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A tri-method approach to a review of adventure tourism literature: bibliometric analysis, content analysis and a quantitative systematic literature review

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6 **analysis, content analysis and a quantitative systematic literature review**
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10 **Abstract**
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15 on adventure tourism to discover the theoretical foundations and key themes underlying the field by
16 combining three complementary approaches of bibliometric analysis, content analysis and a
17 quantitative systematic review. Some 114 publications on adventure tourism were identified that
18 revealed three broad areas of foci with adventure tourism research: (1) adventure tourism experience,
19 (2) destination planning and development, and (3) adventure tourism operators. Adventure tourism
20 has an intellectual tradition from multiple disciplines, such as the social psychology of sport and
21 recreation. There is an under-representation of studies examining non-Western tourists in their own
22 geographic contexts or non-Western tourists in Western geographic contexts. Our findings pave ways
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36 **Key words:** adventure tourism, literature review, co-citation analysis, content analysis,
37 quantitative systematic review, Leximancer
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INTRODUCTION

Adventure tourism has been developing globally with hotspots in many regions and territories, evidenced by increasing number of participants and intensive growth of adventure tourism products (Adventure Travel Trade Association, 2013; Tourism New Zealand, 2013). It has become an important component of the tourism industry in many Western countries (e.g. Canada and New Zealand) and is gaining some prominence in domestic tourism in emerging countries (e.g. China and Brazil). This growth of the adventure tourism sector in past two decades is closely related to the increase in all types of nature based tourism. Adventure tourism has been strongly likened to outdoor and adventure recreation (Pomfret & Bramwell, 2014; Sung, Morrison, & O'Leary, 1996). Buckley (2006) sees little definitional distinction between the terms adventure tourism, nature tourism, outdoor and adventure recreation. Research in adventure tourism specifically, however, has been relatively modest, especially in comparison to the large number of other special interest tourism studies (Buckley, 2010). The existing literature on adventure tourism still remains largely underdeveloped. As such, it is timely to undertake a review article on adventure tourism.

The aim of this paper is to advance previous reviews on adventure tourism via a more, systematic, objective and integrated review of this literature. The distinctive contribution of this study is the novel and comprehensive empirical approach in analysing the structure and content of the adventure tourism field. Our approach identifies the theoretical foundations and key themes that underpin the core of the adventure tourism field through a combination of bibliometric methods of network based direction-citation and co-citation analysis, content analysis and a quantitative systematic review of the 114 core publications on adventure tourism identified for this study. This study is the first of its kind to use the strengths of these three different methods to complement each other in a holistic, objective and accountable manner that helps reduce the bias that is often related to traditional literature reviews and expert interviews (Collins & Fauser, 2005; Petticrew & Roberts, 2006). By using network based citation analyses, we provide a robust demonstration of the structure and knowledge base of the adventure tourism field. The use of Content analysis through Leximancer

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3 allows the researcher to gain detailed conceptual insights by moving the analysis at the author and
4 citation level to the actual texts used by authors. This facilitates an objective and text-driven review of
5 the literature. Our use of a quantitative systematic review approach helps to map the current adventure
6 tourism literature by highlighting the boundaries around generalizations derived from the literature.
7 Thus, the use of these three complementary methods advances the current tourism and hospitality
8 methodological literature in the review of literature to allow for a more systematic, objective and
9 holistic overview of a particular academic field. Theoretically, our findings present a clearer and
10 richer understanding of the foundation knowledge-base and key concepts that comprise the
11 contemporary state of the adventure tourism field.

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22 This paper is structured as follows. First, the evolution of adventure tourists and tourism are
23 briefly summarized. The research methodology combining bibliometric analysis, content analysis and
24 a quantitative systematic review approach are then introduced. The results of the analysis are
25 subsequently discussed via a series of visual and tabulated representations. We then discuss the
26 relevant insights from the results, elucidate research gaps and set areas for future research. The article
27 concludes with a summary of the findings and limitation of this study.

28 29 30 31 32 33 34 35 36 **EVOLUTION OF ADVENTURE TOURISM AND TOURISTS**

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40 A simple and popular way to conceptualise adventure tourism is to describe it as “soft” or “hard”, the
41 former involving less risk, such as trekking, while the latter is more challenging and involves higher
42 risks, such as white water rafting (Swarbrooke, Beard, Leckie, & Pompret, 2003). A closer
43 examination of adventure tourism definitions in the last two decades reveals that they are centred on
44 insight theories, risk paradigm, flow, notion of play, and more recently, rush. Early definitions of
45 adventure tourism were discussed in terms of the risk paradigm. That is, adventure tourists are
46 motivated by the pursuit of risk (Sung et al., 1996), either physical risk or/and perceived risk to
47 achieve a state of flow (Jones, Hollenhorst, & Perna, 2003; Jones, Hollenhorst, Perna, & Selin, 2000).
48 However, this risk paradigm was deemed to be inadequate to capture the adventure tourism

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3 experience (Cater, 2006; Kane, 2004). Researchers argue that there are other quests from adventure
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5 tourists, such as seeking knowledge, heroism (Laing & Crouch, 2009), admiration of nature (Cater,
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7 2006), skill development (Pomfret, 2006) and self-efficacy (Filep, 2014; Llewellyn, Sanchez, Asghar,
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9 & Jones, 2008). With the development of the field, the single construct studies were developed into
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11 multiple construct studies that provided further insights into the interrelatedness or complementary
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13 nature of constructs to each other. For example, Gyimóthy and Mykletun (2004) introduced the
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15 concept of play into adventure tourism and demonstrate the interrelatedness of risk, insight and play
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17 in adventure tourism experiences providing a complementary explanation of an adventure tourism
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19 experience. The authors further argue that to immerse oneself in adventure tourism, one must
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21 maintain comfortable arousal levels, secure a protective frame, and find a liminal “playground”
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23 matching the activity (p.873). Such insights outline the multidimensional experiences or outcomes
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25 that adventure tourists may be seeking.
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29 Recently, rush as a concept was introduced to explain that adventure tourists, in particular the
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31 skilled and experienced, are motivated by rush experiences in commercial adventure tours (Buckley,
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33 2012). Rush is described as ‘a particular kind of excitement associated with the physical performance
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35 of a specific adventure activity, at the limits of individual capability, under highly favourable
36
37 circumstances, by a person who is already skilled and trained in the activity concerned’ (Buckley,
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39 2012, p. 936). These various concepts highlight the evolving dichotomy and complexity that exists in
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41 the adventure tourism literature. In some cases these concepts are too broad and not mutually
42
43 exclusive and consequently, they may simultaneously characterize the same segment (Gyimóthy &
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45 Mykletun, 2004). For example, as adventure tourism is activity based, a tourist that is considered to be
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47 skilful in certain activities might also be considered unskilful in another activity. This observation
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49 suggests that there is a complexity to understand adventure tourists who may be interested in activities
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51 specifically or the social psychological experiential outcomes that different activities can provide.
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54 The evolution of adventure tourism follows the conventional approach in defining special
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56 interest tourism that ‘traveler’s motivation and decision making process are primarily determined by
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58 a particular interest.’(Weiler & Hall, 1992, p. 38). However, Weber (2001) argues a narrow focus on
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3 motivational parameters may prevent gaining a comprehensive understanding of the phenomenon.
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5 The insight theories, risk paradigm, flow, rush and notion of deep play are centred largely on the
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7 demand side, and inevitably neglects an understanding of the supply side of adventure tourism
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9 products (Swarbrooke, Beard, Leckie, & Pomfret, 2003). For example, Laing and Crouch (2009)
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11 contend that the frontier travellers of adventure tourism are motivated and influenced by fantasy
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13 narratives and dreamscapes, creating a paradigm of the 'performance of adventure' (Cater & Cloke,
14
15 2007). That is, frontier travellers are 'following the footsteps of explorers of old and performing a role
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17 based on heroic or mystic journeys of the past, as well as aspects of fairy tale and fantasy' (p.136).
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19 Thus, these few frontier travellers contribute significantly to the 'on the edge experience' of the
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21 destinations/attractions while mistakenly appearing to be representative of the real experience of other
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23 adventure tourists (Hallin & Mykletun, 2006). This leaves the general public with a "fantasy" that
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25 might not be possible to be created by the suppliers as "authentic adventure experience". Thus,
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27 commercial adventure tourism products are constructed under the realm of a "public secret", where
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29 tourists are able to maintain the contradictory perceptions that they are simultaneously at risk but safe
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31 (Fletcher, 2009; Varley, 2006).
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34 Table 1 presents a representative summary of adventure tourism definitions from the last two
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36 decades. What is notable is the shift in discussion from the physical aspects to the psychological
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38 aspects and more recently the incorporation of specialized equipment and the role of guided tours.
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40 The different focuses of these definitions show that disparity still remains over what adventure
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42 tourism is.
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45 ***Insert Table 1 here***
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48 The diversity of what constitutes adventure tourism may be symptomatic of a lack of
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50 definitional development. Many studies have been written from an individual researcher's perspective
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52 as opposed to examining broader participation in adventure tourism. To gain a more nuanced
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54 understanding of the field, its theoretical foundations, development and key themes, this paper draws
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56 on the use of bibliometric analysis, content analysis, and a quantitative systematic review.
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RESEARCH DESIGN

Data collection

In this study we followed the procedures of other tourism review papers, where adventure tourism related publications were identified through EBSCOHost, Science Direct, and Google Scholar, three of the largest and most popular online databases and search engines (Buhalis & Law, 2008). To provide a comprehensive overview of adventure tourism, the researcher searched titles, key words and abstracts for “adventure tourism”, “adventure tourists” and “adventure travel”. In addition, references cited in published articles as well as the ones obtained through the researcher’s personal communication with adventure tourism researchers were traced. Only articles published in refereed academic journals were reviewed, as these papers have already been peer evaluated to be of a suitable standard for academic publication (Jang & Park, 2011) and the assessment of references from these articles strengthen the reliability of the results obtained by using bibliometric analysis (Ramos - Rodríguez & Ruíz - Navarro, 2004). Although excluded from the analysis, “grey” literature, such as government and NGO reports, were also reviewed, as it enabled the researchers to develop their understanding of the underlying phenomenon. In the initial search, a total of 345 articles prior to 2015 were retrieved. Then each article was reviewed one by one by the researchers and the final selection of papers was based on adventure tourism being one of the main focuses of the papers. As a result, 114 articles were identified. [A list of the 114 articles has been provided as supplementary material for the online publication.](#)

The key information retrieved from these articles are from Scopus including: citation information of author(s), document title, year, source title, citation count, source, document Type, and DOI; author affiliations, correspondence address; abstract, keywords; content of full length article; and references. Scopus was used as it offers intensive coverage of a wider range of journals than Web of Science (Falagas, Pitsouni, Malietzis, & Pappas, 2008). While Google Scholar, for the Web in general, can help retrieve even the most obscure information about a particular citation, its use is

