THESISES OF THE DOCTORAL (PhD) DISSERTATION

COMPLEX ANALYSIS OF THE ROLE ADVENTURE PARKS PLAY IN SPORT TOURISM IN HUNGARY

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1. BACKGROUND OF RESEARCH, AIMS AND HYPOTHESES

In our rushing modern life, more and more of us are looking for unusual and extreme experiences to smuggle some extra adrenaline into our life otherwise spinning around routinely and monotonously. These experience-seeking activities pose real or seemingly real dangers to the participants. Among them are games, adventure and extreme sports, all of which have been rising (recently dramatically) in popularity owing to those many who want to break out from the monotony of their lives (KOVÁCS, 2004). Demand for adventure parks and extreme sports have been rising exponentially in Europe, including Hungary. Closeness to nature, the gaining of new experiences, the entertaining and adventurous activities are forms of attraction in recreation that adventure parks can offer and provide for those who, having been exhausted in their jobs, seek to recreate their health and ability to work (BODA et al., 2018b).

Despite the growing demand, no complex analysis of adventure parks in Hungary can be found in the literature. I approached the topic from the aspects of tourism and sports tourism. I wanted to find out if they have an impact on adventure parks or the other way around, if adventure parks can influence demand and supply, how the tourism market including adventure parks work, if there are any special features characteristic of this sector, what characterizes consumers visiting adventure parks, if anything common can be observed in them.

At the beginning, these questions seemed the most important and they became the focus of my research. I had presumed that the services offered by the parks could be linked to sport tourism because they engage people in a physical way. Having reviewed the literature, I decided that I would like to examine the adventure parks from the point of view of their management as well as from the aspect of the customers visiting them. Accordingly, I conducted the research employing several methods.

The main aims of the research

- 1. Examining the role the biggest Hungarian adventure parks play in recreation and tourism.
- 2. Identifying elements of demand and supply, target groups and characteristics of Hungarian adventure parks.

- 3. Identifying characteristics of how services and the functioning of these parks are managed.
- 4. Describing the means of marketing communication and characteristics of adventure parks.

My research was structured along these questions:

- 1. What characterizes the demand for adventure parks?
- 2. What characterizes the customers visiting adventure parks?
- 3. Do these customers have anything in common?
- 4. Does customer behaviour affect visiting adventure parks?
- 5. How has the supply trend for adventure parks been changing?
- 6. Who do the target groups of adventure parks consist of?
- 7. What determines their management?
- 8. What quality-service management and what economic models can be used and adopted for adventure parks?
- 9. What determines their competitiveness?

Accordingly, my general and specific hypotheses are:

General hypotheses:

H1: In line with international trends, I assume that the adventure parks examined in the research have a growing supply, which is reflected in the visitor numbers and income data.

H2: For adventure parks, seasonality and the strengthening of competitors can be identified as the greatest threats.

H3: I assume that the target groups of the surveyed parks are mainly families, schoolchildren and workplace groups, and by their motivation those who seek experience, challenge and prefer to spend leisure time actively.

H4: Human resources are a key element in the operation of adventure parks. I assume that the HR practice of adventure parks shows special features that differ from the average HR practice.

Special hypotheses (concerning demand and supply):

- Leisure time behaviour of adventure park visitors influence the frequency and motivation of visit to adventure parks.

- There will be differences between men and women in the consumption of adventure park and leisure time services.

- For adventure park services, I assume that entertainment, closeness to nature and safety will be the most important factors for consumers.

- I assume that the parks consider unpredictability of weather to be the greatest risk in the course of their operation.

- I assume that they strive to stay competitive by constantly renewing their service, maintaining their equipment and purchasing new park elements.

- I assume that each park develops its range of services with a focus on clearly determined target groups.

- Personal competencies have greater relevance in hiring new employees than previous work experience.

- The "place" of recruitment is increasingly in the online media and the biggest incentives for adventure park employees are non-financial in nature.

