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## CONSTRAINTS TO ATTENDANCE AT VISITOR ATTRACTIONS: THE CASE OF MUSEUMS, ZOOS AND BOTANIC GARDENS

**Abstract:** The paper has employed a three-factor model of constraints, which differentiates intrapersonal, interpersonal and structural. The study was carried out on a sample of N = 981 adult residents of Poland. The three most common barriers constraining attendance at attractions were identified: availability, high entrance fees and lack of time. The constraints were found to be related to a number of socio-demographic characteristics, such as gender, age, education, size of place of residence and household income per capita. Three market segments limited by similar constraints and showing similar attraction attendance behaviour were identified with their socio-demographic characteristics.

**Keywords:** visitor attractions, constraints, attendance, segmentation.

### 1. INTRODUCTION

Constraints can be considered as factors that shape leisure preferences, limit activity or reduce the level of perceived pleasure and satisfaction (JACKSON 2005). The literature concerning constraints to leisure involvement is quite rich (CRAWFORD & GODEY 1987, CRAWFORD *et al.* 1991, JACKSON 2000, 2005, SHAW & HENDERSON 2005), however the problem of tourism activity constraints, especially to attendance at visitor attractions, is discussed much more rarely. Most research focuses on the frequency of attendance, and there is a lack of empirical research identifying constraints and activity with regard to attendance. It is very important that the constraints be studied along with their consequences, i.e. visitor levels (WIT 1992). Unfortunately, little research has been undertaken so far that takes these and their interactions into consideration.

The purpose of the paper is to establish the level of activity with regard to attendance at visitor attractions, as well as to identify the constraints to this activity and factors determining their occurrence. The secondary aim is to identify and characterize market segments with a similar level of activity and limited by similar constraints.

### 2. LEISURE CONSTRAINTS

The most commonly listed leisure constraints include lack of time and money (JACKSON 2005), while the ones most difficult to overcome are thought to be psychological barriers, deeply ingrained in social awareness (KUNICKI 1984, KIELBASIEWICZ-DROZDOWSKA 2001). From socio-demographic characteristics, the one most strongly related to leisure involvement and the perception of constraints is gender. This mainly results from the social roles of men and the women rather than from their respective physio- or psychological features (SHAW & HENDERSON 2005). Women are much more susceptible to leisure inhibitors than men. These include lack of time, companions or transport; family responsibilities, fear of crime, lack of prerequisite skills or lack of self-belief (WIT & GOODALE 1981, SEARLE & JACKSON 1985, SHAW & HENDERSON 2005).

The perception of constraints is also influenced by the individual's phase of life. Depending on the phase, new constraints become important, while others recede into the background. JACKSON (2005) identified four stages of change in perceiving constraints in an individual's life. In the course of life, factors related to skills and abilities become increas-

ingly important, while the relevance of costs decreases with age. Engagement in family and professional duties, in turn, increases in middle age and decreases during old age, forming an inverted U-shaped curve. This pattern, influences the perception of interpersonal factors, such as social relations with family members, friends, co-workers and neighbours. Perception of constraints also rises with increases in costs, especially in multi-child households. The same holds true for perceived lack of time as a leisure participation constraint (Jun *et al.* 2008).

The hierarchical model of constraints developed by Crawford *et al.* (CRAWFORD & GODEY 1987, CRAWFORD, JACKSON, GODEY 1991) proposes three constraint categories: intrapersonal, interpersonal and structural (Fig. 1). Intrapersonal constraints include preferences and predispositions for certain activities. They emerge as a result of individual needs, socialisation, stress, depression, preferred attitudes and attitudes among the peer group, and self-perception of skills and abilities. Interpersonal constraints result from social interactions, relations with friends, family members and others. Structural constraints depend on life-cycle stage, free time availability, flexibility, financial situation and opportunities.

