Profile of German senior tourists travelling on river cruise ships in the post-COVID period

Csaba Bíró
PhD Candidate
Faculty of Business and Economics
University of Pécs
Rákóczi Street 80., H-7622 Pécs, Hungary
Email: b.csaba5@gmail.com
Hungary

ABSTRACT

The German sending market has always been a major priority for domestic tourism in Hungary. For example, before the COVID-19 epidemic, Germany was ranked first among the outbound markets in terms of guest nights spent in commercial accommodation in 2019, with a share of 12.9%. The expenditure of German visitors traveling by Danube River cruise ships is also a determinant factor concerning destinations in Hungary. Due to their prominent role, we aimed to identify the main characteristics and preferences of German senior travellers arriving in Hungary, therefore, following the lifting of the pandemic-related travel restrictions, we conducted a personal survey of German visitors arriving from river cruise ships. Our findings revealed that interpreting 55+-year-old travellers as a homogeneous segment is a misconception, as they are highly heterogeneous. Therefore, we used factor analysis and cluster analysis to identify traveller groups within the segment and also included Barak and Schiffman's (1981) cognitive age scale to partly explain the difference in consumer preferences between self-reported age and chronological age. Linear regression modelling was also used to identify the extent to which differences in sending area location, destination preferences, and travel modes can shape spending. The study provides innovative results, both in theoretical and practical terms. Furthermore, the value of the research is enhanced by the inclusion of the guests of the most prominent German travel agencies in river cruising.
KEYWORDS: river cruises, senior travellers, German outbound market

1. Introduction

The demographic changes in the world's developed societies have made aging an increasingly dominant economic and social issue at the turn of the millennium. According to a 2019 Eurostat forecast, by 2050, every second European citizen will be over 50 years old. This strongly determined the tourism demand and supply of the future. For many decades, the marketing literature has avoided approaches and deeper discourses regarding this segment. Before the turn of the millennium, most marketing campaigns targeted young and middle-aged consumers, while the older consumer segment was stereotyped and consumers over the age of 50 were abandoned (Törőcsik, 2011; Hofmeister-Tóth, 2014; Törőcsik-Szűcs, 2021). Consumers over 50 were seen as a coherent, homogeneous segment. In international tourism, by contrast, the segment of elderly travelers has been in focus since the 1980s, although at that time they were still considered a niche market. This study aims to identify criteria for older travelers that can serve as a basis for a more empathetic attraction development and provide a clearer insight into the destination choice of this target segment. Until the 2010s, senior consumers were considered a less favored target group, but their business potential seems to be dissolving previous negative perceptions and discriminatory approaches.

The scientific approach to aging has been a subject of intense research since the 1920s (Yerkes, 1921; Wechsler, 1939; Birren, 1960, 1968; Tartler, 1961; Cumming-Henry, 1961; Rosow, 1965; Cowgill - Holmes, 1972). Aging is a complex but perfectly normal biological process. The physical and mental changes that take place manifest themselves in different forms and to different degrees in each individual; an enormous number of factors determine how long and in what quality of life a person lives.

Compared with previous generations, today's elderly is healthier, more self-sufficient, and have greater demands on their quality of life (Wellner, 2015), in addition, they possess the necessary means to become a major driver of economic growth (Kohlbacher, 2008, 2011). According to Levinson et al. (1978), aging can be influenced as much by increasingly typical lifestyles and behaviors at younger ages as well as by emotional and cognitive development or even the quality of social relationships (Puczylowsky, 2012). For a better understanding of the consumption habits of the *senior consumer segment*, it is necessary to create homogeneous subgroups within this highly heterogeneous segment. *Age, life stage, and lifestyle* are the primary segmentation factors most commonly used in their case. When used together, these aspects can provide important information about a subgroup within a segment. Butler (1969)

was one of the first to draw attention to the negative stereotypical approaches to aging, and the emergence of ageism as a social phenomenon. Ageism is typically a product of modern societies, brought about by the predominance of the 'cult of youth' as well as economic perspectives, in which older people are perceived as a group of inactive participants. Their role has also been transformed by the fact that three generations usually no longer cohabitate. Especially in the developed Western world, it has become typical to see older, economically inactive individuals as a burden, while in some Eastern countries or tribal peoples, the elderly are a symbol of knowledge and wisdom and are more socially recognized.

