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SEGMENTING THE SENIOR MARKET:

PROFESSIONAL AND SOCIAL ACTIVITY LEVEL

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ABSTRACT

A segmentation of the senior market is presented based on two dichotomous variables: social and professional activity / inactivity. The resulting four groups are labeled socially active employees, socially passive employees, socially active retirees and socially passive retirees. By means of analyses of variance, the main and interaction effects of the two segmentation bases on a wide range of consumer behavior related variables are investigated. Significant relations are found for (among others) personality, values, discretionary time, discretionary income, cognitive age, media usage, several aspects of purchasing behavior, and leisure activities.

INTRODUCTION

One of the main features of the world population today is the considerable increase in the absolute and relative number of older people (Gabriel, 1990; U.N., 1999, 2000). In the developed world, there are more people over 50 than ever before, with numbers likely to continue to rise (Günter, 1998; U.N., 2000). This demographic change is an important challenge for marketers and consumer researchers: an accurate understanding of the grey market often is lacking, thus increasing the risk of stereotyping and ageism (e.g. Carrigan and Szmigin, 1999). 'The senior consumer' as such does not exist, making segmentation in somewhat more homogeneous groups indispensable for marketers. This need has been fulfilled by means of a diversity of methods (Bone, 1991; Günter, 1998; Mawr and Timmermann, 1999; Moschis, 1993, 1996; Rajshekhar and Dion, 1999; Shoemaker, 2000; Tréguer, 1998; Wedel and Kamakura, 2000), each balancing specific advantages and drawbacks. The current study aims to provide marketers and researchers with a segmentation method that is both valid and easy-to-use. The model is based on two dichotomous dimensions: professional and social activity level.

PREVIOUS SEGMENTATION ATTEMPTS

An easy way to divide the senior population into subgroups, is using *age* boundaries (e.g. Tréguer, 1998). Criticism on the age approach is prevalent, however, stressing the relativity of age and the arbitrariness of age boundaries (Wilkes, 1992; Günter, 1998). Approved alternatives are *lifestyle segmentation* (e.g. Hesse, 1991), 'Gerontographics' (Moschis, 1993, 1996), and other combinations of variables adapted to the senior market (Bone, 1991). In a broader, not specifically senior-oriented context, the general (modernised) household life cycle has proven its value (Wilkes, 1995).

With respect to *psychographic* instruments, the VALS and LOV scales have received a lot of attention (Wedel and Kamakura, 2000). The most important shortcoming of segmenting the senior market based on generally applicable lifestyle scales is the lack of adaptation to this group. The LAVOA-segmentation (Lifestyles and Values of Older Adults) of SRI (Gollub, Javitz, 1989) does meet this criterion, but is product-specific: it only concerns housing in the USA and can, as such, not be generalized to other domains in

other regions. Moschis (1996) denounces the psychographic approach by stating "*Not only do lifestyles represent a limited perspective on consumer behavior (one of several explanations), but the results of empirical studies show that these models are not powerful enough to warrant consideration as marketing tools.*" His alternative approach, '*Gerontographics*' (Moschis, 1993, 1996) divides the senior population into four life stage groups, based on two dimensions: psychosocial and biological ageing. The four groups are healthy indulgers (young on both dimensions), ailing outgoers (aged only on the biological dimension), healthy hermits (aged only on the psychosocial dimension) and frail recluses (aged on both dimensions). However, this approach has two drawbacks: (1) Insufficient clarity and transparency: clear instructions for measurement are lacking, just as indications concerning the location of cut-off points on both dimensions. The segmentation cannot be easily replicated and can, as a consequence, not be used by others in other markets and cultures. (2) Secondly, Gerontographics reduces the senior consumer to an ageing subject: both dimensions refer to a process of gradual decline. Although ageing and its effects are present and should not be denied, marketing researchers and practitioners should not be biased towards a one-sided focus on ageing phenomena.

