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# VISITOR SEGMENTATION IN THE NATIONAL PARKS BASED ON MOTIVATIONS AND BENEFITS OBTAINED DURING THE STAY

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**ABSTRACT:** The objective of this research was to analyze selected psychographic features (motivations and benefits) of national parks' visitors in order to determine the segments of visitors using k-means method. The characteristic of five visitor segments (relaxation, nature, integration, sightseeing and physical activity) points out the significant differences between them in terms of sociodemographic factors and behavioral variables related to the organization and course of the trip to the national park. The feedback on the preparation of the national park for tourism was also gathered.

**KEY WORDS:** tourism, recreation, natural areas, visitor management

## Introduction

Preparation of natural areas such as national parks for social use requires knowledge of visitors types and their behaviours, preferences and opinion (Dobiegała-Korona (ed.), 2010; Prószyńska-Bordas, 2013; Prószyńska-Bordas, 2014). The classification of tourists' roles is based on a multiple criteria approach. Numerous visitor studies use different categories based on selected criteria taken from a wide range of behaviours (Nowacki, 2012; Smith (ed.), 1989; Pearce, 1982). There are various tourist typologies alluding to different aspects of tourist attitudes (Nogieć, 2011).

The consumer behaviour theory points out the motivations, which are linked to individual drivers of action (Cohen, 1974; Pearce, 2005; Więckowski, 2014). Also it is important to consider the experiences and benefits (Prentice et al., 1998) acquired by visitors to visitor attractions (Naidoo et al., 2011). Some of the typologies of tourists focus on various goals which guests wish to achieve such as relaxation, pleasure, being together with their loved ones, gain education and contact with cultural and natural heritage. Motivations are antecedents relating to the state before the travel to a place, while benefits relate to the state during and after the stay in the destination. In addition, the benefits are a consequence, that is the response of a destination to one's preferences. The benefits are perceived as a certain satisfaction, acquired when in touch with the reality, encompassing the tourist's activity and interpersonal relationship during the stay. The benefits comprise not only the matching with the expectations which were expressed in the form of motivations, but also the unexpected profits.

Psychographic typologies of tourists, based merely on motivations or expectations, do not take in account all tourists' experience and their complex perception of a place. The analysis of benefits received whilst visiting the protected area elucidates the ensemble of the tourist experience. In order to determine the segments of tourists it seems reasonable to analyze integrally motives and benefits. Alike other studies of consumers' profiles and lifestyles (Naidoo et al., 2011), this study focuses on selected descriptive, behavioral and psychographic factors and tries to identify their mutual relationship.

## Aim of the study

The aim of the study is to determine the segments of visitors based on the psychographic features: the motivations to visit the national park and the benefits experienced during the stay and then to find out statistically significant differences among segments. The research questions are: what seg-

ments of visitors can be distinguished basing on motivations and benefits? Do the specified visitor segments significantly differ in terms of demographic and social factors? What behaviors predominate in each segment? What visitors' opinion characterizes each segment?

## Method

Respondents were selected randomly from among the visitors in selected 11 polish national parks in 2008-2014. The data were collected on-site, usually at the final moment of the visit in the park. Voluntary and anonymous participation in the inquiry consisted in filling a questionnaire. Most questions were closed-ended, some were multiple-choice. Respondents marked a main motivation and secondary ones (multiple choice) from a list of 12 items. In the same way they were asked to choose a main benefit and other less important benefits from a list of 10 items. Other questions concerned sociodemographic features (such as gender, age, level of education, occupation, domicile), tourist behaviour (frequency of visits, length of stay, accompanying persons, transport, accommodation, behaviour during the visit in the park) and opinion on facilities for tourists in the area.

The analysis was based on 3299 records. The IBM SPSS Statistics 21 program was used for data processing. The multivariate frequency distributions of the variables were generated in contingency tables or graphs. The degree of association between variables was assessed using Pearson's chi-squared test. The level of probability, specifying statistically significant differences in the distribution, was defined as  $p \leq 0.05$ . The data set of variables referring to motivations and referring to benefits was clustered by k-means method. This method allows grouping of a set of objects in such a manner that objects that felt in the same category (cluster) are more similar to each other than to those in other clusters. The analysis was carried out for a predetermined number of clusters (3 to 6).

