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Characterisation of Alpine summer sport tourists

119 - Tourism in Transition

Abstract

Diverse natural characteristics and different landscapes allow for a wide range of sporting activities within the European Alps (Egner 2000; Lehar / Frischhut 2009; Pomfret 2006). Considerable research exists on winter sports in general and alpine ski tourism in particular (e.g. Hallmann et al. 2014; Miragaia / Martins 2015). The summer sport tourist remains a vital but relatively little researched phenomenon although sport tourism has the potential to beneficially enliven alpine summer tourism development (Pröbstl-Haider et al. 2015). Existing research has mostly focused on sporting activities such as hiking or mountain biking (e.g. Faullant et al. 2011; Muhar et al. 2007) despite a continuous development of so called adventure sports (Bourdeau et al. 2002). Although sport tourists may participate in a variety of different sporting activities during their holiday, most of the research focuses on one specific sporting activity only (Hallmann et al. 2012; Plaz / Schmid 2014). As a consequence, little is known about multioptional sporting behaviour and common preferences across different activities. Therefore, the purpose of this research is to characterise alpine summer sport tourists with findings that span across different outdoor sporting activities. The focus is on four prevailing themes: 1) sporting characteristics; 2) multioptional sporting behaviour; 3) importance of sporting infrastructure and natural environments when choosing a sport tourism destination; 4) satisfaction with sporting infrastructure and natural environments in Tyrol, Austria. A questionnaire survey of sport tourists (n=582) in ten Tyrolian destinations took place in the summer months of 2015 and 2016. Findings highlight the multi-optionality of summer sport tourists and the high importance of natural destination characteristics when choosing a sport tourism destination. A high performance of attributes related to such characteristics can be confirmed within this research into Tyrolean destinations. In addition to contributing to the research scene, results of the study should allow alpine destinations to optimize offers which are specifically tailored to summer sport tourists, to identify new sport tourism opportunities and to further enhance sport tourism infrastructure and environments.

Keywords:

Sport tourism, summer sports, outdoor recreation, mountain sports

The alpine summer sport tourist is a complex phenomenon (Roth et al. 2004). Diverse natural characteristics and different landscapes allow for a wide range of sporting activities (Egner 2000; Lehar / Frischhut 2009; Pomfret 2006). Reasons for an increased interest in sport tourism during the last decade are conceptual novelty and economic value for the tourism industry (Kim 2004; Ritchie / Adair 2002; Weed / Jackson 2008). Considerable research exists on winter sports in general and alpine ski







tourism in particular (e.g. Hallmann et al. 2014; Miragaia / Martins 2015). The summer sport tourist remains a vital but relatively little researched phenomenon although sport tourism has the potential to beneficially enliven alpine summer tourism development (Pröbstl-Haider et al. 2015).

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Therefore, this research is concerned with the question of "how can alpine summer sport tourists be characterised". Findings of the study focus on four prevailing themes: 1) sporting characteristics; 2) multi-optional sporting behaviour; 3) importance of sporting infrastructure and natural environments when choosing a sport tourism destination; 4) satisfaction with sporting infrastructure and natural environments in Tyrolian destinations. In addition to contributing to the research scene, this focus should allow alpine destinations to optimize offers which are specifically tailored to summer sport tourists, to identify new sport tourism opportunities and to further enhance sport tourism infrastructure and environments.

In order to identify the theoretical framework for this study (Figure 1), several concepts have to be specified. The definition of sport tourism has developed and broadened over the years (Hinch / Higham 2001) to include "all forms of active and passive involvement in sporting activity, participated in casually or in an organized way for non-commercial or business/commercial reasons, that necessitate travel away from home and work locality" (Standeven / De Knop 1999: 12). Gibson (1998) separates sport tourism into active sport tourism, event sport tourism and nostalgia sport tourism, based on distinct types of associated behaviour. The soft definition of sport tourism as a "primarily active recreational participation in sport" (Gammon / Robinson 2003: 23) is similar to Gibson's (1998) active sport tourism and the focus of this study.

Alpine sport tourism is sport tourism which takes place within the boundaries of the European Alps (Permanent Secretariat of the Alpine Convention 2009; Weiermair / Bayer 2016). The Alps allow for a variety of different sporting activities throughout the year. Winter seasons are closely connected to snow-related activities such as alpine and Nordic skiing, snowboarding or winter hiking. Summer seasons allow for a wide range of water, land, and air activities (Roth et al. 2004). The current study does not attempt to provide a picture of all possible sports but focuses on outdoor mountain sports only (Egner 2000; Pomfret 2006).