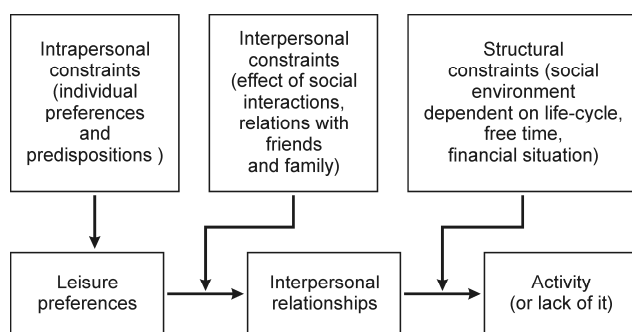


Fig. 1. The hierarchical model of leisure constraints (CRAWFORD, JACKSON, GODEY 1991, p. 313)

The following conclusions follow from the model: leisure activity is a process that is sequentially influenced by a number of factors, including constraints. The sequential influence of the constraints results in a hierarchy of importance. At the initial stage of an individual's development, the constraints influence the formation of leisure activity preferences. Then, depending on the preferred leisure activities, interpersonal constraints may occur. Finally, when these two types of constraints have been overcome, structural barriers may emerge, intervening factors between leisure preferences and actual activity.

Leisure activity constraints are increasingly perceived as changeable, i.e. participation in activities despite existing constraints by employing various

strategies to overcome them. Constraints may modify the participation, but they do not make it impossible. The power of motivation and the benefits that can be obtained through the activity determine success in overcoming constraints. As a consequence, the ability to effectively overcome constraints determines the level of leisure activity (NADIROVA & JACKSON 1999).

### 3. CONSTRAINTS TO ATTENDANCE AT VISITOR ATTRACTIONS

Constraints to attendance at visitor attractions and their influence are not much different from other constraints on leisure activity. They include lack of time resulting from professional and household responsibilities, lack of energy after work, lack of money and low general morale, lack of cultural habits and needs in free time, competition from other forms of leisure, lack of transportation (no car or poor public transport), costs of transport, negative perceptions of visitor attractions as 'ruins' or 'always the same' and being interesting only for tourists (DAVIES & PRENTICE 1995). For example S. TIAN, J. CROMPTON, P. WITT (1996) (1996) identified six factors inhibiting people from visiting museums: cost, time, access, programme, repetition and interest.

J. JUN, G. KYLE i J. O'LEARY (2008)), when studying those who did not visit museums despite being interested, found that certain socio-demographic features are correlated with certain types of constraints. For example income is correlated with intrapersonal and structural barriers. Age, gender and the number of children in the household have a significant impact on interpersonal constraints. The perception of constraints is a function of socio-demographic characteristics and their interactions. The perception of intrapersonal constraints, for instance, varies according to gender, and depending on the number of children in the household. Moreover, place of residence 'filters', the impact of socio-demographic characteristics on the perception of constraints.

In the case of visits to museums, the distance constraint or lack of access may be particularly important for those living outside of urban centres where they do not exist. Similar to communication difficulties are problems related to finding companionship, health issues and opportunities for other activities (e.g. other visitor attractions) (SEARLE & JACKSON 1985, MCCARVILLE & SMALE 1993).

Authors agree that if an individual has knowledge about the existence of attractions, the decision about visiting is a compromise between the perception of the benefits that can be obtained, experiences received, and the effort and expense needed to overcome

constraints. Constraint perception is also influenced by the number of alternative options available in free time, selected based on barriers related to finances, time and other factors (WOODSIDE & LYSONSKI 1989, UM & CROMPTON 1992, TIAN *et al.* 1996).

#### 4. METHOD

Data for the study were collected through the Omnibus survey conducted by the Centre for Public Opinion Research Foundation (*Fundacja Centrum Badania Opinii Społecznej*) between 30 November and 8 October 2010 on a representative random sample of 981 adult Polish residents. The sample was drawn from the Common Electronic System of Population Register (*Powszechny Elektroniczny System Ewidencji Ludności – PESEL*). Interviews were carried out face-to-face using CAPI (Computer Assisted Personal Interviewing). Survey questions covered a wide range of socio-political issues, among them were questions about the level of activity and constraints related to attendance at visitor attractions. The study focused on three types of attraction: museums, zoos and botanical gardens. The first question was, "How often do you visit a museum, a zoo or a botanical garden?" Possible answers were *once or several times a month, once or several times a year, less often, never* and *difficult to say*. The question related to activity constraints was as follows: "What is the reason that you never, or hardly ever, visit a museum, a zoo or a botanical garden?" Respondents were asked to point out any of the 13 constraints (Table 2).

