Market Segmentation Based on Age and Attitude Toward the Past: Concepts, Methods, and Findings Concerning Nostalgic Influences on Customer Tastes

Morris B. Holbrook
COLUMBIA UNIVERSITY

Robert M. Schindler
RUTGERS UNIVERSITY—CAMDEN

The marketing literature has neglected some effects of age and attitude toward the past that are potentially useful to marketers in the formulation of segmentation strategy for cultural products that appeal differentially to various customer tastes. Specifically, with respect to cognitive responses, previous research has supported a peak in memory for events that occurred during one's late adolescence or early adulthood. Similarly, research on the affective responses of consumers has shown comparable effects connected with nostalgia—first, an age-related preference peak for offerings associated with one's youth; second, a shift in this preference peak to an earlier age for those more favorable in attitude toward the past. The purpose of the present study is to illustrate such effects and to indicate their potential marketing implications in the case of one particular cultural product category—namely, motion pictures. Toward these ends, a complete reanalysis of data reported in another context: (1) replicates both the age-related preference peak and the nostalgic shift due to attitude toward the past, (2) extends these findings to the case of tastes for motion pictures, and (3) suggests the possibly dramatic implications that such findings might carry for the formulation of marketing strategy in the areas of entertainment, the arts, and other media-related offerings. J BUSN RES 1996. 37.27–39

For many years—recognizing changes in patterns of consumption that reflect differences among consumers in demographic, socioeconomic, psychographic, and other general customer characteristics—marketers have based segmentation strategies in part on shifts in customer tastes due to age-related variables. Some have focused on segmentations based on age per se (Bartos, 1980; Day et al., 1987/88; Morgan and Levy, 1993; Moschis, 1991, 1992; Rentz and Reynolds, 1991; Towle and Martin, 1976; Umesh, 1987; Utsey and Cook, 1984). Others have pursued segmentation schemes based on progress through the traditional family life cycle (Reynolds and Wells, 1977; Wells and Gubar, 1966) or through household categories that reflect the existence of nontraditional families and nonfamilies (Gilly and Enis, 1982; Murphy and Staples, 1979).

Age, Family Life Cycle, Attitude Toward the Past, and the Role of Nostalgia in Marketing Strategy

With respect to age as the primary explanatory variable of interest, for example, marketing research has shown that older as opposed to younger consumers tend to go bowling more frequently (Hisrich and Peters, 1974), to shop more diligently (Zeithaml, 1985), to process information more slowly or less accurately (Cole and Gaeth, 1990), to pursue a more sedate lifestyle (Morgan and Levy, 1993), and to read magazines with advertisements featuring less youthful models (Mazis et al., 1992).

Meanwhile, with respect to movement through the household life cycle, bachelors tend to allocate relatively greater consumption expenditures to away-from-home entertainment; newlyweds to modern cooking appliances; full-nesters to consumer durables and home-oriented entertainment; single parents to convenience foods; childless couples to distilled spirits; and older couples to traditional kitchen equipment (Schaninger and Danko, 1993). Greater clothing expenditures tend to occur for young singles and smaller clothing expenditures for married

Address correspondence to Morris B. Holbrook, Graduate School of Business, Columbia University, 504 Uris Hall, New York, NY 10027.

or older adults (Wagner and Hanna, 1983). Similarly, energy consumption first increases and then decreases as households move from the young-single or married-without-children through the married-with-children to the older stages of the family life cycle (Fritzsche, 1981). Also, overall purchasing involvement appears to be higher for those in the child-rearing stages of the family life cycle (Slama and Tashchian, 1985).

Clearly, such trends carry important implications for designing a marketing mix, especially for producers of the relevant age-sensitive products. As a marketer, one can aim media and design appeals to attract members of the age or life-cycle groups most likely to purchase one's offering. Hence, one tends to find ads for infant formula in *Parent* magazine and those for adult diapers in *Modern Maturity*.

However, the marketing literature has thus far devoted less attention to some potentially important age- and time-related factors that bear directly on differences in preferences not only between product categories but also among offerings within the same product category. These factors have recently attracted the notice of behavioral scientists working in the areas of sociology (Schuman and Scott, 1989), public opinion polling (Scott and Zac, 1993), psychology (Schindler and Holbrook, 1993), and consumer research (Holbrook, 1993a, 1994; Holbrook and Schindler, 1989). Specifically—as recently noted in the context of marketing by Holbrook and Schindler (1994)—good reasons exist for marketers in the areas of entertainment and the arts to focus on bases for segmentation associated with nostalgia—that is, with age-related preference peaks or with the effects of attitude toward the past.

It appears that age and attitude toward the past combine to shape cultural tastes in ways that carry important implications for the design of marketing strategy. The purpose of the present study is to review the state-of-the-art in work on these nostalgia-related aspects of consumer behavior, to provide an illustrative replication based on a survey of customer preferences among motion pictures spanning a 60-year time period, and to suggest some implications of relevance to those concerned with the marketing of cultural products.

Age-Related Effects on Cognition

Recent studies in sociology and public opinion research have shown that time-based cognitions differ in importance and meaning among cohorts of varying ages. For example, Schuman and Scott (1989) propose that "each generation receives a distinctive imprint from the social and political events of its youth" (p. 359) and that "memories will be structured along the age dimension in ways that point to important cohort effects" (p. 360). They hypothesize that "the events and changes that have maximum impact in terms of memorableness occur during a cohort's adolescence and young adulthood" (p. 360). In justifying this hypothesis, Schuman and Scott (1989) emphasize that youth may be a "critical period" for learning about the political world (p. 361).

Schuman and Scott's data on 1,410 Americans supported

these claims by showing that people tend to remember events from their youth. For example, peak recall of World War II, the Vietnam War, or the Kennedy assassination appeared among those who were in their late teens or early 20s when these events occurred. Moreover, age differences also appeared in the reasons that people gave for mentioning various events, as when older respondents tended disproportionately to mention personal experience as the primary basis for recalling WWII. From these and related findings, Schuman and Scott (1989) infer a phenomenon of generational imprinting:

> The data fit well both the general hypothesis that memories of important political events and social changes are structured by age, and the more specific hypothesis that adolescence and early adulthood is the primary period for generational imprinting . . . of political memories (p. 377).

Similar conclusions emerge from a survey of 353 British households by Scott and Zac (1993). As in the United States, respondents in Great Britain most frequently mentioned World War II, with tendencies for such recollections to increase significantly with age and for older respondents to cite personal experience as their main reason for recalling the war. By contrast, younger respondents tended more to remember recent developments in Europe, whereas space exploration achieved peak mentions among those who were 14 to 23 years old in 1969 when astronauts first walked on the moon. From such patterns, Scott and Zac (1993) conclude:

> Both the British data and the American data clearly show that, broadly speaking, different cohorts remember different events or changes that were imprinted on their memories in the early formative years of adolescence and emerging adulthood . . . The most plausible explanation is that people choose events that occurred in their youth rather than events that happened later in life, thus creating a "reminiscence peak" (p. 330).

Age-Related Impacts on Affect

ANALOGY WITH IMPRINTING. Taken together, the effects just described refer most directly to the cognitive aspects of age-related development—that is, to the reasons and meanings by which our thoughts and perceptions shape the formation of our memories and conceptions over time. However, a strong rationale exists for supposing that comparable effects of age also occur in the case of affective phenomena—that is, in the formation of preferences for objects frequently encountered during a particular critical period of one's life. As implied by Schuman, Scott, and Zac, such critical-period effects would bear a strong resemblance to imprinting (Bornstein, 1989) in the sense that people may form attachments to various sorts of objects during a sensitive time in their lives in a manner comparable to the way in which baby goslings form strong bonds to their mother geese (Lorenz, 1951). If such a critical-period effect occurs, analogous to imprinting, one would expect to find

peak preferences for products or other objects common in a person's life when that individual was in, say, late adolescence or early adulthood.