An earlier version of Moschis' scheme is one of the studies included in an extensive review of the literature by Bone (1991). After examining 33 segmentation studies of the senior market, she concludes that overall five key variables are used: (1) *discretionary income*, (2) *health*, (3) *activity level*, (4) *discretionary time*, and (5) *response to others*. By dichotomizing each of these dimensions, 32 segments are obtained. Unfortunately, the proposed segmentation is not empirically tested and solely consists of somewhat approximate derivations. Moreover, the advantage of having homogeneous segments – in view of the fact that they are small and defined by a large number of variables - might be correct from a theoretical point of view, but is at stakes with the principle of substantiality.

RESEARCH OBJECTIVES

From the foregoing it can be concluded that a limited set of segmentation dimensions which are easy to measure, but explain a wide range of aspects of consumer behavior, is called for. On the one hand, professional activity (working / retired) seems an obvious choice in this context. Indeed, professional activity is generally acknowledged as an important life stage variable (Boggia, 1991; Günter, 1998; Tréguer, 1998; Wilkes, 1995) and presumably has a strong relation with other variables deemed relevant when predicting consumer behavior of senior citizens, such as discretionary time and discretionary income (Bone, 1991). Moreover, the a priori dichotomous nature of the variable makes it an extremely suitable segmentation variable. On the other hand, activity cannot be reduced to the opposition working / being retired (Bone 1991). While retirement is a life stage event and refers – as such – to an ageing process, a mature consumer can consciously choose whether or not she/he remains or becomes socially active, e.g. in associations, voluntarism or politics. This choice is presumably closely related to values, personality and lifestyle.

The objective of the current study is to combine both activity dimensions in order to take into account the ageing process, as well as the extent to which one actively organizes his/her life. This combination leads to four senior segments: socially active employees, socially inactive employees, socially active retirees, and socially inactive retirees. A profile of each segment will be developed in terms of a wide range of personal and behavioral variables deemed relevant in describing segments (Günter, 1998; Mawr and Timmerman 1999; Moschis, 1996; Wedel and Kamakura, 2000). The foregoing will indicate the usefulness of the professional and social activity dimensions as segmentation variables of elderly people. Moreover, such an activity-based segmentation has some obvious advantages. First of all, measurement and identification are easy: only a limited set of observable segmentation variables, that are easily replicable and do not demand further post hoc analyses, are used. Secondly, the deduced segments are substantial: four segments each constituting about one fourth of the 45+ market. Thirdly, the derived segments are accessible, responsive and actionable: profiles provided of each segment make a targeted marketing approach feasible.

Our research question can be summarized as follows: Which relation exists between social activity level, professional activity level and their interaction on the one hand, and psychographics, media behaviour, discretionary time, leisure activities, brand loyalty, store selection criteria, response to promotional activities, satisfaction with the current financial situation, gender, age, educational level and income on the other hand?

RESEARCH METHOD

Respondents

In january 2001, a postal questionnaire was sent to 4800 Belgian citizens aged 45-75, representative on age, gender, and place of residence. This resulted in a net sample of 621 useful responses, a response rate of 12.94%. 55% of the respondents are male, 45% are female. The mean age is 58 years; 42.7% belong to the age group 45-54, 32.1% to the group 55-64, and 25.2% to the group 65-74. In terms of age, the sample is representative for the comparable age group in the Belgian population, but women are slightly underrepresented in the older age group. 53% of the respondents are retired, 47% are still working, while 43% are socially active and 57% are socially inactive. The combination professionally active/inactive and socially active/inactive leads to more or less equally sized groups.