Tourism seasons can be defined by using a natural or an institutional perspective. Natural seasonality refers to "regular temporal variations in natural phenomena, particularly those associated with cyclical climatic changes throughout the year" (Higham / Hinch 2002: 176), whereas institutional seasonality is characterized by "social norms and practices of the society" (ibid.). Changes of traditional travel and consumer behaviour and uncertainty of weather conditions often lead to a combined approach of seasonality within mountain regions (Hodeck / Hovemann 2016). This research follows the established institutional seasonality of the Regional Government of Tyrol (2016), which defines summer seasons from May 1st to October 31st.







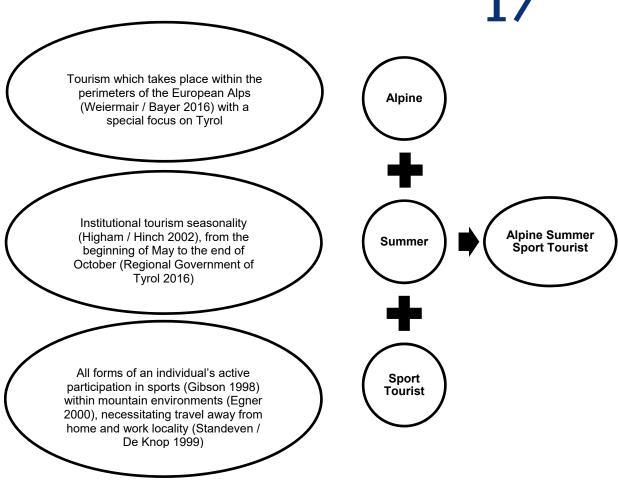


Figure 1: Conceptual framework (own illustration)

After conceptualizing the framework, a literature review forms the basis for empirical data collection. Active sport tourism in mountain environments is sometimes summarized as mountaineering. Studies on mountaineering investigate emotions and personality traits in relation to customer satisfaction (Faullant et al. 2011). Some describe sporting habits and preferences to help develop tourism policy strategies (Muhar et al. 2007). Others identify different segments of active mountain visitors based on their satisfaction (Tsiotsou / Vasioti 2006). Tarrant / Smith (2002) investigate the importance of various attributes across different outdoor recreation settings to enhance marketing management. Satisfaction of active sport tourists with mountain tourism experiences is examined by Papadimitriou / Gibson (2008). Needham et al. (2011) provide insights into the satisfaction of summer visitors to Whistler in terms of trail conditions. Motives underlying active sport tourist behaviour are used by Hungenberg et al. (2016) or Hennigs / Hallmann (2015) to develop market segments within several sporting activities.

Hiking, as one of the most researched sporting activity, is investigated by Chhetri et al. (2004), who examine the underlying dimensions influencing visitor experiences through natural landscapes. Other authors also mainly focus on hiking experiences or trail conditions (e.g. Chhetri 2015; Lynn / Brown 2003; Nerg et al. 2012; Taczanowska et al. 2014; Wolf et al. 2012).

Mountain biking has increasingly gained academic attention within the last years. Studies determine the attractiveness of certain destinations to mountain bikers (Moularde / Weaver 2016) and evaluate the motivation for mountain biking (Skår et al. 2008). They assessed the conflicts between mountain bikers







and hikers (Cessford 2003; Rupf et al. 2014) and investigate the skill level of hikers and mountain bikers in relation to perceived experiences (Needham et al. 2005).

Other studies concentrate on rock climbers and their preferences (Woratschek et al. 2007), the concept of place meaning in climbing tourism (Kulczycki 2014) or provide a destination choice model for rock climbers in the north-eastern Alps (Scarpa / Thiene 2005).

Winter sport studies relevant to the research in question include Miragaia / Martins (2015) who combine satisfaction and destination choice attributes as segmentation criteria for ski resort customers. Other studies explore, if the type of sporting activity influences the perceived winter sport experience (Hallmann et al. 2012). Hallmann et al. (2014) look at different aspects of destination competitiveness and how they impact destination experiences of sport tourists to alpine winter sport resorts. With regards to multi-optionality, Plaz / Schmid (2014) found out that although many skiers still spend one week of skiing holidays in a destination, they tend to substitute skiing with other sporting activities on at least a couple of those days. As a consequence, destinations should actively communicate all available sporting activities (Hallmann et al. 2012).