As a dependent variable the level of activity on visiting attractions was considered, and as independent variables – socio-demographic indicators. Activity constraints were considered as mediating variable: as independent variable affecting the level of activity and as dependent variable, being affected by socio-demographic indicators.

Several statistical methods were employed in data analysis. The first step involved the calculation of attendance frequency by the interviewees and the score averages for particular constraint types in the sample. The next step involved non-parametric Mann-Whitney U and Kruskal-Wallis H tests employed to determine which socio-demographic factors and constraints are correlated with the level of activity and which socio-demographic factors are correlated with the constraints. The statistical tests were considered significant at a level of  $p < 0.05$ . In the last step cluster analysis was performed, aimed at selecting, from among the test group, homogeneous market segments which are similar in activity level and likewise in perceiving constraints.

#### 5. SAMPLE CHARACTERISTICS

The studied sample comprised 47.6% women and 52.4% men. The largest groups were the older respondents, aged 45-54, 55-64 and older than 64 – 18% in each group, while less numerous were the younger, aged 25-34 – 14.6% and 18-24 – 13.6%. 25% of the respondents had only primary education, another 25% had a further basic vocational education, 33% secondary (post 16), and 15% higher. Most respondents lived in the countryside (37.6%), while 19.9% lived in towns and cities with a population of 20,000 to 100,000. Only 12.7% lived in the largest cities. The largest group with regard to income were those whose household income per capita fell within the range of 751-1000 PLN (ca. 183-243 EUR) per month. The other groups comprised approximately 15% only of the whole sample.

#### 6. RESULTS

An analysis of the responses received from the study demonstrates that the respondents' activity regarding attendance at visitor attractions is extremely low. Almost half of the sample (42.2%) visit no attractions whatsoever, whereas 28.1% visit less than once a year (Table 1). This suggests that almost three-quarters of the adult Polish population show no activity at all. Only 29.1% claim to attend visitor attractions on a fairly regular basis (once a year or more).

Table 1. Level of activity regarding attendance at visitor attractions

<i>How often do you visit a museum, a zoo or a botanical garden?</i>	N	%
Once or several times a month	32	3.26
Once or several times a year	254	25.89
Less often	276	28.14
Never	414	42.20
Difficult to say	5	0.51
Sum	981	100.00

Source: author.

An analysis of the answers to the question: *What is the reason that you never or rarely visit a museum, a zoo or a botanical garden?* demonstrated that the most frequently indicated attendance constraint was the lack of such attractions in their area (for 46% of the respondents) and lack of time (32.32%) (Table 2). Next were troublesome (difficult) access (23.05%), expensive entrance fees (22.21%) preference of other leisure activities (20.20%) and lack of interest (14.40%). The least likely were the statements: *I feel out of place there (I cannot understand, I feel bored)* (0.90%), *unintelligible exhibitions* (1.07%) and *because of the children* (1.11%).

Table 2. Constraints to attendance at visitor attractions

What is the reason that you never, or hardly ever, visit a museum, a zoo or a botanical garden?	N	%
Lack of nearby attractions (structural constraint)	435	46.00
I am too busy (intrapersonal constraint)	304	32.32
Poor communication (structural constraint)	222	23.05
Entrance fees too expensive (structural constraint)	200	22.21
I prefer other activities (intrapersonal constraint)	191	20.20
I am not interested (intrapersonal constraint)	122	14.40
Personal reasons (health, security) (intrapersonal constraint)	88	9.26
Always the same things to see (structural constraint)	49	5.07
Lack of companionship (interpersonal constraint)	30	3.44
Uninteresting exhibitions (structural constraint)	15	1.39
Because of children (interpersonal constraint)	10	1.11
Unintelligible exhibitions (intrapersonal constraint)	9	1.07
I feel out of place there (I cannot understand, I feel bored) (intrapersonal constraint)	8	0.90
Difficult to say	22	1.85
No response	5	0.08

Source: author.

