

Do you feel younger enough to choose nostalgic products? Exploring the role of age identity in nostalgic purchasing behavior

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Abstract

Purpose – The purpose of this paper is to empirically examine the links between consumer age identity, nostalgia and preferences for nostalgic products.

Design/methodology/approach – A theoretical framework is proposed based on integrating nostalgia and age identity as parts of an individual's self-concept. Research results are obtained from the empirical study of a sample of 313 consumers in Lithuania and five interviews with experts in marketing industry.

Findings – Employing structural equation modeling analysis, the current study provides initial evidence that the bigger the discrepancy between one's chronological and cognitive age, the more nostalgic products one buys. Furthermore, age identity acts as a better predictor for purchasing nostalgic products than nostalgia.

Originality/value – The current paper explores the impact of nostalgia and age identity on consumer purchasing behavior which is not addressed in literature before. By evaluating the role of nostalgia and age identity, the study offers a deeper understanding of consumer behavior in nostalgia contexts. Moreover, unlike in most previous studies on nostalgia and age identity, it is focused on actual rather than intended behavior. The present study is also relevant for current marketers as the findings provide additional information and recommendations for choosing appropriate marketing and communication strategies.

Keywords Nostalgia, SEM, Age identity, Consumer behaviour

Paper type Research paper

1. Introduction

Consumer nostalgia has been increasingly analyzed in the context of consumer behavior and is perceived as an influential factor that may have a significant impact on consumer choices and motivation (e.g. Goulding, 2001; Holak and Havlena, 1998; Holbrook and Schindler, 1994; Muehling and Pascal, 2011, 2012; Sierra and McQuitty, 2007). Studies on consumer nostalgia have emerged since the early 1990s when it was conceptualized by Holbrook and Schindler (1991, p. 330) as a "preference [...] toward objects (people, places, or things) that were more common [...] when one was younger." Since then, different nostalgia-related variables have been analyzed in consumer nostalgia literature, such as **materialism** (Rindfleisch *et al.*, 2000), **innovativeness and attachment** (Lambert-Pandraud and Laurent, 2010), **need to belong** (Loveland *et al.*, 2010), **desire for money** (Lasaleta *et al.*, 2014), etc. A range of studies suggest that **appeals for charity which evoke personal nostalgia have an impact on consumers' intention to donate** (Merchant *et al.*, 2011; Zhou *et al.*, 2012; Ford and Merchant, 2010). Also, **feeling nostalgic diminishes consumers' desire for money because of its capacity to stimulate social connectedness** (Lasaleta *et al.*, 2014) and the **consumption of a nostalgic product can successfully restore feelings of belongingness** (Loveland *et al.*, 2010). In a variety of different studies **nostalgia is found to have a positive and significant influence on attitude toward products and brands** (Muehling and Sprott, 2004; Chou and Lien, 2010; Muehling and Pascal, 2012) and purchase intention (e.g. Sierra and McQuitty, 2007; Bambauer-Sachse and Gierl, 2009; Muehling *et al.*, 2014). Nostalgia has been shown to be of high prevalence in daily life, being experienced



several times per week virtually by everyone (Sedikides *et al.*, 2008; Wildschut *et al.*, 2006) and serving vital psychological functions, such as positive affect (Wildschut *et al.*, 2006), self-regard (Vess *et al.*, 2012; Wildschut *et al.*, 2006), social connectedness (Loveland *et al.*, 2010; Wildschut *et al.*, 2006, 2010), and existential meaning (Juhl *et al.*, 2010; Routledge *et al.*, 2008, 2011). Nonetheless, this entire stream of research, which has been prevalent over the last two decades, still leaves some issues unexplored. One question that remains unanswered is how nostalgia relates to consumer age. Existing studies do not provide univocal findings regarding whether consumer nostalgia operates independently from an individual's age. In the seminal work of Holbrook and Schindler (1989, 1994, 2003), nostalgia was mainly perceived as working independently from the aging process, suggesting that consumers tend to form enduring preferences during their adolescence or early adulthood and maintain them for all their lives. The particular limits of this formative period differ depending on the product category: it is 24 years for popular music (Holbrook and Schindler, 1989), 14 years for movie stars (Holbrook and Schindler, 1994), 26 years for automobiles (Schindler and Holbrook, 2003), etc. In contrast, Lambert-Pandraud and Laurent (2010) found that consumers do not have formed preferences from their youth for a particular category and revealed that this phenomenon is not applicable to perfume products; it was shown that consumers can form a long-lasting attachment to a brand at any age. Therefore, it is still unclear whether older consumers tend to choose more nostalgic products.