## Results of the research

Five clusters' set was chosen as suitable for further application (figure 1). Each cluster was treated as a separate visitor segment. The segment named "relaxation" was greatest; other segments were approximately of similar share.

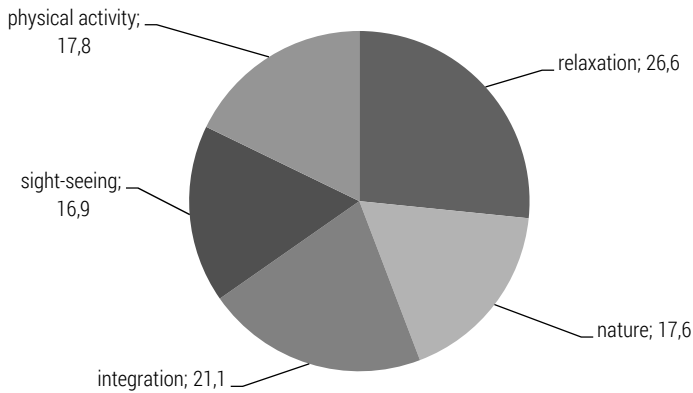


Figure 1. Visitor segments determined by k-means method [%]

The distributions of the main and the multiple choice motives are exposed in table 1. The most varied cluster, named “integration & special interests” (in short called the “integration” segment), includes socially motivated visitors (they come to the park to socialize with friends, or they were encouraged to come by others, or were members of organized trips) as well as special interests visitors (hobbyists, pilgrims, etc.).

Table 1. Main motive (1) and multiple choice motives (2) to visit the national park [%]

	total		relaxation		nature		integration		sightseeing		physical activity	
	1	2	1	2	1	2	1	2	1	2	1	2
need to rest	26,6	54,8	96,7	100,0	,5	42,6	2,4	39,1	,2	34,5	1,5	37,0
get to know the park	16,8	42,1	0,0	32,8	,2	31,3	,4	27,2	98,7	100,0	,2	29,8
contact with nature	17,1	54,1	,1	52,1	95,5	99,7	,3	36,5	,5	43,9	,5	42,5
leave the house	5,9	19,8	,9	22,5	,3	18,6	22,4	29,6	0,0	10,1	4,9	14,8
active recreation	16,7	51,7	,6	41,0	,5	46,2	2,0	41,1	0,0	36,9	90,0	99,7
proximity	,8	10,5	0,0	10,7	,2	10,7	3,9	15,9	0,0	1,8	0,0	11,6
someone's encouragement	6,0	20,0	,5	14,8	0,0	13,7	27,4	42,7	0,0	10,6	,5	15,8
be with family, friends	3,5	24,9	,1	24,7	,5	22,5	15,4	37,1	0,0	15,3	,7	22,3
organized group trip	1,9	4,1	0,0	1,8	,5	2,4	8,0	12,1	,4	2,2	,3	1,7
interests, hobbies	2,0	10,4	,3	7,1	,3	8,8	8,5	17,8	0,0	9,4	,2	9,2
tradition, pilgrimage	1,2	6,0	,3	5,4	1,2	6,4	3,9	8,0	,2	3,6	,5	6,6
other	1,4	5,2	,5	5,1	,2	4,3	5,3	9,8	0,0	2,3	,7	3,7

The distributions of main benefit and multiple choice benefits are shown in table 2.

