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Satisfaction with visit to tourism attractions

Abstract

The aim of this study is to assess the impact of a several factors on satisfaction with a visit to water-based natural attractions. After reviewing relevant studies, it was hypothesized that satisfaction is influenced by push motivations, pull motivations, on-site experience, perceived quality and perceived values of visit. As a method of data reduction, the factor analysis based on principal component analysis was used for multi-item constructs (push motivations, pull motivations, on-site experience, and perceived quality). Three factors of pull motivation (pleasant 'natural' environment, heritage and culture, accessibility), two factors of push motivation (social gathering, escape), one factor of on-site experience (pleasure), and one factor of perceived quality (commonplaceness) were used in further analyses. A satisfaction model was constructed and tested through a two-stage structural modelling process with the maximum likelihood of estimation method. Multiple indicators were used only for exogenous constructs; all endogenous constructs were indicated by a single indicator – in cases of value and satisfaction by those directly measured. The results confirmed the causal path: pull motivation → perceived quality → perceived value → satisfaction, but indicated the on-site experience as a simultaneously effecting mediation element: pull motivation → perceived quality → on-site experience → perceived value → satisfaction. However, the linkage of push motives on the causal chain of predictors of satisfaction was not proved.

Key words*: motivation; satisfaction; experience; perception; the Chech Republic*

Introduction

Satisfaction with a tourism product is fundamental for tourism given the strong relationship between satisfaction and future customer behaviour – a satisfied consumer will repeat the visit and/or disseminate a positive word of mouth to others (e.g., Emir & Kozak, 2011; Jang & Feng, 2007; Marcussen, 2011). Some go so far to argue that satisfaction with visit is the Alpha and Omega of success of destinations and tourism enterprises (Dwyer, Forsyth & Dwyer, 2010), especially in the view of constantly increasing competition (Echtner & Ritchie, 2003; Foret & Klusáček, 2011).

Given such importance of satisfaction, it is no wonder that the tourists' satisfaction has attracted intensive attention of, both, academics and practitioners for a long time (e.g., Kozak & Rimmington, 2000). To understand the process of satisfaction formation, many studies have focused on predictors

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of satisfaction such as destination image (e.g. Bigné, Sánchez & Sánchez, 2001), motivation (e.g. Gnoth, 1997), attachment (e.g. Gu & Ryan, 2008), on-site experience (e.g. Chhetri, Arrowsmith, & Jackson, 2004), perceived quality (Baker & Crompton, 2000) and perceived value (e.g. Petrick, 2004b). Contextually, significant attention is paid to satisfaction with lodging and catering services (Gupta, McLaughlin & Gomez, 2007; Wu & Liang, 2009) and destination satisfaction (He & Song, 2009; Neal & Gursoy, 2008; Yoon & Uysal, 2005; Kozak & Rimmington, 2000) while, in comparison, satisfaction with tourism attractions is less investigated (e.g. Ritchie & Crouch, 2003).

Tourism attractions are an important element of a destination and, therefore, important in destination satisfaction formation. It is often the case that the core of destination attraction system consists of protected environments with their inherent natural (zoological, botanical, ecological, geological, geomorphologic, biodiversity) or cultural values (historical, heritage (Lundmark & Müller, 2010). Consequently, it also means that management of such environments must meet two contradictory goals: restrict human impact on these environments and, at the same time, make them accessible for visitors (Marion & Reid, 2007; Spilanis & Karayiannis, 2009). This is a challenge for, both, tourism and nature/heritage conservation management (for detailed review see Navrátil, Pícha, Rajchard & Navrátilová, 2011). Given the importance of tourism attractions for the overall destination satisfaction and, in particular, the prevalence of protected natural and heritage sites in the tourism attraction system of many destinations, the aim of this paper is to assess the impact of antecedents of tourism satisfaction in the context of nature-based tourism.

Visitor satisfaction

In tourism literature, various perspectives and theories are used in the assessment of tourist satisfaction (Yoon & Uysal, 2005) of which Oliver's (1980) expectancy-disconfirmation model of satisfaction is often used (Neal & Gursoy, 2008). The model suggests that consumers develop expectations about a product or experience before purchase and, afterward, compare actual product performance with their expectations. If the actual performance exceeds their expectations they have positive disconfirmation and vice verse. The ensuing satisfaction with the product leads to repurchase. However, it seems that perceived value also influences repurchase intention. Perceived value is the "consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given" (Zaithaml, 1988. p. 14). The role of perceived value and satisfaction was developed and tested by He and Song (2009) who proposed that, apart from the actual product performance in comparison to expectation, the perceived value of the product also has a bearing on satisfaction. Given the scope of this study the expectancy-disconfirmation model of satisfaction was used, while the perceived value was adopted from the He and Song's (2009) study of satisfaction formation with package tour service.