In the course of secondary research I have reviewed the following concepts: tourism, its demand and supply trends, typology and characteristics of tourists, resources (human resources in detail) in tourism, characteristics of adventure, active and nature tourism in Hungary, sport tourism and its effects, recreation (its concept, types, relationship with tourism), the relationship of adventure parks with the basic concepts listed above, the role of theme and adventure parks in the global economy, trends in leisure habits of consumers visiting adventure parks and in the human resources supply of adventure parks and concerning means of marketing communication the role of social media in the life of adventure parks.

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2. DATABASES AND METHODS USED IN THE RESEARCH

In my doctoral dissertation I examined the economic role of adventure parks in sport tourism in Hungary focusing on demand and supply side aspects. I aimed to explore why the role of adventure parks in recreation, tourism and the economy is growing so dynamically. Secondary and primary research was performed to confirm my hypotheses. During the review of the literature I compared my own research due to the results previously obtained by the renowned international and national experts of the field. I have consulted international and domestic research, reports, statistics, technical books and scientific publications related to the topic. I obtained international data from the publicly available pages of EUROSTAT, UNWTO, WTO and WTTC sites, while in the case of domestic aspects I used the data of the KSH (Hungarian Statistical Mirror. Up-to-date information about the adventure parks was obtained from the websites of the surveyed parks. I accessed articles and studies on Google, Google Scholar, Scopus and ResearchGate.

The primary research was divided into a quantitative and qualitative part and the results were compared to those found in the secondary research.

2.1. Examining demand

2.1.1. Method

During my primary research the quantitative method employed was data collection through questionnaire. The data collection started in May 2017 when a pilot study was conducted. After finalizing the questions, the first phase of the actual data collection was between September and December 2017, while the second phase between September 2018 and February 2019. Both paper-based and online questionnaires were administered (for the latter I used Unipoll software). During these two periods, I received a total of 1282 valid questionnaires (paper-based n = 313, online n = 969).

For the compilation of the questionnaire, I used elements found in RYAN et al's (2010) research. I strived to obtain a broad and complex picture of the consumers, to which purpose I grouped my area-specific questions into 3 large groups. The first one explored

leisure spending habits, the second gauged the behaviour and experiences of adventure park guests. In the final part I gathered information about the respondents.

For this part of the research, I formulated 34 questions including simple and multiple choice as well as closed and open scale questions. Data were evaluated using SPSS 22.0 and MS Excel. Basic statistics were calculated and during the cross-table analysis I searched for significant correlations and differences with the help of Chi square tests. This latter was supplemented with the Gamma coefficient analysis. I performed paired T-test, analysis of variance and exploratory factor analysis with principal component analysis.

2.1.2. Sample

The sample consisted of 1282 respondents (313 questionnaires were filled out on paper, 969 were received online). The subjects were included in the questionnaire by convenience sampling, that is, anyone who had visited an adventure park in Hungary at least once was allowed to complete it. The demographic characteristics of the subjects included in the sample were as follows:

Gender distribution: 50,2% (n=643) women, 49,8% (n=639) men.

Age distribution: 47,5% (n=609) aged 21-30, 28,2% (n=362) under 21, 11,5% (n=148) aged 41-50, 10,1% (n=129) aged 31-40, 2,7% (n=34) over 51.

Residence distribution: 40,6% (521) town dwellers, 33,6% (431) county seat dwellers, 16,8% (n=215) village dwellers, 9% (n=115) capital city dwellers.

Educational distribution: 48,7% (624) secondary school graduate, 11,4% (146) college graduate, 9,3% (119) higher level vocational qualification, 9% (115) primary school graduate, 8,2% (n=105) university graduate.

Occupational distribution: 64,7% (n=829) students, 27,5% (n=353) employees, 4,4% (n=56) self-employed.

Work type distribution: 48,7% (n=624) do not work, 23,5% (301) physical and mental work, 22% (n=282) mental work, 5,9% (n=75) physical work.

