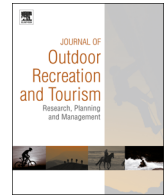




ELSEVIER

Contents lists available at ScienceDirect

Journal of Outdoor Recreation and Tourism

journal homepage: www.elsevier.com/locate/jort

Segment-based monitoring of domestic and international climbers at Mount Fuji: Targeted risk reduction strategies for existing and emerging visitor segments



Thomas E. Jones^{a,*}, Kiyotatsu Yamamoto^b

^a Graduate School of Governance Studies, Meiji University, 1-1 Kanda-Surugadai, Chiyoda-ku, Tokyo 101-8301, Japan

^b Environmental Sciences for Sustainability, Iwate University, Ueda 3-18-8, Morioka City, Iwate 020-8550, Japan

ARTICLE INFO

Article history:

Received 15 March 2015

Received in revised form

4 January 2016

Accepted 26 January 2016

Keywords:

Moderate altitude mountains

Mountain-based adventure tourism

Mount Fuji climbers

Risk reduction strategies

Segment-based monitoring

ABSTRACT

Expansion and internationalisation of adventure tourism necessitates monitoring of the demographic profile and behaviour of diversifying visitor segments, particularly at moderate altitude mountainous destinations where risk management is paramount. This paper compares domestic and international climbers descending from Mount Fuji over two consecutive summer seasons (2011–2012). The study site was located near the 5th station trailhead on Yoshida, the busiest of the four Fuji trails. 1416 questionnaires were collected representing 2.5% of the climber population. Findings identified international climbers' profile to be younger and comprise significantly more males, but with less experience and less inclined to stay in a mountain hut. Following a multiple regression conducted to predict round-trip climb duration from selected demographic and behavioural variables, results showed that citizenship, age and staying in a mountain hut added statistically significantly to the prediction ($p < .05$) and the roundtrip climb duration was 58 min shorter for international climbers. Nonetheless, the proportion that successfully summited was identical to domestic climbers. These findings have implications for monitoring existing and emerging visitor segments, and practical applications for targeted risk reduction strategies such as "bullet climb" counter-strategies.

MANAGEMENT IMPLICATIONS

- This research monitored domestic and international climbers on the busiest of Fuji's four trails during consecutive 2011–2012 seasons.
- Findings underline that monitoring is essential to develop management measures, including targeted risk reduction strategies which consider socio-demographic profiles and behaviour.
- A better understanding of adventure tourism trends, including differences between domestic and international visitors, can contribute to the mitigation of incidents and injuries.

© 2016 Elsevier Ltd. All rights reserved.

1. Introduction

International travel continues to expand, with rapid growth in tourism to remote areas (Higgins, 1996; Nyaupane, Morais & Graefe, 2004; Tisdell & Wilson, 2012). Corresponding infrastructure improvements have developed convenient trailheads that enable increasing numbers of tourists to access mountainous

destinations (Zafren & Honigman, 1997). Consequently, adventure tourists are emerging in greater numbers and climbing mountains of moderate altitude at greater speed (Wang, Chen & Kao, 2010). However, rapid ascent "can compromise acclimatisation, expos [ing] inexperienced climbers to hazards" (Chen et al., 2012). This poses problems for risk management, particularly as a concurrent theme among less experienced segments is an increase in international tourists whose behaviour varies from that of their domestic counterparts due to differences in underlying values and expectations (McDonald & McAvoy, 1997). Risk management ramifications are amplified by this diversification in visitor typology which is accompanying the expanding volumes of tourists. For

* Corresponding author.

E-mail addresses: tjones@meiji.ac.jp (T.E. Jones), kiyo@iwate-u.ac.jp (K. Yamamoto).

example, international tourist climbers may be less aware of site regulations or social norms, have different perceptions of risk (Powell, 2007) or even behave in a fundamentally “more hedonistic manner” than existing domestic segments while on vacation (Carr, 2002). Subsequently, such emerging segments may have a higher incidence rate of injuries and incidents.

Post-2000 risk-related research has proliferated across the extended tourism arena (Faulkner, 2001; Ritchie, 2004). Amongst adventure tourism sectors, the risk of injury associated with mountain climbing has been ranked highest overall (Bentley & Page, 2008). Considerable prior research has examined medical hazards faced by climbers, including morbidity rates (Weinbruch & Nordby, 2013), or the prevalence of acute mountain sickness (AMS), a pathophysiological symptom complex (Wang et al., 2010; Chen et al., 2012). If left unattended, AMS symptoms can lead to high altitude pulmonary edema (HAPE) or high altitude cerebral edema (HACE) (Basnyat, Cumbo & Edelman, 2000). However, such studies on high altitude illnesses have tended to cluster in a few hotspots above 5000 m (Weinbruch & Nordby, 2013). Not many studies have treated more moderate altitudes (2000–4500 m), or traumatic events such as trips and slips that are a more common occurrence according to Bentley & Page (2008) who claim that “adventure tourism injury events most frequently result from an underfoot event, and most often this involves a foot slip”. Little research has focussed on risk-reduction strategies at moderate mountainous destinations, partly due to a lack of epidemiological records of injuries and incidents (Wang et al., 2010). Tellingly, no previous studies of segment-based risk analysis could be found. However, as increasing numbers of adventure tourists attempt to summit mountains of moderate altitude, there is an urgent practical and theoretical need to establish risk profiles for casual climbers from emerging segments.