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3 marred by inadequate and inconsistent citation information (Falagas et al., 2008; Jacso, 2005). As
4 such, considering the use of bibliometric analysis (mainly citation and co-citation analysis), Scopus
5 was considered to be more suitable for our study, as it not only provides well-structured and
6 informative data about its journal names, citation information and archive composition, but also offers
7 a sophisticated, still easy to use search and navigation software to accurately capture the information
8 needed for research (Li, Burnham, Lemley, & Britton, 2010).
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18 **Data analysis**

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21 First, we calculated the published items and their associated citations in each year (Figure 1). In total,
22 the 114 focal articles were cited 1748 times. Average citations per article are 15.33 per year.
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26 ***Insert Figure Here***
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28 **Co-citation analysis**

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32 The idea of co-citation analysis is that citations are manifestations of otherwise usual invisible
33 relationships between authors, concepts and communities (Garfield, Malin, & Small, 1983; Small,
34 1973). Therefore, co-citation analysis is the investigation of the frequency with which two
35 publications are cited together to explore the structure, theoretical foundations and the pattern within a
36 particular intellectual tradition. This provides an indicator of the affinity and proximity between
37 publications (White & Griffith, 1981). As such, it identifies whether a discipline has an inward- or
38 outward looking approach, links the flow of new ideas, and explores the existence of barriers between
39 the applied and basic sciences to which they belong (Ferreiro Alaez, 1993). The approach has been
40 proved to be valid as a tool for understanding the intellectual structure of a scientific discipline in
41 many scientific areas (Ramos - Rodríguez & Ruíz - Navarro, 2004) including tourism (Severt,
42 Tesone, Bottorff, & Carpenter, 2009; Shen et al., 2014; Ye, Li, & Law, 2013; Ying & Xiao, 2012).
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3 Co-citation analysis is conducted through three stages. First, we performed at the document
4 level rather than at the author level (Gmür, 2003). This enables the move from different contributions
5 by certain authors to distinct intellectual streams, which is crucial to differentiate and link thoughts
6 and theories within one research domain, particularly in a relatively young field of research. Second,
7 to present the connection between publications in a more detailed and richer manner, the co-citation
8 analysis proximity scores were visualized to generate a network graph. The connections between
9 articles are based on 1) the number of co-citations, 2) the distances between any publications through
10 the path length and 3) the size of the bubble reflecting the number of citations for a given article.
11 Third, based on the network structure, we used a grouping algorithm to uncover clusters of relevant
12 publications (Blondel, Guillaume, Lambiotte, & Lefebvre, 2008), as this helps to identify the
13 theoretical foundations and research streams within the wider scientific community. The BibExcel
14 program (Persson, Danell, & Schneider, 2009) was used to analyse the data and the results were
15 visualised by the Gephi software (Bastian, Heymann, & Jacomy, 2009)..
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33 **Content analysis**

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37 Considering the fact that in co-citation analysis, not all references are equally important
38 within a publication and in a given article, citations can be quite unrelated. While a sufficiently large
39 sample helps reduce the random “noise” embedded in citation pattern (Schildt, Zahra, & Sillanpää,
40 2006), references remain proxies for thoughts and concepts influencing a publication. To overcome
41 these shortcomings and to provide a direct and detailed analysis of the concepts and themes
42 underpinning the publication in adventure tourism field, content analysis of the focal papers is also
43 conducted.
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52 Content analysis is a systematic analysis of texts that aims to discover concepts, themes, and
53 relationships in the collection, and uncover unknown qualities about the data to produce valid and
54 trustworthy inferences (Krippendorff, 2012). As a form of unstructured ontological discovery, content
55 analysis allows the researcher to gain conceptual insights in details by moving the analysis at the
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3 author and their citations level to the actual texts used by authors. This facilitates an objective and
4 text-driven review of the literature. We used the qualitative software Leximancer 4.0 to perform the
5 analysis. Additional logic was applied to delete the information that would potentially crowd the
6 analysis, such as author information, affiliation and references.
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11 Leximancer is a relatively new qualitative analysis (e.g. content analysis) tool that transforms
12 lexical co-occurrence information from natural language into semantic patterns in an unsupervised
13 manner by using two stages of extraction – semantic and relational. The procedures behind
14 Leximancer are from Bayesian statistical theory, in which fragmented pieces of evidence can be used
15 to envisage what is happening in a system (Smith & Humphreys, 2006). It is considered suitable for
16 sophisticated exploratory research, as it demonstrates high reproducibility and reliability of concept
17 extractions and thematic clustering, without the problems of expectation biases embedded in manual
18 text analysis techniques or expert based reviews (Smith & Humphreys, 2006). The frequent
19 occurrence of a concept is based on a hot map of which the brightness of a concepts label and circle
20 reflects the importance of themes, while the size reflects the number of concepts in the text. The
21 concepts that are strongly related semantically, will be mapped closely together (Campbell, Pitt,
22 Parent, & Berthon, 2011; Rooney, 2005). It is also important to note that the absence of a concept also
23 represent meaning. It is a potential indication that an important concept does not appear often enough
24 and is not related to other concepts (Liesch, Håkanson, McGaughey, Middleton, & Cretchley, 2011).
25 The process that Leximancer follows and its algorithm are explained in details in the works of Liesch
26 et al. (2011) and Smith & Humphreys (2006). As a qualitative analysis tool, Leximancer has gained
27 increasing attention of tourism scholars, such as Darcy and Pegg (2011) in studying hotel managers'
28 perceptions of the accessible tourism market and Pearce and Wu (2015) in examining the
29 entertainment experiences of international tourists in China.
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Quantitative systematic literature review approach

As word-based software, Leximancer fails to record the number of key incidents, as the interpretation is throughout the whole sample of focal articles. To address this issue a quantitative systematic review approach was undertaken to determine the frequency of such key incidents. A quantitative systematic review is a relatively new method developed by Pickering & Byrne (2014) that aims to survey the literature in a quantitative manner. It creates on-going categories that record the key information that the researchers aim to extract from the focal articles based on the needs of the research, such as locations in which the studies were conducted, the authors, and methods used. Following a series of clear steps the literature is mapped to highlight the boundaries around generalisations derived from the literature (Pickering & Byrne, 2014). In this review, we record the geographic location studied, sampling, the various methods used to undertake the research, types of adventure tourism activities examined, theories used, and recommendations for future research.

In summary, the use of these three different approaches – bibliometric analysis, content analysis and a quantitative systematic literature review appropriately complement each other to uncover the theoretical foundations and structure of adventure tourism research as well as identify key concepts and themes, uncover research gaps and set areas for future research.

RESULTS

Bibliometric analysis results

Table 2 indicates the top 10 publications with highest citation impact. Cloke & Perkins (1998) (n=149) is the most cited article, followed by Weber (2001) (n=88) and Williams & Soutar (2009) (n=82).

Insert Table 2 here

Co-citations

Figure 2 is the visual map of the co-citation network of the references from the focal publications. The size of the bubble presents the normalised citations received by the articles and the thickness of the lines represents the strength of co-citations ties. While the results do not indicate any particular study dominates the whole network, they do show the importance of several authors whose work bridges a number of disciplinary and interdisciplinary areas. To understand the structure and theoretical foundation of adventure tourism area, we used a group logarithm to cluster the references of our focal publications in different colours. Eight clusters have been identified through the process, as showed in Figure 2. The clusters identified are 1) Sport; 2) Service Quality; 3) Psychology; 4) Behaviour; 5) Tourism; 6) Risk Paradigm; 7) Recreation; and 8) Environment and Geography. However, these clusters are distant and detached from each other indicating that these lines of work are not well integrated with the main stream adventure tourism concepts.

Gephi provides an interactive interface, and demonstrates how a particular article is connected with different domains by clicking a particular article (the bubble) (Figure 3). As such, the visual network indicates a number of articles that play important roles in bridging different research domains (Figure 2). Buckley's (2006) book along with a number of his journal articles play a significant work in linking tourism, recreation and behaviour science. Pompret's (2006) work in conceptualizing mountaineering adventure tourists played an important role in bridging the fields of sports, behaviour science and risk paradigm. The book of Swarbrooke et al (2003) also performed a bridging role in linking psychology and risk paradigm. Service quality has a strong connection with behavioural science, psychology, and risk paradigm by using research frameworks from service quality and applying them in adventure tourism research.

Insert Figure 2 here

Insert Figure 3 here

Direct citation

Next direct citation analysis of the focal articles was performed followed by a visualization of the network. This enables the researcher to gain insights into the influence of the work within adventure tourism. We applied the same grouping algorithm as earlier and four clusters have been identified through the citation relationship. The size of the bubble presents the number of citations of any particular publication received, which indicates the impact of the focal articles within the adventure tourism field. Figure 4 demonstrates that the work of Cater (2006) which challenged the dominant risk paradigm played an important role in bridging different works. Beedie and Husdon (2003) and Weber (2001) also enjoy a higher level of citations. This is because of the importance of their work in the early conceptualising of adventure tourism.

Insert Figure 4 here

Content analysis and quantitative systematic review results

Figure 5 presents the conceptual map derived from the analysis of the focal papers. The map indicates three predominant research areas in the adventure tourism literature (Figure 5). These are 1) *adventure tourism experience* (n=71, 62% of the total); 2) *destination planning and development* (n=22, 20% of the total); and 3) *operators* (n=21, 18% of the total). The *adventure tourism experience* is the largest theme with the most diverse concepts including the nature of adventure, adventure experience, social and personal capital from adventure tourism, adventure tourist behaviour, type of activities, type of clients (segments) and different theoretical models that are semantically closely. From a quantitative review, we also identified the specific focus of the papers including psychological aspect of adventure tourism, in particular motivation (16 papers), and emotion (fear, sensory stimulation) (10 papers). In respect to the extant theories used, much of the discussion is centred on flow theory (6), although reversal theory (3), edge work (3) and the 3M model of personality and motivations (2) were also introduced.