As a result of the literature review, empirical data collection takes place with the help of a quantitative questionnaire survey in Tyrol, Austria. Information is gathered on sport tourists' sporting characteristics, multi-optionality as well as their perceived importance of and satisfaction with various destination choice attributes. Non-probability sampling techniques are used to survey sport tourists in the summer months of 2015 and 2016. To ensure geographical spread, 10 Tyrolean regions with the highest number of overnight stays are chosen for data collection (Regional Government of Tyrol, 2014). Regions include Innsbruck and its Holiday Villages, Ötz Valley, Seefeld, Mayrhofen, Zugspitz Arena, Achensee, Holiday Region Zillertal, Wilder Kaiser, Stubai, and Eastern Tyrol. The questionnaire is distributed in German, English and Italian. Survey locations are chosen according to their natural characteristics and tourism infrastructure. This should ensure the inclusion of a variety of different sporting activities. Although some glaciers allow for snow-related activities during summer seasons, traditional winter sport activities are excluded from the survey.

The survey includes questions on travel behaviour (Dolnicar 2008; Fredman 2008; Kline et al. 2014) and sporting habits (Dolnicar / Fluker 2003; Needham et al. 2005; Pomfret 2006). Empirical data collection is also concerned with 26 items regarding destination choice attributes such as natural environments, sporting infrastructure and services provided. Items are derived from relevant studies such as Hallmann et al. (2012), Miragaia / Martins (2015) and Tarrant / Smith (2002). The list of attributes is completed with further sport- specific items that ensure suitability across different sporting activities (Hodeck / Hovemann 2016; Konu et al. 2011; Papadimitriou / Gibson 2008; Tsiotsou / Vasioti 2006; Woratschek et al. 2007). This is in line with recommendations, that unique sets of attributes should be created when performing importance-performance analyses (Lai / Hitchcock 2015), one of the aims of this study. The data of 582 completed questionnaires is analysed with the help of descriptive and multivariate tests using IBM SPSS Statistics 23.

47.1% of the sample is female, 52.9% is male. The respondents' age ranges from 14 to 92 years with an average age of 45 years. The sample consists of people from 25 different countries, with respondents from Austria (15.6%) and Germany (59.0%), forming the largest part. This is in line with official data from the Regional Government of Tyrol (2016). Those countries of origin are followed by Italy (7.6%), Switzerland (4.0%), the Netherlands (3.3%) and United Kingdom (2.9%).







Sports variable (n= 537 – 579)		%
Days engaged in sports	1 day	16.0
	2 -5 days	46.3
	6 -10 days	31.2
	11-15 days	5.7
	16 days or more	8.0
Sporting ability	Novice	12.2
	Intermediate	33.3
	Advanced	42.9
	Expert	11.5
Years of participation	2 years or less	13.6
	3-5 years	10.0
	6-10 years	20.3
	11-15 years	7.2
	16-20 years	18.5
	More than 20 years	30.5
Sports as primary reason to visit	Most significant	23.9
	Important	51.3
	Less important	16.9
	Irrelevant	7.8
Revisit intentions for sport purposes	Certainly yes	63.6
	Probably yes	34.9
	Probably no	1.4
	Certainly no	0.2

Table 1. Sporting characteristics (own illustration)

On average, respondents stay in the destination for 6.5 days and therefore longer than the typical Tyrolean summer tourist (Regional Government of Tyrol 2016). Respondents engage in sporting activities during 5 of those days (see Table 1 for an excerpt of sporting characteristics). This high number of days engaged in sporting activities may be explained by sporting abilities and years of participation. The majority of the sample rates their sporting ability within their main sporting activity as *intermediate* to *advanced* and has been participating for more than 10 years. The majority of respondents also state that when deciding to visit Tyrol during summer, the prospect of doing sporting activities is highly relevant. 75.2% of the sample names sport as the main, or one of the main reasons to visit Tyrol. Another 16.9% considers sports to be less important in their decision-making but nevertheless practice sports. 7.8% of respondents consider sports to be irrelevant when choosing to visit the region but are nevertheless practicing some form of sports during their stay. 98.5% of the sample has revisit intentions, with only 0.2% of the sample stating that they would certainly not return to Tyrol in summer for engaging in sporting activities.