Table 2. Main benefit (1) and multiple choice benefits (2) of visiting the national park [%]

	total		relaxation		nature		integration		sightseeing		physical activity	
	1	2	1	2	1	2	1	2	1	2	1	2
relax, health	26,4	55,5	45,5	72,2	23,2	56,9	19,3	47,3	19,4	48,6	16,2	45,7
physical activity	26,6	56,2	17,8	51,8	20,1	54,1	23,9	47,4	22,3	54,9	53,2	76,5
contact with nature	21,5	60,9	19,7	64,7	39,2	73,4	15,9	54,0	21,4	56,8	13,4	55,1
sightseeing	10,9	42,0	6,5	39,9	8,1	41,1	9,6	39,4	24,8	49,1	8,8	42,6
aesthetic	3,9	31,7	3,3	30,4	4,1	35,9	3,7	29,9	6,8	31,3	2,2	32,1
social integration	6,4	28,1	5,1	25,2	2,9	24,9	18,0	44,7	,9	16,7	3,4	26,7
education	1,6	11,9	,3	9,0	,3	11,5	4,2	16,4	2,0	12,6	1,4	10,7
hobbyst	1,3	12,8	,8	11,6	1,4	12,5	2,6	15,5	1,3	11,3	,5	13,1
spiritual	,9	5,9	,8	6,0	,5	3,5	1,7	13,6	,9	4,8	,3	1,8
other	,4	2,3	,1	1,8	,2	1,2	1,1	4,0	,2	2,0	,5	2,6

**Gender.** Men prevail in “physically active” type, whereas women prevail in “nature” and “sightseeing” types. Other segments are uniform in terms of sex of visitors.

**Age.** Age is the factor that strongly differentiates the life style. Youngsters (< 20 yrs old) belong rather to the “active” and the “integration” segments than to the “relaxation” or the “sightseeing” type. In like manner the quota of young adults (20-29 yrs old) is relatively greater in the “integration” group, but it is smaller solely in the “sightseeing” group. Adult population (30-59 yrs old) rarely fit into “integration” cluster. The cohort of 30-39 yrs old is more frequent than others in “relaxation” group and less frequent in the “physically active” type (presumably because of the parenthood). The mature adults (40-59 yrs old) are more numerous in the “sightseeing” segment than elsewhere. Intriguingly, the distribution of the oldest age cohort (60+ yrs old) does not stand out from the average distribution.

**Education level.** In the literature the factor of education had been considered an important determinant of the participation in leisure, assuming that more intellectual kinds of behaviours are linked with high education. Contrary to this presumption, in the present study tertiary education significantly more often characterizes the “relaxation” type. High educated people are rarer in the “integration” segment.

**Table 3.** Sociodemographic and geographical data by visitor segments [%]

	total	relaxation	nature	integration	sightseeing	physical activity
gender						
M	51,1	53,5	45,1	54,4	45,2	55,3
F	48,9	46,5	54,9	45,6	54,8	44,7
age						
<20 yrs	10,1	5,5	6,7	18,2	5,2	15,1
20-29 yrs	32,3	33,4	30,4	35,3	27,7	32,9
30-39 yrs	23,5	27,5	26,4	19,3	25,2	18,5
40-49 yrs	16,3	16,2	19,2	11,3	19,2	16,6
50-59 yrs	12,2	13,2	10,7	9,8	15,9	11,8
60+ yrs	5,6	4,2	6,7	6,1	6,8	5,0
education level						
secondary or less	38	32,7	33,9	46,7	34,9	42,3
post secondary	11,6	11,3	12,3	10,6	14,7	9,7
tertiary	50,4	56	53,8	42,7	50,4	47,9
occupation						
pupil	8,8	4,7	4,7	16,7	4,7	13,3
student	14,2	11,6	14,3	19,6	10,0	15,7
working	64,9	73,4	66,2	52,0	70,7	60,5
non working	5,3	4,5	6,4	5,5	5,8	4,5
pensioner	6,9	5,8	8,4	6,2	8,7	6,0
geographical origin (province)						
local	43,0	42,2	46,6	50,1	22,8	51,2
outer	57,0	57,8	53,4	49,9	77,2	48,8

**Occupation.** Pupils more often belong to “integration” and “physically active” segments, more seldom to “relaxation”, “nature” and “sightseeing” segments. Similarly, students were more frequently than others classified as “integration” lovers, but more seldom as “relaxation” and “sightseeing” ones. Working people tend to congregate in “relaxation” and “sightseeing” segments, rather than in “integration” or “physically active” ones. No significant differences were found in the distribution of the unemployed visitors as compared to the total visitor population. Pensioners slightly more often than others agglomerate in the “sightseeing” type ( $p=0,053$ ).