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6 The *destination planning and development* theme encapsulates adventure tourism marketing
7 and products, as well as community development and planning (dark brown and blue colour). Studies
8 here focus on the assessment of livelihood in developing adventure tourism and commercial adventure
9 tourism products across a wide range of geographical areas, mainly conducted by Buckley using on-
10 site audits and auto-ethnography. Six studies were specifically conducted in Asian regions including
11 India (n=4), Maldives (n=1) and Nepal (n=1), and three studies were in Africa (two in South Africa
12 and one in Zambia).
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21 *Adventure tourism operators* as a research theme have received relatively little attention (light
22 green colour), despite being regarded as important. Interests are mainly concerned with injury, tour
23 guide, safety and management of operations. The quantitative systematic review indicates that there
24 were relatively more discussions about safety issues (n=13) in the early 2000s and increasing
25 discussions on the role of tour guides in the last few years (n=6). Geographical the focus of these
26 studies were conducted in New Zealand (n=10), the UK (n=2), and Australia (n=1) mainly with
27 Bentley and Page. These were conducted using a standard survey method or document analysis (e.g.
28 insurance claims) and can be attributed to the more highly regulated safety environments of these
29 countries. Tour guide studies are mainly in the US and Latin America with auto-ethnographic
30 approach. The recent discussions of tour guides is due to the growing demand for adventure guiding
31 catering to the safe and effective management of adventure tourism activities (Houge Mackenzie &
32 Kerr, 2013). However, the data analysis shows that the role of interpretation or guiding in conveying
33 the message of sustainable tourism is absent in the literature.
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48 Nearly half (n=58) used qualitative methods, with a dominant use of interviews (43 papers).
49 The use of auto-ethnography received increasing attention in the last five years with 3 from Buckley
50 and 2 from Kane and colleagues. In addition, there are 12 mixed method papers and 29 quantitative
51 method papers. The other papers are mainly conceptual research (n=15) rather than empirical papers
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3 and do not carry key research design information. With this in mind, the following analysis is based
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5 solely on the identified empirical studies.
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8 Based on the geographical location of the studies, 53 empirical studies were in the Western
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10 countries/regions of New Zealand (24 papers), USA (9 papers), UK (7 papers) and Australia (6
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12 papers), while only eleven papers were conducted in Asia (6 in India, 3 in Taiwan, 1 in Maldives and
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14 1 in China) in the last five years. From a sampling perspective, the studies are predominantly
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16 concerned with Western tourists with only four articles focusing on Asian segments (3 with
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18 Taiwanese and 1 with mainland Chinese). This may be attributed to a long tradition of outdoor
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20 adventurous activities in the UK and USA, where those activities evolved from the 1800s (Pike &
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22 Weinstock, 2013). The Western tourists have diffused the majority of the activities worldwide
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24 (Buckley, McDonald, Duan, Sun, & Chen, 2014).
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27 There are 23 papers on land activities, 21 papers on water activities, 5 papers on air activities
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29 and six papers on a combination of activities mainly from Buckley. There were a high number of
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31 papers on white-water rafting (17 papers) and mountaineering (15 papers), with a few on other
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33 activities, such as sky-diving. Rich evidence is produced in investigating mountaineering and white
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35 water rafting at experienced level while there is a dearth of work that looks into other activities that
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37 are of great popularity but requires less skill development. For example, the flow state could also be
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39 achieved in high-risk activities by low-skilled tourists with the help of professional tour guides (Wu &
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41 Liang, 2011). Additionally, only one empirical study revealed subtle differences on the operation
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43 model of activity between the West and East. Buckley (2014) found that the white water rafting
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45 models are significantly different between the West and China in terms of operation practices and the
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47 Chinese models presents a significant risk controlled group dynamic.
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52 DISCUSSION

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55 The results of the content analysis indicate three distinct areas within adventure tourism research-to-
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57 date: (1) *adventure tourism experience*, (2) *destination planning and development*, and (3) *adventure*
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3 *tourism operators*. We also identify the structure and theoretical foundation of adventure tourism
4 literature in 8 different domains of: 1) Sport; 2) Service Quality 3) Psychology 4) Behaviour 5)
5 Tourism 6) Risk Paradigm 7) Recreation and 8) Environment and Geography. The following
6 discussion focuses on three promising areas for future research: tourist market segments, new
7 theoretical lens and cross-disciplinary approaches, and adventure tourism and the external
8 environment.
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16 **Tourist Market Segments**

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19 Adventure tourism research has been undertaken predominantly from a Western perspective, in
20 Western regions and with a focus on Western tourists. Less attention is paid to emerging regions,
21 which consequently contributes to a perception of adventure tourism as culturally homogenous
22 (Buckley et al, 2014). The recent continued growth of non-traditional adventure tourist markets and
23 their own group dynamic requires substantial attention. While acknowledging adventure tourists are
24 not homogenous and encouraging market segmentation by using gender (Gyimóthy & Mykletun,
25 2004) or personal characteristics (Sung, 2004), the research reveals that only Buckley et al's (2014)
26 article on adventure tourism considers cultural values in differentiating or mediating tourist
27 expectations and experiences in an adventure tourism setting. While there are three studies conducted
28 with Taiwanese tourists in tandem with this Asian emerging ascendancy in domestic, inbound, and
29 outbound tourism, these studies accept Western assumptions about market segmentation, risk, flow
30 experience and satisfaction. In addition, since the emergence of domestic adventure tourism in many
31 non-Western countries, many adventure tourism activities have been developed in domestic
32 environments (e.g. "piaoliu" in China). These non-Western tourists subsequently carry out their own
33 adventure tourism activities with their outbound travel worldwide. Therefore, this has the potential to
34 significantly change the dilemma of the adventure tourism sector. As such, investigation from an emic
35 approach and perhaps further comparative cross-cultural comparisons of different adventure tourist
36 segments across geographical regions would provide researchers with a more comprehensive picture
37 of adventure tourism globally.
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New theoretical lens and cross-disciplinary approach

Another fertile research area is unfolding the complexity of adventure tourism through a new theoretical lens. The co-citation analysis indicates that adventure tourism literature has an intellectual tradition with other fields. However, many current papers are based on traditional recreational theories that focus primarily on risk, such as flow theories, and edgework; these theories explore and explain the nature of adventure tourism through their theoretical lens. Yet, they may consequently prevent a more general model of adventure tourism being formulated. For example, the consumer behaviour literature may provide another theoretical lens that could assist supply-side understandings with subsequent marketing implications. Similarly, researchers also call for further studies looking beyond the outdoor adventure recreation paradigm to outdoor adventure tourists and establishing the link to new areas and concepts such as the use of lifestyles (Pomfret & Bramwell, 2014), as people's involvement in activities in a home environment can lead to the same recreational activities when on vocation (Brey & Lehto, 2007). Additionally, Schneider and Vogt (2012) cautiously note that most existing research is descriptive and 'fails to identify the psychological underpinning of consumer behaviour related to adventure tourism' (p.703). Thus, consistent with co-citation results, there appears a need for diverse interaction of adventure tourism with other disciplines. The introduction and testing of other theories as well as cross-disciplinary approach would seem opportune for future research.

Our analysis also shows that because of the lack of agreement of the definitional concepts of adventure tourism, this area lacks formal conceptual development (Sung, 2004) and thus, the lack of theoretical foundation may impose even greater challenges for researchers (Williams & Soutar, 2005). A reflection of the definitional discussion earlier is that the co-citation analysis demonstrates that while there are some studies bridging different domains, there still lacks consensus over what is defined to be adventure tourism. Additionally, the quantitative systematic review reveals that in a lot of cases, adventure travellers, are broadly defined as any tourists partaking in any type of adventure

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3 activities. This potentially exaggerates the size of the group, the total expenditure of adventure
4 tourism, making the exact size and contribution of adventure tourism market debatable. Thus, much of
5 the data is open to multiple interpretations. While 11 qualitative studies have been undertaken in
6
7 examining motivations for the meanings of adventure tourism, they were seemingly limited to
8
9 experienced and skilled tourists, where novices were neglected (Pomfret, 2006; Pomfret & Bramwell,
10
11 2014). This raises subsequent questions such as what are the primary motivations of tourists
12
13 undertaking "adventure tourism" activities, and how may this moderate our understanding of the
14
15 sector and the tourist when considering primary and secondary motivations for undertaking such
16
17 activity? Thus, further research to conceptualize and operationalize the concepts of adventure tourism,
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19 seems a logical progression.
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24 **Adventure tourism and the external environment**

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27 From a contemporary viewpoint articles have not kept pace with trends in the external environment.
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29 The importance of the relationship between adventure tourism and the external environment was
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31 mentioned consistently through the quantitative review; however only eight studies actually examine
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33 this aspect. This may be due to incomplete data to assess impact on local livelihoods (Buckley,
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35 Shakeela, & Guitart, 2014), the complex nature of different adventure tourism activities (Tsaur, Lin,
36
37 & Liu, 2013), or researchers' skills in personally experiencing the activity (Buckley, 2012). Thus, a
38
39 number of issues appear to be missing in the current literature. For example, the advancement of
40
41 technology allows adventure tourists to reach the "impossible" in the pursuit of adventure, such as the
42
43 Arctic by using specialized aircraft (Berger & Greenspan, 2008), but the role of technology is seldom
44
45 investigated. Equally, the emergence of the internet and more recently social media has gradually
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47 changed tourist behaviour in general and is highly relevant to adventure tourists, operators, and policy
48
49 makers. The Adventure Travel Trade Association (2013), for example, found in a recent study that
50
51 nearly 78% of adventure travellers have confirmed links to one kind or another of social media. In
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53 particular, 18% of adventure travellers said that they would make recommendations for similar trips
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55 by putting up positive reviews than 8% of non-adventure travellers. Technology with its associated
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57 applications provides a rich area for further investigation.
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Nine papers mentioned the outcomes of adventure tourism experience but they mostly focus on the immediate results. There is no empirical evidence examining participants' post-trip behaviour, reflection and lifestyle changes, or the impacts of the activities on their attitude towards life. As Ryan (2003) argues, adventure tourism is undertaken with the view of 'obtaining a state of exhilaration, an adrenalin rush, or a state of well-being that will often have both immediate and possible long-term benefits' (p.56). Similarly, adventure recreation, as a core element of adventure tourism, was advocated to have an impact on participants' group development, leadership, and decision making changes and consequently these changes could be transferred to everyday life (Plummer, 2009). We argue that this situation is likely to apply to adventure tourists' attitudes and lead to further behaviour changes through a "positive adventure experience". Thus, longitudinal studies can shed new light on the previously untapped "positive transformative experience" (Allman, Mittelstaedt, Martin, & Goldenberg, 2009). Equally, longitudinal studies tracing different novice participants across different time periods will offer more insights into their continued participation, and consequently prediction of their future behaviours (Tsaur, Yen, & Hsiao, 2013; Wu & Liang, 2011).

While safety issues were a rapidly growing area in adventure tourism in the early 2000s (by Bentley and Page with a particular focus in New Zealand), interest in this area seems to have declined. This is odd considering the growth of serious incidents associated with adventure tourism in different geographical areas, in particular in developing regions. Injuries and fatalities have the potential to seriously impact the adventure tourism industry through brand damage and questions around sector safety (China Tourist News, 2015; McClure, 2014). As such, detailed academic research that examines adventure tourism safety would lead to knowledge that could assist governments to draft or improve codes of practice to a wider range of adventure tourism activities. Additionally, although interest in the impact of adventure tourism on the environment seems to have increased over the last five years, much of the work is based on the assessment of the potential of a destination to develop adventure tourism. There appears scope for more research into the ecological, economic, and social impacts of adventure tourism. For example, waste management, and the sustainable education training of adventure tourists could be two promising areas.