The marketing profession has viewed aging as a sensitive issue for a long time, and based on the related interactions, for many decades it seemed as if the consumption of the population would cease after the age of 50. However, over time, it was recognized that it was necessary to consider older people as a separate target group. This issue has attracted the attention of researchers (Thomae, 1970; Fischer, 1991; Becker, 1998; Moschis, 2003), but it is only since the 2000s and 2010s that a noticeable change has started to take place. The consumption potential and business opportunities of the growing elderly segment have been increasingly highlighted (Moschis, 2003; Horgan-Jones - Ringaert, 2004; Combs et al., 2008; Alén et al., 2016; Cohen et al., 2014). Since the turn of the millennium, elderly consumers who are chronologically aged 50 or older have been described as the *Silver Market*. Later, starting in the 2010s, people aged 55 or older were considered to belong to this segment (Wellner, 2015). Wellner (2015), for example, points out that members of the *Silver Market* are mostly looking for products and services that allow them to lead active and high-quality life. Studies have been carried out in the tourism sector on the characteristics of tourism consumption in this segment, but as of today, no factors have been identified that could be considered as novums in terms of tourism consumption (Combs et al., 2008; Cohen et al., 2014).

Even today, there is no uniformly accepted concept for defining the age group of senior citizens, as some would classify people *over 50* as such (Kölzer, 1995; Cleaver - Muller, 2001; Lohmann - Danielsson, 2001; Litrell, 2004; Puczylowsky, 2012), others would draw the line *over 55 years* of age (Bailey - Lubulwa, 2003; Lopes et al, 2009; Eurostat, 2019), while some consider those aged *60 and over* to be seniors (Horneman et al., 2002; Lee - Tideswell, 2005; Jang - Wu, 2006). However, according to a more recent definition, for example, those aged *65 and over* would be considered seniors. *In our study, we used the more commonly used 55+ delimitation.* The primary objective of our study was to identify sub-segments within the study segment with different attitudes and preferences, thus making them more easily accessed.

2. Methodology

The study was carried out using a quantitative method. The personal interviews (PAPI) were conducted between July and October 2021 in three Hungarian destinations visited by the target group (Budapest, Kalocsa, Pécs), involving a total of 419 people. We performed data cleanup to ensure that only individuals belonging to the target group remained in the final sample (n=347 people). All related analyses were performed using IBM SPSS Statistics Data Editor version 26.0.

We used descriptive statistics, statistical estimation, hypothesis testing methods, and among the multivariate methods, factor and cluster analysis. The main focus of the study was the destination preferences associated with tourism consumption as well as health status and activity as variables influencing consumption. We also examined the mean-variance of cognitive age relative to the mean age in the sample to identify consumption-related associations within sub-segments. Therefore, *Barak and Schiffman's* (1981) cognitive age scale and its four dimensions (general well-being, appearance, activity, and interest) were used. Using factor analysis (Varimax rotation), three principal components were created from the nine items of the destination preferences questionnaire, while three were created from the seven items of the travel behavior characteristics; k-means cluster analysis was run on a standardized version of income, age, and number of completed classes, and the three principal components created from the items of the destination expectations questionnaire were also included in the analysis. This resulted in 5 clusters, which were compared with some other questions included in the questionnaire; such as the main components of travel habits (digitalization, Covid-constraint, conscious planning); the location of the sending destination (West-East Germany); and the average level of leisure spending. Education (number of classes completed), average age, income, destination expectations, and travel habits were important criteria for clustering. We also examined our sample from the aspect of how to determine the nature of the relationship between tourism variables. The relationship between the variables can be described by regression calculation, and the tendency in the relationships and the nature of the relationship (direction, strength) can be described by a function. The analysis aimed to find out whether there is a correlation between leisure-time spending (dependent variable) and the territorial (sending) location of travelers (west and east, respectively), and whether changes in leisure-time spending can be estimated about destination expectations (independent variables).