The majority of respondents (64.9%) name hiking as their main sporting activity during their vacation. This is followed by mountaineering (10.5%) and mountain biking (8.4%). In total, fifteen different main sporting activities are mentioned. 54.6% of the sample participates in at least 2 different sporting activities. Hence, further research has been conducted into the multi-optionality of sport tourists to uncover if there are frequent combinations of sporting activities (see Table 2). Nearly 60% of respondents who name hiking as their main sporting activity are "hikers only". Respondents who name mountain biking, cycling or canyoning as their main sporting activity are more likely to engage in one or more other sporting activities during their holidays. Favoured combinations include mountain biking and hiking, cycling and hiking and canyoning combined with other adventure sports such as rafting.







Respondents are also asked about general interest in sporting activities and which activity they would like to try someday. The sample is most interested in rafting (12.9%) and paragliding (15.9%) and least interested in race/road cycling (2.5%) and windsurfing (4.8%).

Main sporting activity (n=582)	1	> 1	Other sporting activities
Hiking	59.5	40.5	14.6% cycling 12.7% mountaineering 11.6% mountain biking
Mountaineering	19.7	80.3	68.9% hiking 32.8% climbing 16.4% cycling
МТВ	20.4	79.6	75.5% hiking 20.4% mountaineering 18.4% climbing
Cycling	15.6	84.4	75.0% hiking 12.5% mountain biking 9.4% mountaineering
Canyoning	25.0	75.0	30.0% rafting 25.0% hiking

Table 2. Multi-optionality (own illustration)

Data collected with regards to 26 destination choice attributes is used to perform an importance-performance analysis, which is an effective tool for analysing quality attributes (Lai / Hitchcock 2015). First developed by Martilla / James (1977), the I-P framework has been used by a number of studies concerned with outdoor recreation (Vaske et al. 2009; Wade / Eagles 2003; Tarrant / Smith 2002). It is an appropriate method for assessing perceived importance and performance levels of destination attributes. Merging the two dimensions into a matrix results in four quadrants which can help destinations in identifying visitor satisfaction and give guidelines for strategy formulation to enhance overall competitiveness (Lai / Hitchcock 2015).

Importance and performance of the attributes have been sampled with the help of a 7-point Likert scale, ranging from 1 = very unimportant/ very poor performance to 7 = very important/ very high performance. In line with prior studies, the data-centred quadrants approach is used. Empirical mean values obtained from the data are chosen as the position of the gridlines for importance and performance respectively (Knežević Cvelbar / Dwyer 2013). In Figure 2, the y-axis represents the importance, sport tourists place on the 26 attributes when it comes to choosing a sport tourism destination. The x- axis represents the sport tourists' perception when it comes to the performance of those attributes in a Tyrolean context.

Figure 2 illustrates the four-quadrant matrix. Most of the attributes in this study are concentrated in the keep up the good work quadrant, meaning that destinations should maintain the status quo of the attribute. Attributes within this quadrant are highly important to respondents and also perform well. Characteristics regarding natural environments such as *variety of landscapes* (ATR20), *flora & fauna* (ATR22) and *beautiful scenery* (ATR23) record the highest performance. On the other end of the spectrum, items with a relatively low importance and performance are for example *guided tours* (ATR6), *lessons & instructions* (ATR11) and *sport specific events & competitions* (ATR13). When it comes to destination resource allocation, the current study indicates that these items should be given low priority. Resources allocated for improving *enough space for practicing sports* (ATR7) and the *variety of sportive*







activities (ATR17) may likewise be misused, as the already perform well, but are not seen as overly important by respondents. Therefore, actions taken to invest in those items may result in a possible overkill. In contrast, items located in the concentrate here quadrant record a high importance but relatively low performance. The study shows that Tyrolean destinations should concentrate their efforts on improving *outdoor safety measures* (ATR15) and the *price/quality ratio* (ATR18). However, it has to be mentioned that considering the position of those items on a 7-point Likert scale, all items perform above the average of 4.