**Geographical origin.** The region of residence also plays an important role, especially as the long distance from home to the destination diminishes the influx of one-day visitors. The parks located close to agglomerations

receive notable influx of local visitors, many of them being frequenters, therefore the “sightseeing” type is not common there. The “sightseeing” sector is dominated by visitors from far-away provinces. The segment affiliation of inhabitants of the province, to which the park belongs, varies significantly from the affiliation of people arriving from farther regions – the locals belong more frequently to “integration” and “physically active” segments and slightly more frequently to “nature” ( $p=0,054$ ), whereas rather few of them are “sightseeing” visitors.

**Accompanying persons** (figure 2). There are few significant differences among the segments. Unaccompanied visits are more frequent in “physically active” and less frequent in “integration” and “sightseeing” segments. Coming in family is much more frequent in “relaxation”, “nature” and “sightseeing” segments, less frequent in “integration”. Coming with friends is more frequent in “integration” and less often in “sightseeing” segment. Coming in an organised group is more frequent in the “integration” type, seldom it is undertaken by “relaxation” and “nature” visitors.

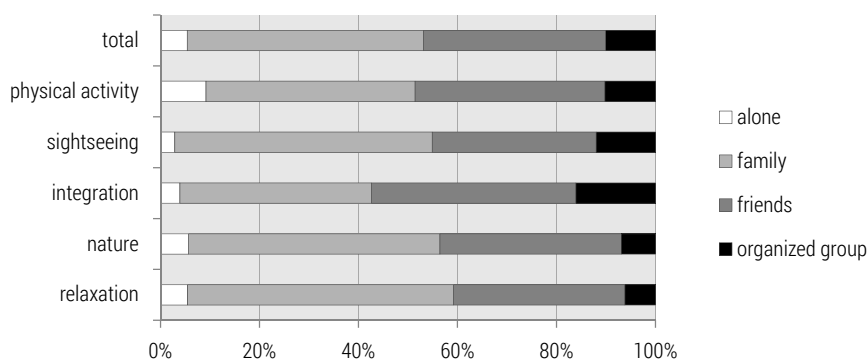


Figure 2. Accompanying persons

**Means of transport to the park** (figure 3). Own motor vehicles are significantly more often used by “relaxation” and “sightseeing” tourists, somehow more often by “nature lovers” ( $p=0,054$ ), whereas “physically active” and “integration” visitors use them more seldom than other tourists. Bus or train is rather used by “integration” visitors. Coming by bike is the domain of the “physically active” segment, rarer in the “relaxation”, “sightseeing” and “nature lovers” segments. Walking on foot from the place of accommodation is rare among “sightseeing” visitors and also it is somehow less frequent in “physically active” segment ( $p=0,053$ ) compared to the total number of respondents.

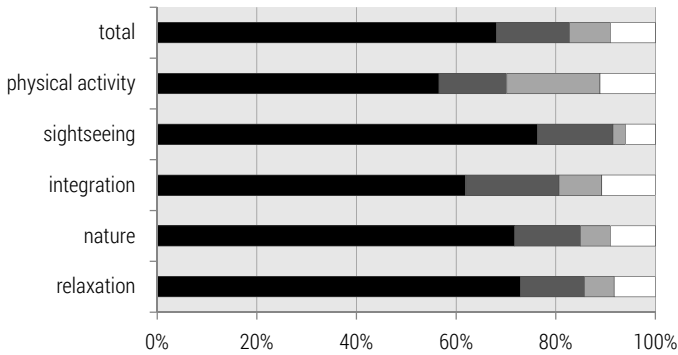


Figure 3. Means of travel to the national park on the very day of visit

**Form of excursion** (figure 4). The possible form of journey depends on the park resources and inner regulations. The most common form is on foot. Cycling is allowed along public roads, on tourist routes for bikers and some trails, kayak trips are popular in some national parks. The share of walkers is not significantly varied among the segments. Cyclists are common in “physically active” and less frequent in “relaxation” and “nature lovers” segments. Canoeists more often belong to the “relaxation” and “integration” types, rarely to the “sightseeing” group.