Marital status distribution: 50,1% (n=642) single, 18,4% (n=236) married, 16,1% (n=206) no answer, 10,6% (n=136) lives with a partner.

Number of people living in the same household: 34,1% (437) 4 people, 25,4% (n=326) 3 people, 23,7% (304) 2 people.

Income distribution per person per household: 23,6% (n=302) 100 001-150 000 Ft, 20-20% (n=256) 50 001-100 000 Ft and over 150 001 Ft.

2.2. Examining supply

2.2.1. Method

Supply was analysed from three aspects:

1. Analysis of website and Google Trends keyword data:

I researched the websites of adventure parks and analysed how popular a particular park was with keyword searches using Google Trends. In addition, I used social media to track the number of Facebook followers of parks, and Instagram to see the number of sign-ups and "hash-tags" from parks.

2. Questionnaire about the operation of adventure parks:

When compiling the questions, I based my editing on the questionnaire used in the research of JÓNÁS-BERKI (2010) focusing on the following topics:

- Conditions for the establishment of the park;

- Operational characteristics;

- Future plans.

The questions were for the most part closed (simple and multiple choice or ranking/rating), but there were open-ended questions as well. The data collection took place between September and December 2018. The received answers were processed and graphically represented in Microsoft Excel.

3. Expert interviews about human resources:

I interviewed adventure park managers on human resources issues. The data collection took place between July 2016 and October 2018. The data were processed using Excel to determine mean values and to arrange for graphical presentation.

2.2.2. Sample

1. Website and Google Trends:

Out of the parks completing the questionnaire about economic operation, I examined online data in the case of nine.

2. Economic operation:

To map supply, I contacted all major Hungarian adventure parks (64) with my questionnaire. Nine adventure parks participated in the research and the following table shows their data (Table 1):

The name of adventure park	Where?	City/Settlement	The area (Hectare)	Operator
Magas-hegyi	North-Hungary	Sátoraljaújhely	more Ha	Local
Turisztikai és				government
Sportközpont (Zemplén				
Kalandpark)				
Serpa Kalandpark	Balaton	Balatonfűzfő	2	Ltd.
Sárvári Kalandpark	West-Hungary	Sárvár	2	Ltd.
Római Kalandpark	Budapest	Budapest	2,5	Ltd.
Oxygen Adrenalin Park	Mátra, North- Hungary	Gyöngyös- Sástó	16	Ltd.
Macikaland Kalandpark	Middle- Hungary	Veresegyház	3,5	Ltd.
Holdfény Liget – az Alpokalja kalandpark	West-Hungary	Gyöngyösfalu	14	Ltd.
Kalandsziget – Tiszafüred	Tisza-Lake	Tiszafüred	18	Ltd.
Lillafüredi Sport- és Kalandpark	North-Hungary	Miskolc	2	Ltd.

Table 1: Service providers included in the research

Source: based on own research (2018)

3. Expert interviews:

The dissertation includes data from seven interviews: the Orczy Adventure Park (currently not in operation), the Szilvásvárad Adventure Park, the Zemplén Adventure Park, the Sobri Jóska Fun and Adventure Park, the Tiszafüred Adventure Island, the Oxygen Adrenalin Park, and the Lillafüred Sport and Adventure Park.

The following map visualizes the service providers participating in the supply survey. Marked in black are the ones taking part in the economic survey and marked in orange are the ones where expert interviews were conducted. Those providers included in both examinations are marked in black letters underlined by an orange line.



Figure 1: Adventure parks in the supply analysis

Source: Own editing based on Google Maps

3. MAIN CONCLUSIONS OF THE DISSERTATION

The most frequently visited park was the Zemplén Adventure Park in Zemplén (336 persons, 26.2%), the second most visited place was the Oxygen Adrenalin Park in the Mátra (265 persons, 20.7%), and the third the Zamárdi Adventure Park on the shore of Lake Balaton (125 persons, 9.8%). Examining the frequency of visits, it was found that respondents visit adventure parks less than once a year, mainly with their family, in summer, at weekends, as a supplementary program. Consequently, they primarily travel to the destination for other purposes. Respondents were asked what channels they used to get to know about each adventure park. Most of the respondents obtained information via the Internet and social media (754 persons, 58.8%). There was a significant percentage of them who obtained information based on the recommendation of a friend or acquaintance (word of mouth) (704 persons, 54.9%).