METHOD OF TIME-DATED STIMULI. Research on the psychology of consumer behavior has supported the role of such critical-period imprinting effects via the demonstration of age-related preference peaks in customers' affective responses to products linked with various sorts of consumption experiences (Holbrook and Schindler, 1989, 1994; Schindler and Holbrook, 1993). In general, these studies have used a method based on time-dated stimuli. Specifically, in this approach, respondents rate their likings for various offerings from a product category in which each object can be accurately dated as to its time of origin. Subtracting each respondent's birthday from each offering's date gives that respondent's object-specific age for each offering. Preference ratings – normalized within respondents across objects so as to remove scale-response biases – are then averaged across respondents to compute a mean liking score (average preference) for each object-specific age (OSA). Mean liking is then regressed on OSA and on various transformations of OSA (e.g., OSA-squared) in order to determine the age-related timing of peak preferences and to estimate the nature of such relationships. Thus far, empirical applications have consistently shown strong nonmonotonic relationships of mean liking to OSA, with preference peaks that occur during adolescence or early adulthood for such cultural products as popular songs (Holbrook and Schindler, 1989), fashion models (Schindler and Holbrook, 1993), and photographs or movie stars (Holbrook and Schindler, 1994).

POTENTIALLY RELATED FINDINGS FROM OTHER APPROACHES. Comparable moderating effects of age on preference have also appeared in other recent research. For example, the responses of shoppers to background music in retail environments appear to depend upon age as a moderating variable. In one study, older (younger) shoppers spent more (less) money and time when listening to background (foreground) music (Yalch and Spangenberg, 1993). In another, baby boomers (older consumers) bought a greater (smaller) number of items in a grocery store that played classic rock as background music (Gulas and Schewe, 1994). Along similar lines, it appears that the attractiveness of fashion-design features such as jacket length in men's clothing differs between older and younger consumers in a way that may reflect the effects of generational imprinting (Eckman and Wagner, 1994).

Role of Nostalgia

The findings from sociology and consumer psychology just described have suggested an interpretation based on nostalgia (Havlena and Holak, 1991; Holbrook, 1993a, 1993b; Holbrook and Schindler, 1991). Thus – drawing on work by psychologists (e.g., Nawas and Platt, 1965), sociologists (e.g., Davis, 1979), historians (e.g., Lowenthal, 1985), and other social scientists (e.g., Csikszentmihalyi and Rochberg-Halton, 1981; McCraken,

1988) – Holbrook and Schindler (1991) have defined nostalgia as follows:

> *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) (p. 330).

Clearly, this definition of nostalgia is consistent with such time-related phenomena as the age-related preference peaks for music, fashion, or movie stars. Such effects invite an interpretation based on generational imprinting and represent nostalgic effects in the sense that people may tend more to recall or better to like events or objects associated with happier times in days of yore.

However, a second possible nostalgic phenomenon also deserves consideration – namely, that individuals may differ in their attitudes in the past or, in other words, in their degrees of nostalgia proneness. Specifically – even within an age cohort or when controlling for the effects of age – people may vary in the favorability of their orientations toward the past, and these individual differences in nostalgia proneness as a personal characteristic may play a supplementary role in determining consumption-related preferences above and beyond the variance explained by age alone. For example, Bergadaà (1990) suggests that a consumer's temporal orientation toward the past, present, or future results from a process of societal enculturation and encourages relatively more active or reactive responses to various types of products consumed.

Drawing on the aforementioned research by various social scientists (especially Davis, 1979), Holbrook (1993a, 1994) has proposed a 20-item index of attitude toward the past or nostalgia proneness (hereafter called the nostalgia index). In previous applications, this nostalgia index or a subset of eight items has shown consistently good reliability (with coefficient alphas in the neighborhood of 0.80) and has achieved promising concurrent validity when accounting for variance in preferences toward consumer products in general (Holbrook, 1994) and toward motion pictures in particular (Holbrook, 1993a). For example, independent of effects due to age, those higher in nostalgia proneness have tended relatively to prefer more tender musical or sentimental films, whereas those lower in nostalgia proneness have tended to show differential preferences for more violent war or gangster movies (Holbrook, 1993a). This connection between an appreciation for cinematic sentimentality and nostalgia proneness may suggest that those with more positive attitudes toward the past tend to be more open to emotional consumption experiences or more sensitive to interpersonal feelings.

Question of Combining the Nostalgic Effects of Age and Attitude toward the Past

In sum, complementing the cognitively oriented work on age-related memories for historical events, affectively based nostal-

gia appears to exert an important influence on the development of customer tastes in at least two senses. First, an age-related preference peak occurs in consumers' affective responses toward various cultural products. Second, attitude toward the past or nostalgia proneness differs among customers of the same age and further shapes their preference patterns.

A question arises, however, as to whether and how these two nostalgic phenomena might combine in the explanation of consumer tastes for cultural products. In this latter connection, Holbrook and Schindler (1991) have hypothesized a nostalgic shift wherein the object-specific age at which preferences peak should vary from younger to older for those higher as opposed to lower in nostalgia proneness.

Specifically, the aforementioned concepts suggest that—superimposed on the well-established preference peak due to age—those higher (lower) in favorability toward the past should tend to lean toward younger (older) object-specific ages in the timing of their peak preferences. In theory, this proposed age-by-nostalgia-proneness interaction could occur either due to attention toward objects of the past at the time preferences are initially formed (e.g., via a bias in favor of older or newer objects during the critical period that occurs in adolescence or early adulthood) or via the temporal biasing of retrospective tastes (e.g., via a leaning toward earlier or later objects when recalling favorite objects from the years surrounding one's critical period). One study has partially supported this general conceptualization by demonstrating such a nostalgic shift in the case of responses to photographs of movie stars (Holbrook and Schindler, 1994).

These findings for the case of movie-star photographs raise the question of whether a comparable nostalgic shift occurs in the cases of other cultural offerings. To address this issue and to provide a detailed illustration of the marketing-related analysis involved, the present study tests for a nostalgic shift in age-related peak preference for motion pictures. Toward that end, we perform a complete reanalysis of data collected previously for different purposes and reported in another context as part of a different study mentioned earlier. Though not anticipated at the time of their original collection, these data lend themselves to exploring the issues presently of interest in ways not discussed elsewhere.

Method

Sample

Data described previously in a different context by Holbrook (1993a) and made available for purposes of the present reanalysis came from a set of 156 age-heterogeneous respondents (94 females and 62 males) recruited by student volunteers in the New York area. In order to avoid some obvious biases, respondents were selected from outside the relevant school and were confined to people indicating the United States as their country of origin. Further, so as to ensure a wide span of variation on the age variable, each volunteer was asked to contribute two

respondents differing in age by at least twenty years. The resulting sample of respondents ranged from 21 to 85 years old (mean = 41.7, SD = 15.9, median = 37.5 years).

Task

Among other tasks, these respondents rated the 62 time-dated movies that had won Oscar Awards for Best Picture from 1927 through 1988 (Levy, 1990; Holden, 1993). A full listing of these 62 films, ordered by date, appears in Table 1. On the questionnaire itself, these motion pictures were presented in a random order and were accompanied by a nine-position check-mark scale of liking that appeared as follows:

STRONGLY   STRONGLY
DISLIKE   LIKE

__ : __ : __ : __ : __ : __ : __ : __ : __

To avoid scale-response biases, these liking scores were normalized within each respondent across movies by subtracting their mean for that respondent. Respondents were encouraged to rate any unfamiliar films toward the midpoint or neutral level of the liking scale.

Measure of Attitude toward the Past or Nostalgia Proneness

We measured attitude toward the past or nostalgia proneness by means of 20 items from a nostalgia index introduced and justified conceptually by Holbrook (1993a, 1994). Specifically, respondents used a nine-position check-mark scale that ranged from "STRONGLY DISAGREE" to "STRONGLY AGREE" to rate their degree of agreement with each of the 20 statements shown in Table 2. These nostalgia-related agreement ratings were normalized within respondents (to reduce the effects of scale-response biases), were reversed in direction where appropriate (as indicated in the right-hand column of Table 2), and were summed to create a 20-item index of nostalgia proneness (the nostalgia index).