CONCLUSION AND LIMITATIONS

This study has reviewed existing adventure tourism literature by using complementary bibliometric methods of network-based direct-citation and co-citation analysis, content analysis and quantitative systematic approach to present an objective, novel and integrated review of the field. The application of this novel approach can assist the academic community to position themselves to visibly understand the structure, theoretical foundation, key concepts and themes as a step towards developing an integrated and robust framework for the adventure tourism field. Our findings reveal three major research areas in the current adventure tourism literature including: *adventure tourism experience*; *destination planning and development*; and *adventure tourism operators*. Predominantly research has focused on the adventure tourism experience, while less attention has been given to destination planning and development, and adventure tourism operators. These latter two areas are in themselves a demonstration of the theoretical complexity of establishing adventure tourism enterprises within local community and environmental planning contexts as they become overlaid with tourist-centric destination management and marketing of the products on offer.

While the co-citation analysis suggests that adventure tourism research has an intellectual tradition with mature fields in eight clusters, such as sport and outdoor recreation, these clusters are distant and detached from each other indicating that these lines of work are not well integrated with the mainstream adventure tourism concepts and adventure tourism still has a great reliance on established disciplines for theories, such as flow theory, edge work, and reversal theory. As such, despite the gradually changing focus (e.g. destination development and impact) and new methods of investigation (e.g. auto-ethnography), scholarship in this field is relatively immature compared to many other tourism areas. This highlights the physical difficulty of researchers to personally experience (Pomfret & Bramwell, 2014) or of the environment to research that challenged the ecological validity (Jones et al., 2003). Yet, several studies form bridges (e.g. Buckley 2006 and Swarbrooke et al 2003) between the identified knowledge domains, indicating that the field is indeed connected through disciplinary, multi-disciplinary, interdisciplinary, trans-disciplinary and contextual

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3 fields. Importantly, such publications play a major role in the evolving intellectual structure of the
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5 adventure tourism field by tying separate knowledge groups together, elucidating their important
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7 relationships and new contributions to knowledge. This evolving development also suggests there are
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9 future opportunities for better integration of other relevant theories through disciplinary, multi-
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11 disciplinary, interdisciplinary, trans-disciplinary and contextual field with adventure tourism research.
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14 A few areas of future research to enhance this study are encouraged. First, this study focuses
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16 only on the literature review of academic journal articles, and further research on the grey literature
17
18 would add another layer of insights into this subject. Second, future research using Delphi method by
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20 consulting experts and practitioners would enhance the findings of this research. Third, a review of
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22 adventure tourism literature in other languages and perhaps a further cross-cultural comparison
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24 between different sources of literature would offer more insights into different cultural histories, and
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26 subsequently their international implications in both theory and practice for adventure tourism studies.
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REFERENCES

- Adventure Travel Trade Association. (2013). Adventure Tourism Market Study 2013.
- Allman, T. L., Mittelstaedt, R. D., Martin, B., & Goldenberg, M. (2009). Exploring the Motivations of BASE Jumpers: Extreme Sport Enthusiasts. *Journal of Sport & Tourism, 14*(4), 229-247. doi: 10.1080/14775080903453740
- Bastian, M., Heymann, S., & Jacomy, M. (2009). *Gephi: an open source software for exploring and manipulating networks*. Paper presented at the ICWSM.
- Benckendorff, P. (2009). Themes and trends in Australian and New Zealand tourism research: A social network analysis of citations in two leading journals (1994–2007). *Journal of Hospitality and Tourism Management, 16*(01), 1-15.
- Benckendorff, P., & Zehrer, A. (2013). A Network Analysis of Tourism Research. *Annals of Tourism Research, 43*, 121-149. doi: 10.1016/j.annals.2013.04.005
- Berger, I. E., & Greenspan, I. (2008). High (on) Technology: Producing Tourist Identities through Technologized Adventure. *Journal of Sport & Tourism, 13*(2), 89-114. doi: 10.1080/14775080802170312
- Blondel, V. D., Guillaume, J. L., Lambiotte, R., & Lefebvre, E. (2008). Fast unfolding of communities in large networks. *Journal of Statistical Mechanics: Theory and Experiment, 28*(10), P10008.
- Brey, E. T., & Lehto, X. Y. (2007). The relationship between daily and vacation activities. *Annals of Tourism Research, 34*(1), 160-180. doi: 10.1016/j.annals.2006.08.001
- Buckley, R. (2006). *Adventure tourism*. Oxfordshire: CABI.
- Buckley, R. (2010). *Adventure tourism management*. Oxford: Elsevier.
- Buckley, R. (2012). Rush as a key motivation in skilled adventure tourism: Resolving the risk recreation paradox. *Tourism Management, 33*(4), 961-970. doi: 10.1016/j.tourman.2011.10.002
- Buckley, R., McDonald, K., Duan, L., Sun, L., & Chen, L. X. (2014). Chinese model for mass adventure tourism. *Tourism Management, 44*, 5-13. doi: 10.1016/j.tourman.2014.01.021
- Buckley, R., Shakeela, A., & Guitart, D. (2014). Adventure tourism and local livelihoods. *Annals of Tourism Research*. doi: 10.1016/j.annals.2014.06.006
- Buhalis, D., & Law, R. (2008). Progress in information technology and tourism management: 20 years on and 10 years after the Internet—The state of eTourism research. *Tourism Management, 29*(4), 609-623. doi: 10.1016/j.tourman.2008.01.005
- Campbell, C., Pitt, L., Parent, M., & Berthon, P. (2011). Understanding Consumer Conversations around Ads in a Web 2.0 World. *Journal of Advertising, 40*(1), 87-102.
- Cater, C. (2006). Playing with risk? participant perceptions of risk and management implications in adventure tourism. *Tourism Management, 27*(2), 317-325. doi: 10.1016/j.tourman.2004.10.005
- Cater, C., & Cloke, P. (2007). Bodies in action. *Anthropology today, 23*(6), 13-16.
- China Tourist News. (2015). When is the adventure tourism not longer risky? Retrieved May 2, 2015, from <http://www.cntour2.com/viewnews/2015/04/09/Or7As3Duuxp6V4DPKubv0.shtml>
- Collins, J. A., & Fauser, B. C. J. M. (2005). Balancing the strengths of systematic and narrative reviews. *Human Reproductive Update*(11), 103-104.
- Darcy, S., & Pegg, S. (2011). Towards Strategic Intent: Perceptions of disability service provision amongst hotel accommodation managers. *International Journal of Hospitality Management, 30*(2), 468-476.
- Falagas, M. E., Pitsouni, E. I., Malietzis, G. A., & Pappas, G. (2008). Comparison of PubMed, Scopus, web of science, and Google scholar: strengths and weaknesses. *The FASEB journal, 22*(2), 338-342.
- Ferreiro Alaez, L. (1993). *Bibliometría: Análisis bivariante (Bibliometrics: Bivariate analysis)*. Madrid: EYPASA.
- Filep, S. (2014). Moving Beyond Subjective Well-Being: A Tourism Critique. *Journal of Hospitality & Tourism Research, 38*(2), 264-274. doi: 10.1177/1096348012436609

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2
3 Fletcher, R. (2009). The Emperor's New Adventure: Public Secrecy and the Paradox of Adventure
4 Tourism. *Journal of Contemporary Ethnography*, 39(1), 6-33. doi:
5 10.1177/0891241609342179
- 6 Garfield, E., Malin, M. V., & Small, H. (1983). Citation data as science indicators.
- 7 Gmür, M. (2003). Co-citation analysis and the search for invisible colleges: A methodological
8 evaluation. *Scientometrics*, 57(1), 27-57.
- 9 Gyimóthy, S., & Mykletun, R. J. (2004). Play in adventure tourism. *Annals of Tourism Research*,
10 31(4), 855-878. doi: 10.1016/j.annals.2004.03.005
- 11 Hallin, C. A., & Mykletun, R. J. (2006). Space and Place for BASE: On the Evolution of a BASE-
12 Jumping Attraction Image. *Scandinavian Journal of Hospitality and Tourism*, 6(2), 95-117.
13 doi: 10.1080/15022250600667466
- 14 Houge Mackenzie, S., & Kerr, J. H. (2013). Can't we all just get along? Emotions and the team
15 guiding experience in adventure tourism. *Journal of Destination Marketing & Management*,
16 2(2), 85-93. doi: 10.1016/j.jdmm.2013.03.003
- 17 Jacso, P. (2005). As we may search-Comparison of major features of the Web of Science, Scopus, and
18 Google Scholar citation-based and citation-enhanced databases. *CURRENT SCIENCE-*
19 *BANGALORE*, 89(9), 1537.
- 20 Jang, S., & Park, K. (2011). Hospitality finance research during recent two decades: Subjects,
21 methodologies, and citations. *International Journal of Contemporary Hospitality*
22 *Management*, 23(4), 479-497. doi: 10.1108/09596111111129995
- 23 Jones, C. D., Hollenhorst, S. J., & Perna, F. (2003). An empirical comparison of the four channel flow
24 model and adventure experience paradigm. *Leisure Sciences*, 25(1), 17-31.
- 25 Jones, C. D., Hollenhorst, S. J., Perna, F., & Selin, S. (2000). Validation of the flow theory in an on-
26 site whitewater kayaking setting. *Journal of Leisure Research*, 32(2), 247-261.
- 27 Kane, M. J. (2004). Adventure tourism: The freedom to play with reality. *Tourist Studies*, 4(3), 217-
28 234. doi: 10.1177/1468797604057323
- 29 Krippendorff, K. (2012). *Content analysis: An introduction to its methodology*. New York: Sage.
- 30 Laing, J. H., & Crouch, G. I. (2009). Myth, adventure and fantasy at the frontier: metaphors and
31 imagery behind an extraordinary travel experience. *International Journal of Tourism*
32 *Research*, 11(2), 127-141. doi: 10.1002/jtr.716
- 33 Li, J., Burnham, J. F., Lemley, T., & Britton, R. M. (2010). Citation analysis: Comparison of web of
34 science®, scopus™, SciFinder®, and google scholar. *Journal of electronic resources in*
35 *medical libraries*, 7(3), 196-217.
- 36 Liesch, P. W., Håkanson, L., McGaughey, S. L., Middleton, S., & Cretchley, J. (2011). The evolution
37 of the international business field: a scientometric investigation of articles published in its
38 premier journal. *Scientometrics*, 88(1), 17-42.
- 39 Llewellyn, D. J., Sanchez, X., Asghar, A., & Jones, G. (2008). Self-efficacy, risk taking and
40 performance in rock climbing. *Personality and Individual Differences*, 45(1), 75-81. doi:
41 10.1016/j.paid.2008.03.001
- 42 McClure, T. (2014). The dark side of adventure tourism, *Business Today*. Retrieved from
43 <http://www.stuff.co.nz/business/industries/10339571/The-dark-side-of-adventure-tourism>
- 44 Pearce, P. L., & Wu, M.-Y. (2015). Entertaining International Tourists An Empirical Study of an
45 Iconic Site in China. *Journal of Hospitality & Tourism Research*. doi:
46 10.1177/1096348015598202
- 47 Persson, O., Danell, R., & Schneider, J. W. (2009). How to use Bibexcel for various types of
48 bibliometric analysis. In F. Åström, R. Danell, B. Larsen & J. Wiborg-Schneider (Eds.),
49 *Celebrating scholarly communication studies: A Festschrift for Olle Persson at his 60th*
50 *Birthday* (pp. 9-24). Copenhagen: International Society for Scientometrics and Informetrics.
- 51 Petticrew, M., & Roberts, H. (2006). *Systematic reviews in the social sciences*. Oxford: Blackwell
52 Publishing
- 53 Pickering, C., & Byrne, J. (2014). The benefits of publishing systematic quantitative literature reviews
54 for PhD candidates and other early-career researchers. *Higher Education Research &*
55 *Development*, 33(3), 534-548.
- 56 Pike, E. C. J., & Weinstock, J. (2013). Identity politics in the outdoor adventure environment. In E. C.
57 J. Pike & S. Beames (Eds.), *Outdoor adventure and social theory*. New York: Routledge.
- 58
59
60