## 7. CONSTRAINTS, ACTIVITY AND SOCIO-DEMOGRAPHIC CHARACTERISTICS

The level of activity is strongly linked to socio-demographic characteristics (Table 3): women are more likely than men to visit the attractions ( $Z = 2.21$ ;  $p = 0.014$ ), younger people visit the attractions more often than the elderly – a clear age limit is about 45 ( $H = 124.23$ ,  $p < 0.001$ ). Similarly, place of residence clearly differentiates activity, evidently because of access: the activity of village and small town inhabitants is by far the smallest and grows in proportion with increase in size of place of residence ( $H = 123.23$ ,  $p < 0.001$ ). Also, a direct relationship was found between the level of education: the activity of those with only primary education is the lowest but gradually increases in groups with higher levels ( $F = 248.92$ ,  $p < 0.001$ ). Visiting attractions is also closely related to the financial situation: it increases in direct proportion to household income ( $H = 88.45$ ;  $p < 0.001$ ).

Table 3. Activity level and socio-demographic characteristics

Socio-demographic characteristics		How often do you visit a museum, a zoo or a botanical garden? (data in %)						Test (U or H)
		Once or several times a month	Once or several times a year	Less often	Never	Difficult to say	Mean	
Gender	Male	2.5	21.7	29.1	46.2	0.5	3.20	$Z = 2.21$ $p = 0.019$
	Female	3.4	25.9	27.1	43.1	0.4	3.05	
Age	18-24	7.4	35.2	26.6	30.7	0.0	2.76	$H = 124.23$ $p < 0.001$
	25-34	1.0	38.9	38.0	22.0	0.0	2.79	
	35-44	5.8	32.2	32.7	28.8	0.6	2.77	
	45-54	2.3	14.7	31.5	51.5	0.0	3.24	
	55-64	2.2	19.1	24.9	52.3	1.6	3.31	
	65+	0.8	8.3	15.8	74.5	0.6	3.59	
Residence	Countryside	1.1	15.1	24.3	59.3	0.3	3.38	$H = 123.23$ $p < 0.001$
	Town < 20,000	1.6	13.8	27.0	56.2	1.3	3.38	
	20-100,000	3.6	24.1	32.2	40.2	0.0	3.08	
	101-500,000.	3.7	35.2	32.4	27.4	1.3	2.82	
	501,000 and more	8.2	46.6	28.6	16.6	0.0	2.47	
Education	Primary	0.4	10.4	13.4	74.5	1.3	3.73	$H = 248.92$ $p < 0.001$
	Vocational	1.3	14.0	28.6	56.1	0.0	3.43	
	Secondary	4.8	26.0	40.4	28.6	0.2	2.97	
	College or university	6.2	58.0	24.3	11.0	0.6	2.43	
Household income per capita per month	500 PLN or less	0.6	13.7	21.4	63.8	0.5	3.49	$H = 88.45$ $p < 0.001$
	501-750 PLN	1.4	13.3	32.0	53.2	0.0	3.38	
	751-1000 PLN	2.8	23.7	24.2	48.4	1.0	3.22	
	1001-1500 PLN	3.4	27.0	32.8	36.3	0.5	3.00	
	1500 PLN or more	4.2	42.9	33.7	18.4	0.8	2.67	

Source: author.

Table 4. Constraints, activity level and socio-demographic characteristics (data in percentages, the differences were tested with Pearson  $\chi^2$  test and Mann-Whitney U test, significant differences are in bold)