3. Results

Characteristics of German senior tourists arriving by river cruise ships

The personal interviews were carried out between July and October 2021, involving a total of 520 German-speaking river cruise passengers. A river cruise can be defined as a form of leisure travel that takes along inland waterways. Usually, there are several port stops, and typical river cruises often last longer than a week. We asked the guests of four travel agencies. A total of 435 people completed the questionnaire. The sample was typically aged 55 years or older, so younger people (16 respondents) were excluded, as well as 71 Swiss and 1 Austrian citizen, resulting in a final sample of 347 German citizens. The youngest respondent was 55 years old and the oldest was at the age of 89, so the ages of the German senior respondents spread

over a range of 34 years. The difference between the upper and lower quartile, i.e. the interquartile range, is 10 years, meaning that the ages of half of the respondents are spread over a 10-year range. We also examined demographics/background variables. Looking at the gender ratio, we see that there is a higher proportion of female respondents (59.7%) than male respondents (40.3%). We also looked at the educational attainment of respondents to see how this is distributed across the sample. In terms of education, the following frequencies are observed across the sample (see Figure 1).

Figure 1: Distribution of respondents by educational attainment
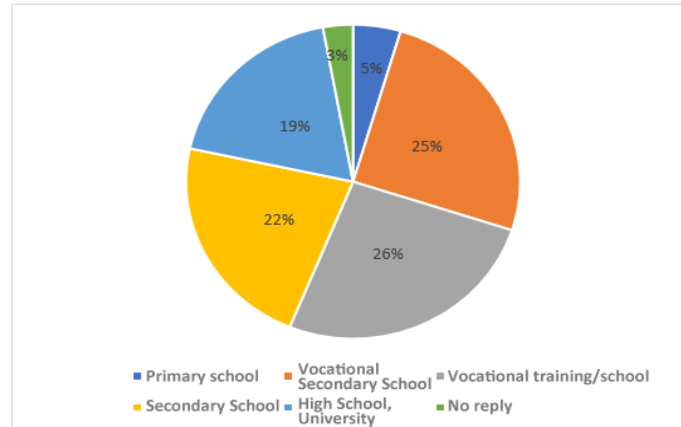
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According to this, the share of people with primary and vocational education is 30.8% of the total sample, while the share of people with higher qualifications (secondary school, high school, and tertiary education) is 69.1%, so this form of travel is still more popular among those with higher qualifications.

Before performing the factor analysis, we determined the number of variables. 49 variables were included in the database that could be analyzed because they could be interpreted numerically (at least in a way that could be coded as numbers). Among these, the above are the background variables, the other variables can be considered as professional variables, as they contain the answers to the questions related to tourism. In the case of multiple-item questions, exploratory factor analysis was used to test whether the data could be considered valid. Exploratory factor analysis was performed using principal component analysis with varimax rotation. The first principal component consists of the safety dimension, the *Corona protocol* dimension (epidemiological prevention, health status preservation), and the health status as a determinant factor of decision (and a smaller but prominent part being the importance of communication in the native language) we named this *Corona and safety*. The second principal component is made up of excellent infrastructure and high-quality services (and a smaller but prominent part is composed of the importance of communication in the native language and the safety dimension), which we have named *Extra destination expectations* (HQ & HS, i.e. high quality and high standard). The third principal component is named *Price sensitivity and family decision*, as it consists of the dimension influenced by price and family decisions, while a smaller but prominent part is composed of health status as a decision-influencing element. The components of the travel behavior question group were also used to *create three principal components* using a varimax rotation procedure based on eigenvalues. The first principal component was named *Digitalization*, because it consists of aspects of online booking and online evaluation, and booking through a travel agency with a negative prefix (i.e. a negative relationship with the principal component). The second principal component is the pandemic-related constrained budget and last-minute booking aspects, which we have labeled *Covid-constraint*. The third principal component was named *Conscious Planning*, as its main component is booking at least 3 months in advance, and it also has two components with negative prefixes: combined booking and internet reviews. Correlation between variables was filtered out.