- 1
2
3 Plummer, R. (2009). *Outdoor recreation: An introduction*. New York: Routledge.
- 4 Pomfret, G. (2006). Mountaineering adventure tourists: a conceptual framework for research. *Tourism*
5 *Management*, 27(1), 113-123. doi: 10.1016/j.tourman.2004.08.003
- 6 Pomfret, G., & Bramwell, B. (2014). The characteristics and motivational decisions of outdoor
7 adventure tourists: a review and analysis. *Current Issues in Tourism*, 1-32. doi:
8 10.1080/13683500.2014.925430
- 9 Ramos-Rodríguez, A. R., & Ruíz-Navarro, J. (2004). Changes in the intellectual structure of strategic
10 management research: A bibliometric study of the Strategic Management Journal, 1980–
11 2000. *Strategic Management Journal*, 25(10), 981-1004.
- 12 Rooney, D. (2005). Knowledge, Economy, Technology and Society: The Politics of Discourse.
13 *Telematics and Informatics*, 22(4), 405-422.
- 14 Ryan, C. (2003). Risk acceptance in adventure tourism - paradox and context In J. Wilks & S. Page
15 (Eds.), *Managing tourism health and safety in the new millennium* (pp. 56-65). Oxford:
16 Eksevier.
- 17 Schildt, H. A., Zahra, S. A., & Sillanpää, A. (2006). Scholarly Communities in Entrepreneurship
18 Research: A Co-Citation Analysis. *Entrepreneurship Theory and Practice*, 30(3), 399-415.
- 19 Schneider, P. P., & Vogt, C. A. (2012). Applying the 3M Model of Personality and Motivation to
20 Adventure Travelers. *Journal of Travel Research*, 51(6), 704-716. doi:
21 10.1177/0047287512451134
- 22 Severt, D. E., Tesone, D. V., Bottorff, T. J., & Carpenter, M. L. (2009). A world ranking of the top
23 100 hospitality and tourism programs. *Journal of Hospitality & Tourism Research*, 33(4),
24 451-470.
- 25 Shen, Y., Morrison, A. M., Wu, B., Park, J., Li, C., & Li, M. (2014). Where in the World? A
26 Geographic Analysis of a Decade of RESEARCH in Tourism, Hospitality, and Leisure
27 Journals. *Journal of Hospitality & Tourism Research*, 1096348014563394.
- 28 Small, H. (1973). Co-citation in the scientific literature: A new measure of the relationship between
29 two documents. *Journal of the American Society for information Science*, 24(4), 265-269.
- 30 Smith, A. E., & Humphreys, M. S. (2006). Evaluation of unsupervised semantic mapping of natural
31 language with Leximancer concept mapping. *Behavior Research Methods*, 38(2), 262-279.
- 32 Sung, H. H. (2004). Classification of Adventure Travelers: Behavior, Decision Making, and Target
33 Markets. *Journal of Travel Research*, 42(4), 343-356. doi: 10.1177/0047287504263028
- 34 Sung, H. H., Morrison, A. M., & O'Leary, J. T. (1996). Definition of adventure travel: Conceptual
35 framework for empirical application from the providers' perspective. *Asia Pacific Journal of*
36 *Tourism Research*, 1(2), 47-67. doi: 10.1080/10941669708721975
- 37 Swarbrooke, J., Beard, C., Leckie, S., & Pomfret, G. (2003). *Adventure Tourism: The New Frintier*.
38 Oxford: Butterworth Heinemann.
- 39 Swarbrooke, J., Beard, C., Leckie, S., & Pomfret, G. (2003). *Adventure tourism: The new frontier*.
40 Oxford: Butterworth Heinemann.
- 41 Tourism New Zealand. (2013). *Adventure Tourism: Tourism New Zealand*.
- 42 Tsaor, S.-H., Lin, W.-R., & Liu, J. S. (2013). Sources of challenge for adventure tourists: Scale
43 development and validation. *Tourism Management*, 38, 85-93. doi:
44 10.1016/j.tourman.2013.03.004
- 45 Tsaor, S.-H., Yen, C.-H., & Hsiao, S.-L. (2013). Transcendent Experience, Flow and Happiness for
46 Mountain Climbers. *International Journal of Tourism Research*, 15(4), 360-374. doi:
47 10.1002/jtr.1881
- 48 Varley, P. (2006). Confecting Adventure and Playing with Meaning: The Adventure
49 Commodification Continuum. *Journal of Sport & Tourism*, 11(2), 173-194. doi:
50 10.1080/14775080601155217
- 51 Weiler, B., & Hall, C. M. (1992). *Special interest tourism*. New York: Belhaven Press.
- 52 White, H. D., & Griffith, B. C. (1981). Author cocitation: A literature measure of intellectual
53 structure. *Journal of the American Society for information Science*, 32(3), 163-171.
- 54 Williams, P., & Soutar, G. (2005). Close to the "edge": Critical issues for adventure tourism
55 operators. *Asia Pacific Journal of Tourism Research*, 10(3), 247-261. doi:
56 10.1080/10941660500309614
57
58
59
60

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2
3 Wu, C. H.-J., & Liang, R.-D. (2011). The relationship between white-water rafting experience
4 formation and customer reaction: a flow theory perspective. *Tourism Management*, 32(2),
5 317-325.
- 6 Xiao, H., & Smith, S. L. (2008). Knowledge impact an appraisal of tourism scholarship. *Annals of*
7 *Tourism Research*, 35(1), 62-83.
- 8 Ye, Q., Li, T., & Law, R. (2013). A coauthorship network analysis of tourism and hospitality research
9 collaboration. *Journal of Hospitality & Tourism Research*, 37(1), 51-76.
- 10 Ying, T., & Xiao, H. (2012). Knowledge Linkage A Social Network Analysis of Tourism Dissertation
11 Subjects. *Journal of Hospitality & Tourism Research*, 36(4), 450-477.
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13
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For Peer Review

Table 1: Representative Summary of Adventure Tourism Definitions

Tenet	Focus	Hall (1992)	Canadian Tourism Commission (1995)	Sung et al., (1997)	Smith and Jenner (1999)	Muller and Cleaver (2000)	Grant (2001)	Beedie (2003)	Callander and Page (2003)	Swarbrook (2003)	Buckley (2006)	Tourism New Zealand (2013)	Adventure Travel Trade Association (2013)	Total Observed	
Culture					*								●	2	
Commercialization		*						*						2	
Interaction with nature				*							*		●	3	
Physical aspects	Wilderness		●		*									2	
	Limited Facilities				*									1	
	Distance (Remoteness)	*	●	*	*									4	
	Outdoor	*							*		*			3	
	Activity (Soft/hard)		●									●	●	4	
	Duration					*								1	
	Equipment										*			1	
	Guided tour											*		1	
	Psychological aspects	Excitement						*		*	*	*			4
		Challenges					*				*				2
Fear						*								1	
Sensory simulation					*									1	
Exotic			●											1	
Exploration/Engagement								*						1	
Unusual			●											1	
Learning/self-development										*				1	
Risk		*		*			*		*	*			5		

Physical aspect

New Elements

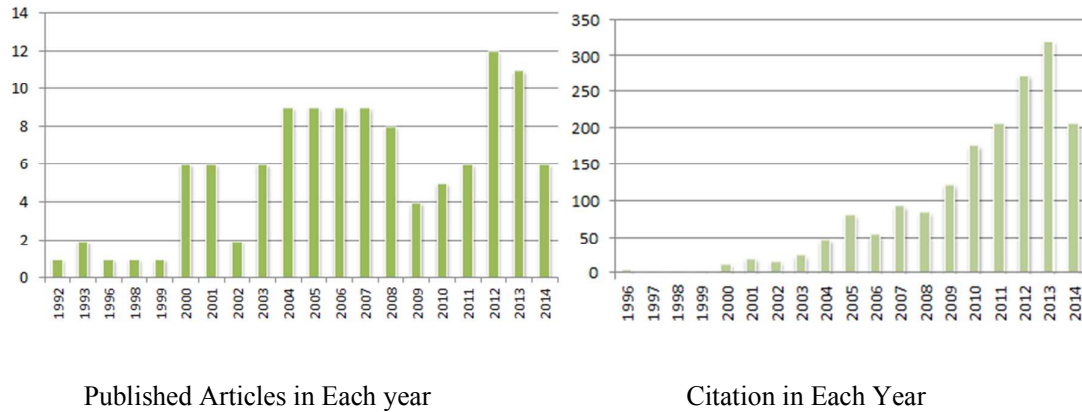
Psychological aspect

Note: Academic definition * Industry definition ● (These definitions were selected based on its application and adaptations in various adventure tourism literature.)

Table 2: Most cited focal articles

Rank	Citations	Outlet	Focal publications
1	Cloke P., Perkins H.C. 1998	Environment and Planning D: Society and Space	149
2	Weber K. 2001	Annals of Tourism Research	88
3	Williams P., Soutar G.N. 2009	Annals of Tourism Research	82
4	Perkins H.C., Thorns D.C. 2001	International Sociology	80
5	Zurick, D.N. 1992	Annals of American Geographers	72
6	Beedie P., Hudson S.2003	Annals of Tourism Research	71
7	Pomfret G.2006	Tourism Management	69
8	Fluker M.R., Turner L.W.2000	Journal of Travel Research	65
9	Cater C.I.2006	Tourism Management	63
10	Kane M.J., Zink R.2004	Leisure Studies	55

*Number of citations is based on Scopus.