Previous work with this set of data has shown that the 20-item nostalgia index just described possesses satisfactory internal consistency, with a coefficient alpha of $\alpha = 0.78$ and with an average corrected item-total correlation of $r = 0.35$. These results compare closely with the values of $\alpha = 0.81$ and $r = 0.37$ obtained by Holbrook (1994), using the same 20-item index of nostalgia proneness with a different data set. In the present case, the analysis indicated that alpha could not be meaningfully improved (above 0.80) by eliminating any item from the index. A principal components analysis of the 20 items in the nostalgia index offered further support for the integrity of the index. Specifically, after the first eigenvalue (4.43), the next eigenvalue declined steeply (1.69) with subsequent eigenvalues decreasing gradually after that: 4.43, 1.69, 1.60, 1.52, 1.38, 1.17, 1.15, etc. The average loading of the 20 items on the first principal component was 0.44, with all but four (numbers 2, 6, 16, and 19) greater than 0.30. Again, these findings closely

Table 1. Sixty-Two Oscar-Winning Motion Pictures

Motion Picture	Date
Wings	1927
Seventh Heaven	1928
Broadway Melody	1929
All Quiet on the Western Front	1930
Cimarron	1931
Grand Hotel	1932
Cavalcade	1933
It Happened One Night	1934
Mutiny on the Bounty	1935
The Great Ziegfeld	1936
The Life of Emil Zola	1937
You Can't Take It with You	1938
Gone with the Wind	1939
Rebecca	1940
How Green Was My Valley	1941
Mrs. Miniver	1942
Casablanca	1943
Going My Way	1944
The Lost Weekend	1945
Best Years of Our Lives	1946
A Gentleman's Agreement	1947
Hamlet	1948
All the King's Men	1949
All about Eve	1950
An American in Paris	1951
The Greatest Show on Earth	1952
From Here to Eternity	1953
On the Waterfront	1954
Marty	1955
Around the World in 80 Days	1956
The Bridge on the River Kwai	1957
Gigi	1958
Ben Hur	1959
The Apartment	1960
West Side Story	1961
Lawrence of Arabia	1962
Tom Jones	1963
My Fair Lady	1964
The Sound of Music	1965
A Man For All Seasons	1966
In the Heat of the Night	1967
Oliver!	1968
Midnight Cowboy	1969
Patton	1970
The French Connection	1971
The Godfather, Part One	1972
The Sting	1973
The Godfather, Part Two	1974
One Flew over the Cuckoo's Nest	1975
Rocky	1976
Annie Hall	1977
The Deer Hunter	1978
Kramer vs. Kramer	1979
Ordinary People	1980
Chariots of Fire	1981
Gandhi	1982
Terms of Endearment	1983
Amadeus	1984
Out of Africa	1985
Platoon	1986
The Last Emperor	1987
Rain Man	1988

Note: In this table, the motion pictures are shown in their chronological order. On the questionnaire itself, they appeared in a random order.

mirror those for an independent data set reported by Holbrook (1994), who found an average loading of 0.46 for the first principal component and a similar "elbow" in the relevant eigenvalues (4.59, 1.69, 1.49, 1.28, 1.23, 1.15, 1.12, etc.).

Analysis

A key issue concerned the best functional form for capturing the relationship between liking (normalized for each respondent across movies) and movie-specific age (the age of the respondent when a particular film won its Oscar, computed by subtracting the respondent's year of birth from the date of the film). Two types of functional forms were explored to see which would provide the best fit to the hypothesized nonmonotonic shape of the data: (1) second- and third-degree polynomials and (2) piece-wise linear equations with a downward kink around an inflection point. For the latter case, in a manner suggested by Green (1978), the downward inflection occurred at a level of movie-specific age chosen systematically to maximize goodness of fit in explaining the criterion measure of liking.

Our general procedure was to select the functional form that appeared to fit best for the disaggregated sample as a whole (across both respondents and movies) but then to refine and represent the key results via analyses performed on mean scores aggregated for the various levels of movie-specific age (averaged across respondents and analyzed across movie-specific ages).

More specifically, OLS regression analyses were used to estimate equations of the following form:

$$\text{Liking} = f(\text{MSA}, \text{MSA}^2, \text{MSA}^3, \text{NOST}, \text{NOST} \times \text{MSA}, \text{NOST} \times \text{MSA}^2, \text{NOST} \times \text{MSA}^3) \qquad (1)$$

$$\text{Liking} = f(\text{Absolute Deviation}_{\text{Low}}, \text{Difference}_{\text{Low}}, \text{NOST}, \text{NOST} \times \text{Absolute Deviation}_{\text{Low}}, \text{NOST} \times \text{Absolute Deviation}_{\text{High}}, \text{NOST} \times \text{Difference}_{\text{High}}) \qquad (2)$$

where MSA = movie-specific age; where NOST = the 20-item nostalgia index (sometimes coded as a raw or standardized continuous variable and sometimes coded as a $-1/+1$ or a $0/1$ dummy variable based on a median split, as appropriate to the requirements of a given analysis); where Absolute Deviation$_{\text{Low}}$ = the absolute value of the difference between MSA and the inflection point (MSA$_{\text{Low}}$) for the low-nostalgia group (based on the aforementioned median split for the nostalgia index); where Difference$_{\text{Low}}$ = MSA $-$ MSA$_{\text{Low}}$; where Absolute Deviation$_{\text{High}}$ = $|\text{MSA} - \text{MSA}_{\text{High}}|$; where Difference$_{\text{High}}$ = MSA $-$ MSA$_{\text{High}}$; and where the multiplicative expressions involving NOST represent interaction terms that assess the various nostalgia-related moderating effects of primary interest.

1. DISAGGREGATE ANALYSIS. In Phase 1, we performed regressions of the types just described across both respondents and movies ($N = 62 \times 156 = 9672$) to ascertain the best functional form for the nonmonotonic effect of MSA on liking (i.e., the appropriate version of Equation 1 or 2 as just described). To test the models based on second- and third-degree polynomials

Table 2. Statements Used to Construct the 20-Item Nostalgia Index

Number	Statement	Reversed
(1)	They don't make 'em like they used to.	No
(2)	Newer is almost always better.	Yes
(3)	In the future, people will have even better lives.	Yes
(4)	Things used to be better in the good old days.	No
(5)	I believe in the constant march of progress.	Yes
(6)	Yesterday, all my troubles seemed so far away.	No
(7)	Products are getting shoddier and shoddier.	No
(8)	Compared to our parents, we've got it good.	Yes
(9)	Technological change will ensure a brighter future.	Yes
(10)	When I was younger, I was happier than I am today.	No
(11)	Today's new movie stars could learn from the old pros.	No
(12)	I must admit it's getting better, better all the time.	Yes
(13)	The truly great sports heroes are long dead and gone.	No
(14)	History involves a steady improvement in human welfare.	Yes
(15)	Today's standard of living is the highest ever attained.	Yes
(16)	Sometimes, I wish I could return to the womb.	No
(17)	We are experiencing a decline in the quality of life.	No
(18)	Steady growth in GNP has brought increased human happiness.	Yes
(19)	Compared to the classics, today's music is mostly trash.	No
(20)	Modern business constantly builds a better tomorrow.	Yes

(in the form of Equation 1), MSA and NOST were treated as continuous variables standardized (mean = 0, SD = 1) to minimize the effects of multicollinearity. For the piece-wise linear models (in the form of Equation 2)–comparable to the approach described by Green (1978)–respondents were divided into those below and those above the median on the 20-item nostalgia index (both $N = 74$). Systematic searches across the range of movie-specific ages were conducted separately for each subdivided group (low versus high nostalgia proneness) to determine its best-fitting inflection point (MSA_{Low}, MSA_{High}). These estimates for MSA_{Low} and MSA_{High} were then combined with NOST (coded as a 0/1 dummy variable to represent low/high nostalgia proneness) in the regression, using variations of Equation 2 as described earlier. In addition, polynomial forms as shown in Equation 1–with NOST coded as a $-1/+1$ dummy variable to minimize problems with multicollinearity–were tested for purposes of comparison with the piece-wise linear forms just described. (For all such comparisons, as noted earlier, MSA and NOST were scored in raw form, standardized, coded as a 0/1 dummy, or coded $-1/+1$ in accord with the nature of the particular model being examined.)