These conflicting findings suggest that there is a potential gap in nostalgia research literature. This gap encourages us to assess a novel and so far unexplored variable in this context – age identity. In general, age identity reflects how individuals perceive themselves in terms of age (Logan *et al.*, 1992). Age identity can be estimated by evaluating the difference between one's actual and cognitive ages, which reveals the tendency to feel either younger or older than one's chronological age. People may not necessarily feel the age they actually are (Logan *et al.*, 1992; Mathur and Moschis, 2005) and this incongruence may offer additional insights into their preferences and behavior. Since it is not only the individual's chronological age that is important, but also the age one feels (Sudbury and Simcock, 2009; Wei, 2005), this phenomenon may explain why even in cases when consumers vary widely in age, the individual propensity toward nostalgia seems to work independently of the aging process (e.g. Holbrook, 1993). The results of earlier research have shown that in certain circumstances it is not chronological, but self-perceived age that may better explain consumer behavior patterns (Chua *et al.*, 1990; Eastman and Iyer, 2005; Sudbury and Simcock, 2009; Wei *et al.*, 2013; Wilkes, 1992).

The purpose of the current paper is to empirically analyze the links between age identity, nostalgia and preferences for nostalgic products. Our expected contribution is three-fold. First, based on a self-concept theory, we develop and test a conceptual model analyzing the impact of nostalgia and age identity on consumer purchasing behavior, which has not been addressed in the literature before. By evaluating the role of nostalgia and age identity, we offer a deeper understanding of consumer behavior in nostalgia contexts. Second, unlike in most previous studies on nostalgia and age identity, we focus on actual rather than intended behavior. Third, the present study is also relevant for current marketers as the findings provide additional information and recommendations for choosing appropriate marketing and communication strategies. In the sections that follow, first, we present a theoretical background of this study and set up our hypotheses related to the relationship between consumer nostalgia, age identity, and actual purchase of nostalgic products. Then, we describe the methodology of data collection and analysis. Following this we present the results obtained from our empirical study of a sample of 313 individuals. Finally, the key findings are discussed and managerial implications as well as limitations and directions for further research are suggested.

2. Conceptual background

2.1 Definition of the main concepts

Nostalgia has been perceived for a long time as a kind of melancholy or depression, associated with homesickness. In 1979 sociologist Davis defined nostalgia as a positive emotion, as "yearning for the past." Since then, nostalgia has been related with more positive associations. Examining different definitions of nostalgia reveals that it varies from an "emotional state" to a "preference" (Kessous and Roux, 2010). Still researchers acknowledge that in general **nostalgia is a longing for an "idealized" past** (Stern, 1992; Havlena and Holak, 1991), **mostly associated with pleasant feelings** (Holbrook and Schindler, 1991; Holak and Havlena, 1998). Characterized by Holbrook and Schindler (1991, p. 330) nostalgia is often considered as "**a preference** (general liking, positive attitude, or favorable affect) **toward objects** (people, places, or things) **that were more common** (popular, fashionable, or widely circulated) **when one was younger** (in early adulthood, in adolescence, in childhood, or even before birth)." This definition has become the conceptual reference in consumer nostalgia research (Kessous and Roux, 2010).

A number of researchers in marketing and consumer behavior fields have often been selecting and exploring demographic variables automatically with chronological age being one of the most frequently analyzed ones (Barak and Schiffman, 1981; Sudbury and Simcock, 2009). However, chronological age and its usage have some limitations (Barak and Schiffman, 1981) as it does not cover the fact that individuals often perceive themselves to be either of younger or older age than their actual age indicates. This tendency is better reflected by a much more sensitive concept – age identity – which reflects how individuals perceive themselves in terms of age (Logan *et al.*, 1992). In general, the conceptions of aging consist of three categories: **biological aging**, sometimes referred as physiological or functional aging, **psychological aging**, which addresses the progress and changes in cognition, personality, and self, **social aging**, which refers to a changing mix of social lifestyles and attitudes related to different social roles that people are expected to play, such as "father," "retiree," etc. (Mathur and Moschis, 2005). The concept of cultural aging as a contrast to the concept of chronological age is also adopted in other stream of literature where research focuses on how age is constructed through representation, interaction, and communication (e.g. Loos and Ekström, 2014). The current research focuses on psychological aging, i.e. the development of one's self-concept dimension in the individual's age identity (Mathur and Moschis, 2005) which is constructed from the individual's point of view.