In the part of the research examining **consumers** I found the following: Through the exploratory factor analysis carried out in the form of principal component analysis, visitors were categorized into four different groups based on their leisure time habits. These categories are: "active in nature", "experience-seekers", "solitude-seekers", and "passive culture consumers". Features of each type:

- 1) "Active in nature"
- Preference for nature sports (hiking, outdoor exercise)
- Preference for leisure in nature
- Spending free time with friends in nature
- Frequent participation in weekend running competitions or performance tours
- Preference for active leisure time
- Performing sports activities on a daily basis
- 2) "Experience-seekers"
- Willingness to try extreme activities that test personal boundaries
- Preference for trying new activities
- Increased willingness to pursue challenging sports

- 3) "Solitude seekers"
- Preference for activities done alone
- Prioritizing social activities (with a negative sign)
- 4) "Passive culture consumers"
- Preference for cultural activities
- Preference for passive relaxation

Adventure park service supply elements are best suited to meet the needs of the first two types, however, the traces of leisure activities done alone may appear. For instance, in the case of a rope course where the consumer, struggles through challenging obstacles on their own. Cultural activities are currently a "scarcity" in the service portfolios of adventure parks, but their potential implementation may give the service provider a competitive advantage by catering for a so far unexploited target group.

Concerning motivations to visit adventure parks, consumers visited parks because of their entertainment activities (661 persons, 51.6%), because of the challenges and extremism found there, being the most adventure park-specific statement in the questionnaire (465, 36.3%) and thirdly because of their curiosity (385 people, 30%). Examining the amount of free time available, it was found that the more free time consumers had at weekends, the more they visited the parks out of motivation for fun. This question was also asked in the economic activity questionnaire, where it was not the most frequent motivation for the visit by leaders.

I was looking for similarities and differences in spending free time and visiting adventure parks. There was a significant difference by gender between those who spent their leisure time more actively (typically men) and those engaged in tourism (typically women) among those who identified themselves as preferring passive leisure and homebound activities (typically women) as well as those who prioritize sporting activities on a daily basis, those who enjoy weekend running competitions and performance tours (both male-dominated) and those who prefer cultural activities (female-specific).

When developing adventure parks, in addition to quality aspects (CZEGLÉDI, 2011) consumer needs and habits must also be taken into account. In terms of gender,

prioritization factors differed in the preference system of men and women. For women, all factors are more prominent than for men.

Considering the relevance of services, it is the most important for a consumer that the adventure park has entertainment features and opportunities and that these services should also be suited to be used with family and friends. Hygiene and safety were highly prioritized, as well as attractions for active recreation.

Examined factors	Mean*	Mode	Std.
			Deviation
The park has safe rides	3,64	4	,640
The levels of hygiene	<u>3,64</u>	4	,577
The spend time with family or friends	<u>3,65</u>	4	,597
There are easily accessible toilets	3,26	4	,766
Enjoy period of fun	<u>3,66</u>	4	,591
Provides active recreation	<u>3,63</u>	4	,636
The entry price	3,43	4	,759
Diverse program offerings	3,47	4	,693
The service personnel	3,52	4	,668
The quality of restaurants	3,08	4	,873
The park has a queuing time for rides of less than 10	3,43	4	,690
minutes			
The overall atmosphere of the park	3,49	4	,654
Existence of extreme, challenging services	3,30	4	,787
Assurance and clarity of on-site information	3,45	4	,696
The adventure park's homepage, information on the	3,25	4	,850
homepage			

 Table 2: Descriptive statistics about the importance of services in the examined adventure parks

* The five elements with the highest means are underlined

Source: based on own editing (2018)

This factor was also examined with respect to age groups. As far as safety is concerned, the older the consumer-visitor, the more important this factor will be to him or her. There is a similar relationship in the case of the cleanliness focus factor, with the exception of those under the age of 21 and those aged 31-40, where younger respondents rated this component higher. Time spent with family and friends also plays a more important role in the older age group. The importance of being provided with active recreation opportunities also increases with age, and it is interesting that the importance of being extreme received higher means in the older age group.