As discussed above, the 2021 survey included *Barak and Schiffman's (1981)* cognitive age scale and its four dimensions. Based on the responses, we examined the means and confidence limits. Taking the means of the four dimensions together, we found that the mean cognitive age was 60.95 years, with a lower confidence limit of 59.88 years and an upper confidence limit of 62.01 years (95% confidence). The mean chronological age of the respondents was 72.47 years (with a lower confidence limit of 71.73 years and an upper confidence limit of 73.21 years) so it was possible to conclude that *the self-assessed age deviated negatively by 11.49 years on average (minimum 10.69 years, maximum 12.3 years - 95% confidence)*. That is, on average, this is how much younger German senior travelers assessed their age along the four dimensions. The correlation table shows that there is a positive relationship of medium strength (r=0.657) between actual and cognitive age (p=0.000). The significance value of the paired sample t-test (p=0.000) shows that the mean of the two ages is significantly different.

Since the various dimensions of the cognitive age scale involve a high level of measurement, Pearson's correlation coefficient was used to explore the relationships. There is a statistically measurable relationship (p<0.05) between all life-course types. Most of the relationships between pairs of life-course types are of medium strength, with a positive direction (0.3<r<=0.7), *except for the relationships between general well-being and appearance, general well-being and activity, as well as activity and appearance, which are in turn strongly related*

(r>0.7). This could also be interpreted as that active lifestyle is a prominent determinant of both general well-being and appearance in the characterization of senior German travelers.

The cognitive age means of the sampled respondents from former East German and West German areas were also compared using a t-test, the results of which indicate that the difference between the two age means is minimal (p=0.280), with no statistically significant difference. This leads us to the conclusion that neither the different nature of the socialization that characterized a divided Germany after the Second World War nor other effects are significantly reflected in the age perception of the studied sample.

Through factor analysis (Varimax rotation), we created three principal components out of nine items of the questionnaire on destination preferences, while three were created for seven items of the questionnaire on travel behavior characteristics, we ran k-means cluster analysis for a standardized version of income, age, and number of completed classes, while including three principal components created from items of the questionnaire on destination expectations in the analysis.

5 clusters were created (see Figure 2.) which were compared with some of the other questions included in the questionnaire; such as the main components of travel habits (digitalization, Covid disadvantage, conscious planning); the location of the destination (West-East); and the average level of leisure spending.

Figure 2: Clusters of German Senior travelers in the post-COVID period
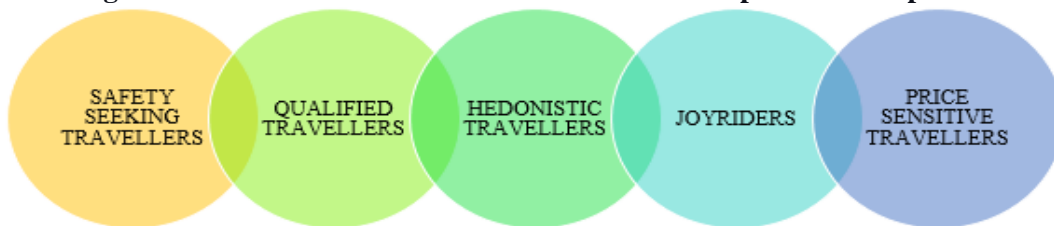
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Cluster analysis was used to create five clusters within the sample, which differed less by average age but tended to diverge along the other factors examined. Education (number of completed classes), average age, income, destination expectations, and travel habits were important criteria for clustering. Correlations between information on travel habits were also examined using Spearman's Rho. We observed a medium relationship, i.e. a more pronounced trend with a 5% significance level $(p<0.05)$ *between online booking and booking through a travel agency in a negative sense. A positive trend was found between last-minute bookings and the reduced budget due to the pandemic*.

The negative relationship between online booking and booking through a travel agency could be explained by the research of Neulinger et al. (2010), who found that older travelers perceive booking through a travel agency as safer (risk-reducing) than buying online, due to the risk-reducing and convenience-enhancing role of the travel agent. This is likely to have been further reinforced by the COVID-19 pandemic, as the willingness of the surveyed target groups to book online decreased compared to 2018 as they preferred to book through travel agents. According to the perception of some of the senior German tourists, the pandemic harmed their leisure budgets. It suggests that last-minute offers are becoming more valuable for them. We present the main characteristics of the five groups (see Table 1) below.