Research on self-perceived age in consumer behavior has grown since the publication of Barak and Schiffman study in 1981 where they defined it by **four dimensions related to functional areas of the self: psychological** (the age a person feels like), **biological** (the age a person looks like), **social** (the age a person thinks that he/she acts like), and **cognitive** (the age that is perceived to reflect a person's interests). Despite some cultural differences in subjective age perceptions, previous research suggests that it is a universal characteristic (a tendency to have different age identity than one's biological age) independent of the cultural background, though there may be some differences in terms of the magnitude of the difference between the actual age and cognitive age influenced by individual, social, or cultural factors (Kaufman and Elder, 2002; Kohlbacher *et al.*, 2011). Also, age identity is proposed to be further constructed through the interaction with other people (Coupland and Coupland, 1994).

2.2 Theoretical framework

Age is one of the most widely investigated variables in nostalgia research (e.g. Havlena and Holak, 1991; Holbrook and Schindler, 1989, 1994, 2003; Lambert-Pandraud and Laurent, 2010; Muehling and Sprott, 2004; Reisenwitz *et al.*, 2004). However, despite the large amount of studies, **no clear relationship between age and nostalgia has been established** as existing

research findings are mixed. A series of studies carried out by Holbrook and Schindler (1989, 1994, 2003) analyzed the link between age and nostalgic preferences. It was found that age (as a chronological variable) and proneness to nostalgia (as an individual characteristic) are distinct constructs and work independently of each other (Holbrook, 1993). Research results revealed that older respondents have a preference for older films while respondents who are more prone to nostalgia prefer tender musicals. Thus, even though consumers vary widely in age, the individual propensity toward nostalgia proneness works independently of the aging process. Similar results were obtained in subsequent studies by Holbrook and Schindler (1994, 2003). The interpretative study by Goulding (2002) explored vicarious nostalgia and the findings also suggested that individuals may have more in common with people of a different generation through shared interests, activities, etc., and this might not be related with their age. Further, it was demonstrated that although nostalgic advertisements evoke a more positive attitude toward the advertisement and advertised brand than non-nostalgic ads, age has no impact on such results (Muehling and Sprott, 2004).

Further research by Reisenwitz *et al.* (2004) provided contradictory results. Their findings suggest that the relationship between age and nostalgia varies depending on different forms of nostalgia: there is a significant positive relationship between individual nostalgia proneness and age, though there is no significant positive relationship between societal nostalgia proneness and age. In contrast, Lambert-Pandraud and Laurent (2010) claimed that consumers do not have preferences for a particular category that were formed in their youth. The results of their research showed that nostalgia cannot explain why older consumers tend to use older perfumes as only a small number of consumers aged 30 and more have nostalgic preferences for perfume that they came across before the age of 30. This contrasts with the work of Holbrook and Schindler (1989, 1994, 2003), in which they proposed that individuals' preferences peak for certain products during their formative years.

Therefore, these contradictory findings leave it unclear whether nostalgia has the same impact on both younger and older consumers for choosing nostalgic products and whether nostalgia is related more to older consumers or it is a distinct individual characteristic that some individuals might develop in their formative years. Being of a specific age does not necessarily imply that one feels as though one is of this age (Logan *et al.*, 1992; Mathur and Moschis, 2005). Researchers revealed that individuals tend to feel younger than their chronological age (Goldsmith and Heiens, 1992; Kohlbacher *et al.*, 2011; Wilkes, 1992). Although chronological age changes steadily, cognitive age may not change in the same way as the environment in which individuals live is relatively stable and does not change much (Mathur and Moschis, 2005). This tendency to feel younger may offer additional explanations for consumer nostalgic preference formation. It has been suggested that nostalgia is especially attractive when individuals feel confused about their intrinsic self-concept or cannot express their intrinsic self in their current lives (Baldwin *et al.*, 2015).

First, the self-consistency motive (acting in line with one's self-concept) should be considered. People entering their later years try to hold on to self-images developed in earlier life by engaging in the same consumption-related activities that they engaged in in their past, thus defending their self-concepts (Mathur and Moschis, 2005). The self-consistency motive supposes that a consumer will be motivated to choose a product that has an image that is congruent with his or her self-image belief (Sirgy, 1982). However, self-image beliefs might not necessarily be congruent with individuals' actual age. We employ self-concept as a theoretical basis for the current research. Grubb and Grathwohl (1967) indicated three main aspects of self-concept in consumer behavior. First, an individual's behavior is directed toward the protection and improvement of self-concept. Next, the usage, display and purchase of products communicate a symbolic meaning to the person and to others. Third, the individual's consumption behavior is directed toward enhancing self-concept.