Constructs and scale development

Independent *measures*. *Professional activity* level is a division into 'retirees' and 'employees'. Other subjects (including housewives and –husbands) are excluded from the analyses. *Social activity* is operationalized by means of a single question: "Are you actively engaged in one or more associations, in voluntarism or politics? yes / no", defining the socially active group ('yes') and the socially inactive group ('no'). These groups score significantly different on a 5-point rating scale measuring the importance attached to meetings of associations as a way of spending one's time ($t=18.907$; $df=601$): the socially active have a median score of 4, 'important' (mean=3.61; s.d.=.95), the socially inactive have a median score of 2, 'unimportant' (mean=2.09; s.d.=1.05).

Dependent *measures*.

- Psychographic measures:

   Concerning personality, both the big five and self-monitoring are measured. The *big five*, five stable and frequently applied dimensions of personality, are assessed by means of the B5BBS25, a Dutch 25-item scale developed by Mervielde (1992) (Cronbach's alpha for factor I, 'extraversion' =.72; II, 'agreeableness'=.70 after deleting item 12; III, 'consientiousness' =.80; IV, 'emotional stability'=.75; V, 'intellect/openness'=.70). *For self-monitoring*, the 18-item scale developed by Snyder and Gangestadt (1986) is used (Cronbach's alpha: .67). *Values* are measured by means of the List Of Values by Kahle (1983), rated on 9-point likert type scales. C*ognitive age* is measured using the four dimensions distinguished by Barak and Schiffman (1981): how old one feels him/herself, the age one thinks s/he looks, the age one perceives him/herself to act, and the age one perceives to be reflective of his/her interests (mean: 50.78; Cronbach's alpha = .94).

- Media behavior

   The *frequency of use of magazines, newspapers, radio, television, and cinema* are measured on a 6-point Likert type scale (1=seldom or never, 2=monthly, 3=several times a month, 4=weekly, 5=several times a week, 6=daily). Moreover, daily *intensity of watching television and listening to the radio* is assessed on a 8 point scale (1=less than 1 hr, 2=1hr, 3=1-2hrs, 4=2-3hrs, 5=3-4hrs, 6=4-5hrs, 7=5-6hrs, 8=more than 6 hrs a day). Binary yes/no measures are used to indicate *possession of telephone, mobile phone, and internet connection* (at home or at work).

- Leisure time and activities

   The total amount of *discretionary time* per week is rated as the number of hours a day one can spend freely, without being bound to a certain activity, obligation or sleep. Thirty-two *leisure activities* are measured on a 5-point likert type scale (1 = not at all important; 5 = very important). From a list of 19 different types of *sport activities* respondents indicate which they practice on a regular basis.

- Consumer behavior related measures

   Brand *loyalty* for two product categories which are frequently bought by a majority of consumers, water and milk, is assessed by measuring both the attitude towards being loyal, represented by one 9-point bipolar item, and loyal behavior, calculated by customer share, i.e. the relative portion of the preferred brand in the total category purchase

(Bloemer, 1993, 1995). Five *criteria of store selection* are rated on a 5-point scale indicating the degree of importance of each. These criteria were formulated by the authors, based on previous experiences with senior consumers. Principal components analysis with Varimax rotation points to two dimensions explaining 66% of the variance: (1) convenience shopping ('service and personnel', 'well-known brands', 'arrangement inside the store'), and (2) price and promotion shopping ('advantageous prices', 'promotions'). Six items rate the probability a respondent will react positively to different *promotional activities*. Two components explain 69.7% of the variance: (1) incentives (lottery, coupons, premium, saving action); and (2) personal interaction by telephone (free telephone number; extra charge telephone number).

- Socio-demographic measures

Finally, a series of socio-demographic variables is measured: *gender*, *year of birth, educational level* (1=primary, 2= lower secondary, 3=higher secondary, 4=higher short term education, 5=higher long term education), *monthly household after tax earnings* (0-500, 501-1000, 1001-1500, 1501-2000, 2001-2500, 2501-3000, 3000 EUR or more), *discretionary income*, and *satisfaction with the current financial situation* (5-point Likert type scale, 1 = not at all satisfied, 5 = completely satisfied).