Previous satisfaction studies found significant differences in assessment of causal paths among concepts of satisfaction, perceived value and perceived quality (Baker & Crompton, 2000; Chen & Tsai, 2007; Duman & Mattila, 2005; He & Song, 2009; Petrick, 2004b). Petrick, Morais and Norman (2001), in their study of the relationship of tourists on entertainment focused package and their past holiday behaviour, holiday satisfaction, perceived holiday value, and intentions to revisit and repurchase concluded that perceived value may be an antecedent to the outcome of satisfaction. Later on, in the case

of cruise passenger satisfaction, Petrick (2004b) concludes that quality is not embedded in perceived value, but it is a direct antecedent of satisfaction and is generally the best predictor of perceived value. Chen and Tsai (2007) study also confirms that perceived value plays a moderating role between quality and satisfaction. Based on this, the paradigm adopted in this study was: perceived quality → perceived value → satisfaction, because most of the studies indicate that perceived value (Chen & Tsai, 2007; He & Song, 2009; Petrick, 2004b), perceived quality (Bigné et al., 2001; He & Song, 2009; Petrick 2004b; Yuan & Jang, 2008) and on-site experience (Bigné, Andreu & Gnoth, 2005; Denstadli & Jacobsen, 2010) are antecedents of satisfaction.

In terms of perceived value, it is likely that on-site experience has an impact on value formation (Liu & Jang 2009). For natural attractions, as discussed by Navrátil et al. (2011) quality can be defined as an impact of natural environment on an individual. The on-site experience in such case has a temporal and emotional dimension. Firstly, as a way of satisfying a wide range of personal needs it is dynamic across time, that is, during the visit (Vittersø, Vorkinn, Vistad & Vaagland, 2000; Borrie & Roggenbuck, 2001). Secondly, experience with a visit means that a visitor enters into a relationship with his/her surroundings (den Breejen, 2007), resulting in different feelings that an individual experiences in different places (Chhetri, Arrowsmith & Jackson, 2004). It is, therefore, not surprising that in leisure setting on-site experience is often operationalised through questions asking about emotion or mood (Lee & Shafer, 2002) and positive emotions are significant contributors to overall experience quality (Farber & Hall, 2007) as well as satisfaction and loyalty (Bigné et al., 2005).

The role of perceived quality is questionable not only in relation to the satisfaction that is influenced both directly and through the perceived value (Baker & Crompton, 2000; Chen & Tsai, 2007; Duman & Mattila, 2005; He & Song, 2009; Petrick, 2004b), but also in relation to the on-site experience. Liu and Jang (2009) found that both positive and negative emotions have direct impact on perceived value. In Petrick's model (2004b) emotional response has a small but significant influence on quality. In study of Jang and Namkung (2009) an influence of quality constructs on emotional stages of restaurant visitors was found. However, in the model of Petrick (2004a) a reverse path was found significant. The findings of Mehrabian and Russell (1974) support the causal path from perceived quality to emotional stages.

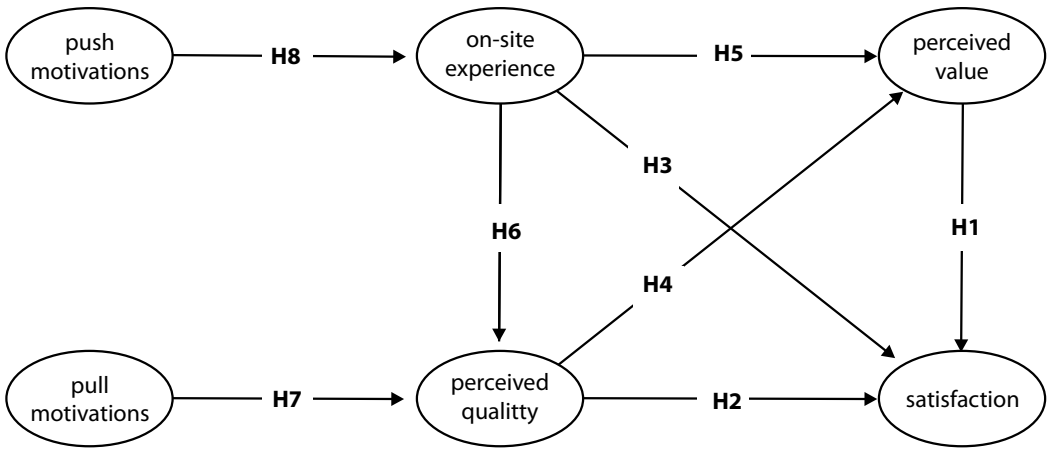
Equally important, motivations to visit are considered an important component of satisfaction formation (Gnoth, 1997; Bansal & Eiselt, 2004; Chang, 2007; Devesa, Laguna & Palacios, 2010). In tourism studies the model of push and pull motivations is often used (Gnoth, 1997; Goossens, 2000; Yoon & Uysal, 2005), where push motives are related to the tourists' desire to travel and pull motives are associated with the attributes of destination (Yoon & Uysal, 2005). In other words, push motives are useful for explaining the desire to go on a vacation, while pull motives to explain the choice of destination (Goossens, 2000, p. 301). Motivations, in combination with other constructs, play an important role in the process of destination choice (Gnoth, 1997). Once a destination choice is made, motivation exerts its influence on satisfaction formation through its role in expectations that each tourist brings to a destination, where these expectations are faced with the reality of the destination's environment (Goossens, 2000). Different types of motivations have different impacts on satisfaction (Qu & Ping, 1999). Among push motive, social togetherness and social contact or social gathering are generally the most important in all kind of settings (Crompton, 1979). Its importance is also confirmed in