Socio-demographic characteristics		Intrapersonal constraints					Inter-personal constraints		Structural constraints					
		I am not interested	Personal reasons	I feel out of place there	I am too busy	I prefer other activities	Unintelligible exhibitions	Because of children	Lack of companionship	Entrance fees too expensive	Lack of nearby attractions	Poor communication	Always the same things to see	Uninteresting exhibitions
Gender	Male	<b>19</b>	7	1	36	<b>24</b>	1	<b>0</b>	2	<b>17</b>	45	<b>20</b>	6	2
	Female	<b>10</b>	11	1	29	<b>17</b>	1	<b>2</b>	4	<b>27</b>	47	<b>26</b>	5	1
Age	18-24	<b>26</b>	<b>1</b>	1	<b>43</b>	<b>27</b>	<b>1</b>	<b>0</b>	6	22	51	24	<b>6</b>	1
	25-34	<b>10</b>	<b>0</b>	1	<b>50</b>	<b>28</b>	<b>0</b>	<b>5</b>	1	20	38	21	<b>11</b>	4
	35-44	<b>5</b>	<b>1</b>	0	<b>41</b>	<b>15</b>	<b>1</b>	<b>1</b>	1	21	50	27	<b>4</b>	1
	45-54	<b>15</b>	<b>3</b>	1	<b>33</b>	<b>20</b>	<b>0</b>	<b>1</b>	3	26	51	16	<b>5</b>	1
	55-64	<b>12</b>	<b>10</b>	0	<b>27</b>	<b>18</b>	<b>0</b>	<b>0</b>	5	22	52	27	<b>3</b>	0
	65 and more	<b>20</b>	<b>35</b>	2	<b>6</b>	<b>15</b>	<b>4</b>	<b>0</b>	4	21	37	24	<b>2</b>	0
Residence	Countryside	<b>18</b>	<b>10</b>	1	<b>31</b>	<b>15</b>	2	1	2	20	<b>59</b>	<b>29</b>	<b>3</b>	1
	Town < 20,000	<b>10</b>	<b>10</b>	0	<b>21</b>	<b>19</b>	0	1	2	22	<b>66</b>	<b>33</b>	<b>2</b>	0
	20-100,000	<b>14</b>	<b>3</b>	0	<b>27</b>	<b>21</b>	0	1	5	21	<b>48</b>	<b>22</b>	<b>2</b>	0
	101-500,000	<b>16</b>	<b>9</b>	2	<b>37</b>	<b>29</b>	2	3	3	26	<b>24</b>	<b>11</b>	<b>11</b>	5
	501,000 and more	<b>8</b>	<b>17</b>	2	<b>52</b>	<b>27</b>	1	1	8	26	5	<b>11</b>	<b>14</b>	1
Education	Primary	<b>22</b>	<b>15</b>	1	<b>19</b>	<b>10</b>	3	1	4	26	55	28	1	0
	Vocational	<b>18</b>	<b>11</b>	1	<b>27</b>	<b>22</b>	1	1	3	25	51	23	2	0
	Secondary	<b>9</b>	<b>6</b>	1	<b>40</b>	<b>23</b>	0	1	4	19	<b>44</b>	<b>23</b>	7	2
	College or university	<b>5</b>	<b>3</b>	1	<b>49</b>	<b>28</b>	0	3	2	17	27	15	<b>12</b>	<b>4</b>
Household income per capita per month	500 PLN or less	13	7	0	<b>24</b>	<b>11</b>	1	<b>3</b>	2	<b>33</b>	57	23	1	1
	501-750 PLN	10	9	1	<b>29</b>	<b>12</b>	2	0	3	28	62	28	3	0
	751-1000 PLN	21	12	1	<b>31</b>	<b>19</b>	2	1	4	17	45	23	<b>4</b>	0
	1001-1500 PLN	12	12	1	<b>30</b>	<b>27</b>	0	0	2	23	41	30	7	2
	1501 PLN or more	10	6	1	<b>47</b>	<b>27</b>	1	2	3	14	29	14	<b>10</b>	3
Evaluation of own financial condition	Poor	12	<b>21</b>	0	<b>16</b>	<b>9</b>	2	1	6	<b>47</b>	48	<b>28</b>	2	1
	Average	17	<b>10</b>	1	<b>29</b>	<b>18</b>	1	1	4	21	49	26	<b>4</b>	1
	Good	12	5	1	<b>43</b>	<b>27</b>	1	1	2	15	41	17	8	2
<i>How often do you visit a museum, a zoo or a botanical garden?</i>	Once or several times a month	<b>0</b>	<b>0</b>	0	<b>0</b>	<b>0</b>	0	0	0	0	0	0	0	0
	Once or several times a year	<b>4</b>	<b>3</b>	1	<b>45</b>	<b>22</b>	1	2	4	24	34	19	11	3
	Less often	7	7	1	<b>40</b>	<b>26</b>	1	1	3	22	49	28	6	2
	Never	22	15	1	<b>18</b>	<b>15</b>	1	1	3	19	51	23	1	0
	U test (p value)	<b>0.001</b>	<b>0.001</b>	ns	<b>0.001</b>	ns	<b>0.007</b>	ns	ns	<b>0.001</b>	ns	<b>0.001</b>	ns	ns

Note: ns - non-significant difference.

Source: author.