through the consumption of products as symbols. While choosing their products, people try to match the symbolic images of them with their own self-concepts (Mittal, 2015). Both nostalgic reflections of the past and cognitive age help people to define themselves and maintain their self-concept over time (Baldwin *et al.*, 2015; Belk, 1990; Mathur and Moschis, 2005). Nostalgia contributes to an individual's self-concept through a sense of past and memories of previous experiences (Baldwin *et al.*, 2015; Belk, 1990; Stern, 1992). Nostalgia has been related to the self as a particular way of linking an individual's past with his or her present and future (Belk, 1990; Stern, 1992). Recently Baldwin *et al.* (2015) suggested that nostalgia offers a window to the intrinsic self-concept and the findings of Vess *et al.* (2012) research showed that nostalgia functions as a positive resource for the self. Similarly, self-perceived age is viewed as being capable of reflecting one's identity and behavior (Barak and Schiffman, 1981). Identifying with younger ages can be considered as a compensatory self-enchanting strategy which helps to counteract the negative stereotypes and cultural messages related to ageism (Westerhof *et al.*, 2003). Both theory and research on self-concept create the underlying bases for the self-perceived age construct. Age identity strongly contributes to the individual's self-concept, which may or may not change with age (Mathur and Moschis, 2005).

3. Hypotheses

Consumer nostalgia is part of individuals' consumption experience and choices (Goulding, 2001). Consumers' favorable attitudes toward the past can affect consumer decisions and increase the likelihood of nostalgia-related purchases (Sierra and McQuitty, 2007). Numerous studies have shown that consumer nostalgia has a positive and significant impact on attitude toward the nostalgic product or brand (e.g. Pascal *et al.*, 2002; Muehling and Sprott, 2004; Chou and Lien, 2010; Muehling and Pascal, 2012). Therefore, consistent with the nostalgia literature, it is hypothesized that:

H1. Consumer nostalgia is positively related to nostalgic product judgment.

Consumer nostalgia contributes to a greater intention to purchase nostalgic products (e.g. Pascal *et al.*, 2002; Sierra and McQuitty, 2007; Bambauer-Sachse and Gierl, 2009; Muehling *et al.*, 2014) and to a greater willingness to pay more for them (Lasaleta *et al.*, 2014). Subsequently, it might be assumed that consumer nostalgia will also be positively related to the actual purchase of nostalgic products. Therefore, this leads us to the following hypothesis:

H2. Consumer nostalgia is positively related to the actual purchase of nostalgic products.

Most prior theoretical and empirical studies show that people assimilate positive nostalgic recollections into their present self-concept. As individuals differ in the nature of their intrinsic self-concept, the role of nostalgia in forming that self-concept as more accessible would stimulate outcomes that would fit the relevant self-concept (Baldwin *et al.*, 2015). Provided one of the main characteristics of one's self-concept is a younger age identity, then nostalgic memories will be about those times. As nostalgia has a capacity of reminding people who they "truly" are, they tend to reflect on nostalgic memories in situations when they find that it is difficult to know or express who they truly are (Baldwin *et al.*, 2015); therefore, when feeling younger (which is the "true" perception of oneself), people prefer nostalgic products. Individuals are able to identify attributes which reflect who they think they truly are and tend to evaluate these attributes more positively than other aspects (Harter, 2002). Also, from an aging perspective, individuals have a tendency to act in line with their self-concept and when getting older they try to hold on to self-images developed in their past and engage in the same consumption-related activities as before (Mathur and

Moschis, 2005). Therefore, the greater the discrepancy between one's actual and cognitive age, that is, the younger an individual feels, the more his or her self-concept will be consistent with nostalgic products that are reminiscent of the times when one was younger. Thus, the following hypotheses are proposed:

H3. Age identity is positively related to nostalgic product judgment.

H4. Age identity is positively related to the actual purchase of nostalgic products.

Although consumers cannot relive their past literally, they can recreate it through nostalgic consumption experiences (Stern, 1992). In other words, purchasing products that are reminiscent of past moments can help consumers to revisit that time period and re-experience positive memories (Sierra and McQuitty, 2007). The nostalgic product is not just a simple tangible product itself – it contains a deeper meaning which is derived from an earlier experience in the past (Baker and Kennedy, 1994). Nostalgic products are themselves likely to evoke memories of past times directly through the consumption of the products themselves (Havlena and Holak, 1991). Since in our research we explicitly consider only nostalgic products and nostalgic products are nostalgia-specific, we hypothesize that nostalgia will be a greater predictor for actual purchase and consumption of nostalgic products than age identity:

H5. Consumer nostalgia is a better predictor for actual purchase of nostalgic products than age identity.