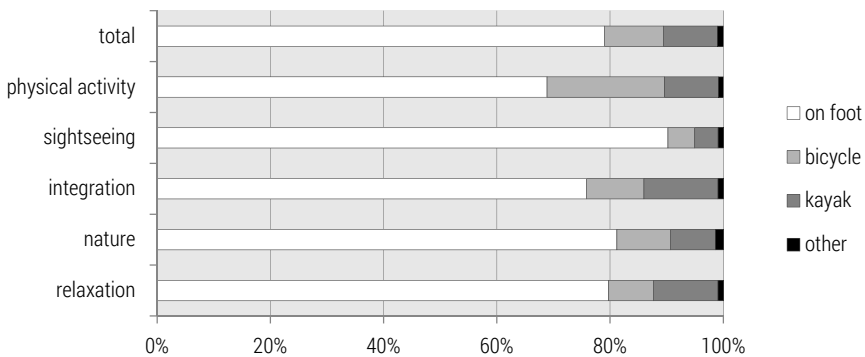


Figure 4. Form of penetration of the national park's area

**Length of stay inside the park** (figure 5). Short stays (3h or less) do not vary among the segments. Half-a-day stays (3,5-6,5h) are significantly more frequent in the “sightseeing” type, while significantly less frequent in the



“relaxation” segment. Longer visits (over 7h) occur significantly more often in “integration” segment than in other ones.

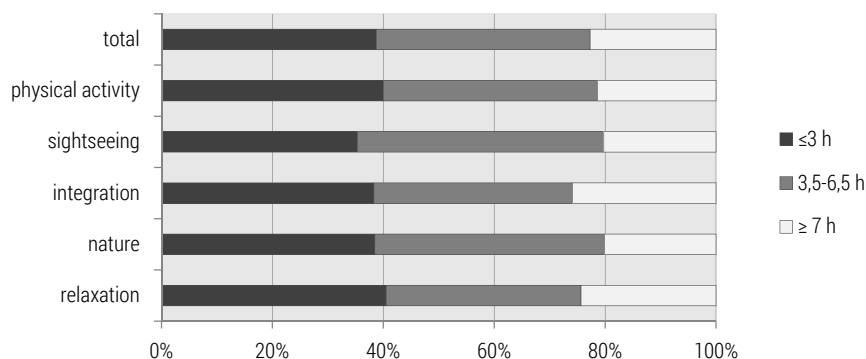


Figure 5. Duration of stay inside the national park

**Overnight stay** (figure 6). It is much common in “relaxation” and “sight-seeing” and less common in the case of “nature”, “physically active” and “integration” visitors.