RESULTS

To investigate the effect of the segmentation bases on the descriptor variables, analyses of variance are carried out (see Table 1). Interaction and main effects of social and professional activity level are examined. In order not to mistakenly ascribe effects to professional activity level that are in fact due to age, age is entered as a covariate[1].

Insert Table 1 About Here

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[1] Since the study concentrated on the investigation of the effects of activity level, age effects will only be indicated in the tables, but will not be discussed.

Psychographics. Several differences in personality traits can be observed. *Extraversion* decreases when professional activity goes down. *Agreeableness* is more prominent in socially active as compared to socially inactive seniors. *Intellect-openness* is subject to a significant interaction effect of both activity dimensions in the sense that for working people the social act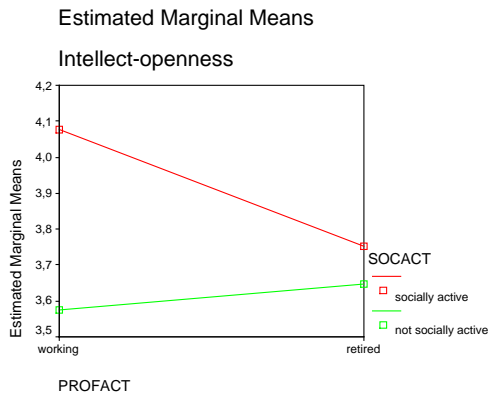ivity dimension is very important: socially active working people score significantly higher on being intelligent/open than their socially inactive working counterparts (figure 1). For retirees the fact that one is socially active or not has no implications on the intellect-openness dimension. As can be expected, *self-monitoring* is more pronounced in professionally and socially active as compared to inactive seniors. Concerning values, *being well respected* and a feeling of *having accomplished something* in life are

Estimated Marginal Means

Intellect-openness

Fig. 1. Interaction effects of social and professional activity level on Intellect-openness.

significantly influenced by professional activity: retirees attach more importance to them than employees. *Security* is more valued the less active the senior is, both professionally and socially, while *sense of belonging* is deemed significantly more important by active than inactive respondents. Finally, *cognitive age* shows a significant effect of social activity level: the socially active feel younger and show a stronger down-ageing effect than do the socially non-active.

Media behavior. The *frequency of watching TV* on a weekly basis is subject to an interaction effect of social and professional activity (figure 2): among those who are still working, there is a gap between the socially active and the non-socially active, the former watch less TV than the latter.

As for the amount of *hours a day one watches TV*, both professional and social activity level exert a significant main effect (figure 3). Here the factors act in an additive, negative way: the higher the activity level, the lower the amount of hours watched. The amount of *hours a day one listens to the radio* is subject to two additive main effects as well (figure 4): again the activity level is negatively related to the frequency of listening. Retirement has a negative impact on the frequency of *going to the movies*.

Telephone penetration (measured on a binary scale), though generally high, shows a significant effect only of social activity ($chi^2(1)=9.276$): socially active people more often possess a telephone than non-socially active (98.4% versus 93.2% respectively). *Mobile phone penetration*, on the other hand, is subject to the impact only of professional activity level ($chi^2(1)=22.722$). While 41.5% of the retirees have a cellular phone at their disposal, the proportion is as high as 62% among the people who are still working. Whether people have an *internet connection* at home or at work, is related to social ($chi^2(1)=8.224$), as well
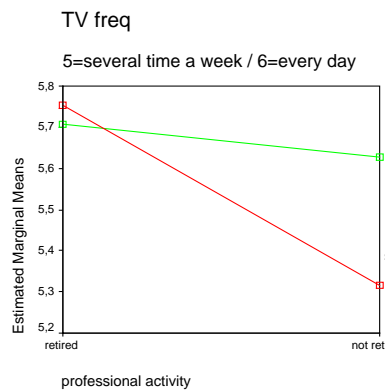

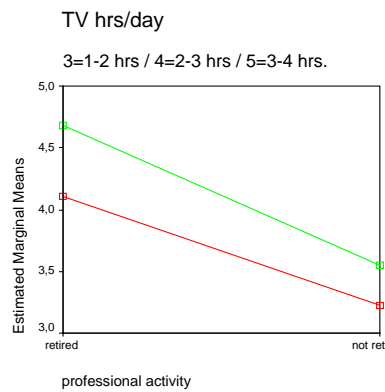Fig. 2. Interaction effects of social and professional activity level on TV use frequency.

