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Dimensions of adventure tourism

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ABSTRACT

Academic interest in adventure tourism has increased in recent years given the exponential growth of this sector. Physical outdoor activity-based conceptualisations of adventure tourism - from soft adventure (hiking, snorkelling, etc.) to hard adventure (rock climbing, wilderness trekking, etc.) – are commonly employed, but are criticised as overly simplistic and failing to capture the essence of adventure tourism. A systematic review of the adventure tourism literature aimed to address these concerns and resulted in a new conceptualisation of adventure tourism and its dimensions that offers a more comprehensive and sophisticated understanding of this tourism activity. Of the 22 dimensions of adventure tourism identified, risk and danger, the natural environment, thrill and excitement, challenge, and physical activity are at its core. Consumer-based, product-based and hybrid pillars of adventure tourism are also evident. Theoretical anchors to differentiate adventure tourism from other forms of tourism are presented.

1. Introduction

Adventure tourism is one of the fastest growing tourism sectors and a major part of the tourism industry (Beckman, Whaley, & Kim, 2017; Cheng, Edwards, Darcy, & Redfern, 2018; UNWTO, 2014). The Adventure Travel Trade Association (Adventure Travel Trade Association, 2018a) conservatively estimates that the international adventure tourism market is worth USD683 billion, not including domestic travel nor Asian outbound travel. While precise evaluation of adventure tourism's global economic value is not feasible due to its unrefined scope (Sung, Morrison, & O'leary, 2000), its monetary and non-monetary benefits have been highlighted. The UNWTO (2014) suggests that one of the key drivers of increased demand of adventure tourism is increased urbanisation and digitalisation, resulting in consumers seeking active, authentic experiences that highlight natural and cultural values. The adventure tourism industry therefore provides much sought-after escapes as well as ecological, cultural and economic benefits to destinations. These benefits include attracting high-value customers, the encouragement of sustainable practices, and support of local economies due to low economic leakage (Adventure Travel Trade Association, 2016; UNWTO, 2014).

Academic interest in adventure tourism dates back several decades and increased significantly since the 2000s (Gross & Sand, 2019) in concurrence with industry growth. Yet, despite academic advances, adventure tourism remains an abstract, complex, and often incomprehensible phenomenon with dissenting definitions and concepts (Cheng et al., 2018). This issue is amplified by incoherent categorisations of soft/hard adventure activities (UNWTO, 2014), the industry's fast-changing nature (Swarbrooke, Beard, Leckie, & Pomfret, 2003) overlaps with other subsectors (Buckley, 2006), and a highly diverse range of research foci (Gross & Sand, 2019; Rantala, Rokenes, & Valkonen, 2018). Rantala et al. (2018) call for a reconceptualization of adventure tourism and the need to identify its essential features. This paper responds to this call through identifying such features, henceforth called *dimensions* of adventure tourism. In this paper, various dichotomies that highlight the ambiguous nature of the industry are discussed before the concept of adventure tourism dimensions is then proposed to unpack the theoretical meaning of adventure. Subsequently, limitations and recommendations for future research are presented.

2. Dichotomies and dimensions of adventure tourism

While supply and demand increase globally, discrepancies remain about what adventure tourism constitutes (Bentley & Page, 2008; Rantala et al., 2018; Schott, 2007; Wang, Liu-Lastres, Ritchie, & Pan, 2019). Industry and academia have adopted the "umbrella term" (Rantala et al., 2018, p. 547) adventure tourism, with its different meanings and applications ranging "from taking a walk in the countryside to taking a

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flight in space" (Swarbrooke et al., 2003, p. 4). This broad sphere is further highlighted by one of the most recognised definitions of adventure tourism as any trip that involves at least two out of the three following elements: interaction with nature, interaction with culture and/or a physical activity (Adventure Travel Trade Association et al., 2011). Accordingly, a tourist's walk in the countryside, bicycle-ride through a forest or swim in the sea can be classified as adventure tourism, given physical activity in a natural environment (Janowski & Reichenberger, 2019). However, while these activities could indeed be adventurous, depending on context and practitioner, they cannot universally be labelled as such.

Lists of adventure tourism activities - as published by the Adventure Travel Trade Association and The George Washington University (2013) and Sung, Morrison, and O'Leary (1996) among others – convey a scope of the sector, but are limited by inconsistent soft−/hard categorisations (UNWTO, 2014). The inclusion of disputable activities (such as bird-watching or hunting), unspecific listings (such as motorised sports) and whole other tourism subsectors (such as eco-tourism or volunteer tourism) results in ambiguous categorisation and vague notions of the definition of adventure tourism activities which is problematic. Given the dynamic, innovative nature of the sector, where activities evolve and new activities are frequently introduced (Adventure Travel Trade Association, 2015; UNWTO, 2014), any such lists can solely represent a snapshot and are quickly outdated.