Table 1: Summary: Clusters of German Senior travelers

	SAFETY SEEKING TRAVELLERS (19,25%, 54 pers.)	QUALIFIED TRAVELLERS (17,14%, 48 pers.)	HEDONISTIC TRAVELLERS (22,17%, 62 pers.)	JOYRIDERS (12,16 %, 34 pers.)	PRICE SENSITIV TRAVELLERS (29,28%, 82 pers.)
Average Age	77.9 years	72.0 years	68.1 years	75.9 years	70.3 years
Number of completed classes	10.8 years	16.0 years	10.4 years	11.5 years	10.9 years
Average Income	1.852 €	2.604 €	3.000 €	1.676 €	1.402 €
Leisure spending	2.297 €	2.338 €	2.697 €	1.961 €	1.818 €
Corona and safety	most important	average	more important than the average	least important	important
Extra destination-related expectations	least important	average	most important	less important	important
Price sensitivity and family	not important	average	least important	less important	most important
Location of sending area (West/East)	rather western	at average, both	at average, both	at average, both	rather eastern

Digitalisation	average	typical	most typical	least typical	not typical
COVID-19 disadvantages	average	average	least typical	least typical	most typical
Cognitive age (average)	65,4 years	60,6 years	53,7 years	64,3 years	60,7 years

* Based on the significance values in the corresponding ANOVA table, it can be asserted that there is a significant difference for all variables included, i.e. the resulting clusters are heterogeneous ($p<0,05$).

Source: respective edit

1. Cluster "SAFETY SEEKING TRAVELLERS"

The first cluster includes 54 respondents, all German seniors. They have the highest average age (77.9 years), the average number of completed years of schooling is 10.8 and their monthly average net income is low (€ 1,852). The cluster analysis also includes three factors derived from destination expectations.

For the members of the first cluster, the dimension of Corona and safety is the most important destination expectation (safety, Corona protocol, and health status as factors influencing the decision), and the dimension of Extra destination expectations (mainly: excellent infrastructure, high-quality services) is also a priority for them. In terms of location, this cluster contains the largest number of respondents from West Germany. The level of leisure expenditure is considered average in comparison with the other clusters (€2,297), but close to that of cluster 2. In terms of digitalization, the negative financial impact of the COVID-19 pandemic, and conscious planning, the cluster was average. Cluster members were named "SAFETY SEEKING TRAVELLERS", as they have the highest average age and their highest priority is the safety of the destination, including the hygiene standards developed in the context of COVID-19.

2. Cluster "QUALIFIED TRAVELLERS"

The second cluster (48 members) has an average age (72.0 years) which is close to the database average (72.2 years). Its members have the highest average number of completed classes (16.0 years of education) and a higher average income level (€2,604 net/month/person) compared to the other clusters. Interestingly, unlike the other groups, they only attribute average importance to all the principal components of the destination expectations included. The use of digital technologies for tourism consumption (reservations) is typical of the members of this group. The financial disadvantages linked to the pandemic affect the members of this group on an average level. They are the least likely to book 3 months in advance of their trip. Their average leisure expenditure is the second highest of the five clusters (€2,338). In terms of location, the East and West are represented on average. Cluster members are identified as "QUALIFIED TRAVELLERS", as they are the most educated and have higher than average income, and are typically digital technology users regarding their tourism consumption.

3. Cluster "HEDONISTIC TRAVELLERS"

The 62 people in the third cluster are on average the youngest (68.1 years old). They have the lowest level of education (10.4 years of schooling on average), yet the average income is the highest in this cluster (€3,000). For them, extra-destination expectations are the most important (excellent infrastructure, high-quality services); the main components of Corona and safety are more important than average, and the least important components are price sensitivity and family. Regarding this cluster, it can be observed that they are the most active users of digitalization in their tourism consumption. Compared to the other clusters, they are the least likely to feel the negative impact of the pandemic on their finances. Conscious planning is an average characteristic of the cluster members. The average leisure expenditure is the highest in this cluster (€2,697). Eastern and Western cluster members are represented on average by location. We have named its members "HEDONISTIC TRAVELLERS" because they are the youngest in the studied segment, but still, they have the highest average income, paired with the lowest level of education. High average income is combined with high leisure spending. They are not price-sensitive but have very high destination expectations in every respect.