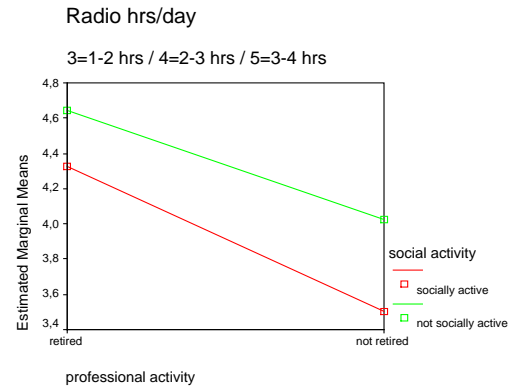Fig. 3. Interaction effects of social and professional activity level on TV use intensity.

Fig. 4. Interaction effects of social and professional activity level on radio use intensity.

as professional ($chi^2(1)=54.612$) activity level: 58.9% of the active employees do, as opposed to 17% of the passive retirees. The percentage among active retirees amounts to 27.9%, among the passive employees 48.6%.

Consumer behavior. Concerning *brand loyalty*, it is remarkable that 43.1% of the respondents report buying always the same brand of milk, 33.1% report this for water. As for attitudinal loyalty, socially active as compared to socially inactive seniors show a more positive attitude for both water and milk, but the difference is only significant in the case of water. The behavioral measures are not significantly related to social or professional activity. With regard to shopping criteria, the *convenience shopping motivation* is not

influenced by activity level. The *price and promotion shopping motivation*, on the other hand, is affected both by social and professional activity level in the sense that the less active the seniors are, the more they value a lower price and promotions. Concerning promotions, the telephone interaction component is significantly influenced by professional activity level. Retirees as compared to employees are more prone to *promotions making use of telephone numbers*.

Socio-demographics. Chi² based on a cross-tab combining *gender* and social activity is significant (chi²(1)=7.716), pointing to women being less socially active. However, this effect can only be observed for employees (chi²(1)=13.164), and not for retirees (chi²(1)=.143). Only 28.97% of working women is socially active, as opposed to 51.68% of working men. Concerning *income*, both an effect of social and professional activity level can be observed. Socially active employees have – on average - the highest income, socially non-active retirees the lowest. Focussing on *discretionary income*, only a significant main effect of social activity can be observed. The socially active have a higher average discretionary income than the socially non-active. Related to the foregoing, respondents also rate their *satisfaction with their current financial position*. This score is significantly influenced only by social activity. The interaction effect of professional and social activity level, however, is marginally significant. The profile plot shows that the socially inactive are less satisfied with their financial position, and this is especially the case for retired inactive persons (figure 5). Concerning *education*, more socially and professionally active seniors seem to have a significantly higher education than their inactive counterparts.

Fig. 5. Interaction effects of social and professional activity level on evaluation of one's financial position.