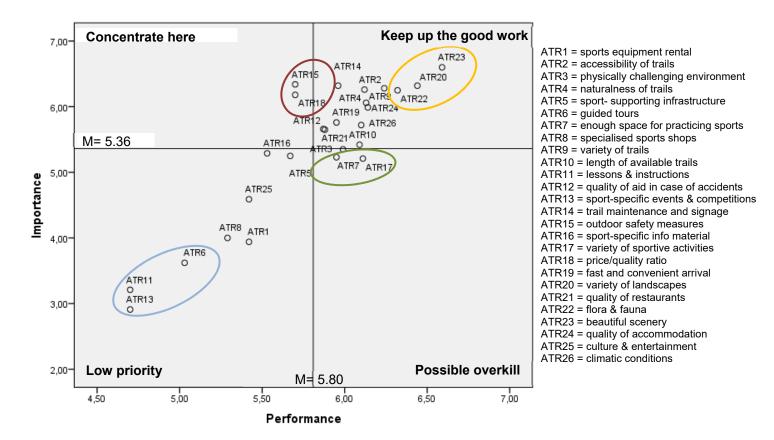


Figure 2. Importance- performance analysis

Concluding, this research is concerned with the question of how alpine summer sport tourists can be characterised. Apart from insights into respondents' sporting habits, the multi-optionality of alpine summer sport tourists can be confirmed. More than half of the sample engages in two or more sporting activities during their holiday in Tyrol. However, there still is a large proportion of "hikers only". Although adventure sports such as rafting, paragliding or canyoning might not be the main sporting activities for sport tourists who visit Tyrol, providing such offers is important for the overall attractiveness of alpine destinations.

Characteristics regarding the natural environment have shown to be most important when choosing a sport tourism destination. A high performance of attributes related to such characteristics can be confirmed within this study of Tyrolean destinations. Overall, the performance of all attributes is above the scale's midpoint. Attributes such as quality/price ratio or outdoor safety measures may have a higher need of strategic interference.







Findings of this study could help to identify typologies of sports tourists who are involved in different sporting activities but show similar preferences concerning destination choice. This study does not attempt to provide a picture of all possible sports but focuses on outdoor mountain and adventure sports only. Further research may not only include other sporting activities but also other alpine destinations. This may allow comparability and provide further insights into alternative destination choice. This research only considers pull factors in the context of destination choice; further research may also include push factors to provide more comprehensive understandings. Moreover, sport tourists' characteristics and perceptions may change over time and in order to explore time-related changes, a longitudinal research approach may be adopted.

References

Bourdeau, P./Corneloup, J./Mao, P. (2002): Adventure sports and tourism in the French mountains: dynamics of change and challenges for sustainable development. In: Current Issues in Tourism, 5(1), 22–32.

Cessford, G. (2003): Perception and reality of conflict: walkers and mountain bikes on the Queen Charlotte Track in New Zealand. In: Journal for Nature Conservation, 11(4), 310–316.

Chhetri, P. (2015): A GIS methodology for modelling hiking experiences in the Grampians National Park, Australia. In: Tourism Geographies, 17(5), 795–814.

Chhetri, P./Arrowsmith, C./Jackson, M. (2004): Determining hiking experiences in nature-based tourist destinations. In: Tourism Management, 25(1), 31–43.

Dolnicar, S. (2008): Market segmentation in tourism. In: Woodside, A.G./Martin, D. (Eds.): Tourism Mangement, Analysis, Behaviour and Strategy. Cambridge: CAB International, 129–150.

Dolnicar, S./Fluker, M. (2003): Behavioural market segments among surf tourists - investigating past destination choice. In: Journal of Sport & Tourism, 8(3), 186–196.

Egner, H. (2000): Trend- und Natursport als System. Die Karriere einer Sportlandschaft am Beispiel Moab, Utah. Mainz: Johannes Gutenberg-Universität.

Faullant, R./Matzler, K./Mooradian, T. A. (2011): Personality, basic emotions, and satisfaction: primary emotions in the mountaineering experience. In: Tourism Management, 32(6), 1423–1430.

Fredman, P. (2008): Determinants of visitor expenditures in mountain tourism. In: Tourism Economics, 14(2), 297–311.

Gammon, S./Robinson, T. (2003): Sport and tourism: a conceptual framework. In: Journal of Sport & Tourism, 8(1), 21–26.

Gibson, H. J. (1998): Sport tourism: a critical analysis of research. In: Sport Management Review, 1, 45–76.