Hypotheses about demand:

Leisure time behaviour of adventure park visitors influences the frequency and motivation of visit to adventure parks. \rightarrow **PARTLY CONFIRMED**

There will be differences between men and women in the consumption of adventure park and leisure time services. \rightarrow **CONFIRMED**

For adventure park services, I assume that entertainment, closeness to nature and safety will be the most important factors for consumers. \rightarrow **CONFIRMED**

Concerning "social media **presence**" I examined the Facebook and Instagram pages of the park in the research. Findings are summarized in the following table:

Adventure park	Instagram	The number of
	(tags)	Facebook page
	(piece)	fans
Holdfény Liget	648	4 644
Kalandsziget - Tiszafüred	119	6 650
Lillafüredi Sport- és Kalandpark	62	8 218
Macikaland Kalandpark	19	313
Oxygen Adrenalin Park	185	10 420
Római Kalandpark	28	4 235
Serpa Kalandpark	34	1 036
Sobri Jóska Kaland- és Élménypark	767	37 265
Zemplén Kalandpark	772	19 708

Table 3: Instagram and Facebook indicators of the examined parks

(Data retrieved on 4 April 2019)

Source: based on collected data (2019)

Based on the results of the part of the research focusing on the establishment and operation of the adventure parks involved in the study, it can be stated that the opening hours of the parks are characterized by seasonality and the number of employees ranges from 48 to 1 persons. The establishment of the adventure parks involved in the study is influenced most by the natural environment and the financial resources available, while competitors' services supply is least influential factor. The biggest challenges in operation are the unpredictability of the weather, the lack of innovation / development and the shortage of staff with the appropriate expertise and personality. Families, schoolchildren and workplace groups are typical target groups of the service providers surveyed. This is illustrated in the following figure (Figure 2):

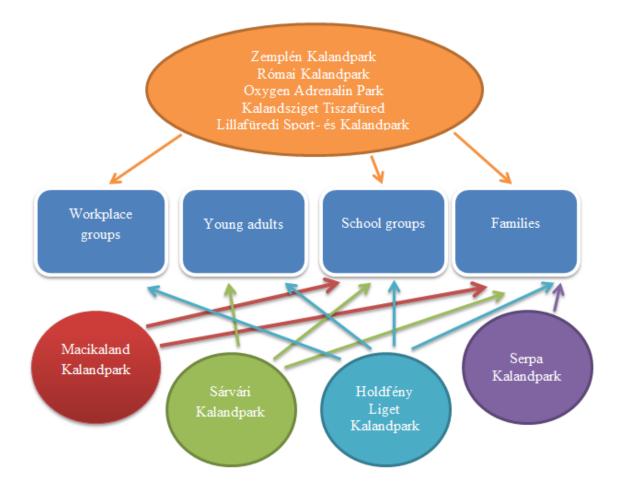


Figure 2: Target groups of the examined adventure parks

Source: based on own data own editing

According to the data obtained, the number of visitors showed a steady increase only in the case of three adventure parks. Most visitors come alone and the number of returning guests is estimated by the park leaders between 40-70%. Analysing turnover, three directors reported a steady increase in sales. Adventure /rope courses were found to be mandatory elements among the game elements of adventure parks. Looking to the future, the creation of new entertainment / experience elements and the renovation of the old ones will characterize development according to the plans of the parks.