*Number of citations is based on Scopus.

Figure 1: Published items in each year and average citation per year for all focal articles

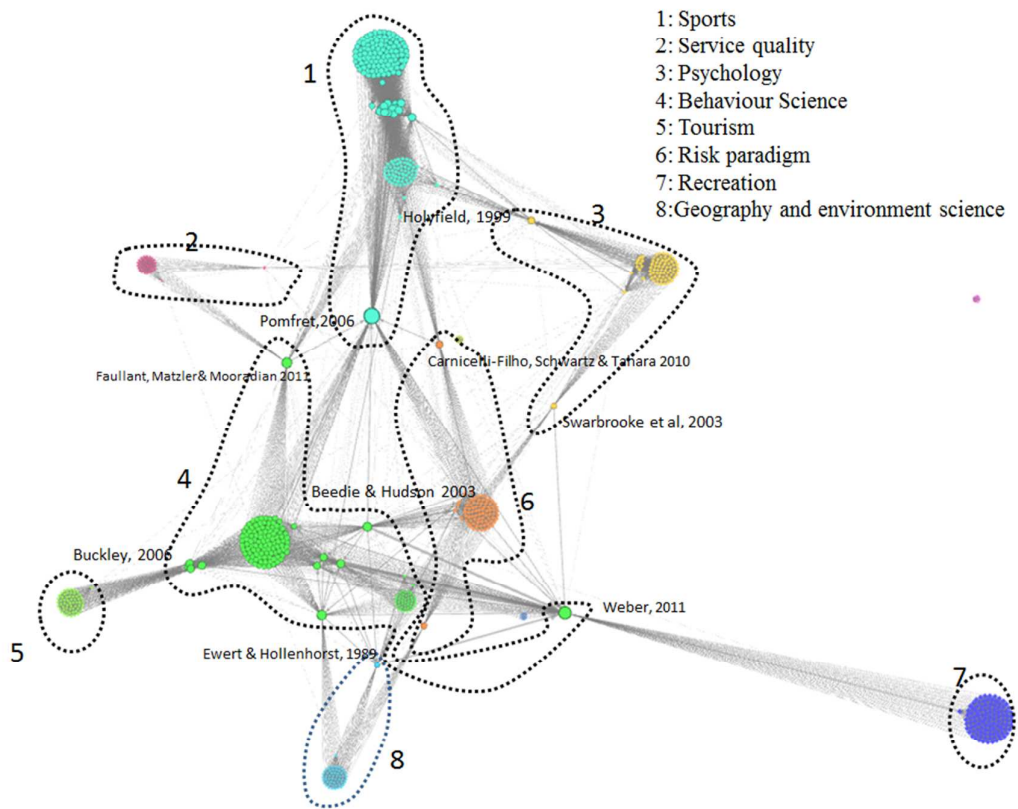


Figure 2: Visualized citation network

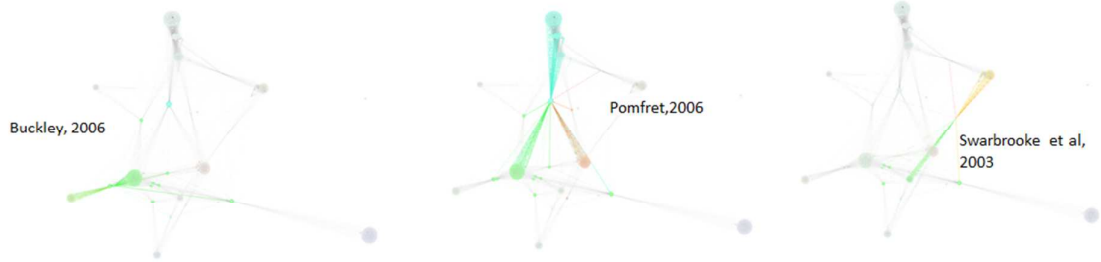


Figure 3: Example of references in bridging different domains

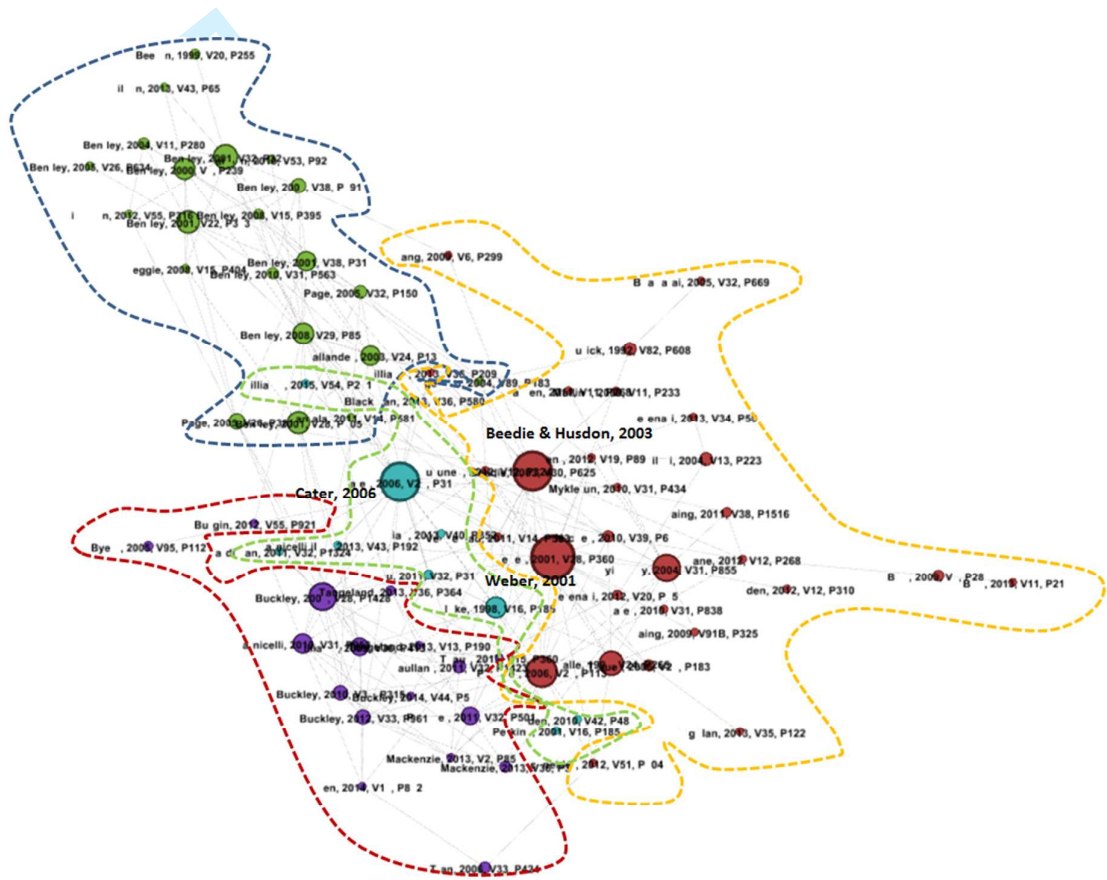


Figure 4: A direction citation analysis within the adventure tourism field.

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46
47
48
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51
52
53
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REFERENCE LIST:

- Allman, T. L., Mittelstaedt, R. D., Martin, B., & Goldenberg, M. (2009). Exploring the Motivations of BASE Jumpers: Extreme Sport Enthusiasts. *Journal of Sport & Tourism, 14*(4), 229-247. doi: 10.1080/14775080903453740
- Arnould, E. J., & Price, L. L. (1993). River magic: extraordinary experience and the extended service encounter. *Journal of Consumer Research, 20*(1), 24.
- Beedie, P. (2003). Mountain guiding and adventure tourism: reflections on the choreography of the experience. *Leisure Studies, 22*(2), 147-167. doi: 10.1080/026143603200068991
- Beedie, P. (2008). Adventure Tourism as a 'New Frontier' in Leisure. *World Leisure Journal, 50*(3), 173-183. doi: 10.1080/04419057.2008.9674551
- Beedie, P., & Hudson, S. (2003). Emergence of mountain-based adventure tourism. *Annals of Tourism Research, 30*(3), 625-643. doi: 10.1016/s0160-7383(03)00043-4
- Bentley, T., Macky, K., & Edwards, J. (2006). Injuries to New Zealanders participating in adventure tourism and adventure sports: An analysis of Accident Compensation Corporation (ACC) claims. *New Zealand Medical Journal, 119*(1247).
- Bentley, T. A., Cater, C., & Page, S. J. (2010). Adventure and ecotourism safety in Queensland: Operator experiences and practice. *Tourism Management, 31*(5), 563-571. doi: 10.1016/j.tourman.2009.03.006
- Bentley, T. A., Page, S., & Edwards, J. (2008). Monitoring injury in the New Zealand adventure tourism sector: an operator survey. *J Travel Med, 15*(6), 395-403. doi: 10.1111/j.1708-8305.2008.00234.x
- Bentley, T. A., Page, S. J., & Macky, K. A. (2007). Adventure tourism and adventure sports injury: the New Zealand experience. *Appl Ergon, 38*(6), 791-796. doi: 10.1016/j.apergo.2006.10.007
- Bentley, T., Meyer, D., Page, S., & Chalmers, D. (2001). Recreational tourism injuries among visitors to New Zealand: an exploratory analysis using hospital discharge data. *Tourism Management, 22*(4), 373-381.
- Bentley, T., Stephen, P., Denny, M., David, C., & Laird, I. (2001). How safe is adventure tourism in New Zealand? An exploratory analysis. *Applied Ergonomics, 32*(1), 327-338.
- Bentley, T. A., & Page, S. J. (2001). Scoping the extent of adventure tourism accidents. *Annals of Tourism Research, 28*(3), 705-726.
- Bentley, T. A., Page, S. J., & Laird, I. (2001). Accidents in the New Zealand adventure tourism industry. *Safety Science, 38*(1), 31-48.
- Bentley, T. A., Page, S. J., & Laird, S. I. (2000). Safety in New Zealand's adventure tourism industry: the client accident experience of adventure tourism operators. *J Travel Med, 7*(5), 239-246.
- Bentley, T. A., & Page, S. J. (2008). A decade of injury monitoring in the New Zealand adventure tourism sector: A summary risk analysis. *Tourism Management, 29*(5), 857-869. doi: 10.1016/j.tourman.2007.10.003
- Berger, I. E., & Greenspan, I. (2008). High (on) Technology: Producing Tourist Identities through Technologized Adventure. *Journal of Sport & Tourism, 13*(2), 89-114. doi: 10.1080/14775080802170312
- Buckley, R. (2000). Net Trends: Current Issues in Nature, Eco- and Adventure Tourism. *International Journal of Tourism Research, 2*, 437-444.
- Buckley, R. (2003). Adventure Tourism and the Clothing, Fashion and Entertainment Industries. *Journal of Ecotourism, 2*(2), 126-134. doi: 10.1080/14724040308668139
- Buckley, R. (2005). Social Trends and Ecotourism: Adventure Recreation and Amenity Migration. *Journal of Ecotourism, 4*(1), 56-61. doi: 10.1080/14724040508668438
- Buckley, R. (2006). Adventure tourism research: a guide to the literature. *Tourism Recreation Research, 31*(2), 75-83.
- Buckley, R. (2007). Adventure tourism products: Price, duration, size, skill, remoteness. *Tourism Management, 28*(6), 1428-1433. doi: 10.1016/j.tourman.2006.12.003
- Buckley, R. (2010). Communications in Adventure Tour Products. *Annals of Tourism Research, 37*(2), 315-332. doi: 10.1016/j.annals.2009.10.011
- Buckley, R. (2012). Rush as a key motivation in skilled adventure tourism: Resolving the risk recreation