Hallmann, K./Feiler, S./Müller, S./Breuer, C. (2012): The interrelationship between sport activities and the perceived winter sport experience. In: Journal of Sport and Tourism, 17(2), 145–163.

Hallmann, K./Müller, S./Feiler, S. (2014): Destination competitiveness of winter sport resorts in the Alps: how sport tourists perceive destinations? In: Current Issues in Tourism, 17(4), 327–349.







Hennigs, B./Hallmann, K. (2015): A motivation-based segmentation study of kitesurfers and windsurfers. In: Managing Leisure, 20(2), 117–134.

Higham, J./Hinch, T. (2002): Tourism, sport and seasons: the challenges and potential of overcoming seasonality in the sport and tourism sectors. In: Tourism Management, 23(2), 175–185.

Hinch, T. D./Higham, J. E. S. (2001): Sport tourism: a framework for research. In: International Journal of Tourism Research, 3, 45–58.

Hodeck, A./Hovemann, G. (2016): Motivation of active sport tourists in a German highland destination - a cross-seasonal comparison. In: Journal of Sport & Tourism, 1–14.

Hungenberg, E./Gray, D./Gould, J./Stotlar, D. (2016): An examination of motives underlying active sport tourist behavior: a market segmentation approach. In: Journal of Sport and Tourism, 20(2), 81–101.

Hvenegaard, G. T. (2002): Using tourist typologies for ecotourism research. In: Journal of Ecotourism, 1(1), 7–18.

Kim, M. (2004): A critical research model of sports tourism studies. In: World Leisure Journal, 46(3), 58–64.

Kline, C. S./Greenwood, J. B./Swanson, J./Cárdenas, D. (2014): Paddler market segments: expanding experience use history segmentation. In: Journal of Destination Marketing & Management, 2(4), 228–240.

Knežević Cvelbar, L./Dwyer, L. (2013): An importance- performance analysis of sustainability factors for long-term strategy planning in Slovenian hotels. In: Journal of Sustainable Tourism, 21 (3), 487-504.

Konu, H./Laukkanen, T./Komppula, R. (2011): Using ski destination choice criteria to segment Finnish ski resort customers. In: Tourism Management, 32(5), 1096–1105.

Kulczycki, C. (2014): Place meanings and rock climbing in outdoor settings. In: Journal of Outdoor Recreation and Tourism, 7/8, 8–15.

Lai, I. K. W./Hitchcock, M. (2015): Importance–performance analysis in tourism: a framework for researchers. In: Tourism Management, 48, 242–267.

Lehar, G./Frischhut, B. (2009): Outdoor-Sport als Chance gegen die Sommerkrise? In: Mountain Manager, (6), 18–20.

Lynn, N. A./Brown, R. D. (2003): Effects of recreational use impacts on hiking experiences in natural areas. In: Landscape and Urban Planning, 64(1–2), 77–87.

Martilla, J.A./James, J.C. (1977): Importance- performance analysis. In: Journal of Marketing, 41 (1), 77-79.

Miragaia, D. A. M./Martins, M. A. B. (2015): Mix between satisfaction and attributes destination choice: a segmentation criterion to understand the ski resorts consumers. In: International Journal of Tourism Research, 17, 313–324.







Moularde, J./Weaver, A. (2016): Serious about leisure, serious about destinations: mountain bikers and destination attractiveness. In: Journal of Sport & Tourism, 3/4 (20), 285-303.

Muhar, A./Schauppenlehner, T./Brandenburg, C./Arnberger, A. (2007): Alpine summer tourism: the mountaineers' perspective and consequences for tourism strategies in Austria. In: Forest Snow Landscape Research, 81, 7–17.

Needham, M. D./Rollins, R. B./Ceurvorst, R. L./Wood, C. J. B./Grimm, K. E./Dearden, P. (2011): Motivations and normative evaluations of summer visitors at an alpine ski area. In: Journal of Travel Research, 50(6), 669–684.

Needham, M. D./Rollins, R. B./Vaske, J. J. (2005): Skill level and normative evaluations among summer recreationists at alpine ski areas. In: Leisure, 29(1), 71–94.

Nerg, A./Uusivuori, J./Mikkola, J./Neuvonen, M./Sievänen, T. (2012): Visits to national parks and hiking areas: a panel data analysis of their socio-demographic, economic and site quality determinants. In: Tourism Economics, 18(1), 77–93.