Leisure time and activities. Results for leisure time and activities are shown in Table 2. *Discretionary time* is significantly influenced by professional activity level and marginally significantly by the interaction between social and
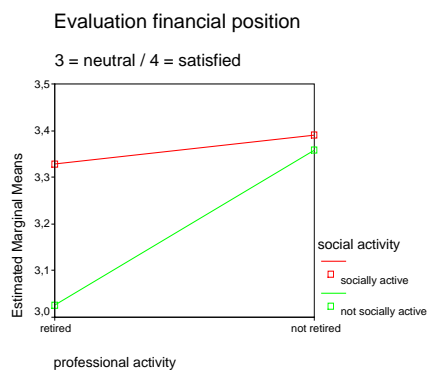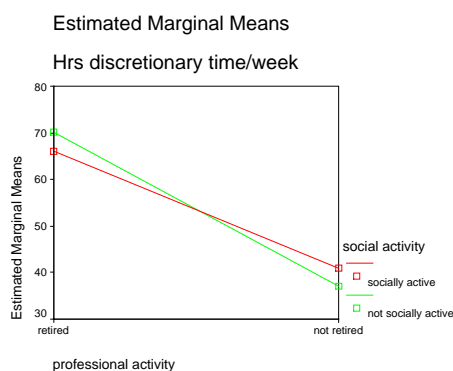
Fig. 6. Interaction effects of social and professional activity level on discretionary time.

professional activity level (interaction effect p = .087; figure 6). Retirees have – on average – many more hours of discretionary time per week than employees. While active employees have slightly more discretionary time than passive employees, among the retirees the difference goes the other way around: here the active retirees have slightly less time.

Insert Table 2 About Here

Although several *activities* (such as going to the movies, having a drink, practicing sports, going to the opera, investing, etc.) are not impacted by professional nor social activity level, other activities are. Retired as compared to working seniors value 'visiting family', 'flower arranging', 'going out shopping', 'little maintenance jobs', 'watching television', 'gardening' and 'going on excursions' significantly higher, while the opposite is true for 'working with the computer'. Social activity level, on the other hand, is significantly related to the importance of 'visiting friends', 'modern concerts', 'following courses', 'going out shopping', 'working with the computer', 'making music', 'practicing sports', 'watching television', and 'going to the theatre'. The previous activities are all deemed more important by socially active than socially inactive seniors. The interaction effect of social and professional activity level is significant for 'going out dancing', 'visiting museums', 'knitting–sewing–needleworking' (figure 7, 8, 9).

Visiting museums is least popular among passive retirees, most popular among active retirees. The other two segments rate it slightly lower than the neutral score.
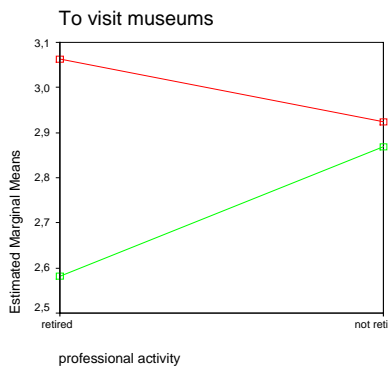

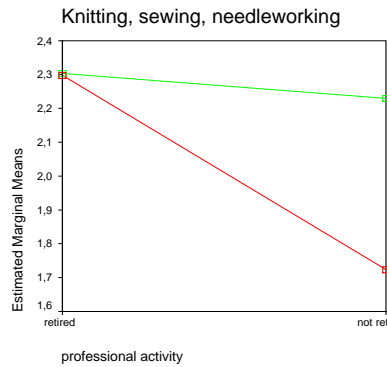Fig. 7. Interaction effects of social and professional activity level on importance of visiting

Fig. 8. Interaction effects of social and professional activity level on importance of knitting, sewing, needleworking.
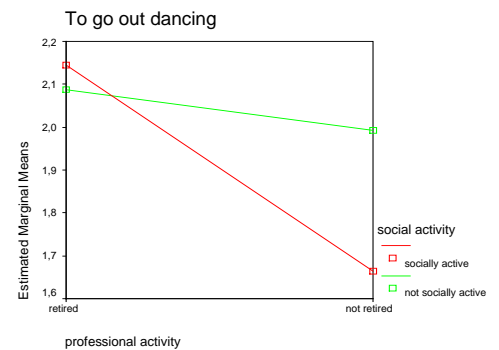
Fig. 9. Interaction effects of social and professional activity level on importance of going out dancing.