2. AGGREGATE ANALYSIS. In the aggregate-level analysis, scores for mean liking at different MSAs were computed separately for those low and those high in nostalgia proneness. In each case, mean liking was calculated as the average preference score across respondents at each level of MSA and was standardized (mean = 0, SD = 1) within each nostalgia group (across MSAs). Mean liking could then be regressed on MSA, on NOST, on the various transformations of MSA, and on the various NOST × MSA interaction terms, as appropriate to the nature of the various functional forms described earlier.

In these regressions, one must be careful not to use data points for mean liking that are based on so few observations (n) at a particular value of MSA as to be statistically unreliable. Indeed, the question arises as to where the sample-size cut-off (n) should be set to prevent this problem of insufficient observations from causing trouble. At the same time, because the MSAs with small numbers of observations tend to lie in the positive and negative tails of the MSA distribution, raising the sample-size cut-off unduly would run the risk of masking the hypothesized nonmonotonicity in the effect of MSA on mean liking. Accordingly, we performed the relevant analyses for all sample-size cut-offs from $n \geq 1$ to $n \geq 50$. We chose a cut-off at which the regression fit and model parameters became stable without raising the cut-off so far as to restrict the range in MSA unnecessarily.

After finding the best-fitting functional form in the disaggregate analysis and after setting the sample-size cut-off (n) at a level that would ensure stable results, we conducted a final analysis to determine the parameters that would provide the best-fitting model at the aggregate level. We represented this best-fitting equation graphically as a scattergram of actual versus predicted mean liking plotted against MSA for the low and high nostalgia groups separately. The resulting figure offers a rigorous but parsimonious and accessible visual synopsis of the results.

Results

Disaggregate Analysis

Results for key parts of the disaggregate analysis appear in Table 3 (panels A through D). These show clearly that the hypothesized nonmonotonic effect of MSA on liking occurs for

Table 3. Disaggregate Regression Analyses Using Various Functional Forms to Explain Normalized Liking Scores for 62 Movies

Independent Variables	Regression Coefficient	t-Value	p-Level
A. Intercept	0.0743	3.56	0.0004
MSA (raw)	0.0199	23.26	0.0001
MSA^2	−0.000372	−15.53	0.0001
R^2 [F(2,9669) = 273.6]	0.0536		0.0001
B. Intercept	0.125	9.79	0.0001
MSA (standardized)	0.199	19.77	0.0001
MSA^2	−0.128	−15.64	0.0001
NOST (20-item index)	−0.00417	−0.33	NS
NOST × MSA	−0.0435	−4.16	0.0001
NOST × MSA^2	0.0220	2.65	0.008
R^2 [F(5,9666) = 113.9]	0.0556		0.0001
C. Intercept	0.0685	3.20	0.001
MSA (raw)	0.0204	23.17	0.0001
MSA^2	−0.000378	−15.42	0.0001
NOST (−1/+1)	0.0219	1.02	NS
NOST × MSA	−0.00338	−3.84	0.0001
NOST × MSA^2	0.0000332	1.35	NS
R^2 [F(5,9170) = 110.0]	0.0566		0.0001
D. Intercept	0.667	15.62	0.0001
Absolute Deviation$_{23}$	−0.0275	−14.58	0.0001
Difference$_{23}$	0.00348	2.80	0.005
NOST (0/1)	−0.190	−2.93	0.003
NOST × Abs. Dev.$_{23}$	0.0346	2.08	0.04
NOST × Abs. Dev.$_{20}$	−0.0263	−1.68	0.09
NOST × Difference$_{20}$	0.000501	0.20	NS
R^2 [F(6,9169) = 105.6]	0.0647		0.0001

the sample as a whole (panel A), with a highly significant negative contribution of MSA^2 ($t = -15.5$, $p < .0001$) and an overall age-related preference peak at a movie-specific age of 26.7 years old (computed by differentiating the preference equation with respect to MSA, setting the derivative equal to zero, and solving for the optimal MSA). The moderating effect on this result due to nostalgia proneness measured by the 20-item nostalgia index (NOST × MSA in panel B) is highly significant ($t = -4.2$, $p < .0001$). A similar analysis with the nostalgia index coded as a −1/+1 dummy variable based on the aforementioned median split (panel C) produces a similarly significant downward shift ($t = -3.8$, $p < .0001$) in the age-related preference peak from an MSA of 29.0 for those low in nostalgia proneness to an MSA of 24.7 for those high in nostalgia proneness (again, as computed via the use of calculus).

For use in the piece-wise linear model, the best-fitting inflection points occurred at $MSA_{Low} = 23$ for those low and $MSA_{High} = 20$ for those high on the 20-item nostalgia index ($R^2 = 0.08$, $F_{2,4585} = 205.9$, $p < .0001$ and $R^2 = 0.05$, $F_{2,4585} = 110.3$, $p < .0001$, respectively). Using these infection points in the piece-wise model (panel D) produced an overall fit ($R^2 = 0.065$, $F_{6,9169} = 105.6$, $p < .0001$) marginally superior to that for either the quadratic version with the 20-item nostalgia index ($R^2 = 0.057$, $F_{5,9170} = 110.0$, $p < .0001$) or a comparable

cubic version using additional third-order terms ($R^2 = 0.059$, $F_{7,9168} = 81.9$, $p < .0001$).

In sum, from the disaggregate analysis of the overall sample across both respondents and movies, we concluded that the piece-wise linear functional form with inflection points at the best-fitting levels of MSA_{Low} and MSA_{High} shows a somewhat better predictive fit than does either a quadratic or a cubic form of the model. Given its marginally superior predictive performance, the piece-wise linear model appears preferable to the polynominal forms – especially in light of its greater parsimony and the conceptually unappealing tendency of the cubic version to turn back upward in the tails of the MSA distribution. Thus, following Green (1978), we chose the piece-wise linear model for further refinement and representation at the aggregate level.

Aggregate Analysis

Retaining the best-fitting piece-wise linear model from the disaggregate analysis, the aggregate-level analysis began by estimating this model with mean liking as the dependent variable and with sample-size cut-offs for the number of observations (n) used to compute these mean values ranging from $n \geq 1$ to $n \geq 50$. For the smaller cut-offs (n), the regression fits were comparatively poor (due to the instability of means based on very small sample sizes), but these fits improved gradually as the cut-off (n) increased from $n \geq 1$ to $n \geq 10$: (1) $R^2 = 0.47$ ($df = 245$); (2) $R^2 = 0.47$ ($df = 239$); (3) $R^2 = 0.60$ ($df = 227$); (4) $R^2 = 0.65$ ($df = 218$); (5) $R^2 = 0.68$ ($df = 212$); (6) $R^2 = 0.69$ ($df = 206$); (7) $R^2 = 0.72$ ($df = 204$); (8) $R^2 = 0.72$ ($df = 204$); (9) $R^2 = 0.74$ ($df = 199$); (10) $R^2 = 0.74$ ($df = 196$). By the time the cut-off had reached $n \geq 10$, the regression fit had stabilized at about $R^2 = 0.74$. This fit remained rather insensitive to further increases in the cut-off (while, as noted earlier, such increases in n had the undesirable effects of reducing the available degrees of freedom and narrowing the range in MSA). Hence, $n \geq 10$ was selected as a workable cut-off for use in the subsequent aggregate analyses.