nature-based tourism: among visitors to Allegheny National Forest in Pennsylvania (Graefe, Thapa, Confer & Absher, 2000), Delaware State Park (Confer, Vogelsong, Graefe & Solan, 1996), botanical garden (Ballantyne, Packer & Hughes, 2008) or participation in outdoor activities such as sport fishing (Arlinghaus & Mehner, 2003; Navrátil, Martinát & Kallabová, 2009) or golf (Petrick et al., 2001). In addition, escape and relaxation (Crompton, 1979; Dann, 1981) as well as the new knowledge and experience (Ballantyne et al., 2008; Graefe et al. 2000; Ryan & Glendon, 1998; Yoon & Uysal, 2005) also belong to generally important push motives. Finally, as travel has always offered a unique opportunity for self-discovery, self-reflection is also one of the push motives known from previous studies (Dann, 1981). On the other hand, pull motivations influence destination choice (Goossens, 2000) since they represent the specific destination attractions (Dann, 1981). Factors of pull motivations thus, often, reflect specificities of the core tourism resources and attractions (Ritchie & Crouch, 2003).

While satisfaction is formed via perceived value, perceived quality and/or on-site experience, motivation appears in satisfaction formation through pull motives as they reflect destination attributes/images (Gnoth, 1997; Goossens 2000), which are antecedents of perceived quality (Bigné et al. 2001; Chen & Tsai, 2007). Push motivations are reflected in visitor expectations; however, it this case the expectations do not stem from a destination, but from the visitor him/herself (Crompton, 1979; Goossens, 2000). Therefore, its impact should not be manifested in the perceived quality but in the on-site experience.

Based on the preceding analysis, a theoretical model of the impact of motivations on satisfaction mediated by perceived quality, on-site experience and perceived value is proposed. This model specifies a formation of satisfaction with a visit in relation to the expectations rooted in motivations, perception of the environment at the place of visit and how the visit is experienced (Figure 1).

Figure 1
Theoretical satisfaction model



The model proposes eight hypotheses for testing:

- Hypothesis 1 (H1): Satisfaction is influenced by perceived value.
- Hypothesis 2 (H2): Satisfaction is influenced by perceived quality.
- Hypothesis 3 (H3): Satisfaction is influenced by on-site experience.

• Hypothesis 4 (H4): Perceived value is influenced by perceived quality.

• Hypothesis 5 (H5): Perceived value is influenced by on-site experience.

• Hypothesis 6 (H6): Perceived quality is an antecedent of on-site experience

• Hypothesis 7 (H7): Pull motivations have an impact on perceived quality of destination.

• Hypothesis 8 (H8): Push motivations have an impact on the on-site experience.

Methods

Study area

To test the proposed model, a research was conducted in South of Bohemia, an area with temperate climate situated in the southern part of the Czech Republic, along the border with Germany (Bavaria) and Austria (Upper Austria). In this region are the two most visited tourism attractions of the Czech Republic – South Bohemia and Šumava Mountains (Novotný, 2004; Vlášková, 2004). Annually, about one million tourist arrivals are recorded what is approximately 8.5% of the total national tourist arrivals. Of those, 70.5% are domestic tourists, making these regions the second most favourite destination for Czech residents.

The South Bohemian region is internationally known for its cultural heritage with the two sites - the State Castle and Chateau Český Krumlov - inscribed on the UNESCO World Heritage list. These two sites are, after Prague, the most visited by foreign tourists. More importantly in the context of this study are its natural attractions. It is the region of natural beauty, particularly mountains of Šumava and Novohradské, with the most picturesque peaks and plain between 1000 and 1500 meteres a.s.l. and characterised by isolated glacial cirques with lakes (Cetkovský, Klusáček, Martinát & Zapletalová, 2007). They are complemented by the foothills of Šumava and Novohradské hory with the typical character of central range of the moderate zone and the Třeboň Basin, which is an upland plane (400–500 m a. s. l.) bordered by hilly country and with markedly submontane character. The total surface of the two mountains with the Třeboň Basin is about 6,3 thousand square kilometres, of which ten areas covering a half of the total area surface are under protection.

The mountain slopes, glacial lakes and gentle foothills make the region ideal for recreation (Klusáček, Martinát, Matznetter & Wisbauer, 2009) and, therefore, it is not surprising that it attracts a large number of Czech's urban dwellers (Vystoupil, Šauer, Holešinská, Kunc, Seidenglanz & Tonev, 2011). These features have also provided an appropriate setting for testing the proposed theoretical model in relation to natural attraction visits. Furthermore, the many lakes and water streams have enabled to focus on water-based natural attractions, as water is always a strong pull motive and the water related activities are the most popular leisure activities among Czech residents. In fact, nine of ten Czech residents over the age of 15 participated in these activities and most of them (56 %) often spend their holiday near water (Novotný, 2004).

Given such popularity of water, mass-tourism often develops around water based tourism attractions in spite of the fact that water environments are extremely vulnerable resources that needs protection not only to sustain tourism activity but, more importantly, to ensure long-term environmental sustainability.