In the next step in the analysis was to verify whether activity constraints are correlated with socio-demographic characteristics (Table 4). Men to a much lesser extent than women are interested in visiting attractions – they prefer to spend their time in other ways. On the other hand, strong constraints for women are admission prices, difficulties in reaching

and children. The connection of age with constraints is diverse: a lack of interest is shown by the oldest and youngest (only 5% of those aged 35-44 shows no interest in visiting), lack of time is the main reason under 44, those aged 25-34 complain most about uninteresting exhibitions. Place of residence differentiates the perception of barriers: many people from big

towns mentioned personal reasons, lack of time and the possibility of spending time in a different way. In turn, residents of villages and small towns indicate a lack of interest, lack of attractions in the area and too inconvenient to reach. Similar relationships exist with respect to education and income (Table 4). As a result of Mann-Whitney U tests, it was found that there are differences in activity of those who indicated whether or not the existence of six barriers: I'm not interested, personal reasons, I'm too busy (here the relationship is reversed – active people who say they are too busy and so visit the attractions more often than those who have enough time), the exhibition is unintelligible, entrance fees too expensive and poor communication.

## 8. CLUSTER ANALYSIS

In order to identify groups of people limited by similar constraints and characterized by a similar level of activity a cluster analysis was performed. Two methods were used sequentially: first, hierarchical cluster analysis and as the next step, k-means cluster analysis. In both cases, 13 constraints and level of activity were used as segmentation criteria. Firstly, hierarchical cluster analysis was carried out in order to identify the

optimal number of clusters which should be assumed in a k-means cluster analysis. This analysis revealed the existence of three segments distinctly different from each other. In the next step, a cluster analysis was performed with the k-means method (Ward procedure) with a three-cluster variant being treated as the optimal one. As a result of such procedure three clusters of respondents limited by similar constraints and manifested a similar level of activity were obtained (Table 5).

In the next step, the obtained clusters were socio-demographic characteristics and analysis of inter-group differences was made using Pearson's  $\chi^2$  test. It showed significant differences between clusters due to all of the investigated socio-demographic characteristics (Table 6).

The first cluster – 'intrapersonal constraints' – comprises a majority of respondents (522 – 53.2%). These are individuals with the lowest activity in visiting attractions ( $\bar{x} = 3.65$ ) and constrained mainly intrapersonally – lack of interest, personal reasons, lack of time, other interests, as well as two structural barriers – tickets too expensive and the lack of nearby attractions. It contains significantly more women than men, compared to the average in the sample (48.08%) and significantly more aged 45-54 (22.61%) and 65 and older (21.84%). This cluster includes many more

Table 5. Cluster analysis results (data in percent; proportions distinguished above average are in bold; \* -  $p < 0.05$ ; \*\* -  $p < 0.01$ ; \*\*\* -  $p < 0.001$ )

Variables	Cluster 1 (n = 522; 53.2,%)	Cluster 2 (n = 174; 17.7%)	Cluster 3 (n = 286; 29.1%)	$\chi^2$ test
<i>How often do you visit a museum, a zoo or a botanical garden?</i>	3.65 <sup>a</sup>	3.55	<b>1.89</b>	3.12
<b>Intrapersonal constraints</b>				
I am not interested	<b>10.70</b>	0.71	1.02	60.43***
Personal reasons (health, security)	<b>6.42</b>	1.83	0.71	21.47***
I feel out of place there	0.41	0.20	0.20	ns
I am too busy	<b>15.49</b>	3.47	<b>12.03</b>	25.35***
I prefer other activities	<b>11.62</b>	2.04	5.81	8.80*
Unintelligible exhibitions	0.61	0.00	0.31	ns
<b>Interpersonal constraints</b>				
Lack of companionship	1.63	0.31	1.12	ns
Because of children	0.31	0.20	0.51	ns
<b>Structural constraints</b>				
Uninteresting exhibitions	0.71	0.00	0.82	ns
Entrance fees too expensive	<b>9.48</b>	4.69	6.22	6.38*
Lack of nearby attractions	<b>22.53</b>	13.05	8.77	86.06***
Poor communication	0.00	<b>17.64</b>	4.99	749.08***
Always the same things to see	1.83	0.20	<b>2.96</b>	23.95***

Note: <sup>a</sup> – average was calculated for the following: 1 – once or a several times a month, 2 – once or several times a year, 3 – less often, 4 – never.