Papadimitriou, D./Gibson, H. (2008): Benefits sought and realized by active mountain sport tourists in Epirus, Greece: pre- and post-trip analysis. In: Journal of Sport & Tourism, 13(1), 37–60.

Permanent Secretariat of the Alpine Convention (2009): The Alps: Eight countries, a single territory. Innsbruck.

Plaz, P./Schmid, S. (2014): Aussichten für das alpine Schneesportgeschäft in Graubünden. Chur: Wirtschaftsforum Graubünden.

Pomfret, G. (2006): Mountaineering adventure tourists: a conceptual framework for research. In: Tourism Management, 27(1), 113–123.

Pröbstl-Haider, U./Haider, W./Wirth, V./Beardmore, B. (2015): Will climate change increase the attractiveness of summer destinations in the European Alps? A survey of German tourists. In: Journal of Outdoor Recreation and Tourism, 1–14.

Regional Government of Tyrol. (2016): Tourism in Tyrol. https://www.tirol.gv.at/statistik-budget/statistik/tourismus/ (16.11.2016)

Ritchie, B./Adair, D. (2002): The growing recognition of sport tourism. In: Current Issues in Tourism, 5(1), 1–6.

Roth, R./Jakob, E./Krämer, A. (2004): Neue Entwicklungen bei Natursportarten - Konfliktpotentiale und Lösungsmöglichkeiten. Köln: Institut für Natursport und Ökologie.

Rupf, R./Haider, W./Pröbstl, U. (2014): Hikers and mountain bikers - do they fight like cats and dogs? In: The 7th International Conference on Monitoring and Management of Visitors in Recreational and Protected Areas: Local Community and Outdoor Recreation, 253–255.

Scarpa, R./Thiene, M. (2005): Destination choice models for rock climbing in the Northeastern Alps: a latent-class approach based on intensity of preferences. In: Land Economics, 81(3), 426–444.







Skår, M./Odden, A./Inge Vistad, O. (2008): Motivation for mountain biking in Norway: change and stability in late-modern outdoor recreation. In: Norwegian Journal of Geography, 62(1), 36–45.

Standeven, J./De Knop, P. (1999): Sport tourism. Champaign: Human Kinetics.

Taczanowska, K./González, L.-M./Garcia-Massó, X./Muhar, A./Brandenburg, C./Toca-Herrera, J.-L. (2014): Evaluating the structure and use of hiking trails in recreational areas using a mixed GPS tracking and graph theory approach. In: Applied Geography, 55, 184–192.

Tarrant, M. A./Smith, E. K. (2002): The use of a modified importance-performance framework to examine visitor satisfaction with attributes of outdoor recreation settings. In: Managing Leisure, 7(2), 69–82.

Tsiotsou, R./Vasioti, E. (2006): Satisfaction: a segmentation criterion for "short term" visitors of mountainous destinations. In: Journal of Travel & Tourism Marketing, 20(1), 61–73.

Vaske, J. J./Kiriakos, R./Cottrell, S. P./Khuong, M. N. (2009): Importance-performance and segmentation: an application at a biosphere reserve in Vietnam. In: Journal of Travel & Tourism Marketing, 26(1), 30–41.

Wade, D. J./Eagles, P. F. J. (2003): The use of importance - performance analysis and market segmentation for tourism management in parks and protected areas: an application to Tanzania's national parks. In: Journal of Ecotourism, 2(3), 196–212.

Weed, M./Jackson, G. (2008): The relationship between sport and tourism. In: Houlihan, B. (Ed.): Sport and Society: A Student Introduction. London: Sage Publications, 395–414.

Weiermair, K./Bayer, J. (2016): Alpine tourism. In: Jafari, J./Xiao, H. (Eds.): Encyclopedia of Tourism. Cham: Springer International, 26-27.

Wolf, I. D./Hagenloh, G./Croft, D. B. (2012): Visitor monitoring along roads and hiking trails: how to determine usage levels in tourist sites. In: Tourism Management, 33(1), 16–28.

Woratschek, H./Hannich, F. M./Ritchie, B. (2007): Motivations of sports tourists - an empirical analysis in several European rock climbing regions. Bayreuth: Universität Bayreuth.