When aggregate analyses were based on mean likings computed on 10 or more observations ($n \geq 10$) for each level of MSA in the low and high nostalgia groups considered separately, best-fitting inflection points occurred at $MSA_{Low} = 28$ ($R^2 = 0.75$, $F_{2,95} = 144.0$, $p < .0001$) and $MSA_{High} = 19$ ($R^2 = 0.75$, $F_{2,96} = 143.8$, $p < .0001$). The corresponding tests for the contributions of the absolute deviation and difference appear in panels A and B of Table 4. Here, it can again be seen that the degrees of nonmonotonicity of age-related peaking are highly significant for both the low nostalgia group ($t = -12.1$, $p < .0001$) and the high nostalgia group ($t = -12.3$, $p < .0001$).

The overall analysis combining both these effects appears in panel C of Table 4. Here, the piece-wise linear model with age-related preference peaks and a nostalgic shift included provides a good overall fit to the data: $R^2 = 0.75$ ($F_{6,190} = 95.4$, $p < .0001$). In general, the nonmonotonic age-related peak is highly significant ($t = -12.0$, $p < .0001$). The moderating effect

Table 4. Aggregate Regression Analyses Using Various Functional Forms to Explain Standardized Mean Liking Scores for Movie-Specific Ages with 10 or More Observations

Independent Variables	Regression Coefficient	t-Value	p-Level
A. Low Nostalgia Group			
Intercept	1.381	13.59	0.0001
Abs. Dev.$_{-28}$	-0.0547	-12.09	0.0001
Difference$_{28}$	-0.00813	-2.68	0.009
R^2 [F(2,95) = 144.0]	0.752		0.0001
B. High Nostalgia Group			
Intercept	1.251	12.32	0.0001
Abs. Dev.$_{-19}$	-0.0460	-12.30	0.0001
Difference$_{19}$	0.00834	4.08	0.0001
R^2 [F(2,96) = 143.8]	0.750		0.0001
C. Nostalgia Groups Together[a]			
Intercept	1.381	13.52	0.0001
Abs. Dev.$_{-28}$	-0.0547	-12.03	0.0001
Difference$_{28}$	-0.00813	-2.67	0.008
NOST (0/1)	-0.208	-1.23	NS
NOST × Abs. Dev.$_{-28}$	0.0558	3.61	0.0004
NOST × Abs. Dev.$_{-19}$	-0.0469	-3.73	0.0003
NOST × Difference$_{19}$	0.0168	2.90	0.004
R^2 [F(6,190) = 95.4]	0.751		0.0001

[a] With respect to the nostalgic shift represented by the combined effects of (a) NOST × Abs. Dev.$_{28}$, (b) NOST × Abs. Dev.$_{19}$, and (c) NOST × Difference$_{19}$, hierarchic F-tests showed highly significant contributions from (a) and (b) considred together ($F_{2,190} = 7.08$, $p = .001$) and from (a), (b), and (c) considered together ($F_{3,190} = 4.72$, $p = .003$).

of nostalgia proneness shifts this peak to the left for higher levels of nostalgia via the combined effects of the three NOST-related interaction terms. Hence, the significance of this nostalgic shift must be assessed by testing the contribution of NOST × Absolute Deviation$_{Low-28}$, NOST × Absolute Deviation$_{High-19}$, and NOST × Difference$_{High-19}$ simultaneously via the appropriate F-test for nested models. As described in the footnote to Table 4, this hierarchic F-test for the contribution of all three aspects combined shows a highly significant nostalgic shift in the age-related preference peak ($F_{3,190} = 4.72$, $p = .003$).

Graphical Representation

The nature of the rather complex relationship just described can be visualized more clearly with the aid of the graphical representation shown in Figure 1. This figure plots the actual values for standardized mean liking at each level of MSA against the estimates computed from the equation in panel C of Table 4 with the actual and estimated values represented by circles and a dashed line for the low nostalgia respondents or by dots and a solid line for respondents high in nostalgia proneness. As clearly indicated by the figure, age-related preference peaks generally occur at movie-specific ages associated with late adolescence and early adulthood. For those low in nostalgia proneness, the peak occurs at an MSA of 28; for those high in nostalgia, it occurs at MSA = 19. In the figure, the nostalgic shift may look rather small when compared with the full range of MSA (from -39 to $+59$ for $n \geqslant 10$). However, the difference between

MSA$_{Low}$ = 28 and MSA$_{High}$ = 19 actually represents a fairly large effect size. It corresponds to the contrast between an adolescent or teenager and a relatively mature adult.

Discussion

Substantive Conclusions

The present results appear strongly to support the existence of an age-related preference peak in customer tastes and – in answer to the primary question motivating this study – a nostalgic shift in the timing of this preference peak due to differences in attitude toward the past.

First, we find the familiar age-related preference peak reported earlier by Holbrook and Schindler for the cases of popular musical recordings (1989), fashion models (1993), and photographs of movie stars (1994). Here, for the overall sample evaluating motion pictures, peak preferences occur at about 26 or 27 years of age (as opposed to about 24 years old for music, about 33 years old for fashion models, and about 14 years old for movie stars in the earlier studies). This finding continues to suggest some flexibility in the timing of critical periods for taste formation with respect to different product categories. In the case of motion pictures, the timing of the peak can still be described as "late adolescence or early adulthood," though it appears that the critical period found for movies occurs later in life than for popular music or film stars (but earlier than for fashion models).

At present, attempts to explain such differences in timing must remain somewhat speculative. Perhaps long-run movie preferences reflect a type of social behavior that tends to occur in one's early adulthood as opposed to one's late adolescence. For example, it might happen that the peak in movie preferences results from a pattern of attendance on frequent occasions with someone whom one cares about deeply such as a regular date, a spouse, or a significant other to whom one has made an enduring emotional commitment. From this perspective – to paraphrase Gulas and Schewe (1994, p. 6) – "the movies one falls in love *to* are the movies one falls in love *with*." Another possibility is that, by selecting Oscar-winning films rather than crowd-pleasing movies as our motion pictures of interest, we shifted the emphasis toward more mature tastes; preferences might peak earlier for films chosen by virtue of their commercial appeal as opposed to their recognition in the Academy Awards. Certainly, these and other possible explanations for the timing of the age-related peak in movie preferences deserve further investigation in future research.