Hypotheses about economic operation:

I assume that the parks consider unpredictability of weather to be the greatest risk in the course of their operation. \rightarrow **ACCEPTED**

I assume that they strive to stay competitive by constantly renewing their service, maintaining their equipment and purchasing new park elements. \rightarrow **PARTLY ACCEPTED**

I assume that each park develops its range of services with a focus on clearly determined target groups. \rightarrow **ACCEPTED**

Based on the statements of expert interviews, adventure parks, as tourism service providers, are labour intensive organizations. The quality of the services depends greatly on the "performance" of the people who work there, so the process of recruiting, selecting, and integrating the workforce places a great deal of responsibility on the management of the adventure park. According to my research, the examined Hungarian adventure parks are engaged in HR activities related to human resource supply in a conscious way and treat this as a strategic factor. The most common recruitment methods are online recruitment and employee referral. An interesting factor in the first step of the labour supply process is the way managers seek to make the workplace attractive. Adventure parks are generally characterized by offering a non-material motivational "plus" such as a varied, vibrant, youthful work environment the only financial extra being the discounts given to employee relatives. During the selection process, the resume, the personal interview and the trial day helps to find the right person for the right place. The following competencies are the most important in the selection criteria: communication, team spirit, personality, independence and tolerance for high workload. I find it interesting that, for example, having the right professional qualifications or prior acquaintance do not guarantee any considerable advantages in this sector. The results are shown in the following figure (Figure 3):

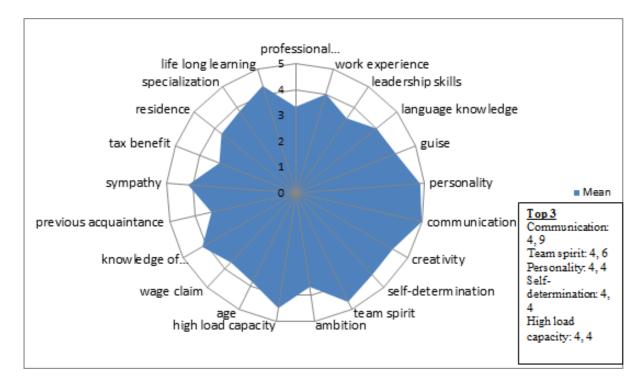


Figure 3: Mean values of factors considered important in selecting new employees

Source: based on own data (2016-2018)

In integrating new employees, employers prefer trial periods and assigning them to work with experienced employees.

Hypotheses about HR practice:

Personal competencies have greater relevance in hiring new employees than previous work experience. \rightarrow **ACCEPTED**

The "place" of recruitment is increasingly in the online media and the biggest incentives for adventure park employees are non-financial in nature. \rightarrow **ACCEPTED**

4. NEW AND NOVEL FINDINGS OF THE DISSERTATION

Results considered new:

The complex analysis of demand and supply of adventure parks operating in Hungary.

In the separate analysis of demand and supply, I received some form of data from twelve adventure parks and I surveyed more than 1,200 consumers about their habits of visiting adventure parks. In my analysis I calculated descriptive statistics on demand and in a cross-tabulation analysis I used the Chi square test to find significant differences between genders, supplementing this test with the Gamma coefficient analysis. I conducted a paired samples T-test where I investigated the importance of the particular services and the satisfaction of consumers with these services. I conducted a variance analysis to test the importance of age and the presence of services and an exploratory factor analysis with principal component analysis of consumers leisure-time habits. Examining supply, I looked for the special operational features of adventure parks, their online presence in the field of marketing communication and the special features of human resources.

Mapping of the workforce supply of adventure parks.

Through expert interviews, I learned that recruiting human resources in this sector is done through modern channels and mainly non-financial incentives are offered. When choosing a new employee, personal competencies are more important than professional knowledge or prior acquaintance. In integrating new employees, trial periods and work with experienced employees are the most common practice.

Classifying consumers visiting adventure parks into four types.