4. Methodology

4.1 Data collection and sample

Data for this study were collected using a convenience sample. Respondents were not only students, but also other adults (students were asked to share the survey with their colleagues or relatives), this way allowing us to have a wider distribution of respondents in terms of age and other characteristics. The initial sample consisted of 346 adult respondents in Lithuania. In total, 29 questionnaires were eliminated from further analysis after controlling for response bias, and four because of too short response time. The sample consisted of 313 consumers, 39 percent of whom were men. The age of respondents ranged from 20 to 75 years with a mean of 36 years ($SD = 12.8$). Most survey participants (89 percent) who came from the biggest city in Lithuania had a higher education degree (88 percent) and had an average or above average income per one family member (81 percent). Compared to the general population of Lithuania, the sample consisted of more women, younger and urban respondents with higher income (Statistics Lithuania, 2015) (Table I).

4.2 Research measures

For construct operationalization we used scales that had been validated in previous research. The questionnaire was created using scales in English. As the research was conducted in Lithuania, the items of the research instrument were translated into Lithuanian using the back-translation method.

To measure consumer nostalgia, the five-item Southampton nostalgia scale was selected (Routledge *et al.*, 2008) (a sample item: "How often do you experience nostalgia? very rarely – very frequently").

The difference between one's actual and cognitive ages was used as a measure of age identity, disclosing the tendency to feel either younger or older than one's chronological age (higher positive values signify the tendency to feel younger). The difference between one's actual and cognitive ages was used as a measure of age identity, disclosing the tendency to feel either younger or older than one's chronological age (higher positive values signify the

Table I.
Sample profile

	%
<i>Gender</i>	
Male	39.0
Female	61.0
<i>Age</i>	
20-29	45.8
30-39	17.9
40-49	17.0
50-59	13.8
More than 60	5.4
<i>Income (in euro)</i>	
Up to 347	19.3
348-463	12.9
464-579	16.4
600-696	20.3
More than 697	31.2
<i>Marital status</i>	
Single	37.6
Married/partnership	55.3
Divorced or widowed	7.1
<i>Education</i>	
Main or secondary	6.4
College	6.1
Higher	87.5
<i>Residence</i>	
Vilnius	88.5
Other cities	9.6
Rural area	1.9

tendency to feel younger). Cognitive age was operationalized using a four-item scale measuring consumers' self-perceived age created by Barak and Schiffman (1981) (a sample item: "I look as though I am in my [...] 20s 30s 40s 50s 60s 70s 80s").

Product judgment scale was developed by Keller and Aaker (1992) and consisted of three-items, measured on a seven-point Likert scale from 1 = "strongly disagree", 7 = "strongly agree" (a sample item: "Better than currently existing products").

Product ownership was measured as the sum of all nostalgic products purchased during the last year.

Research suggests that nostalgic effects can be observed in a wide variety of products (Schindler and Holbrook, 2003). Often nostalgic product categories are those which are mostly related to consumers' meaningful past experiences, for example, sharing a snack with a childhood friend or watching a certain movie with the loved ones at home (Muehling *et al.*, 2014). However, these categories may not necessarily be entertainment related or primarily aesthetic in nature which would be the case of nostalgia for automobiles (Rindfleisch *et al.*, 2000; Schindler and Holbrook, 2003) or even toothpaste category (Muehling *et al.*, 2014). The list of nostalgic products for this research was formed after conducting five interviews with experts in the marketing industry and a pre-test. Two different product categories were selected for this study: fast-moving consumer goods (sweets, cookies) and cultural products (music, movies). These product categories have proven to be popular in other research on consumer nostalgia. Music and movies are frequently investigated in this context (Holbrook and Schindler, 1989, 1994, 1996; Sierra and

McQuitty, 2007). Loveland *et al.* (2010) claimed that an individual may feel closer to former friends through the consumption of music, movies and other products which were popular earlier, during their friendship. Such everyday low-involvement products as candies (Loveland *et al.*, 2010) or cookies (Bambauer-Sachse and Gierl, 2009; Kessous and Roux, 2010) also tend to be chosen as an area of investigation by nostalgia researchers. Several scholars identified that candies and cookies are perceived as nostalgic product categories (Loveland *et al.*, 2010; Kessous and Roux, 2010). According to Holbrook and Schindler (1989), the past evoked by such products and their packages often reflects an idealized image of a period in our history.

The list of nostalgic products, which was generated after conducting interviews, was pre-tested. The pre-test was conducted using a self-administrated internet survey method and 50 respondents completed the questionnaire. Respondents were students and other adults, who were later not invited to participate in the main study. In the pre-test questionnaire respondents were asked to identify at what level each product evokes nostalgic feelings in the seven-point Likert scale, ranging from 1 = "totally does not evoke any nostalgic feelings" to 7 = "evokes strong nostalgic feelings." From each group five items with the highest mean scores were chosen to be included in the questionnaire (Table II).