Second – for the samples split into groups high as opposed to low in nostalgia proneness or attitude toward the past – we find a nostalgic shift comparable to that reported by Holbrook and Schindler (1994). Peak preferences occur for movie-specific ages of about 28 as opposed to 19 years old for those low as opposed to high in nostalgia proneness. This amounts to a shift of about nine years in the timing of peak preferences and, in that sense, represents a large effect size within the span of years
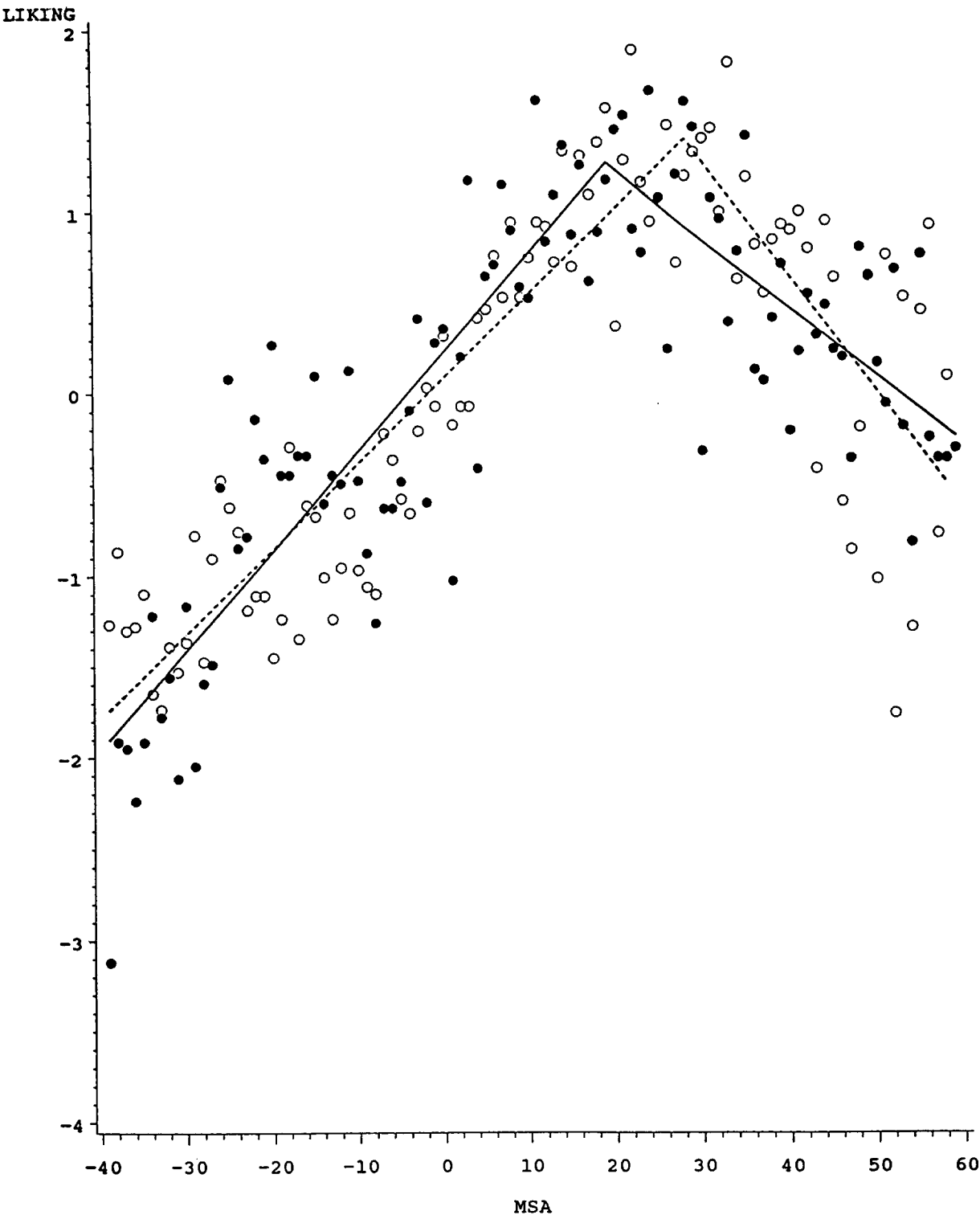
Figure 1. Relationship of standardized mean liking (LIKING) to movie-specific age (MSA) as moderated by nostalgia proneness (circles and dashed lines — low nostalgia; dots and solid lines — high nostalgia).

covered by one's early adulthood. By comparison, the previous study of movie-star photos found an overall nostalgic shift of the preference peak from a star-specific age of 18 years to nine years for the low and high nostalgia-prone groups, respectively.

Substantively, as noted earlier, we regard the replication of the general type of nostalgic shift that has thus far been demonstrated in only one other study and its successful extension to the case of motion pictures as the major empirical contribution of the present research. With respect to theory, this nostalgic shift provides a helpful way to conceptualize the interaction between two aspects of nostalgia–specifically, the age-related preference peak and the effects of attitude toward the past–in a manner such that individual differences in the attitudinal variable tend to moderate the timing of the peak in preferences. With respect to method, the model based on piece-wise linear equations used here appears to provide a rather elegant and hitherto unexplored way of representing the phenomenon of interest.

However, important questions remain concerning the theoretical basis for the nostalgic shift demonstrated by the present approach. As argued previously, one explanation might be that those with lower tendencies toward nostalgia proneness may watch current movies around the time of their critical period and thus form stable preferences for those films, whereas those with higher tendencies toward nostalgia proneness may watch older movies during their critical period and thus imprint on those films from the earlier time period. An alternative explanation, also mentioned earlier, might be that the critical period for films extends over a period of (say) a decade during one's early adulthood (a period much longer in duration than that for the imprinting of baby goslings on their mother geese) and that, retrospectively, those lower versus higher in nostalgia proneness tend to lean toward preference for films from the later (say, circa age 28) versus earlier (say, circa age 19) portion of the critical period. Unfortunately, the present data do not permit us to adjudicate between these alternative explanations for the nostalgic shift in the age-related preference peak. Hence, all we can conclude at present is that there are at least two theoretical interpretations of why the nostalgic shift might occur. This shift itself appears clearly to capture an important interaction between two key aspects of nostalgia (the age-related preference peak and attitude toward the past). However, further work remains to be done to trace in more detail the developmental process that results in this interaction.

Managerial Implications

Marketing managers will quickly recognize the significance of the nostalgia-related phenomena reported here. Age has long been a frequently used basis for market segmentation–to which the existence of age-related preference peaks now adds an important refinement worthy of managerial consideration. Moreover, attitude toward the past or nostalgia proneness appears to be an individual characteristic that may well cohere with other psychographic variables such as a tendency toward senti-

mentality or a propensity to collect old objects. Thus, the possible connection between nostalgia and other aspects of personality or lifestyle appears to deserve exploration in future research.

Meanwhile, once one has determined the age-related preference peak for a particular product category, further study can be applied to pinpointing the preference pattern for each target market of interest. Hence, the phenomena reported in the present analysis and highlighted in Figure 1 can help to guide a marketer toward the selection or design of offerings likely to appeal to market segments defined in terms of age and attitude toward the past.

Suppose, for example, that one wished to offer a television movie of the week to a prime-time audience composed of 60 year olds assumed to be high in nostalgia proneness. Being 60 years old in 1995 implies having been 19 in 1954–about the time that *On the Waterfront* won its Oscar for Best Picture and about the time that theaters were showing such films as *The Caine Mutiny*, *The Country Girl*, *Seven Brides for Seven Brothers*, and *Three Coins in the Fountain*. These and comparable films from the same cinematic generation would provide logical programming choices.

By contrast, suppose that one wanted to appeal to an audience of 45 year olds assumed to be low in nostalgia. These audience members would have been 28 years old in 1978 when *The Deer Hunter* won the best-picture award amidst a field that included *Coming Home*, *Heaven Can Wait*, *Midnight Express*, and *An Unmarried Woman*. Again, the programming implications suggest the choice of films from a particular time period.

Clearly, one's marketing objectives would dictate a targeting strategy geared toward matching one's choice of TV programming with the relevant customers' age-related and nostalgia-moderated preference peak in tastes for motion pictures. And clearly, the differences in era-typical cinematic styles between (say) *Three Coins in the Fountain* and (say) *An Unmarried Woman* can be quite dramatic. Also clearly, such differences might further shape the design of more conventional product offerings, the creation of advertising copy, the choice of media, the selection of channels, the planning of store atmospherics, pricing decisions, and other aspects of the marketing mixes aimed at the relevant target segments (Eckman and Wagner, 1994; Gulas and Schewe, 1994; Mazis et al., 1992; Yalch and Spangenberg, 1993). Just as clearly, such issues deserve further empirical investigation.

More generally, the research on generational imprinting suggests that this phenomenon may involve offerings with important cognitive aspects (e.g., which generations know how to use personal computers) as well as those cultural products with aesthetic and hedonic aspects (e.g., how the members of various generations respond to popular music, movies, or fashion designs). However, we would expect that cultural products would be particularly likely to show these effects because such offerings, by virtue of their mass exposure, appear most likely to be commonly shared cohort experiences. This observation suggests how such effects are likely to generalize. For example, in

the candy category, we would look for generational imprinting in the case of brands like M&M's more than for Brach's. For soft drinks, similar logic might apply to a possible difference between say Dr. Pepper and A&W root beer. In other words, we would expect generational imprinting for those brands that, at least for a certain time period, conducted intensive (and successful) national advertising campaigns.

Limitations and Further Directions for Future Research

As with virtually any research in marketing or consumer behavior, the present study entails certain limitations that deserve mention as possible targets of further investigation.

First, the present empirical application enjoyed the benefit of being conducted outside the university on a sample of "real" consumers (as opposed to students). Nevertheless, aspects of our sample may have been particular to the New York area or to respondents accessible to the student volunteers who collected the data. Future studies would benefit from the greater generalizability afforded by a more truly representative sample selected from, say, the national population.