The water co-creates the landscape and its presence is fundamental for the positive assessment of natural attractions (Real, Arce & Sabucedo, 2000). It also provides shelter to various biotopes threatened by human activity as well as to the organisms linked to those biotopes (Kučera, 2005). As briefly discussed in the introduction, protecting these areas is a way to ensure its sustainability but the aims of protection are somewhat contradictory – there is a need to preserve environment while enabling public access for education, recreation and enjoyment (Christ, Hillel, Matus & Sweeting, 2003). The large number of water-based tourism attraction in the protected areas in the South Bohemian region thus proved almost ideal setting to test the model of attraction satisfaction specifically focused on popular water based attraction under protection.

The first step in designing the study was selection of study sites. The research team has created an inventory of regional natural attraction based on the analysis of maps and field survey conducted in 2009 (Navrátil et al., 2011; Navrátil et al., 2013). This inventory database was created in GIS JANITOR J/2 software (Pala, 2008), which is a freeware vector oriented GIS designated primarily for creation of the spatially oriented databases and used by the state administration. The final database featured 27,299 sites categorised in 69 types of tourism attractions (Navrátil, unpublished). For the purpose of this study 89 visitor-managed sites featuring water were selected. The visitor management features are considered to be: appropriate directional signage, interpretation board and rest area equipped with benches, viewing station, covered shelter or similar. The water-based natural attractions were grouped into the following categories: mountain glacier lakes, springs, water-falls, stony rivers in deep valleys, rivers in flat broad mountain valleys, canals, ponds, peat bogs, water around a historical monument, viewing point over a water-course in deep timbered valleys, viewing points over an area with expanse of water on horizon.

In the database, each record consisted of the name, location, type, category of attraction and an approximate number of daily visitors during the summer season (estimated in consultations with representatives of local and regional tourism organizations). In the site selection process, those attractions with less than one visitor per day were deleted. At the same time, a set of criteria was put in place to ensure that all categories were represented. Through this process a total of 26 sites out of initial 89 were selected for data collection.

Operationalisation of the constructs

Guided by the model presented in the Figure 1, six constructs and their causal structure articulated through eight hypotheses were tested: push motivations, pull motivations, on-site experience, perceived quality, perceived value of visit, and satisfaction with visit.

Motivation. The motivation construct used in this study was based on push and pull motivations presented by Yoon and Uysal (2005). The employment of the concept of push and pull motivations allowed also assessment of other aspects of satisfaction (Gnoth, 1997). Push motivation "related to internal or emotional aspects" (Yoon & Uysal, 2005, p. 46) are viewed as "consumer dispositions" (Goossens, 2000). The scale consisted of 16 push and 15 pull motives referring to the motives for visiting a particular attraction. A five-point scale (1 = not at all important, 5 = very important) was used.

On-site experience. As the main components of experience are emotions or moods (Farber & Hall, 2007), for measurement of emotions the Mehrabian-Russell model was used (Donovan & Rossiter, 1982) for several reasons: it is based in the Stimulus-Organism-Response paradigm; it is orientated on behavioural consequences 'approach or avoidance' (Donovan & Rossiter, 1982); it has been used successfully in outdoor recreation (Chhetri et al., 2004) and tourism (Jang & Namkung, 2009; Liu & Jang, 2009). Although the original Pleasure-Arousal-Dominance scale of the Mehrabian-Russell model is often modified to fit specific context, e.g. omitting the dominance factor (Donovan, Rossiter, Marcoolyn & Nesdale, 1994), using unipolar approach (Jang & Namkung, 2009), substituting mood items (Chhetri et al., 2004) or selection of items (Sparks, 2007), in this study the original 18 Pleasure-Arousal-Dominance scale, measured on semantic differential seven-point scale, was used. It is precisely the complexity of the original scale that made it applicable to the different environments presented by the 26 selected sites.

Quality. In this study, quality was defined as "a measure of the provider's performance" (Petrick, 2004b, p. 399). As this research was focused on evaluating water-based natural attractions, the 'provider's performance' was redefined as the environment of the attraction. Therefore, the Mehrabian-Russell general measure of information rate (Navrátil et al., 2011) was used with 14 bi-polar adjectives evaluated on seven-point semantic differential scales.

Perceived value and satisfaction. As a measure of perceived value a question: "Was this visit worth your time, money, and effort?" adapted from Chen and Tsai (2007). This was measured on a five-point Likert-type scale (1 = Ddefinitely yes, 5 = definitely not). Satisfaction was assessed through question: "Overall, how satisfied were you with your visit?" (Yoon & Uysal, 2005), measured on a five-point scale (1 = very satisfied, 5 = very unsatisfied).

Data collection and sample

The questionnaire with a set of close-ended questions designed for self-completion was used for data collection. It was piloted on a sample of 30 respondents a month prior to the survey. The pilot survey indicated some minor issues related to the clarity of meaning, which was corrected for the final questionnaire. To collect data a combination of personal interview and self-completion was used. Interviewers approached visitors at selected sites, handed over questionnaire and collected it personally from respondents at the end of their visit. Data were collect during summer season (June to September) of 2009.