4. Cluster "JOYRIDERS"

The 34 German seniors in the fourth cluster were older on average (75.9 years), with many completed classes (11.5 years) slightly below average, a low average monthly net income (€1,676), and no destination expectations, such as destination safety and hygiene standards related to COVID-19 prevention, were important to them on average. This group was the least likely to book and buy online in terms of tourism consumption. Its members perceive the financial impact of the pandemic as the least negative. They have an average level of conscious planning in their tourism consumption. Their average discretionary income for tourism is the second lowest among the clusters (€ 1,961). By location, Eastern and Western clusters are represented on an average level. We have named our members "JOYRIDERS" because their destination expectations are not dominant; along with below-average education and income, their main priority is the enjoyment of the trip itself.

5. Cluster "PRICE SENSITIVE TRAVELLERS"

The fifth cluster included 82 respondents. The members of this group are less old than the other clusters (average age 70.3 years), have one of the lowest levels of education (10.9 years' average number of classes completed), and have the lowest average monthly net income (€1,402). For them, the most important dimension is price sensitivity and family dimension (favorable price and family are the factors that influence their decision). The safety of the chosen destination and the fulfillment of hygiene standards in the context of COVID-19 were important for them. Digitalization (online booking and shopping) is not a typical characteristic of the cluster members, who are the most likely to feel that the pandemic has limited their financial possibilities. The members of this cluster are typically the most conscious planners, i.e. they plan and book their trips well in advance. Of the five clusters, they have the lowest average leisure expenditure (€ 1,818). They live mostly in the former

GDR. The members of this cluster have been named "PRICE SENSITIVE TRAVELLERS" because they have the lowest average income and leisure expenditure. Relative to their income, they spend the most on tourism consumption of all clusters. After the discussion of the clusters, we will present the main factors, that affect the tourism spending of senior German travelers.

Factors Affecting the tourism spending of Elderly German Travelers

We also examined our cleaned sample from the aspect of how to determine the nature of the relationship between tourism variables. The relationship between the variables can be described by regression calculation, and the tendency in the relationships and the nature of the relationship (direction, strength) can be described by a function. The basic model of regression calculation is bivariate linear regression, which involves identifying the movement of a dependent variable as a function of an independent variable, and the relationship between the variables is assumed to be linear. In the case of multivariate linear regression calculations, the development of a dependent variable is examined as a function of several independent variables, and the relationship between the variables is also assumed to be linear. In our case, the latter was used. The analysis aimed to find out whether there is a correlation between leisure-time spending (dependent variable) and the territorial location of travelers (west and east, respectively), and whether changes in leisure-time spending can be estimated about destination expectations (independent variables).
The general model of multivariate regression:

$$Y=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\dots\beta_iX_{i+e},$$

where
Y is the dependent variable,
$X_1, X_2, X_3, \dots, X_k$ are the independent or explanatory variables.

The multivariate regression model was examined using the ENTER method, i.e. all independent variables were included in the analysis. The results of the regression model are summarized below.

We examined the linearity condition that was fulfilled for our sample, which was verified using the scatter plot and r^2. We also looked at the correlation coefficients between the explanatory variables, but in none of the cases did they exceed 0,7, so multicollinearity was not present in our case (the highest value was 0,344, which can be considered weak), i.e. this basic condition for multivariate regression is met. In multivariate regression, the strength of the relationship can be measured by the square of the multiple correlation coefficient R^2, also known as the multiple coefficients of determination. The table summarizing the model (Table 2.) shows that the value of the Pearson correlation coefficient is (r=0,393).