Second, we followed the approach pursued successfully in the previous nostalgia-related studies discussed earlier by using a single-item scale to measure liking. In general, one would prefer to achieve the greater reliability offered by multi-item scales (Bonfield, 1979; Lastovicka and Joachimsthaler, 1988). However, the large set of objects to be rated by each respondent (62 movies) would make the use of multiple items per object overly cumbersome for purposes of the present application (186 scales if as few as three items per index were used). Fortunately, our design focuses on relative preferences normalized across liking scores for each respondent. Because these scores rely on comparing the rating of one movie to that of the others, they may be assumed to be more reliable than would be the case if they were to be obtained in isolation. Further, our aggregate analysis averages the normalized ratings of n respondents ($n \geq 10$) to obtain a measure of mean liking at each level of movie-specific age (MSA). Though this multi-judge index combines information from different respondents at different MSAs and therefore cannot be assessed by conventional measures of internal consistency such as coefficient alpha, it appears certain to enhance the reliability of the aggregate index of mean liking. Thus, the present design need not suffer from the problems of single-item scales to the extent that might otherwise have been the case.

Third, though our aggregate analysis attained a level of statistical strength comparable to that found in previous studies ($R^2 = 0.75$), the comparable disaggregate results were noticeably weak ($R^2 = 0.06$). This contrast in strength—which doubtless reflects the difference in reliability of the dependent variable noted in the preceding paragraph—represents the major reason why we believe that such analyses should be performed on mean liking at different object-specific ages. Thus, in the present study, the disaggregate analysis in Phase 1 served primarily to select the

best-fitting form of the model (piece-wise linear as opposed to polynomial). However, the major results underlying Figure 1 and our substantive conclusions were derived from the aggregate analysis in Phase 2 (for which the goodness of fit is much stronger).

Fourth, some readers might feel a concern that our results could be explained in part by a "mere exposure" effect in which consumers show a relative preference for products experienced during a particular critical period, primarily because they have encountered these objects more frequently than others over the course of their lifetimes and are therefore more familiar with these objects. For example, if movie attendance reaches a peak at age 26 or 27, if people are therefore most familiar with movies released when they were in their mid-twenties, if they tend to rate familiar Oscar-winning movies toward the high end of the liking scale, and if they follow our instructions by rating unfamiliar movies toward the midpoint of that scale, these factors by themselves could account for the finding of a preference peak at 26 or 27 years old. On this logic, the preference peak could represent an artifact due to age-related movie-attendance patterns, resulting differences in familiarity, and properties of the rating scale itself. In response to this limitation, we must emphasize that such an alternative explanation can not be tested using the data at hand due to the absence of the requisite familiarity scores collected for each movie from each respondent. However, we should also stress that, in general, we agree that "mere" exposure may play a major role in driving the phenomena that, by analogy with imprinting, we attribute to the importance of a critical period. Indeed, just as a baby goose is usually most frequently exposed to its mother during the relevant period of sensitivity and just as imprinting of the gosling depends on this differential frequency of exposure, we would assume that the preference peak in customer tastes also depends to a major extent on familiarity resulting from frequent exposure during the relevant critical period. Baby geese have zero exposure to their mothers before birth, maximum exposure during early infancy, and greatly reduced exposure after gaining maturity. To some extent, the same logic applies in the case of movie audiences. Thus, rather than being an artifact, familiarity due to frequency of exposure constitutes a part of the essence of the imprinting phenomenon. Further, we might question whether the method-related bias is as great as that assumed by the aforementioned alternative explanation. In particular, we doubt that members of our sample attended movies only during their mid to late twenties. Even if they did behave in this way, they might well have seen many of the Oscar-winning films used in our study on television or in various theater-sponsored revivals. Also, despite the general benefits of mere exposure, there are also many occasions when familiarity will decrease one's liking for an object; thus, one may well rate a movie that one has seen but disliked lower than one not yet viewed. Moreover, the phenomenon of the age-related preference peak found here replicates comparable effects found in previous studies that did control for familiarity by exposing

each respondent to each of the products evaluated (music, movie-star photos, fashion designs). Hence, in the present application, primary interest focuses less on the replication of this well-established age-related preference peak than on our central question concerning the existence of a nostalgic shift, wherein the preference peak occurs at an earlier movie-specific age for those higher in nostalgia proneness. Whatever the merits of the aforementioned alternative explanation in accounting for the preference peak itself, it appears far less telling as a criticism of our primary result with respect to the nostalgic shift due to attitude toward the past. Nonetheless, we agree that future research should continue to seek methods that avoid potential artifacts of the type just considered by collecting measures of familiarity due to prior exposure and/or by exposing respondents to the products of interest so as to guard against alternative explanations based on lack of familiarity with some of the objects under investigation.

Fifth, though we have indicated the importance of research on critical periods for such cognitive variables as collective memories and reasons for recalling historical events, the present design does not include any measure of the cognitions underlying movie preferences. Rather, we focus entirely on affective responses relevant to the age-related and nostalgia-moderated preference peak. Future research might profitably investigate the extent to which such affective phenomena result from underlying age-related cognitive factors as opposed to more emotional determinants.

Sixth and finally, along related lines, by focusing on the year of a movie's release rather than on the nature of its story or setting, our method takes no account of the content as opposed to the timing of the films being evaluated. Yet, clearly, some motion pictures may be more nostalgic than others by virtue of their plots, themes, and characters. Thus, recent films such as *Back to the Future*, *Peggy Sue Got Married*, *The Big Chill*, *Forrest Gump*, *Quiz Show*, or even *Schindler's List* have depended heavily on the emotional aura contributed by their associations with earlier eras. This distinction between timing- and content-related aspects of nostalgia clearly deserves exploration in further work on the relationship of customer tastes to age and attitude toward the past.

Summary

To summarize, in the present study we have reviewed research from several disciplines that have converged on an understanding of early experience during a critical period as an important source of age-related preferences. We have addressed concepts that strengthen the grounding for future work in this area. Further, we have described and illustrated an approach that enables this understanding to enhance the marketer's ability to assess the needs and to anticipate the preferences of age-homogeneous market segments.

Consistent with the cognitively oriented research on memories for historical events, the present findings appear to support the generalizability of the affect-related results found in the context of customer tastes for cultural products. This suggests

that generational imprinting may involve not only a greater salience or memorability of events and objects experienced during an early critical period, but also more positive feelings toward these events and objects. Further, the finding of preference-peak differences between individuals who are more versus less favorable in their attitudes toward the past supports the possibility of attitudinal subgroups that respond differently to various time-dated offerings within a product category in general and among cultural products in particular. The full testing of such nostalgic shifts in the age-related preference peaks for customer tastes toward cultural products awaits future research and – by virtue of the insights that it promises to offer into the marketing of entertainment, the arts, and other media-related offerings – appears to be a project well worth undertaking.

References

Bartos, Rena, Over 49: The Invisible Consumer Market. *Harvard Business Review* (January-February 1980): 140–148.

Bergadaà, Michelle M., The Role of Time in the Action of the Consumer. *Journal of Consumer Research* 17 (December 1990): 289–302.

Bonfield, E. H., A Comment of the State of Attitude Measurement in Consumer Research: A Polemic, in *Advances in Consumer Research*, vol. 6, William L. Wilkie, ed., Association for Consumer Research, Provo, UT. 1979, pp. 238–244.

Bornstein, Marc H., Sensitive Periods in Development: Structural Characteristics and Causal Interpretations. *Psychological Bulletin* 105 (1989): 179–197.

Cole, Catherine A., and Gaeth, Gary J., Cognitive and Age-Related Differences in the Ability to Use Nutritional Information in a Complex Environment. *Journal of Marketing Research* 17 (May 1990): 175–184.

Csikszentmihalyi, Mihaly, and Rochberg-Halton, Eugene, *The Meaning of Things: Domestic Symbols and the Self*, Cambridge University Press, Cambridge, UK. 1981.