Knitting, sewing and needlework score lower among active employees than among the other segments, where scores are very low already. The same pattern is observed for going out dancing.

The *number of sports* one practices on a regular basis is significantly related to social activity: socially active people perform on average more sports on a regular basis than the socially non-active.

DISCUSSION

In this study, two dichotomous variables, social and professional activity, were combined to define four activity segments: socially active employees, socially inactive employees, socially active retirees and socially inactive retirees. The results obtained by using the two segmentation bases as independent variables in a series of anova's, clearly prove they are related to a wide range of consumer behavior related variables.

Compared to people who are still working, retirees are less extravert, show a lower score on self-monitoring, attach more importance to being well respected and having accomplished something in life (as terminal values). Moreover, they have much more discretionary time, spend more hours a day watching television and listening to the radio, go to the movies less often and more strongly prefer promotions using telephone interaction. They also consider visiting family, going out shopping, gardening and going on excursions more important than working people do.

Compared to socially inactive people, the socially active are more agreeable, more self-monitoring, attach more importance to sense of belonging (as a terminal value) and economic security (as a political topic), have lower cognitive ages, and indicate higher attitudinal brand loyalty. Furthermore, they watch less television a day, show a lower interest in price and promotion as a shopping criterion, have higher discretionary incomes and are more satisfied with their financial position. Relative to inactive seniors, they also consider visiting friends, attending courses, practicing sports, and going to the theatre and concerts as more important.

Interaction effects of the two dimensions are found for Intellect-openness (personality), frequency of watching TV and listening to the radio. Additive simultaneous main effects of the two are found for the importance attached to security (as a terminal

value), degree of self-monitoring, intensity of watching TV, importance attached to the price criterium in daily shopping, monthly net income, and educational level. In addition to this, interaction effects are observed on the importance of several leisure activities. The four activity groups also differ from one another in their adoption of technological appliances (including telecommunications).

Implications for theory and practice. As for practice, companies targeting senior citizens should take into account the proposed segmentation. Among retirees, it might prove useful to focus on the socially active subgroup. Compared to their socially inactive counterparts, and apart from their higher probability of influencing others (social contacts and higher importance attached to sense of belonging), these people show higher attitudinal brand loyalty, less price sensitivity, have a higher (discretionary) income and are more satisfied with their financial position. The communication mix can be adapted to meet their media habits: although they are quite heavy users of radio and television, they are so to a lesser extent than the socially inactive retirees. On the other hand they can be relatively more easily reached by means of the internet (28% have a connection versus 17% among the socially inactive retirees) and sponsoring of cultural activities (museums, theatre, etc.).

From a theoretical point of view, some questions remain to be solved. An important drawback is that our operationalization of professional activity excludes all people that do not have (had) a paid occupation. Future research should determine whether the segmentation can be applied to the household instead of the individual level, using the position of the wage-earner to classify the household.

Furthermore, the age boundary of 45 is relatively young. One might argue that the age group of 45-54 can hardly be labeled 'senior'. This does not, however, invalidate the findings: first of all, the profile of retirees can only make sense when they are compared to another adjoining age segment. Thus, marketers interested in the 60+ population can learn, on the one hand, which characteristics are specific to retirees, and on the other hand, which difference exists among (socially active versus socially inactive) retirees.

To conclude, both professional and social activity as measured in this study have proven their usefulness. It is, moreover, relevant to point out the practical advantages of the operationalization: single dichotomous questions with hardly any missing values. Based on further applications, science and practice is to judge the theoretical and practical value of the proposed segmentation.