5. Results

5.1 Measurement model

A confirmatory factor analysis was performed in order to examine the measurement characteristics of analyzed constructs using LISREL 9.1. Overall measurement model fit was acceptable ($\chi^2 = 53.50$, $df = 23$, $RMSEA = 0.065$, $CFI = 0.983$, $SRMR = 0.0479$). Composite reliabilities of measurement models were between 0.86 and 0.94 while average variance extracted (AVE) values ranged from 0.67 to 0.80. All AVE values exceeded 0.5 (Fornell and Larcker, 1981) and were above the squared correlation coefficients of each construct with all other constructs (Tables III and IV).

Nostalgic group	Mean in the pre-test	Non-nostalgic group	Mean in the pre-test
<i>Films</i>			
"Home alone"	4.5	"Gravity"	1.5
"Operation Y and other"		"Valentinas vienas"	1.4
"Shurik's adventures"	4.8		
"Velnio nuotaka"	3.9	"My sister's keeper"	1.5
"Tadas Blinda"	3.5	"The Hangover"	1.7
"The Irony of Fate, or Enjoy Your New Happiness"	3.7	"Hunger games: catching fire"	1.7
<i>Music</i>			
"Hiperbole"	4.5	Lady Gaga	1.4
"ABBA"	4.4	Donatas Montvydas	1.4
"Scorpions"	4.2	Mantas	1.8
"Queen"	5.2	Beyonce	1.7
"Antis"	3.8	Lean Somov and Jazzu	1.8
<i>Sweets</i>			
Cookies "Gaidelis"	4.5	Cookies "Belvita"	1.6
Candies "Karvutė"	5.0	Candies "Sonata"	1.7
Candies "Nomeda"	4.2	Candies "Milka"	2.3
Candies "Paukščių pienas"	4.3	Candies "Shogetten"	2.0
Candies "Griliažas"	3.8	Cookies "Selga"	2.1

Table II.
The list of chosen
nostalgic and non-
nostalgic items

Table III.
Discriminant validity
assessment and
inter-constructs
correlations

<i>Discriminant validity assessment</i>		Mean	SD	1	2	3	4
1. Nostalgia	3.69	1.35		<i>0.71</i>			
2. Cognitive age	33.67	9.74		0.00	<i>0.80</i>		
3. Product judgment	4.06	1.48		0.14	0.01	<i>0.67</i>	
4. Actual purchase	1.82	1.04		0.03	0.06	0.05	na
<i>Inter-constructs correlations</i>		1	2	3	4		
1. Nostalgia	na						
2. Cognitive age	<i>-0.024</i>						
3. Product judgment	<i>0.370**</i>	0.102					
4. Actual purchase	<i>0.173**</i>	<i>0.254**</i>		<i>0.220**</i>	na		
1. Nostalgia	na						
2. Cognitive age	<i>-0.031</i>	na					
3. Product judgment	<i>0.370**</i>	0.102	na				
4. Actual purchase	<i>0.173**</i>	<i>0.254**</i>	<i>0.220**</i>	na			
5. Age identity	<i>-0.204**</i>	0.073	-0.29	<i>0.205**</i>	na		

Notes: Na, not assessed. Italic numbers on the diagonal are the AVE's; numbers on the off-diagonal show the squared correlation between the constructs. **Correlation is significant at 0.01 level

Table IV.
Study measures

<i>Southampton Nostalgia Scale (Routledge et al., 2008)</i>		$\alpha = 0.90$; $CR = 0.91$; $AVE = 0.71$
How often do you experience nostalgia? (very rarely – very frequently)		0.88
How prone are you to feeling nostalgic? (not at all – very much)		0.88
Generally speaking, how often do you bring to mind nostalgic experiences? (very rarely – very frequently)		0.88
Specifically, how often do you bring to mind nostalgic experiences?		–
How important is it for you to bring to mind nostalgic experiences? (not at all – very much)		0.72
<i>Cognitive age (Barak and Schiffman, 1981)</i>		$\alpha = 0.94$; $CR = 0.94$; $AVE = 0.80$
I feel as though I am in my [...] 20's 30's 40's 50's 60's 70' 80's		0.86
I look as though I am in my [...] 20's 30's 40's 50's 60's 70' 80's		0.88
I do most things as though I am in my [...] 20's 30's 40's 50's 60's 70' 80's		0.88
My interests are mostly those of a person in her [...] 20's 30's 40's 50's 60's 70' 80's		0.94
<i>Product judgment (Keller and Aaker, 1992)</i>		$\alpha = 0.85$; $CR = 0.86$; $AVE = 0.67$
Superior quality		0.85
Better than currently existing products		0.88
Good		0.71