The population for this study was defined as all domestic visitors to the 26 selected sites, due to the fact that the selected sites are hardly visited by foreign tourists and, furthermore, dominance of domestic visitors will continue in the future given that the national government is investing heavily in encouragement of Czech residents to spend their holiday in the Czech Republic (Váňová, 2007). A convenience sample was used as the nature of sites selected and patterns of visitation made it difficult to ensure completely random sample. The survey was conducted during, both, weekends and weekdays (Petrick et al., 2001). In case of low number of visitors per day (less than 10), interviewers approached every visitor (Farber & Hall, 2007); in case of medium visitation (more than ten visitors per day) the interviewers attempted to contact every fifth visitor and in the case of high visitation (more than hundred of visitors per day) every tenth visitor was selected, fashioned after Navrátil, Pícha, and Hřebcová (2010) study of cultural heritage visitors. The aim was to obtain 64 fully completed questionnaires at each site or 1664 in total. A profile of the respondents is shown in Table 1.

Table 1
Socio-demographic profile of respondents (n = 1,664)

Sample characteristic	%
Gender	
Female	50.2
Male	49.8
Age	
18-25	18.8
26-35	23.9
36-45	24.3
46-55	17.3
56-65	12.3
66-75	3.1
75 +	0.3
Education	
Primary	4.4
Secondary	14.5
Secondary with school-leaving exam	43.2
Advanced vocational training	10.3
Tertiary (university)	27.6
Visiting behaviour	
First visit	59.1
Repeated visit	40.9
Type of visit	
Trip during holiday	56.1
Official journey	1.4
Visiting relatives	11.9
Travel on or from holiday	5.5
Excursion	1.6
Trip from home	22.8
Others	0.7

Data analysis

As a method of data reduction, the factor analysis (EFA) based on principal component analysis was used for each multi-item construct. Only those factors with an eigenvalue greater than 1 were retained for further analyses, and the results were varimax rotated (Robinson, 1998). Then, for each factor of each construct, the composite mean was calculated as an average factor value, including only those items with 0.60 or higher loading on the factor (Chen & Tsai, 2007). Reliability for each of the factor was obtained by calculating Cronbach's alpha coefficient (Chen & Tsai, 2007) and factors with alpha coefficient less than 0.6 (Peterson, 1994) were removed from further analysis (Yoon & Uysal, 2005).

Then the two-stage structural modelling (Anderson & Gerbing, 1988) was performed using maximum likelihood of estimation method (Schumacker & Lomax, 2004) as the appropriate statistical procedure (see review of Marcussen, 2011). Firstly, the measurement model was evaluated using confirmatory factor analysis (CFA) and several measures of goodness-of-fit indices (Nusair & Hua, 2010). Following

the methodology proposed by Denstadli and Jacobsen (2010), multiple indicators were used only for exogenous constructs. All endogenous constructs were indicated by a single indicator – in cases of value and satisfaction by those directly measured (as in Chen & Tsai, 2007) and in cases of quality and on-site experience by those with the highest eigenvalue for EFA. Then, testing of the structural model was performed (Nusair & Hua, 2010). The chi square/d.f. ratio, root mean square error of approximation (RMSEA), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), normed fit index (NFI), non-normed fit index (NNFI) and comparative fit index (CFI) were used as measures of goodness-of-fit. The chi square/d.f. rate is commonly used, as the chi square statistic itself is considered by many to be an unrealistic standard (Long & Perkins 2003). As chi square is dependent on a number of observations, the rule of 'close fit' states that chi square/d.f. should be a smaller number than 1 + n/400 (Steiger, 2009). The values of RMSEA lower that 0.05 indicates a very good fit and values between 0.05 and 0.08 an acceptable fit (Browne & Cudeck, 1992). The GFI, NFI, NNFI, and CFI have ranges of 0 to 1 and scores 0.90 and above are desirable (Long & Perkins, 2003). As AGFI corrects GFI for the number of parameters in the model, the value 0.80 or above is acceptable (Long & Perkins, 2003). All computations were performed using STATISTICA 8.0 software package, including CFA and SEM using SEPATH module of STATISTICA 8.0.

Results and discussion

Indicators of constructs

The scales measuring pull motivations, push motivations and on-site experience revealed an acceptable reliability value (Cronbach's alpha 0.762, 0.726, 0.790 respectively). The reliability of the 'perceived quality' measure was lower (0.693), but it was retained in the analysis as that value is close to the acceptable 0.7 value (Yoon & Uysal, 2005). All four factor analyses (push motivations, pull motivations, on-site experience, perceived quality) were acceptable because at least two items with factor loadings greater than 0.4 for any factor were loaded (Yoon & Uysal, 2005) and almost all items in each construct were loaded for some factor (for push motivations, pull motivations and on-site experience right one was not).

Motivation

On the basis of EFA, four factors of pull motives, explaining 51.1 % of the total variability, were identified (Table 2): pleasant 'natural' environment, heritage and culture, accessibility, and closeness. This study has identified, as first two dominant factors, the pleasant 'natural' environment and heritage and culture. These factors were also found as the most important components of the Czech landscape image (Frantál & Kunc, 2011). Two other factors – accessibility and closeness – refer to the geographical aspects (Haggett, 2001).