Profiling tourists' demography and behaviour offers important – albeit indirect – insights into risk by enabling identification of significant predictor variables (Rickard, Scherer & Newman, 2011). This paper therefore aims to investigate differences in the demographic profile and behaviour of domestic and international climber segments in order to discuss implications for risk-reduction strategies. The article commences by reviewing the literature on mountain climbing hazards at moderate altitude destinations before turning to segment-based analysis. The third section introduces the case study site, Mount Fuji, one of Asia's premier mountain tourism destinations selected herein as a readily accessible, nontechnical peak of moderate altitude that is attracting increasing numbers of climbers, including many internationals. Findings are then presented from contact surveys conducted on summer climbers descending the busiest of the four main Fuji trails during the consecutive 2011 and 2012 seasons. An a priori segment-based analysis of climbers' demographic profiles and behaviour provides predictors that could help management to target risk-reduction strategies for existing and emerging visitor segments. Finally, limitations and avenues for future research are explored.

2. Literature review

2.1. Accidents and injuries in moderate mountainous destinations

Heightened accessibility is attracting more inexperienced adventure tourists to once remote mountain destinations, escalating the threat of a corresponding increase in incidents, injuries and illnesses (Johnston & Edwards, 1994; Beedie & Hudson, 2003). Incidents can include accidents related to climbers (AMS, trips, slips, cardiac events etc.) or to the external environment (rock-slides, avalanche etc.). However, prior studies on mountain-based risk have focused on mortality rates of specialized expeditions concentrated in a few high altitude hotspots such as the Nepalese

Himalayas and Denali in Alaska (Weinbruch & Nordby, 2013). Lower altitude, but nonetheless iconic, mountain destinations have also attracted research into life-threatening syndromes, particularly Acute Mountain Sickness (AMS). AMS incidence rates of 77% were estimated at Kilimanjaro (5895 m) in Tanzania; 68% at Gosaikund Lake (4300 m) in Nepal; 33% at Mt Whitney (4419 m) in U.S.A. and 36% at Jade Mountain (3952 m) in Taiwan (Davies et al., 2009; Basnyat et al., 2000; Wagner, Fargo, Parker, Tatsugawa & Young, 2006; Wang et al., 2010). Any moderate mountainous destinations above 2000 m can be associated with AMS as well as hazards related to low oxygen partial pressure, low temperatures and strong winds exacerbated by steep and difficult terrain. Moderate altitude destinations also tend to be more accessible and thus attract large numbers of adventure tourists, within which the risk of injury associated with mountain climbing ranks highest overall, due to frequent underfoot events such as trips and slips (Bentley & Page, 2008). However the improved accessibility can conversely undermine management efforts to monitor visitors since injury epidemiology, “the study of the distribution and determinants of varying injury rates”, requires the kind of reliable denominator data that is not often compiled at moderate altitude mountain destinations (Caine, 2012). Consequently, few moderate altitude destinations have detailed incident or injury records, resulting in few risk studies apart from the notable exception of Mount Rainier and the Olympic Peninsula national parks (Stephens, Diekema & Klein, 2005).

2.2. Segment-based analysis

Segmentation is utilised to divide up a heterogeneous market into more homogenous subsets of consumers in order to design and implement strategies that target the needs and desires of each subset. It was initially devised to maximise efficient use of marketing budgets (Kotler & McDougall, 1983) by targeting “heavy spenders” who account for the bulk of the total economic impact (Spotts & Mahoney, 1991; Shani et al., 2010). Aside from expenditure, segments have been designed according to motivational and behavioural profiles (Oh et al., 1995; Perera et al., 2012), or divided up by occasion or benefits, leading to activity-based analyses of camping or skiing segments (Mok & Iverson, 2000). Various segment-based definitions surround the rapidly growing adventure tourism sector. Sung, Morrison and O'Leary (2000) identified an activity-based typology of adventure tourism, while Beedie and Hudson (2003) position it within the umbrella of nature-based tourism, and use trip duration to differentiate between expeditions and multiday treks versus such variations as abseiling and bungee jumping that involve “an intense, highly charged but short-lived experience”. Other studies reflect similar “deep” and “shallow” or “hard” and “soft” spectrums (The Adventure Travel Society (TATS), 2000) or overlapping scales of price, duration, skill and remoteness (Buckley, 2007).

A conceptual framework of mountaineering adventure tourists is available elsewhere (Pomfret, 2006). This paper sought an operational definition from a meta analysis that synthesized tourism segmentation into four types; geographic, demographic, psychographic and behavioural (Bigné, Gnoth & Andreu, 2008). Mazanec (1994) has noted a posteriori and a priori approaches, and the segments devised herein followed the latter based on empirical studies that had already identified significant differences in the demographic, and behavioural profiles of domestic and foreign climbers (Yamamoto, 2013; Jones, Kato, Yamamoto & Aramaki, 2013). This approach was rendered feasible as the research was part of a larger study conducted every summer season from 2008 to 2014. The next section of this paper discusses the selection criteria for the seven variables based on literature review.

Download English Version:

<https://daneshyari.com/en/article/92350>

Download Persian Version:

<https://daneshyari.com/article/92350>

[Daneshyari.com](https://daneshyari.com)