Source: author.

Table 6. Characteristics of clusters by socio-demographic variables  
(data in percentages; proportions above average are in bold)

Socio-demographic characteristics		Cluster 1	Cluster 2	Cluster 3	Mean
Gender	Female	<b>48.08</b>	41.04	38,46	44,04
	Male	51.92	<b>58.96</b>	<b>61,54</b>	55,96
	Pearson's $\chi^2$ Test	$\chi^2 = 7.71; df = 2; p = 0.02$			
Age	18-24	9.20	9.25	<b>17,48</b>	11,62
	25-34	(12.64)	13.29	<b>23,08</b>	15,80
	35-44	(12.64)	(12.14)	<b>22,73</b>	15,49
	45-54	<b>22.61</b>	16.18	(12,94)	18,65
	55-64	21.07	<b>26.59</b>	(16,78)	20,80
	65+	<b>21.84</b>	<b>22.54</b>	(6,99)	17,64
	Pearson's $\chi^2$ test	$\chi^2 = 80.08; df = 10; p < 0.001$			
Education	Primary	<b>23.56</b>	<b>28.32</b>	(6,29)	19,37
	Vocational	<b>29.69</b>	<b>27.17</b>	(11,89)	24,06
	Secondary	34.67	<b>38.15</b>	36,71	35,88
	College or university	(12.07)	(6.36)	<b>45,10</b>	20,69
	Pearson's $\chi^2$ test	$\chi^2 = 181.16; df = 6. p < 0.001$			
Residence	Countryside	41.95	<b>53.76</b>	(23,78)	38,74
	Town < 20,000	13.98	<b>21.39</b>	9,09	13,86
	20-100,000	19.92	(15.60)	18,88	18,86
	101-500,000	15.33	(6.36)	<b>23,43</b>	16,11
	501,000 and more	(8.81)	(2.89)	<b>24,83</b>	12,44
	Pearson's $\chi^2$ test	$\chi^2 = 115.128; df = 8. p < 0.001$			
Household income per capita per month	500 zł or less	<b>17.50</b>	<b>18.27</b>	(10,74)	15,76
	501-750 PLN	<b>17.86</b>	<b>23.08</b>	(5,37%)	15,38
	751-1000 PLN	<b>28.57</b>	(19.23)	24,16	25,52
	1001-1500 PLN	(19.64)	<b>31.73</b>	<b>28,19</b>	24,39
	1500 PLN and more	(16.43)	(7.69)	<b>31,54</b>	18,95
	Test $\chi^2$ Pearsona	$\chi^2 = 47.04; df = 8; p < 0.001$			

Source: author.

respondents with primary (23.56%) and vocational (28.32%) education than average in the sample. Place of residence does not really distinguish- only those living in large towns are much less than the average (8.81%). This cluster is dominated by those with the lowest incomes (up to 1000 PLN per capita in the household).

The second cluster - 'from the province', 174 respondents (17.7%), also comprises those with a very low activity level ( $\bar{x} = 3.55$ ). However, these perceive very few barriers. The only barrier that distinguishes this cluster is that associated with access to attractions. The cluster is dominated by men (58.96%), those in the oldest age group (55 or more), living in villages and small towns (up to 20,000 inhabitants) and with the lowest income (up to 750 PLN).

The third cluster - 'actives' (286 - 29.1%) are those with far greater activity, constrained mainly by a lack of time and the uninteresting exhibitions. The cluster is dominated by men (61.54%) and the relatively young aged up to 44. Almost half of the respondents (45.10%) with higher education are in this cluster and

a significant number live in large towns (with a population of over 100,000). In this group are those with higher incomes (above 1000 PLN).

## 9. CONCLUSIONS

The aim of the research was to identify the level of attendance at visitor attraction activities, determine activity constraints and identify the factors.

The level of activity as measured in the study is extremely low: only one-third of the respondents reported fairly regular attendance (at least once a year) to a museum, zoo or botanical garden. However, this level is higher than the one assessed in a previous study conducted in 2000 by OBOP (16% of the respondents reported visiting a museum at least once a year). Yet the year 2000 study only investigated museum visits, which explains the significantly lower level of activity. However, the obtained data do not significantly differ from other European countries.