Notes: Column entries are standardized factor loadings. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

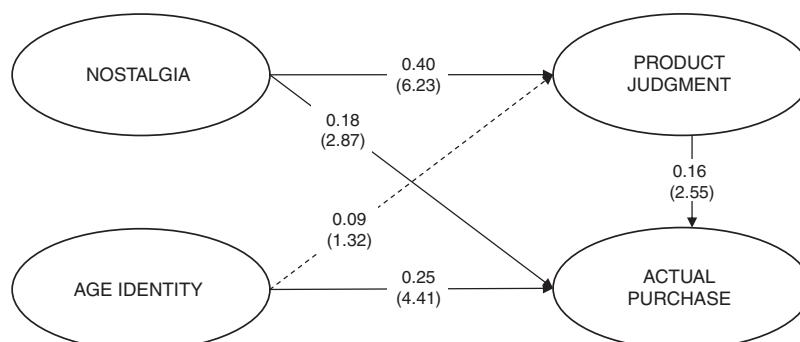
5.2 Structural model

We employed structural equation modeling approach, which is a collection of statistical techniques based on the general linear model that allow a set of relations between one or more independent variables and one or more dependent variables, either continuous or discrete, to be examined (Ullman, 2006). We estimated a structural equation model in order to test the hypotheses. The estimation of the model produced the following goodness-of-fit statistics: $\chi^2 = 53.50$, $df = 23$, $RMSEA = 0.065$, $CFI = 0.983$, $SRMR = 0.0479$, which indicated a good fit. Standardized parameter estimates as well as associated t -values are shown in

Figure 1. These results demonstrate that all examined paths are significant except for the age identity-product judgment relationship. In support of *H1* and *H2*, nostalgia is positively related to nostalgic product judgment ($\beta = 0.40$, $t = 6.23$, $p < 0.01$) and actual purchase of nostalgic products ($\beta = 0.18$, $t = 2.87$, $p < 0.01$). However, no significant relationship between age identity and nostalgic product judgment was found, thus *H3* was not supported. Next, supporting *H4*, age identity was found to be positively related to actual purchase of nostalgic products ($\beta = 0.25$, $t = 4.41$, $p < 0.01$). Surprisingly, and in contrast to *H5*, age identity was a better predictor for actual purchase of nostalgic products than nostalgia as a higher deterioration in model fit is observed when the path between age identity and actual purchase is fixed to 0 and all other paths estimated freely; conversely, a lower deterioration in model fit is observed when the path from consumer nostalgia to actual purchase is set to 0 (Table V).

6. Discussion and conclusions

Our study provides initial evidence that the bigger the discrepancy between one's chronological and cognitive age, the more nostalgic products one actually chooses. In other words, the younger a consumer feels compared to his or her actual age, the more he or she buys nostalgic products. This is in line with previous findings that nostalgia-related experiences help people to maintain their self-concept over time (Baldwin *et al.*, 2015; Belk, 1990; Vess *et al.*, 2012). Viewed from an aging perspective, when getting older, individuals try to act in accordance with their self-concepts and therefore they tend to hold on to their previously developed self-images (Mathur and Moschis, 2005) and choose the same products that they have used before. Moreover, age identity is a better predictor than consumer nostalgia for the actual purchase of nostalgic products. This finding shows that the relative impact of consumer nostalgia might be weaker when age identity also influences actual purchases, suggesting that individuals' part of self-concept related to age identity



Notes: Standardized estimates shown (*t*-values in parentheses), non-significant paths are dashed. All *p*-values < 0.01

Figure 1.
Hypothesis
testing results

	R^2 -actual purchase	df	EVCI	AIC
Conceptual model	0.120	23	0.313	4,721.890
Nostalgia set to 0	0.0977	24	0.332	4,727.986
Age identity set to 0	0.0642	24	0.366	4,738.651

Notes: EVCI, expected cross-validation index; AIC, Akaike information criterion

Table V.
Hypothesis testing
results, *H5*

may be stronger than nostalgia-related self-concept. Therefore, consumers tend to choose nostalgic products more because of their age identity than because of their sentiments for the past. The results of our empirical research confirmed that consumer nostalgia is an important factor in consumer behavior – it is positively related with nostalgic product judgment and the actual purchase of nostalgic products. These results are consistent with the findings of earlier research by Muehling and Sprott (2004), Chou and Lien (2010), and Muehling and Pascal (2012). Furthermore, extant age identity research concentrates on analyzing cognitive age mainly in the context of older consumers. However, several researchers (Barak and Schiffman, 1981; Chang, 2008) have proposed that cognitive age should be used in studies exploring various age groups, not only the elderly. The present study showed that age perception is also relevant for analyzing different age groups.

