they see themselves. *Journal of Vacation Marketing*, 7(4), 285-301.
- Pearce, P. L., & Lee, U.-I. (2005). Developing the travel career approach to tourist motivation. *Journal of Travel Research*, 43(3), 226-237.
- Szmigin, I., & Carrigan, M. (2001). Leisure and tourism services and the older innovator. *The Service Industries Journal*, 21(3), 113-129.