The frequently applied soft/hard classification of adventure tourism activities in particular bears limitations. Soft adventure activities are usually guided, only incorporate low/perceived risk and can be conducted by novices as they require minimal skills (Beckman et al., 2017; Gross & Sand, 2019). Hard adventure activities are high-risk activities that require advanced skills and serious commitment (Hill, 1995). However, it is evident that most activities can be conducted in a 'soft' version (e.g. camping in a fully-equipped mobile home at a caravan park in fine weather) or a 'hard' version (e.g. camping in a tent with the bare basics in a high-altitude mountain environment in extreme climate). Moreover, circumstantial factors, including weather, swell of the sea, level of equipment, harshness of the environment, the level of guidance, the availability of facilities and food and water, as well as the experience, skills and psyche of participants and guides can determine whether an experience is soft or hard. Likewise, soft adventure experiences could turn into hard adventure experiences through unexpected changes in the environment, equipment failure, injury, or psychological/physical barriers of participants. Therefore, *soft* and *hard* adventure tourism are fluctuating spheres that indicate the intensity or 'adventurousness' of a tourism experience rather than definite categories for specific activities.

If not a range of activities, what is adventure tourism at its core? What are its elements that differentiate it from other forms of tourism? Early on, Swarbrooke et al. (2003) conveyed that "[w]e need to get to the heart of what we mean by adventure if we are to understand […] what makes adventure tourism distinctive" (p. 7). Since then, the literature discussed a number of dimensions in-depth, including the role of risk (Bentley & Page, 2008; Cater, 2006; Imboden, 2012), fear (Carnicelli-Filho, Schwartz, & Tahara, 2010), challenge (Tsaur, Lin, & Liu, 2013), play (Gyimóthy & Mykletun, 2004; Kane & Tucker, 2004), rush (Buckley, 2012) and the natural environment (Giddy & Webb, 2018). However, a more holistic analysis of adventure tourism dimensions is lacking. Rantala et al. (2018) emphasise this gap in the literature, stating that "[w]hat specifically makes certain tourism activities adventurous travel and services has been little studied" (p. 548). If we are to accept that adventure tourism is not defined by activities (Swarbrooke et al., 2003), but by its intrinsic dimensions, it is timely to conceptualise adventure tourism accordingly.

Cheng et al. (2018) identify a progression of adventure tourism definitions from being predominantly focused on physical features, such as wilderness and physical activity, towards being increasingly psychological-centred, incorporating elements such as excitement and fear. Clusters of adventure tourism dimensions also appear throughout the literature in various contexts. Pomfret (2006) presents a conceptual framework incorporating motivational, environmental and emotional dimensions in a mountaineering setting; Triantafillidou and Petala (2016) describe adventure tourism as an "amalgam of different emotional and cognitive dimensions" (p. 1) and specify seven elements; and Janowski and Reichenberger (2019) present a conceptualisation "blueprint" (p. 3) for adventure tourism, suggesting identification of dimensions as perceived by consumers. Encouraged by these examples, this study reviews adventure tourism literature in order to identify the most frequently associated dimensions, to categorise them, and to conceptualise adventure tourism through them.