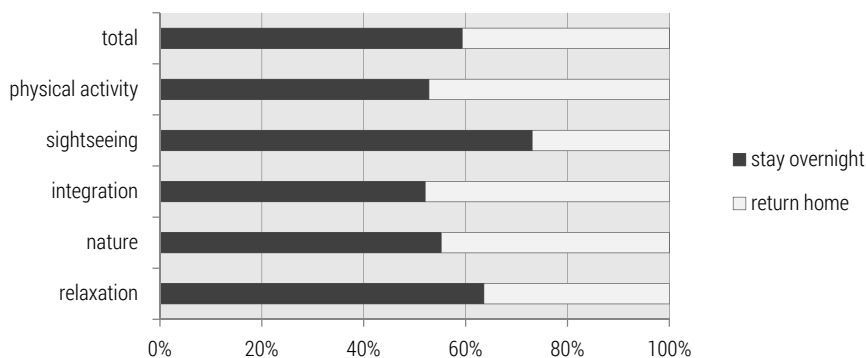


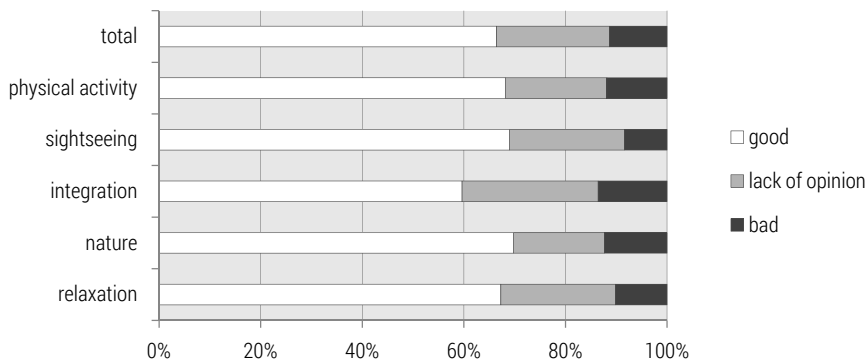
Figure 6. Overnight stay

**Selected visitor attitudes** (table 4). The frequency of use of the park’s interpretation facilities does not depend on the visitor segment. The emblem of the park is less often known by “relaxation” holidaymakers and “sightseeing” visitors, and more often by “physically active”. The park’s rules are transgressed more often by “integration” fellows.

**Table 4.** Selected visitors attitudes [%]

	total	relaxation	nature	integration	sightseeing	physical activity
Visiting the park's interpretation facilities (museum, visitor centre, educational trails)						
yes	26,9	25,4	26,8	28,1	25,9	28,5
Recognizing the badge (logo) of the park						
yes	52,2	45,9	54,8	54,7	48,1	60,4
Complying with the park's rules						
yes	91,2	93,3	92,2	88,0	91,9	89,4

**Feedback on the preparation of the national park for tourism** (figure 7). The share of visitors who are satisfied with the park's preparation for tourism is not significantly differentiated in respect of their affiliation to a segment. Respondents who consider the park unprepared for visiting belong significantly more likely to the "integration" segment and less likely to the "sightseeing" segment. The lack of a decisive opinion on the matter of the preparation of the park for visiting is significantly less likely expressed by visitors belonging to "nature" segment and more often by "integration" segment compared to others.

**Figure 7.** Quality of preparation of the national park for tourism

**Feedback about the aspects that should be improved in the area** (figure 8). "Sightseeing" visitors are the most satisfied with the park's tourist facilities, whereas "integration" and "physically active" segments are the most critical. People's behavior is more often perceived as inappropriate by

“integration” segment and less often by “sightseeing” visitors. The bad condition of trails is seen more often as problematic by “physically active” tourists while less by “relaxation” visitors. Poor spatial information (lack of signposts and information boards, etc.) more rarely troubles the “relaxation” segment. The lack of garbage bins more often is noted by “integration” and “physically active”, while less often by “sightseeing” visitors. The lack of toilets more often troubles “integration” fellows, less often “sightseeing” visitors. Alike, problems of access and parking were remarked more often by “integration” visitors, less often by “sightseeing” group. Also aesthetics and tidiness bother more often the “integration” segment. The lack of security is more often perceived by “nature” amateurs, less often by the “relaxation” segment. Other deficiencies less frequently were perceived by “relaxation” and “sightseeing” visitors than by other sectors.