Together with the coefficient of determination ($r^2=0,154$), the strength of the relationship can be determined. In our case, the explanatory power of the relationship and model can be considered weak, because the regression line can explain 15,4% of the total variance, i.e. the strength of destination expectations played a role of 15,4% in the spending of German senior travelers. The standard error of the estimate (SEE) helps to determine the accuracy of the prediction, which in our case was 1168,277- the standard deviation of Y values around the estimated values.

Table 2: Summary of the regression model

MODEL SUMMARY				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,393[a]	,154	,138	1168,277

Source: own editing

The ANOVA table (Table 3) also shows the significance of the F-test, which confirms the existence of a relationship (Sig.< 0,05), and thus identifies that the significance of the variables determining the slope is less than 5 percent (Sig.<0,001), and therefore the model is suitable for estimating the y values.

Table 3: Examination of the applicability of the regression model

	ANOVA					
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	64591153,682	5	12918230,736	9,465	<,001[b]
	Residual	353501619,903	259	1364871,119		
	Total	418092773,585	264			

Source: own editing

We examined the distribution of residuals using a histogram. The normal distribution curve is bell-shaped. We can see (Figure 3.) that the distribution is approximately normal, with a mean close to 0 ($-5,01*10^{-17}$), and a standard deviation close to 1 (0,990).

Figure 3: Distribution of residuals: How much EUR of the income of the household is used for leisure purposes, per person per year
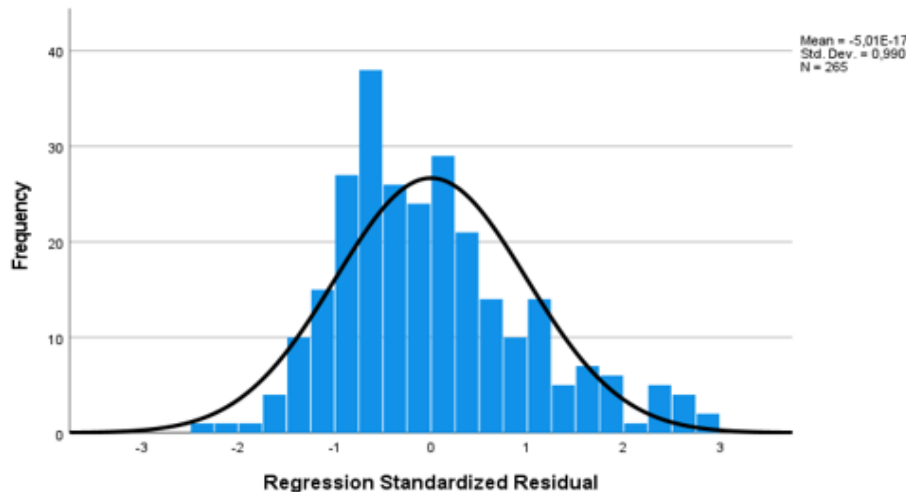
Source: own editing

The regression line formula can be determined based on the nonstandard zed coefficients. The standardized regression coefficient (beta weight) shows the slope of the regression line when data are standardized. The coefficients all have significant parameters, so it can be concluded that there is a linear relationship between the level of leisure expenditure and the variables included ($p<0,05$) (see: Table 4).

Table 4: Table of coefficients

COEFFICIENTS^A							
Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1929,871	308,255		6,261	<,001		
East_West_REC	958,610	206,415	,267	4,644	<,001	,984	1,016
Expectations regarding the destination – excellent infrastructure	118,244	47,021	,154	2,515	,013	,869	1,150
Expectations regarding the destination – Corona protocol	103,163	43,637	,147	2,364	,019	,845	1,183
Expectations regarding the destination - price	-132,221	50,757	-,166	-2,605	,010	,799	1,251
Expectations regarding the destination – the role of family in destination selection	-83,255	38,608	-,133	-2,156	,032	,857	1,167

a. Dependent Variable: Que6. How much EUR of the net income of the household is used for leisure purposes, per person per year?