Through the exploratory factor analysis carried out in the form of principal component analysis, visitors were categorized into four different groups being "active in nature", " experience-seekers", "solitude-seekers", and "passive culture consumers". Supply elements can be created based on the characteristics of each group.

Examining consumer habits by gender

The preference system of men and women yielded different results for adventure park visits. Men prefer more active programs, while for women activities related to culture and passive recreation are more attractive among adventure park services.

Results considered novel:

I adopted a foreign research examining the connection between the presence of services and the satisfaction with them in theme parks (RYAN et al., 2010) to adventure parks.

Based on the satisfaction values, 5 factors with the highest means were compared with a T-test to their significant value pair. The strongest significant correlations were found between the importance of safety, presence and satisfaction with leisure time activities spent with family and friends and the importance of and satisfaction with the entertainment function of services.

Based on a foreign research (RYAN et al., 2010) focusing on the importance of the presence of services, a similar analysis was carried out in connection with age, which makes target group specific supply development possible.

What can be said of safety is that the older the consumer-visitor, the more important this factor will be to him or her. There are similar results for the cleanliness focus factor, except those under the age of 21 and those aged 31-40, where younger respondents rated the component higher. The factor of time spent with family and friends also plays a more important role in the older age group. The importance of being provided with active recreation also increases with age, and it is interesting that the importance of being extreme had higher mean values amend older respondents.

5. PRACTICAL APPLICABILITY OF THE RESULTS

Taking all results of the research into consideration, it can be concluded that adventure parks should factor in the special needs resulting from gender differences. Male respondents are predominantly characterized by a preference for active leisure time activities which can be satisfied by the services Offered by adventure parks. Women were more likely to spend their leisure time passively and at home or to seek out cultural experiences. It would be worth taking advantage of this result to expand the service repertoire with programs to cater for these needs (such as a picture summary / exhibition about the establishment of the adventure park, information corner gathering interesting facts, etc.). In this way female visitors would not have to be idle while their male partners are exploring their physical limits. The competitive drive is men are also something to build on, either in the form of a rope course or a slip course performance competition, where they can show off their skills, excellent physicality. All this could become a motivator when revisiting a particular adventure park.

The results obtained can provide service providers with useful information that can be utilized to develop supply elements, to reach target groups and increase target group satisfaction (marketing communication) and to improve human resource management. My future plans include, among other things, disseminating the results to the parks participating in the researched and because I consider the topic to be important and currently relevant. I would very much like to be able to engage more adventure parks in a representative research to fully explore the Hungarian situation.



Registry number: Subject: DEENK/47/2020.PL PhD Publikációs Lista

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List of publications related to the dissertation

Articles, studies (6)

- Boda, E., Bácsné Bába, É., Laoues, N., Müller, A. É.: Rekreációs fogyasztói szokások vizsgálata magyar fiatal felnőttek körében. *Különleges bánásmód.* 5 (4), 33-44, 2019. EISSN: 2498-5368. DOI: http://dx.doi.org/10.18458/KB.2019.4.33
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List of other publications

Articles, studies (17)

- Juhász, I., Boda, E., Müller, A. É., Bíró, M., Molnár, A., Bácsné Bába, É., Soós, I., Whyte, I.: Daily Physical Education and the Impact of a "Handball at School" Project. 10 (2), 59-75, 2019. ISSN: 2393-1353.
- Müller, A. É., Juhász, I., Boda, E., Nagy, Z., Bíró, M.: Role of the Handball at School Programme in Everyday Physical Education. *Hungarian Educational Research Journal (HERJ). 8* (2), 7-23, 2018. ISSN: 2062-9605. DOI: http://dx.doi.org/10.14413/HERJ/8/2/2
- Müller, A. É., Juhász, I., Boda, E., Bíró, M., Nagy, Z.: The role of "Handball at School" program in ability development and replenishment training. *Apstract.* 12 (1-2), 53-60, 2018. ISSN: 1789-221X. DOI: http://dx.doi.org/10.19041/APSTRACT/2018/1-2/8
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