**Table 5.** Matters and tourist facilities that need improvement

	total	relaxation	nature	integration	sightseeing	physical activity
all correct	56,2%	60,0%	50,9%	50,4%	64,8%	52,5%
visitors' behaviour	5,3%	4,9%	5,8%	7,0%	3,6%	5,2%
trails	4,9%	4,7%	4,3%	5,7%	4,2%	5,9%
spatial IT	6,0%	5,0%	6,2%	4,7%	8,7%	5,9%
rubbish bins	8,3%	7,3%	9,4%	8,6%	5,1%	12,0%
toilets	7,2%	7,2%	8,3%	8,6%	4,7%	7,3%
access, parking	4,8%	4,7%	6,2%	6,1%	2,8%	4,5%
security	,7%	,7%	1,3%	,4%	,8%	,5%
aesthetics and tidiness	1,9%	1,9%	1,9%	1,8%	2,0%	2,1%
other	4,6%	3,5%	5,8%	6,8%	3,4%	4,2%

## Conclusions

National parks are specific tourist attractions which offer a wide range of experiences and benefits to visitors. The present study confirmed that the main objectives for tourists to visit national parks are relaxation, amusement and socialization rather than cultural capital, education and knowledge-deepening reasons (Pearce, 2005). Nature is an important attractor. The contact with nature occurs to be the second most important main reason to visit a national park (after the need to rest) and the third most important main benefit (after the relax and physical recreation). More than a half of visitors

(54,1%) consider the park's nature as one of the motives and most visitors (61%) consider the contact with nature as one of the benefits. Visitor behavior analysis showed several differences between the particular visitor segments.

*The "relaxation" segment* is characterized by the following significant differences: older than 20 yrs, more frequently in their thirties, more frequently with higher education, rarely school or university student, often working persons, repeating the visit, visiting in family, seldom in organized group, arrive rather in car, seldom cycle to get in and inside the park, more often kayak inside the park, less often than others stay for half-a-day (3,5-6,5h) inside the park, more often stay overnight, less often know the logo of the park, satisfied with passive recreation and contact with nature, less keen for active recreation and social and educational activities.

*The "nature" segment* stands out in the follow features: more often women, seldom school students, often from local province, loyal to the selected park (repeating the visit), seldom come in organized group, arrive rather in car, seldom cycle to get in and inside the park, less frequently use accommodation, comply the rules, fond of getting in touch with nature and aesthetic values, slightly less interested in social integration in the park ( $p=0,06$ ).

*The "integration & special interests" segment* is distinguished by the following features: young (<20 and 20-39 yrs old), less frequently 30-59 yrs old, less frequently with higher education, school or university students, seldom working persons, more often dwellers of the local province, seldom come alone or in family, more often with friends or with organized group, more seldom arrive by car, more frequently by bus, more often kayak inside the park (in the Wigierski and the Narwiański national parks), more often longer stay inside the park ( $\geq 7$  h), more often return home for night, focused in get-together and also in educational and hobby activities, less interested in rest, physical activity and contact with nature, more critical about park's tourist facilities.

*The "sightseeing" segment:* more often women, older than 30 yrs old, more frequently 40-59 yrs old, rarely school pupils or university students, often working persons, slightly more often retired from work, often come from distant provinces, rarely visit the area alone or with friends but rather with family, arrive rather in car than by bike or on foot, seldom travel in kayak, more often than others make half-a-day stays (3,5-6,5h), more often stay overnight, less often become acquainted with the badge of the visited park, focused on sightseeing, less eager to socially integrate, less critical about the park's tourist facilities.

The "physical activity" segment: more often men, young, often school pupils, rarely working persons, from the local province, often arrive alone, rarely in family, more seldom arrive in car, often cycle to get in and ride a bike inside the park, less frequently get into the park on foot, more often return home for night, more often know the badge of the visited park, fond of the active outdoor recreation, less focused on rest and contact with nature, more critical about park's tourist facilities.

The visitor management system should include strategies suitable for each segment of visitors. "Relaxation" and "sightseeing" visitors seem to contribute more to the local economy, as a considerable part of them come from far and stay for the night, so they use local services more than others. Special targeted offers should be developed considering their life-cycle characteristic and preferences.

It seems that visitors of local origin, especially belonging to "integration" and "physical activity" segments should be a target group for education and awareness-raising campaigns, as they are more active and frequent visitors who consider the protected area as a place for dynamic activity, which is not always compatible with the protection approach of the park. Local "nature lovers" could be trained as loyal friends of the park, helping the park staff to promote the environmentally friendly attitudes among the visitors.

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