Source: own editing

Leisure-time spending rate (EUR)=1929,871+118,244* expectation rate (infrastructure) +103,163* expectation rate (Corona protocol) + (-132,221) * expectation rate (price)+(-83,255) * rate (the role of family in destination selection)

Based on the equation, it can be stated that in case of an increase of one point in the rate of infrastructural expectations related to the destination, the volume of leisure-time spending of German senior travelers will increase by 118,244 euros. The rate of leisure-time spending increases similarly (+103,16 €) for the examined target group if the existence of the Corona protocol in the destination is given higher priority. The more decisive the senior traveler's expectation of a favorable price in the destination to be visited, the more the rate of leisure-time spending will decrease (-132,221 €). The role of the family also has a marked effect on leisure-time spending, since the greater the role of the family in the choice of destination, the greater the reduction in the rate of spending (-83,255 € per unit). Furthermore, it can be stated that the location of the western sending area means higher leisure-time spending (+958,61 €) within the segment.

Based on the above, it can be stated that the rate of destination expectations (quality of infrastructure, importance of Corona protocol, price, role of family in the decision) and the location of the sending area can indeed influence the rate of leisure-time spending of German senior travelers. Based on the analysis, we can conclude that the characteristics included do explain the rate of leisure-time spending, as the ANOVA table (Table 3) confirms that the null hypothesis of no relationship can be rejected at all the usual levels of significance. However, it was not possible to cover a wider range of relevant aspects, since in our case the explanatory power of the model is 15,4% (explanatory power adjusted by the number of observations and parameters involved is 13,8%).

4. Discussion

With the cluster analysis, we hope to have further clarified the image of the characteristics of German senior travelers and to provide additional support for the planning of marketing communication regarding the priority tourism areas in Hungary or other destinations.

Based on the established model, we can state that the rate of leisure-time spending of German senior travelers is markedly determined by the location of the sending area (we examined the former East and West German breakdown), and that the expectations of the destination, such as the quality of the infrastructure, the existence of hygiene standards (protocols) related to the COVID-19 pandemic, are also important aspects. As the importance of these expectations increases, so does the rate of tourism spending. The growing preference for a favorable price level for the destination has the potential to reduce the amount spent on tourism consumption. Similarly, as the family becomes more influential in the choice of destination for the senior traveler, the amount of income spent on travel decreases.

Based on our results, and taking into account the relatively weak explanatory power of the model, we can recommend the following for tourism attractions and service providers for which German senior travelers are a key target group.

- *There are clear benefits in terms of improving infrastructure for the target segment, as elderly German travelers are willing to pay more for their tourism consumption if the appropriate infrastructure quality is met.*
- *Safety is one of the primary criteria for the examined consumer segment, so in the context of COVID-19, for example, the existence of hygiene standards, also makes elderly travelers willing to spend more in a given destination.*
- *German senior travelers who do not choose a destination based on family needs have higher spending, so it is better to target couples or solo travelers first.*
- *The choice of destination by the price-sensitive group is influenced by the favorable price, thereby reducing the amount of income devoted to tourism consumption as the rate of importance increases.*
- *Elderly travelers with a location in former West Germany tend to spend more than those from the East but have higher expectations of the destination's infrastructure.*

5. Conclusions

In the introduction, we briefly discussed the issues of aging about consumption. Our study aimed to illustrate that the increasingly prioritized consumer segment, the segment of senior travelers, is in many cases still identified as a single homogeneous group. This is an extremely misguided approach. Our results revealed that, despite similar average ages, five distinct sub-segments with different preferences, characteristics, and cognitive ages could be identified. Our study intends to contribute to a better understanding of the studied target group and the development of a more empathic yet more effective marketing interaction.

Some of the statements made may seem obvious, but the method has helped to reveal the importance of structure. With the improvement of the accessibility and convenience factor, even the elderly segments can be encouraged to engage in tourism activity. It has been confirmed from several aspects that the safety of the destination and the quality of its infrastructure are decisive for the tourism consumption of senior travelers, as our results show. For our 2021 sample, we have created a linear regression model that can explain the variation in tourism spending of German seniors concerning specific parameters to a relatively small extent (close to 15%). In connection with the results of the model, we have identified many recommendations that should be considered in marketing communication and attraction development related to the target group.

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