3. Methodology

To identify the most applicable dimensions as conceptual anchors for adventure tourism, a two-step content analysis of adventure tourism publications was undertaken. This analysis followed a hybrid approach that combines manual and computational methods to minimise their respective limitations (Lewis, Zamith, & Hermida, 2013). In the first step, relevant literature was identified via a Google Scholar advanced search of the key term 'adventure', in conjunction with the terms 'tourism' or 'travel' or 'tourist' or 'traveler' (AE) or traveller' (BE) or 'tourists' or 'travelers'' or 'travellers'. The search was conducted in January 2020, with titles and abstracts of the search results being screened for relevance and only academic, peer-reviewed articles published in high-quality tourism/leisure journals being selected. The quality was determined by the journals being ranked A* or A, according to the Australian Business Deans Council (ABDC, current at 6 December 2019). The validity of the ABDC ranking of top tourism journals was affirmed through comparisons with the Chartered Association of Business Schools' (ABS) Academic Journal Guide 2018 as well as the Scimago Journal ranking 2019 that is based on information from the Scopus database. Three out of five ABDC A* journals are ranked 4 by ABS and thus classified as "the most original and best-executed research", and two are ranked 3 and thus "original and well executed research papers [that] are highly regarded" (Chartered Association of Business Schools, 2020). Four out of five ABDC A* journals also appeared in Scimago's top five journals in the subject category *Tourism, Leisure and Hospitality*, while most ABDC A-ranked journals corresponded with the top 25 Scimago journals respectively. This first literature search was terminated after screening of 220 listings due to predominantly irrelevant results at this stage, with a total of 41 selected articles as listed in the Appendix. This literature was screened manually to determine dimensions of adventure tourism as they occur in the literature. Manual screening, though subjective, was chosen as a first step over an automatic text-mining approach for five reasons. First, different terminology is frequently used to describe the same overall dimension. For instance, terms such as 'outdoor setting', 'pristine environment', 'remote site' or 'wilderness' can all be attributed to the overarching dimension *natural environment*. Second, manual screening allowed efforts towards the scrupulous allocation of somewhat ambiguous terms. For instance, 'challenging activity' can be allocated not only to the *challenge* dimension, but also to *physical activity*, while "Experience something different from home" (Schlegelmilch & Ollenburg, 2013, p. 47) can be allocated to both *Novelty* and *Escapism*. Third, manual screening allowed monitoring of context, meaning, for example, whether the term *risk* actually refers to adventure tourism or is out of context, such as the risk tourism entails for a Thai village (Tirasattayapitak, Chaiyasain, & Beeton, 2015). Fourth, whenever a publication empirically tested the applicability of certain dimensions, only validated ones were recognised in the manual analysis. Lastly, graphical information, such as displayed in figures may not get picked up by automated text-mining.

To verify subjective results from manual screening, the second stage of data analysis comprised automated text-mining of a more substantial selection of adventure tourism literature, consisting of 113 articles. A

second search was conducted in October 2020 via the Scopus database to identify this extended literature pool for a comprehensive automated content analysis. Given this review's focus on high-quality academic literature, Scopus was chosen as the largest database of peer-reviewed literature, including scientific journals (Elsevier, 2020). Titles, abstracts and key words were searched for the term 'adventure tourism' with only A* and A-rated articles in the ABDC ranking being selected, following the approach of the initial search, yielding consistent, high-quality literature. The automated analysis was conducted via Leximancer 4.5 software, which uses statistics-based algorithms to analyse textual data, and displays results visually in form of concept maps that highlight key themes, concepts and their interrelations (Smith & Humphreys, 2006; Sotiriadou, Brouwers, & Le, 2014). Leximancer software was chosen over seemingly comparable software, such as NVivo, ATLAS.ti and MAXQDA, for its sophisticated automated analysis of text and its ability to display the key themes and relationships between them as a visual output and with minimal text coding intervention from the researcher (Van Lill & Marnewick, 2016). Leximancer is increasingly utilised by tourism scholars for this form of analysis. For instance, it has been used to understand hotel manager's perceptions towards accessibility (Darcy & Pegg, 2011), as well as in the analysis of travel blogs (Tseng, Wu, Morrison, Zhang, & Chen, 2015), Chinese outbound tourism (Jin & Wang, 2016) and eye-tracking research in tourism (Scott, Zhang, Le, & Moyle, 2019). After running the Leximancer analysis, a graphical output (Fig. 2) was created. However, the result was deemed unsuitable for holistic identification of adventure tourism dimensions and thus Leximancer's 'Ranked Concepts', a list of terms as they appear in-text with their respective word-count, was used to identify absolute frequencies of individual terms that relate to dimensions (Table 1). Word variants were automatically merged, meaning that for instance the 'cultural' word-count included counts of the terms cultural, culturally, culture, cultured and cultures. The automated 'Ranked Concept' output was meticulously combed for terms that relate to adventure tourism dimensions.

4. Results

In the first step of manual data screening, over 30 dimensions were recorded, with Fig. 1 listing the 19 most frequently associated characteristics as derived from the literature. The Appendix overviews the 41 publications and respective appearances of dimensions.

Appearing in 36 of 41 articles are *risk and danger* and *natural environment*, indicating that these two dimensions are the theoretically strongest-linked adventure tourism dimensions. The next most-frequently appearing dimensions are *thrill and excitement* (33), *physical activity* (29) and *challenge* (29). These five dimensions comprise the theoretical core of adventure tourism. The least-frequently appearing dimensions included in the overview are *cultural experience*, *accomplishment* and *involvement and locus of control* with nine appearances each. Beyond these, *rush* (6), *play* (6), *adrenalin* (5) and 14 other dimensions were not included due to relatively low appearance.