6.1 Managerial implications

Our findings provide additional insights for both academicians and practitioners regarding the phenomenon of nostalgia. The results of this research are relevant for today marketers who use nostalgic cues in their campaigns to attract consumers and offer products that stimulate consumers' nostalgic responses in order to positively influence consumers' behavior. Current findings demonstrate that nostalgia used in communication might provide the expected positive effect when it is employed in an appropriate way and environment. First of all, as the results of present research revealed, marketers and advertisers should consider consumers cognitive age when preparing their marketing and communication strategy. Consumers' age identity appeared to be an important factor affecting their actual behavior, therefore, it could be a relevant segmentation variable (Kohlbacher and Chéron, 2012; Wei, 2005; Sudbury-Riley *et al.*, 2015). Sudbury-Riley *et al.* (2015) showed that cognitively younger and cognitively older individuals are two distinct consumer segments differing across a range of values and consumer behaviors. People who have higher incongruence between their actual and cognitive age, that is, feel younger than they actually are, tend to prefer nostalgia-related consumption activities. They are more open to nostalgic communication and should hence respond to it more positively. Marketers can increase the choice of nostalgic products by using the models, situations and spokespersons of relevant perceived age in communications. As the portrayals of models in advertisements suggest the lifestyle and image of products users (Chang, 2008), they should reflect and be close to the age identity of the target audience, in this way influencing the response to the advertising message. Furthermore, marketers could run market research studies aimed at analyzing their customers' age identities and these studies should help them to attribute their clients to certain age identity segments. The multidimensional market segmentation typology strategy could be also considered (see Loos and Ekström, 2014). After identifying different age identity segments, i.e. cognitively younger, cognitively older, etc., they should target each relevant segment accordingly. For example, if the key target group consists of consumers feeling younger than they actually are, then nostalgic appeals could be exploited and nostalgic cues reflecting the fond memories from their youth could be used in messages and visuals reaching this audience. This could be an advantageous approach for products or services in different categories, such as finance, cosmetics, leisure, etc.

However, marketers should not forget that those with lower incongruence between their actual and cognitive age might turn away in this situation since they are less likely to appreciate nostalgic cues. Thus, it is very important to consider the age identity of the target group in order to avoid an undesirable reaction and at the same time to increase the competitive advantage. What is more, although it may be tempting to introduce new brands or modify the features (such as packaging, slogan, etc.) of currently existing products, all product innovations should be considered carefully. If one's target consumers tend to be

characterized by having higher incongruence between their actual and cognitive age, these manufacturers and marketers may benefit more from preserving older product versions and keeping established products available as these consumers may be more sensitive to changes made to products which they have been choosing for a long time.

6.2 Directions for further research

Several potential directions for future research can be outlined. As previous research provides evidence that effects of nostalgia may be object or product category specific, we also suggest future studies to test the generalizability of our findings using different types of products. For example, further empirical studies could also explore other product categories – not only fast-moving consumer goods or cultural products, such as music or movies, but also technological products, fashion or luxury products, etc. One more interesting and relevant future research direction would be analyzing the role of age identity not only in nostalgic products context, but also in the new and innovative product context. Furthermore, as research covering nostalgia and services is extremely scarce, more profound analysis of services in the nostalgic context, such as restaurants, hotels, etc. may also provide richer insights into understanding this phenomenon.

Future studies could also investigate similar research analyzing different dimensions of nostalgia – personal and historical nostalgia. For greater generalizability, this research could be replicated in other cultures, such as Asian or American countries. What is more, future researchers could run cross-cultural studies also integrating the concept of cultural age which may also provide additional knowledge about the current topic since there are some findings in literature indicating that culture may also play some role in the perceptions of age (Barak *et al.*, 2001).

Moreover, longitudinal studies which would seek to clarify the development of the relationship between nostalgia and age identity over time could also be undertaken. Longitudinal research would contribute to a deeper understanding of the dynamics of these constructs and assess the long-term impact of nostalgia and age identity. Also, future researchers could develop alternative theories explaining actual purchase and consumption of nostalgic products and analyze other constructs related to nostalgia research, such as self-esteem, self-confidence, or conservatism, to gain further insights into the effects of nostalgia.

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