Similar activity levels have been found in the United Kingdom, with 28 to 37% visiting museums and 25 to 36% visiting zoological or botanical gardens and parks (DAVIES 2005). Interestingly, Lin (2006) found, in a study among citizens of Taipei (Taiwan), that as many as 67.7% of the respondents visited a museum at least once a year.

The most common constraints reported by respondents were lack of nearby attractions, lack of time, poor communication and high entrance fees. These barriers do not significantly differ from those pointed out in other studies on leisure activity (MCGUIRE 1984, GODBEY 1985, JACKSON 2005, JUN *et al.* 2008). This may result from the so-called constraint generalisation (MCCARVILLE & SMALE 1993, MANNELL & IWASAKI 2005): people generalise constraints influencing one type of leisure into other types. Those who live their lives in a hurry, who feel they lack time to engage in any leisure activity, will feel lack of time regardless of current needs, type of activity and opportunities arising.

By analysing the dependence of activity constraints on socio-demographic characteristics, it was observed that all the studied characteristics showed relationships with constraints and activity levels. A strong relationship was found between structural barriers (the tickets are too expensive, not in my neighbourhood, too troublesome to reach) with level of education, size of the place of residence and income. Opposite relationships were found between intrapersonal barriers (I'm too busy, I prefer spending time in a different way) and place of residence and household income. Similar relationships have been found by MC-CARVILLE & SMALE (1993), JACKSON & HENDERSON (1995), SCOTT & MUNSON (1994) as well as JUN *et al.* (2008). The level of structural constraints decreases with an increase in income, but, surprisingly, at the same time the level of intrapersonal constraints increases. The same pattern can be observed for education and size of place of residence. The perception of constraints changes with phase of the life cycle: for intrapersonal constraints (e.g. I am not interested) follows a U-shaped curve with a maximum for the youngest and oldest. There was no significant relationship between interpersonal barriers and visiting activity. Only women, aged 25-34, showed the existence of barriers and those were associated with having children.

The market segmentation produced in the course of this study may prove a useful tool in visitor attraction marketing, as it helped identify real and potential customers limited by similar constraints. Knowledge of these segments allows visitor attraction managers to develop diversified strategies targeted at specific market segments. The analysis demonstrated that three segments can be identified: one active

segment and two inactive limited by various constraints.

The active segment (third cluster), mainly limited by the lack of time, is dominated by relatively young and well-educated individuals, living in large towns and having a high income. Their activity is above average thanks to their mobility, and constraints such as entrance fees do not limit them in any significant way. This segment can be targeted with a more demanding and ambitious offer and includes potential visitors to museums and art galleries. However, the higher level barrier *Always the same things to see* in this group indicates a strong need for offering a differentiated product by means of attractions and events, of which best example may be the regular 'Night of Museums'.

The **intrapersonal constraints** segment – first cluster – includes more than half of the respondents, mainly those not interested in visiting attractions, restricted by lack of time (real or imaginary) and high ticket prices. These are mostly the elderly, having just primary or vocational education and the lowest incomes. They could be the target market for such attractions as local fairs, festivals and local events, zoos and theme parks. These are attractions favouring a less demanding audience that provide many experiences and can arouse interest even among an unprepared audience.

The **from the provinces** segment (second cluster) is dominated by those mainly limited by attraction availability (poor communication). These are mainly the most poorly educated, living in the countryside (more than half of the respondents) or in small towns and having the lowest household income. It is extremely difficult to encourage them to visit attractions. This situation is often due to objective conditions, beyond the individual. They can be potential customers of local fairs and events held in small towns and villages, preferably admission free, events in regional museums or community centres. Since these individuals do not experience severe intrapersonal constraints (so they are interested in visiting), they can be potential partners for small, regional institutions implementing community activity strategies (KOTLER & KOTLER 1998, 2001).

Further research on the visitor attractions market should take into account the intensity of individual constraints (for instance measuring them on a multi-point Likert scale) and preferences related to various types of attractions, such as museums, amusement and theme parks, zoological and botanical gardens, fairs, events, etc. The model for visitor attraction attendance activity should, apart from preferences, activity and constraints, also include motivations, values and benefits gained through visiting specific types of visitor attraction.



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