- paradox. *Tourism Management*, 33(4), 961-970. doi: 10.1016/j.tourman.2011.10.002
- Buckley, R. (2014). Tour Production Costs. *Journal of Travel Research*, 53(4), 418-419.
- Buckley, R., McDonald, K., Duan, L., Sun, L., & Chen, L. X. (2014). Chinese model for mass adventure tourism. *Tourism Management*, 44, 5-13. doi: 10.1016/j.tourman.2014.01.021
- Buckley, R., & Ollenburg, C. (2013). TACIT KNOWLEDGE TRANSFER: CROSS-CULTURAL ADVENTURE. *Annals of Tourism Research*, 40, 419-422. doi: 10.1016/j.annals.2012.08.010
- Buckley, R., Shakeela, A., & Guitart, D. (2014). Adventure tourism and local livelihoods. *Annals of Tourism Research*. doi: 10.1016/j.annals.2014.06.006
- Callander, M., & Page, S. J. (2003). Managing risk in adventure tourism operations in New Zealand: a review of the legal case history and potential for litigation. *Tourism Management*, 24(1), 13-23.
- Carnicelli-Filho, S. (2013). The Emotional Life of Adventure Guides. *Annals of Tourism Research*, 43, 192-209. doi: 10.1016/j.annals.2013.05.003
- Carnicelli-Filho, S., Schwartz, G. M., & Tahara, A. K. (2010). Fear and adventure tourism in Brazil. *Tourism Management*, 31(6), 953-956. doi: 10.1016/j.tourman.2009.07.013
- Cater, C. (2006). Playing with risk? participant perceptions of risk and management implications in adventure tourism. *Tourism Management*, 27(2), 317-325. doi: 10.1016/j.tourman.2004.10.005
- Cater, C., & Cloke, P. (2007). Bodies in action. *Anthropology today*, 23(6), 13-16.
- Cave, J., & Ryan, C. (2007). Gender in backpacking and adventure tourism. *Advances in Culture, Tourism and Hospitality Research*, 1, 189-219.
- Chigamba, C., Rungani, E. C., & Mudenda, C. (2014). The determinants of corporate entrepreneurship for firms in adventure tourism sector in South Africa. *Mediterranean Journal of Social Sciences*, 5(9), 713-723. doi: 10.5901/mjss.2014.v5n9p713
- Cloke, P., & Perkins, H. C. (1998). "Cracking the canyon with the awesome foursome": representations of adventure tourism in New Zealand. *Environment and Planning D: Society and Space*, 16(2), 185-218.
- Cloke, P., & Perkins, H. C. (2002). Commodification and adventure in New Zealand tourism. *Current Issues in Tourism*, 5(6), 521-549.
- Costa, C. A., & Chalip, L. (2005). Adventure Sport Tourism in Rural Revitalisation—An Ethnographic Evaluation. *European Sport Management Quarterly*, 5(3), 257-279. doi: 10.1080/16184740500190595
- den Breejen, L. (2007). The experiences of long distance walking: A case study of the West Highland Way in Scotland. *Tourism Management*, 28(6), 1417-1427. doi: 10.1016/j.tourman.2006.12.004
- Farooquee, N. A., Budal, T. K., & Maikhuri, R. (2008). Environmental and socio-cultural impacts of river rafting and camping on Ganga in Uttarakhand Himalaya. *Current Science*, 94(5).
- Faullant, R., Matzler, K., & Mooradian, T. A. (2011). Personality, basic emotions, and satisfaction: Primary emotions in the mountaineering experience. *Tourism Management*, 32(6), 1423-1430.
- Fave, A. D., Bassi, M., & Massimini, F. (2003). Quality of Experience and Risk Perception in High-Altitude Rock Climbing. *Journal of Applied Sport Psychology*, 15(1), 82-98. doi: 10.1080/10413200305402
- Fletcher, R. (2009). The Emperor's New Adventure: Public Secrecy and the Paradox of Adventure Tourism. *Journal of Contemporary Ethnography*, 39(1), 6-33. doi: 10.1177/0891241609342179
- Fluker, M. R., & Turner, L. W. (2000). Needs, Motivations, and Expectations of a Commercial Whitewater Rafting Experience. *Journal of Travel Research*, 38(4), 380-389. doi: 10.1177/004728750003800406
- Furunes, T., & Mykletun, R. J. (2012). Frozen Adventure at Risk? A 7-year Follow-up Study of Norwegian Glacier Tourism. *Scandinavian Journal of Hospitality and Tourism*, 12(4), 324-348. doi: 10.1080/15022250.2012.748507
- Gyimóthy, S., & Mykletun, R. J. (2004). Play in adventure tourism. *Annals of Tourism Research*, 31(4), 855-878. doi: 10.1016/j.annals.2004.03.005
- Hallin, C. A., & Mykletun, R. J. (2006). Space and Place for BASE: On the Evolution of a BASE-Jumping Attraction Image. *Scandinavian Journal of Hospitality and Tourism*, 6(2), 95-117. doi: 10.1080/15022250600667466
- Houge Mackenzie, S., & Kerr, J. H. (2012). A (mis)guided adventure tourism experience: An autoethnographic analysis of mountaineering in Bolivia. *Journal of Sport & Tourism*, 17(2), 125-144.

- doi: 10.1080/14775085.2012.729901
- Houge Mackenzie, S., & Kerr, J. H. (2013). Can't we all just get along? Emotions and the team guiding experience in adventure tourism. *Journal of Destination Marketing & Management, 2*(2), 85-93. doi: 10.1016/j.jdmm.2013.03.003
- Houge Mackenzie, S., & Kerr, J. H. (2013). Stress and emotions at work: An adventure tourism guide's experiences. *Tourism Management, 36*, 3-14. doi: 10.1016/j.tourman.2012.10.018
- Imboden, A. (2012). Between Risk and Comfort: Representations of Adventure Tourism in Sweden and Switzerland. *Scandinavian Journal of Hospitality and Tourism, 12*(4), 310-323. doi: 10.1080/15022250.2012.752624
- Janočková, J., & Jablonská, J. (2013). Understanding travel influences of overnight off-trail trekking: A case study of National Park Slovenský raj, Slovakia. *Tourism, 61*(1), 41-51.
- Jones, C. D., Hollenhorst, S. J., & Perna, F. (2003). An empirical comparison of the four channel flow model and adventure experience paradigm. *Leisure Sciences, 25*(1), 17-31.
- Jones, C. D., Hollenhorst, S. J., Perna, F., & Selin, S. (2000). Validation of the flow theory in an on-site whitewater kayaking setting. *Journal of Leisure Research, 32*(2), 247-261.
- Kane, M. J., & Zink, R. (2004). Package adventure tours: Markers in serious leisure careers. *Leisure Studies, 23*(4), 329-345.
- Kane, M. J. (2010). Adventure as a Cultural Foundation: Sport and Tourism in New Zealand. *Journal of Sport & Tourism, 15*(1), 27-44. doi: 10.1080/14775081003770942
- Kane, M. J. (2004). Adventure tourism: The freedom to play with reality. *Tourist Studies, 4*(3), 217-234. doi: 10.1177/1468797604057323
- Kane, M. J. (2012). Professional adventure tourists: Producing and selling stories of 'authentic' identity. *Tourist Studies, 12*(3), 268-286. doi: 10.1177/1468797612461087
- Kane, M. J. (2013). New Zealand's transformed adventure: from hero myth to accessible tourism experience. *Leisure Studies, 32*(2), 133-151. doi: 10.1080/02614367.2011.623305
- Kent, K., Sinclair, A. J., & Diduck, A. (2012). Stakeholder engagement in sustainable adventure tourism development in the Nanda Devi Biosphere Reserve, India. *International Journal of Sustainable Development & World Ecology, 19*(1), 89-100. doi: 10.1080/13504509.2011.595544
- Kerr, J. H., & Houge Mackenzie, S. (2012). Multiple motives for participating in adventure sports. *Psychology of Sport and Exercise, 13*(5), 649-657. doi: 10.1016/j.psychsport.2012.04.002
- King, R., & Beeton, S. (2006). Influence of mass media's coverage of adventure tourism on youth perceptions of risk. *Tourism Culture & Communication, 6*(3), 161-169.
- Kuniyal, J. C. (2005). Solid waste management in the Himalayan trails and expedition summits. *Journal of Sustainable Tourism, 13*(4), 391-410.
- Laing, J. H. (2005). Extraordinary journeys: An exploratory cross-cultural study of tourists on the frontier. *Journal of Vacation Marketing, 11*(3), 209-223. doi: 10.1177/1356766705055707
- Laing, J. H., & Crouch, G. I. (2009). Myth, adventure and fantasy at the frontier: metaphors and imagery behind an extraordinary travel experience. *International Journal of Tourism Research, 11*(2), 127-141. doi: 10.1002/jtr.716
- Llewellyn, D. J., & Sanchez, X. (2008). Individual differences and risk taking in rock climbing. *Psychology of Sport and Exercise, 9*(4), 413-426. doi: 10.1016/j.psychsport.2007.07.003
- Llewellyn, D. J., Sanchez, X., Asghar, A., & Jones, G. (2008). Self-efficacy, risk taking and performance in rock climbing. *Personality and Individual Differences, 45*(1), 75-81. doi: 10.1016/j.paid.2008.03.001
- Lynch, P., Moore, K., & Minchington, L. (2012). Adventure cultures: an international comparison. *Journal of Adventure Education & Outdoor Learning, 12*(3), 237-260. doi: 10.1080/14729679.2012.699809
- MacKenzie, S. H., Hodge, K., & Boyes, M. (2011). Expanding the flow model in adventure activities: a reversal theory perspective. *Journal of Leisure Research, 43*(4), 519-544.
- Maroudas, L., Kyriakaki, A., & Gouvis, D. (2004). A community approach to mountain adventure tourism development. *Anatolia, 15*(1), 5-18.
- McGillivray, D., & Frew, M. (2007). Capturing Adventure: Trading experiences in the symbolic economy. *Annals of Leisure Research, 10*(1), 54-78. doi: 10.1080/11745398.2007.9686754
- McKay, T. M. (2014). Locating South Africa within the global adventure tourism industry: The case of bungee