Table 2
Factors of pull motivations*

Item (mean and standard deviation)	Pleasant natural environment	Heritage and culture	Accessibility	Closeness
Location is situated in an interesting landscape. (4.22 ± 1.00)	**0.73**	-	-	-
Environment is pleasant here. (4.28 ± 0.93)	**0.70**	-	-	-
It is quiet here. (4.06 ± 1.13)	0.68	-	-	-
It is a site with interesting nature. (3.37 ± 1.30)	0.48	-	-	-
Because it is right this place. (3.89 ± 1.17)	0.46	-	-	-
Opportunity to obtain spiritual meaning through contact with this place. (3.25 ± 1.31)	0.44	-	-	-
Location is culturally/artistically interesting. (2.87 ± 1.38)	-	**0.86**	-	-
Location is related to an interesting history. (3.25 ± 1.42)	-	**0.80**	-	-
It is a protected heritage site. (3.38 ± 1.4)	-	0.44	-	-
It is on the way that we have planned. (3.74 ± 1.36)	-	-	**0.67**	-
Location is accessible. (3.61 ± 1.28)	-	-	**0.63**	-
Information is provided in this location (by means of a nature trail, information board or a guide). (3.39 ± 1.40)	-	-	0.59	-
It is fun here. (2.84 ± 1.32)	-	-	0.56	-
I heard that this place is interesting. (3.60 ± 1.30)	-	-	0.40	-
It is quite close to our accommodation/home. (2.73 ± 1.43)	-	-	-	0.87
Eigenvalue	3.88	1.52	1.23	1.03
% of total variability	25.88	10.1095	8.19	6.88
Cronbach's alpha	0.69	0.68	0.58	-
Cronbach's alpha of indicators for CFA	0.68	0.73	0.61	-

* Only factor loadings greater than 0.4 shown. There are means ± standard deviation in brackets. 1 = Not at all important, 5 = Very important. Items used for CFA are in italics.

Five indicators of push motivation to visit water-based natural attraction were identified: social gathering, escape, self-reflection, new knowledge and experience, and relaxation. These five factors explained 55.7 % of variability of the dataset (Table 3). To visit interesting places and the escape from day-to-day life were items of highest importance. However, indicators with a single-item loaded on level of 0.6

value of factor loading were discarded from further analyses (closeness from pull motives and relaxation and new knowledge and experience from push motives).

Table 3
Factors of push motivations*

Item (mean and standard deviation)	Social gathering	Escape	Self-reflection	New knowledge and experience	Relaxation
Be with friends. (3.26 ± 1.55)	**0.82**	-	-	-	-
Talk with friends during the journey about experience. (3.30 ± 1.43)	**0.73**	-	-	-	-
Enjoy. (3.25 ± 1.32)	0.55	-	-	-	-
To meet new people. (2.42 ± 1.36)	0.49	-	-	-	-
Free ourselves of a stereotypical sort of day-to-day life and job. (4.13 ± 1.11)	-	**0.73**	-	-	-
Visit interesting places. (4.19 ± 1.02)	-	**0.65**	-	-	-
Change environment. (3.84 ± 1.23)	-	**0.65**	-	-	-
Relax through a physical recreational activity. (3.71 ± 1.30)	-	0.51	-	-	-
Reflection on site about the "good old times". (2.37 ± 1.47)	-	-	0.79	-	-
Possibility to be really myself. (2.86 ± 1.34)	-	-	0.62	-	-
Gain new knowledge. (3.06 ± 1.30)	-	-	-	0.76	-
Get to know new locations. (3.97 ± 1.28)	-	-	-	0.59	-
Experience an adventure. (3.18 ± 1.35)	-	-	-	0.58	-
Do nothing, just relax. (3.00 ± 1.38)	-	-	-	-	0.81
To be at place that friends did not visited yet. (1.97 ± 1.23)	-	-	-	-	0.42
Eigenvalue	3.41	1.87	1.38	1.23	1.03
% of total variability	21.30	11.70	8.63	7.67	6.44
Cronbach's alpha	0.62	0.63	0.38	0.58	0.18
Cronbach's alpha of indicators for CFA	0.66	0.63	-	-	-

* Only factor loadings greater than 0.4 shown. There are means ± standard deviation in brackets. 1 = Not at all important, 5 = Very important. Items used for CFA are in italics.

Experience

The three factors of the Mehrabian-Russell model – Pleasure, Arousal and Dominance - explained 49.7 % of the total variability (Table 4). The factor with the highest loading was, similar to other studies, pleasure (Donovan & Rossiter, 1982; Donovan et al., 1994) and this factor was, therefore, used in further analyses.

Table 4
Factors of on-site experience*

Item (mean and standard deviation)	Pleasure	Arousal	Dominance
Contented-depressed (1.87 ± 1.13)	**0.82**	-	-
Happy-unhappy (1.95 ± 1.15)	**0.81**	-	-
Pleased-annoyed (1.98 ± 1.15)	**0.80**	-	-
Satisfied-unsatisfied (2.18 ± 1.23)	**0.76**	-	-
Relaxed-bored (1.94 ± 1.13)	**0.72**	-	-
Free-restricted (2.12 ± 1.28)	**0.70**	-	-
Hopeful-despairing (2.66 ± 1.23)	0.56	-	-
Widewake-sleepy (2.80 ± 1.42)	0.48	0.40	-
Important-insignificant (3.23 ± 1.43)	0.41	-	-
Excited-calm (4.40 ± 1.95)	-	0.76	-
Stimulated-relaxed (4.13 ± 2.07)	-	0.66	-
Frenzied-sluggish (3.59 ± 1.31)	-	0.63	-
Aroused-unaroused (3.06 ± 1.42)	0.41	0.58	-
Jittery-dull (3.59 ± 1.16)	-	0.56	-
Overcrowded-uncrowned (3.55 ± 1.37)	-	-	-
Controlling-controlled (4.08 ± 1.56)	-	-	0.82
Influential-influenced (4.28 ± 1.60)	-	-	0.79
Dominant-submissive (4.05 ± 1.54)	-	-	0.73
Eigenvalue	4.99	2.35	1.61
% of total variability	27.74	13.07	8.92
Cronbach's alpha	0.86	0.67	0.70
Cronbach's alpha of indicators for CFA	0.87	-	-