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TABLE 1

Main and interaction effects of professional and social activity on psychographic, demographic, media and consumer behavior related variables

	Main effect professional activity			Main effect social activity			Inter-action	Co-variate
Dependent variables	retired	working	p	active	inactive	p	p	p
PSYCHOGRAPHICS								
Extraversion	*3.34*	*3.68*	.030			n.s.	n.s.	.071
Agreeableness			n.s.	3.91	3.82	.081	n.s.	n.s.
Intellect-openness			n.s.			n.s.	.049	n.s.
Self monitoring	5.94	6.72	.041	6.74	5.98	.003	n.s.	n.s.
Sense of belonging			n.s.	6.47	5.55	.000	n.s.	n.s.
Being well respected	*7.78*	*7.01*	.001			n.s.	n.s.	.003
Fun and enjoyment			n.s.			n.s.	n.s.	.000
Security	8.08	7.40	.001	7.56	7.90	.010	n.s.	n.s.
Accomplishment	7.65	7.23	.017			n.s.	n.s.	n.s.
Cognitive age			n.s.	50.04	51.31	.001	n.s.	.000
MEDIA BEHAVIOR								
Cinema frequency	1.69	2.04	.042			n.s.	n.s.	n.s.
TV frequency			n.s.			n.s.	.019	.067
TV intensity	4.52	3.25	.000	3.68	4.11	.001	n.s.	.066
Radio intensity	4.34	4.00	.034			n.s.	.050	n.s.
CONSUMER BEHAVIOR								
Loyalty attitude, water			n.s.	4.62	3.92	.026	n.s.	n.s.
Loyalty attitude, milk			n.s.	4.04	3.50	.080	n.s.	n.s.
	Main effect professional activity			Main effect social activity			Inter-action	Co-variate

Dependent variables	retired	working	p	active	inactive	p	p	p
Price and promo shopping	.03	-.17	.023	-.18	.01	.038	n.s.	n.s.
Telephone promotion	*.13*	*-.17*	.030			n.s.	n.s.	.047
DEMOGRAPHICS								
Income	4.50	5.68	.000	5.39	4.81	.000	n.s	n.s.
Discretionary income			n.s.	26008	18229	.044	n.s	n.s
Financial position			n.s.	3.35	3.19	.040	.095	n.s.
Educational level	2.76	3.65	.001	3.48	2.96	.000	n.s	n.s

Cell entries refer to mean values; italic scores are corrected for age, p-values refer to significance levels obtained with ANOVA

TABLE 2

Main and interaction effects of professional and social activity on leisure time and activities

	Main effect professional activity			Main effect social activity			Inter-action	covar
Dependent var.	retired	working	p	socact	inactive	p	p	p
Discretionary time	68	39	.000				.087	n.s.
number of sports			n.s.	1.99	1.57	.002	n.s.	n.s.
visiting family	3.99	3.72	.028			n.s.	n.s.	n.s.
flower arranging	2.15	1.75	.007			n.s.	n.s.	n.s.
going out shopping	3.03	2.76	.002			n.s.	n.s.	n.s.
computer	2.26	3.05	.001			n.s.	n.s.	n.s.
maintenance jobs	3.67	3.32	.000			n.s.	n.s.	n.s.
watching TV	3.38	2.87	.002			n.s.	n.s.	n.s.
gardening	3.46	3.15	.000			n.s.	n.s.	n.s.
going on excursions	3.66	3.61	.032			n.s.	n.s.	n.s.
visiting friends			n.s.	3.95	3.78	.047	n.s.	.012
modern concerts			n.s.	2.28	2.04	.026	n.s.	.009
attending courses			n.s.	3.07	2.72	.002	n.s.	.011
making music			n.s.	2.04	1.82	.049	n.s.	n.s.
practicing sports			n.s.	3.00	2.66	.010	n.s.	n.s.
going to the theatre			n.s.	2.90	2.56	.002	n.s.	n.s.
going out dancing			n.s.			n.s.	.047	.001
visiting museums			n.s.			n.s.	.040	n.s.
knitting-sewing			n.s.			n.s.	.045	n.s.

Cell entries refer to mean values; italic scores are corrected for age, p-values refer to significance levels

obtained with ANOVA