- 1
2
3 jumping. *Bulletin of Geography*, 24(24), 161-176. doi: 10.2478/bog-2014-0020
- 4 Morgan, D. (2000). Adventure tourism activities in New Zealand: perceptions and management of client risk.
5 *Tourism Recreation Research*, 25(3), 79-89.
- 6 Morgan, D., Moore, K., & Mansell, R. (2005). Adventure tourists on water: linking expectations, affect,
7 achievement and enjoyment to the sports tourism adventure. *Journal of Sport & Tourism*, 10(1),
8 73-88. doi: 10.1080/14775080500101593
- 9 Morgan, D. J. (2001). Risk, competence and adventure tourists: Applying the adventure experience
10 paradigm to white-water rafters. *Leisure/Loisir*, 26(1-2), 107-127.
- 11 Muller, T. E., & Cleaver, M. (2000). Targeting the CANZUS baby boomer explorer and adventurer segments.
12 *Journal of Vacation Marketing*, 6(2), 154-169.
- 13 Myers, L. (2010). Women Travellers' Adventure Tourism Experiences in New Zealand. *Annals of Leisure*
14 *Research*, 13(1-2), 116-142. doi: 10.1080/11745398.2010.9686841
- 15 Page, S. J., Bentley, T., & Walker, L. (2005). Tourist safety in New Zealand and Scotland. *Annals of Tourism*
16 *Research*, 32(1), 150-166. doi: 10.1016/j.annals.2004.06.006
- 17 Page, S. J., Bentley, T. A., & Walker, L. (2005). Scoping the nature and extent of adventure tourism
18 operations in Scotland: how safe are they? *Tourism Management*, 26(3), 381-397. doi:
19 10.1016/j.tourman.2003.11.018
- 20 Page, S. J., Steele, W., & Connell, J. (2006). Analysing the Promotion of Adventure Tourism: A Case Study
21 of Scotland. *Journal of Sport & Tourism*, 11(1), 51-76. doi: 10.1080/14775080600985358
- 22 Patterson, I. (2002). Baby boomers and adventure tourism: The importance of marketing the leisure
23 experience. *World Leisure Journal*, 44(2), 4-10.
- 24 Patterson, I., & Pan, R. (2007). The motivations of baby boomers to participate in adventure tourism and the
25 implications for adventure tour providers. *Annals of Leisure Research*, 10(1), 26-53.
- 26 Pomfret, G. (2006). Mountaineering adventure tourists: a conceptual framework for research. *Tourism*
27 *Management*, 27(1), 113-123. doi: 10.1016/j.tourman.2004.08.003
- 28 Pomfret, G. (2011). Package mountaineer tourists holidaying in the French Alps: An evaluation of key
29 influences encouraging their participation. *Tourism Management*, 32(3), 501-510. doi:
30 10.1016/j.tourman.2010.04.001
- 31 Pomfret, G. (2012). Personal emotional journeys associated with adventure activities on packaged
32 mountaineering holidays. *Tourism Management Perspectives*, 4, 145-154. doi:
33 10.1016/j.tmp.2012.08.003
- 34 Pomfret, G., & Bramwell, B. (2014). The characteristics and motivational decisions of outdoor adventure
35 tourists: a review and analysis. *Current Issues in Tourism*, 1-32. doi:
36 10.1080/13683500.2014.925430
- 37 Priest, S., & Bunting, C. (1993). Changes in perceived risk and competence during whitewater canoeing.
38 *Journal of Applied Recreation Research*, 18(4), 265-280.
- 39 Rogerson, C. M. (2004). Adventure tourism in Africa: The case of Livingstone, Zambia. *Geography*, 89(2),
40 183-188.
- 41 Ryan, C., & Trauer, B. (2004). Involvement in adventure tourism: toward implementing a fuzzy set. *Tourism*
42 *Review International*, 7, 143-152.
- 43 Schlegelmilch, F., & Ollenburg, C. (2013). Marketing the adventure: utilizing the aspects of risk/fear/thrill to
44 target the youth traveller segment. *Tourism Review*, 68(3), 44-54. doi: 10.1108/tr-03-2013-0010
- 45 Schneider, P. P., & Vogt, C. A. (2012). Applying the 3M Model of Personality and Motivation to Adventure
46 Travelers. *Journal of Travel Research*, 51(6), 704-716. doi: 10.1177/0047287512451134
- 47 Schott, C. (2007). Selling adventure tourism: a distribution channels perspective. *International Journal of*
48 *Tourism Research*, 9(4), 257-274. doi: 10.1002/jtr.610
- 49 Scott, K., & Mowen, J. C. (2007). Travelers and their traits: a hierarchical model approach. *Journal of*
50 *Consumer Behaviour*, 6(2-3), 146-157. doi: 10.1002/cb.214
- 51 Serenari, C., Leung, Y.-F., Attarian, A., & Franck, C. (2012). Understanding environmentally significant
52 behavior among whitewater rafting and trekking guides in the Garhwal Himalaya, India. *Journal of*
53 *Sustainable Tourism*, 20(5), 757-772. doi: 10.1080/09669582.2011.638383
- 54 Sharpe, E. K. (2005). "Going above and beyond:" the emotional labor of adventure guides. *Journal of*
55 *Leisure Research*, 37(1), 29-50.
- 56
57
58
59
60

- 1
2
3 Shekhar Silori, C. (2004). Socio-economic and ecological consequences of the ban on adventure tourism in
4 Nanda Devi Biosphere Reserve, western Himalaya. *Biodiversity and Conservation*, 13(12),
5 2237-2252. doi: 10.1023/B:BIOC.0000047922.06495.27
- 6 Siderelis, C., & Moore, R. L. (2006). Examining the effects of hypothetical modifications in permitting
7 procedures and river conditions on whitewater boating behavior. *Journal of Leisure Research*,
8 38(4), 558-574.
- 9 Smith, C., & Jenner, P. (1999). The adventure travel market in Europe. *Travel & Tourism Analyst*, (4),
10 43-64.
- 11 Sung, H. H. (2004). Classification of Adventure Travelers: Behavior, Decision Making, and Target Markets.
12 *Journal of Travel Research*, 42(4), 343-356. doi: 10.1177/0047287504263028
- 13 Sung, H. H., Morrison, A. M., & O'Leary, J. T. (1996). Definition of adventure travel: Conceptual framework
14 for empirical application from the providers' perspective. *Asia Pacific Journal of Tourism Research*,
15 1(2), 47-67. doi: 10.1080/10941669708721975
- 16 Torland, M. (2011). Emotional labour and job satisfaction of adventure tour leaders: Does gender matter?
17 *Annals of Leisure Research*, 14(4), 369-389. doi: 10.1080/11745398.2011.639419
- 18 Tsauro, S.-H., Lin, W.-R., & Liu, J. S. (2013). Sources of challenge for adventure tourists: Scale development
19 and validation. *Tourism Management*, 38, 85-93. doi: 10.1016/j.tourman.2013.03.004
- 20 Tsauro, S.-H., Yen, C.-H., & Hsiao, S.-L. (2013). Transcendent Experience, Flow and Happiness for Mountain
21 Climbers. *International Journal of Tourism Research*, 15(4), 360-374. doi: 10.1002/jtr.1881
- 22 Varley, P. (2006). Confecting Adventure and Playing with Meaning: The Adventure Commodification
23 Continuum. *Journal of Sport & Tourism*, 11(2), 173-194. doi: 10.1080/14775080601155217
- 24 Varley, P. J. (2011). Sea kayakers at the margins: the liminoid character of contemporary adventures.
25 *Leisure Studies*, 30(1), 85-98. doi: 10.1080/02614361003749801
- 26 von der Dunk, F. G. (2013). The integrated approach—Regulating private human spaceflight as space
27 activity, aircraft operation, and high-risk adventure tourism. *Acta Astronautica*, 92(2), 199-208. doi:
28 10.1016/j.actaastro.2012.05.020
- 29 Vujadinović, S., Šabić, D., Joksimović, M., Golić, R., Gajić, M., Živković, L., & Milinčić, M. (2013). Possibilities
30 for mountain-based adventure tourism: The case of Serbia. *Bulletin of Geography*, 19, 99-111. doi:
31 10.2478/bog-2013-0007
- 32 Wang, P.-Y., & Lyons, K. D. (2012). Values congruity in tourism and protected areas policy: evidence from
33 adventure tourism supply in New South Wales Australia. *Annals of Leisure Research*, 15(2),
34 188-192. doi: 10.1080/11745398.2012.685299
- 35 Weber, K. (2001). OUTDOOR ADVENTURE TOURISM: A Review of Research Approaches. *Annals of Tourism*
36 *Research*, 28(2), 360-377.
- 37 Williams, P., & Soutar, G. (2005). Close to the "edge": Critical issues for adventure tourism operators. *Asia*
38 *Pacific Journal of Tourism Research*, 10(3), 247-261. doi: 10.1080/10941660500309614
- 39 Williams, P., & Soutar, G. N. (2009). Value, Satisfaction and Behavioral Intentions in an Adventure Tourism
40 Context. *Annals of Tourism Research*, 36(3), 413-438. doi: 10.1016/j.annals.2009.02.002
- 41 Willig, C. (2008). A phenomenological investigation of the experience of taking part in 'extreme sports'. *J*
42 *Health Psychol*, 13(5), 690-702. doi: 10.1177/1359105307082459
- 43 Wu, C. H.-J., & Liang, R.-D. (2011). The relationship between white-water rafting experience formation and
44 customer reaction: a flow theory perspective. *Tourism Management*, 32(2), 317-325.
- 45 Xie, F., & Schneider, P. P. (2004). Challenges and opportunities for adventure tourism-the case of Patagonia,
46 Chile. *Tourism Recreation Research*, 29(1), 57-65.
- 47 Zurick, D. N. (1992). Adventure travel and sustainable tourism in the peripheral economy of Nepal. *Annals*
48 *of the Association of American Geographers*, 82(4), 608-628.
- 49
50
51
52
53
54
55
56
57
58
59
60