* Only factor loadings greater than 0.4 shown. There are means ± standard deviation in brackets. 1 = Definitely the feeling on left side, 7 = Definitely the feeling on right side. Items used for CFA are in italics.

Perceived quality

As it was already mentioned, in this study quality was defined as the quality of environment assessed through several attributes. The analysis resulted in four factors of environment perception (Table 5) that are similar to the three dimensions discussed by Mehrabian and Russell (1974). The first indicator was labelled as commonplaceness, because items such as usual-surprising, common-rare or similar-contrasting were strongly loaded on this factor. This factor represents a combination of the factors of 'novelty' and 'complexity' of the original Mehrabian and Russell model (Mehrabian & Russell, 1974). The second indicator is pure complexity dimension – perceived regularity of environment. The third indicator is pure novelty – labelled as novelty. The fourth factor is spatial dimension in perceived quality of environment – labelled as density. So, indicators reflect specifics of perceived quality of environment by tourists – besides novelty there exists, also, the factor of rarity and the main factor of spatiality, which is density (Sheldon & Var, 1984).

Table 5
Factors of perceived quality*

	Common-placeness	Regularity	Novelty	Density
Usual-surprising (4.68 ± 1.79)	**0.76**	-	-	-
Common-rare (5.13 ± 1.63)	**0.73**	-	-	-
Redundant-varied (5.37 ± 1.54)	**0.66**	-	-	-
Homogeneous-heterogeneous (4.93 ± 1.58)	0.60	-	-	-
Similar-contrasting (4.52 ± 1.69)	0.53	-	-	-
Simple-complex (3.99 ± 1.67)	0.53	-	-	-
Small scale-large scale (4.54 ± 1.62)	0.45	-	-	-
Continuous-intermittent (3.34 ± 1.57)	-	0.80	-	-
Patterned-random (3.01 ± 1.66)	-	0.81	-	-
Symmetrical-asymmetrical (4.03 ± 1.69)	-	0.55	-	-
Familiar-novel (4.37 ± 2.25)	-	-	0.78	-
Distant-immediate (4.01 ± 1.93)	-	-	0.77	-
Uncrowded-crowded (4.03 ± 1.06)	-	-	-	0.70
Sparse-dense (4.27 ± 1.32)	-	-	-	0.74

Table 5 Continued

	Common-placeness	Regularity	Novelty	Density
Eigenvalue	3.19	1.72	1.35	1.01
% of total variability	22.79	12.29	9.66	7.22
Cronbach's alpha EFA factors	0.75	0.59	0.48	0.29
Cronbach's alpha CFA factors	0.74	-	-	-

* Only factor loadings greater than 0.4 shown. There are means ± standard deviation in brackets. 1 = Definitely the characteristic on left side, 7 = Definitely the characteristic on right side. Items used for CFA are in italics.

Measurement model

To keep the measurement model as simple as possible, CFA was conducted to test a reduced set of seven items. The overall fit indices for the proposed model were acceptable with chi square/d.f. = 3.98, RMSEA = 0.042 (90% confidence interval 0.028-0.057), GFI = 0.99, AGFI = 0.98, NFI = 0.99, NNFI = 0.97, CFI = 0.99. This model yielded an adequate fit that met all seven measures of goodness-of-fit indices.

The internal consistency of the measurement model is demonstrated by Cronbach's alpha coefficients (Tables 2-5) that were all above the recommended value of 0.70 (Spector, 1992). The goodness-of-fit indices provided overall evidence of validity of the model. All factor loadings (Table 6) were significant at the 0.001 level and, except for the "social gathering" in the push motives, all factor loadings were very close or reached the value of 0.50, indicating convergent validity of the measurement scales. Although the factor loadings were not very high, as the values of average variance extracted for both motivation constructs (exogenous variables) were below the advised value of 0.50 (Fornell & Larcker, 1981) similar results were obtained in previous studies using these measurement tools (i.e. Lin et al., 2009), and the constructs had face validity in the sense that their factor structure was as expected (Denstadli & Jacobsen, 2010). In such cases, as recommended by Denstadli and Jacobsen (2010) or Lin et al. (2009), they can be included in the structural model.

Table 6
Factor loadings for exogenous variables

	Loadings	Significance
Push motivations		
Social gathering	0.345	< 0.001
Escape	0.675	< 0.001
Pull motivations		
Pleasant natural environment	0.669	< 0.001
Accessibility	0.467	< 0.001

Structural model

To test the model proposed in Figure 1, the second stage of the modelling process was performed (Anderson & Gerbing, 1988). The model had a good fit to the data with chi square/d.f. = 3.19,

RMSEA = 0.036 (90% confidence interval 0.024-0.049), GFI = 0.99, AGFI = 0.98, NFI = 0.99, NNFI = 0.98, CFI = 0.99.