Day, Ellen, Davis, Brian, Dove, Rhonda, and French, Warren, Reaching the Senior Citizen Market(s). *Journal of Advertising Research* (December/January 1987/1988): 23–30.

Davis, Fred, *Yearning for Yesterday: A Sociology of Nostalgia*, The Free Press, New York. 1979.

Eckman, Molly, and Wagner, Janet, Judging the Attractiveness of Product Design: The Effect of Visual Attributes and Consumer Characteristics, in *Advances in Consumer Research*, vol. 21, Chris T. Allen and Deborah Roedder John, eds., Association for Consumer Research, Provo, UT. 1994, pp. 560–564.

Fritzsche, David J., An Analysis of Energy Consumption Patterns by Stage of Family Life Cycle. *Journal of Marketing Research* 18 (May 1981): 227–232.

Gilly, Mary C., and Enis, Ben M., Recycling the Family Life Cycle: A Proposal for Redefinition, in *Advances in Consumer Research*, vol. 9, Andrew A. Mitchell, ed., Association for Consumer Research, Provo, UT. 1982, pp. 271–276.

Green, Paul E., *Analyzing Multivariate Data*, The Dryden Press, Hinsdale, IL. 1978.

Gulas, Charles S., and Schewe, Charles, D., Atmospheric Segmentation:

Managing Store Image with Background Music. Working paper, Wright State University, Dayton, OH, 1994.

Havlena, William, J., and Holak, Susan L., "The Good Old Days": Observations On Nostalgia and Its Role in Consumer Behavior, in Advances in Consumer Research, vol. 18, Rebecca H. Holman and Michael R. Solomon, eds., Association for Consumer Research, Provo, UT. 1991. pp. 323–329.

Hisrich, Robert D., and Peters, Michael P., Selecting the Superior Segmentation Correlate. Journal of Marketing 38 (July 1974): 60–63.

Holbrook, Morris, B., Nostalgia and Consumption Preferences: Some Emerging Patterns of Consumer Tastes. Journal of Consumer Research 20 (September 1993[a]): 245–256.

Holbrook, Morris B., On the New Nostalgia: "These Foolish Things" and Echoes of the Dear Departed Past, in Continuities in Popular Culture: The Present in the Past & the Past in the Present and Future, Ray B. Browne and Ronald J. Ambrosetti, eds., Bowling Green State University Press, Bowling Green, OH. 1993(b), pp. 74–120.

Holbrook, Morris B., Nostalgia Proneness and Consumer Tastes, in Buyer Behavior in Marketing Strategy, 2nd ed, John A. Howard, Prentice-Hall, Englewood Cliffs, NJ. 1994, pp. 348–364.

Holbrook, Morris, B., and Schindler, Robert M., Some Exploratory Findings on the Development of Musical Tastes. Journal of Consumer Research 16 (June 1989): 119–124.

Holbrook, Morris, B., and Schindler, Robert M., Echoes of the Dear Departed Past: Some Work in Progress on Nostalgia, in Advances in Consumer Research, vol. 18, Rebecca H. Holman and Michael R. Solomon, eds., Association for Consumer Research, Provo, UT. 1991, pp. 330–333.

Holbrook, Morris, B., and Schindler, Robert M., Age, Sex, and Attitude Toward the Past as Predictors of Consumers' Aesthetic Tastes for Cultural Products. Journal of Marketing Research 31 (August 1994): 412–422.

Holden, Anthony, Behind the Oscar: The Secret History of the Academy Awards, Simon & Schuster, New York. 1993.

Lastovicka, John L., and Joachimsthaler, Erich A., Improving the Detection of Personality–Behavior Relationships in Consumer Research. Journal of Consumer Research 14 (March 1988): 583–587.

Levy, Emanuel, And the Winner is . . .: The History and Politics of the Oscar Awards, Continuum, New York. 1990.

Lorenz, Konrad Z., The Role of Gestalt Perception in Animal and Human Behavior, in Aspects of Form, L. L. Whyte, ed., Indiana University Press, Bloomington, IN. 1951, pp. 157–178.

Lowenthal, David, The Past Is a Froeign Country, Cambridge University Press, Cambridge, UK. 1985.

Mazis, Michael B., Ringold, Debra Jones, Perry, Elgin S., and Denman, Daniel W., Perceived Age and Attractiveness of Models in Cigarette Advertisements. Journal of Marketing 56 (January 1992): 22–37.

McCracken, Grant, Culture and Consumption: New Approaches to the Symbolic Character of Consumer Goods and Activities, Indiana University Press, Bloomington, IN. 1988.

Morgan, Carol M., and Levy, Doran J., Segmenting the Mature Market: Identifying, Targeting and Reaching America's Diverse, Booming Senior Markets, Phobus Publishing Company, Chicago, IL. 1993.

Moschis, George P., Approaches to the Study of Consumer Behavior in Late Life, in Advances in Consumer Research, vol. 18, Rebecca H. Holman and Michael R. Solomon, eds., Association for Consumer Research, Provo, UT. 1991, pp. 517–520.

Moschis, George P., Marketing to Older Consumers: A Handbook of Information for Strategy Development, Quorum Books, New York. 1992.

Murphy, Patrick E., and Staples, William A., A Modernized Family Life Cycle. Journal of Consumer Research 6 (June 1979): 12–22.

Nawas, M. Mike, and Platt, Jerome J., A Future-Oriented Theory of Nostalgia. Journal of Individual Psychology 21 (1965): 51–57.

Rentz, Joseph O., and Reynolds, Fred D., Forecasting the Effects of an Aging Population on Product Consumption: An Age–Period–Cohort Framework. Journal of Marketing Research 18 (August 1991): 355–360.

Reynolds, Fred D., and Wells, William D., Consumer Behavior, McGraw-Hill, New York. 1977.

Schaninger, Charles M., and Danko, William D., A Conceptual and Empirical Comparison of Alternative Household Life Cycle Models. Journal of Consumer Research 19 (March 1993): 580–594.

Schindler, Robert M., and Holbrook, Morris B., Critical Periods in the Development of Men's and Women's Tastes in Personal Appearance. Psychology & Marketing 10 (November/December 1993): 549–564.

Schuman, Howard, and Scott, Jacqueline, Generations and Collective Memories. American Sociological Review 54 (1989): 359–381.

Scott, Jacqueline, and Zac, Lilian, Collective Memories in Britain and the United States. Public Opinion Quarterly 57 (1993): 315–331.

Slama, Mark E., and Tashchian, Armen, Selected Socioeconomic and Demographic Characteristics Associated with Purchasing Involvement. Journal of Marketing 49 (Winter 1985): 72–82.

Towle, Jeffrey G., and Martin, Claude R., The Elderly Consumer: One Segment Or Many? in Advances in Consumer Research, vol. 3, Beverlee B. Anderson, ed., Association for Consumer Research, Provo, UT. 1976, pp. 463–468.

Umesh, U. N., Transferability of Preference Models across Segments and Geographic Areas. Journal of Marketing 51 (January 1987): 59–70.

Utsey, Marjorie Fox, and Cook, Victor J., Jr., Demographics and the Propensity to Consume, in Advances in Consumer Research, vol. 11, Thomas C. Kinnear, ed., Association for Consumer Research, Provo, UT. 1984, pp. 718–723.

Wagner, Janet, and Hanna, Sherman, The Effectiveness of Family Life Cycle Variables in Consumer Expenditure Research. Journal of Consumer Research 10 (December 1983): 281–291.

Wells, William D., and Gubar, George, Life Cycle Concept in Marketing Research. Journal of Marketing Research 3 (November 1966): 355–363.

Yalch, Richard F., and Spangenberg, Eric, Using Store Music for Retail Zoning: A Field Experiment, in Advances in Consumer Research, vol. 20, Leigh McAlister and Michael L. Rothschild, eds., Association for Consumer Research, Provo, UT. 1993, pp. 632–636.

Zeithaml, Valarie A., The New Demographics and Market Fragmentation. Journal of Marketing 49 (Summer 1985): 64–75.