The estimates of structural coefficients provided the basis for testing the proposed hypotheses. All hypothesised paths were significant, except push motivation → on-site experience. Perceived value was the strongest antecedent of satisfaction (beta = 0.514, t = 21.016, p < 0.001), thus supporting H1. In addition, the direct influences of on-site experience as well as perceived quality on satisfaction were also significant and, therefore, both H2 and H3 were also accepted. The direct influence of perceived quality on satisfaction was quite strong (beta = -0.314, t = -4.209, p < 0.001) similar to the studies of Bigné et al. (2001), He and Song (2009), Petrick (2004b) or Yuan and Jang (2008). However, in this study the indirect effect through the perceived value (beta = 0.626 x 0.514 = 0.322) was even stronger. The direct effect of on-site experience was weaker and on the edge of significance (beta = 0.226, t = 2.371, p < 0.05); however, it confirmed the findings of Bigné et al. (2005) as well as the recent findings of Denstadli and Jacobsen (2010). The path between perceived quality and perceived value was significant with the second strongest coefficient (beta = -0.626, t = -7.129, p < 0.001), supporting H4. Hypothesis H5 is also supported, as the path from on-site experience to perceived value is found significant as well (beta = 0.366, t = 3.188, p < 0.01). In addition, the perceived quality had an effect on on-site experience (beta = -0.455), supporting H6. Pull motivations were found as an antecedent of perceived quality (beta = 0.760, t = 17.809, p < 0.001), thus H7 was supported. On the other hand, the path between push motivations and on-site experience was not significant (beta = 0.060, t = 1.705, p = 0.09) and H8 was not supported.

Based on the largest value of structural coefficients and its strongest significance, the findings were consistent with the causal paradigm: perceived quality → perceived value → satisfaction confirming previous finding of Chen and Tsai (2007) and He and Song (2009). Contrary to findings of Chen and Tsai (2007), the indirect effect of perceived quality on satisfaction was significant, which supports the findings of He and Song (2009) or Petrick (2004b). The results also support the impact of on-site experience on satisfaction, both, directly and on indirectly through perceived value. Pleasure was used as indicator of on-site experience in SEM model, so our results are consistent with previous findings of Bigné et al. (2005). The importance of on-site experience was, in comparison to the impact of perceived quality, lower (lower values of path coefficients) and less clearly expressed (lower values of significance). Lower but still significant impact was found for on-site experience (as emotional response) on satisfaction, as was stated previously e.g. by Petrick (2004b). Nevertheless, for further studied the role of on-site experience is substantial as it seems to be having a mediating role between perceived quality and perceived value and between perceived quality and satisfaction.

Effects of motivation on satisfaction were confirmed only for pull motivations as in the study of Yoon and Uysal (2005). The most significant path in the model was pull motivations → perceived quality → perceived value → satisfaction – identical to findings of Chen and Tsai (2007) even though, instead of, the pull motives were considered in this study.

Conclusions

This study builds on the findings of previous studies assessing causal interlinks of perceived quality, perceived value (Chen & Tsai, 2007; He & Song, 2009) and on-site experience (Bigné et al., 2005)

by considering the role of motivation and satisfaction in the process. The proposed model was tested among visitors to a large number of water-based natural attractions in Central Europe. Thereby, the research differs from previous similar studies where the concept of the relation to only one element (destination or one service category) was generally tested.

The results of structural equation modelling confirmed the causal path: perceived quality → perceived value → satisfaction. In addition, it also indicated the on-site experience as significant mediation element in causal path between perceived quality and perceived value: perceived quality → on-site experience → perceived value → satisfaction. The results also confirmed the importance of pull motivations to overall satisfaction (Yoon & Uysal, 2005) by being an antecedent of perceived quality. However, the linkage of push motives on the causal chain of predictors of satisfaction was not supported.

A very important factor in the final satisfaction of tourists is their initial pull motivation. The research confirmed that the most important motivators are 'pleasant environment' and 'interesting landscapes'. When promoting the explored areas, or areas with similar conditions, managers should consider accentuating foremost the landscape and particular attractions.

Findings of the present study have to be considered within the limitations of the research methodology. This research was focused on satisfaction with the visit to a site. These sites can be considered as 'small' in spatial sense and, in most cases, the respondents attended several sites of interest during their trips. So the satisfaction with the site visit could be influenced by the experience with sites that were already visited within this or an earlier trip. Second limitation relates to the generalization of results, as only domestic visitors were surveyed in this study. Although the focus on the domestic tourists was warranted in this case due to the study area's popularity among domestic visitors, international visitors might react differently due to the lack of familiarity with these sites.

The results and their comparison with previous findings suggest some future research possibilities. Firstly, in order to increase validity of results, the model should be tested in variety of settings and both, domestic and international visitors should be included in the sample. Secondly, as this study, similar to that of Yoon and Uysal's (2005), showed the ambiguous position of push motivation within the satisfaction formation process, there is a need to investigate this in depth.

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