The second stage of content analysis was automated text-mining, using Leximancer 4.5 software. This resulted in the creation of a graphical concept map, as shown in Fig. 2. After eliminating any terms that do not feasibly relate to adventure tourism characteristics, the map shows automatically generated themes (circles) and concepts, their interrelation via distance and connecting lines, and their importance, indicated by colour and size (see Fig. 2.)

While largely affirming manually identified adventure tourism dimensions, the concept map holds relatively little explanatory power with its eight overlapping themes and numerous networks of concepts. Thus, Table 1 provides an alternative result of automated text-mining, based on Leximancer's Ranked Concepts, listing terms and word-counts as they appear in the literature. These were manually allocated to adventure tourism dimensions as presented within the table. Table 1 also provides a short definition of each dimension, while the nature of

Table 1
Adventure tourism dimensions –text-mining word count results.

Dimension	Definition	Ranked concepts
Physical activity	Bodily movement that uses energy, often enhancing physical fitness and health.	Activity (3950), Participation (2886), Sport (1314), Action (908), Physical (768), Engage (698), Doing (263), Movement (197), Exercise (185), Fitness (161), Energy (97) – **Total: 11427**
Natural environment	All living and non-living things occurring naturally, including forests, mountains, canyons, plants, wildlife, the sea and rivers.	Nature (2140), Outdoor (1388), Environment (1293), Environmental (860), Wild (700), Sustainability (646), Ecotourism (480), Landscapes (425), Nature-based (350), Conservation (327), Remote (270), Wildlife (263), Rural (217) – **Total: 9359**
Risk & Danger	A situation that involves the possibility of suffering, harm, pain, injury, or death.	Risk (3063), Injuries (861), Danger (517), Accidents (490), Critical (456), Death (289), Risk-taking (183) – **Total: 5+859**
Challenge	A difficult task or situation that tests someone's physical and/or psychological abilities and requires great effort and commitment.	Psychological (1143), Challenge (1111), Mental (417), Difficult (373), Stress (322), Effort (308), Commitment (306), Mind (287), Competition (244), Overcome (194), Pressure (109) – **Total: 4814**
Socialising & Camaraderie	The interaction and bonding with people, establishing feelings of togetherness, enhanced group harmony and friendship.	Social (1329), Group (1303), People (954), Interaction (505), Friends (279), United (269), Teams (161) – **Total: 4800**
Learning & Insight	The process of acquiring new understanding, knowledge, skills, values, and attitudes.	Understanding (1017), Education (782), Learning (680), Knowledge (647), Insight (621), Expertise (184), Intellectual (106) – **Total: 4037**
Use of skills	The ability to perform an action, often within a given amount of time, energy, or both.	Skills (942), Practice (730), Competence (652), Training (459), Improve (412), Ability (338), Technique (251), Expert (218) – **Total: 4002**
Novelty	The experience of something different, new, unique, or unusual.	Different (1072), Special (694), Diverse (481), Distinct (475), Unique (463), Novelty (320), Exotic (146) – **Total: 3651**
Conflicting/intense emotions	Strong, possibly contrasting feelings deriving from one's circumstances.	Emotions (1185), Feel (680), Conflict (324), Intense (244) – **Total: 2433**
Thrill & Excitement	The sensation of great enthusiasm, eagerness and pleasure.	Senses (731), Sensation (488), Extreme (409), Thrill (396), Excitement (390) – **Total: 2414**
Well-being	The sense of purpose, meaningfulness, being healthy or happy.	Well-being (814), Health (626), Self (422), Meaningful (224) – **Total: 2086**
Cultural experience	Encounters relating to a particular society and its history, ideas, customs, and art.	Cultural (**1169**), History (484), Heritage (161) – **Total: 1814**
Involvement & Locus of control	The degree to which one has control over the outcome of events, as opposed to being controlled by external forces.	Involvement (**1526**)
Accomplishment		

(*continued on next page*)

Table 1 (*continued*)

Dimension	Definition	Ranked concepts
	Something that has been achieved successfully.	Achievement (558), Goals (418), Success (374) – **Total: 1350**
Fun & Enjoyment	Light-hearted pleasure, enjoyment, or amusement.	Enjoyment (471), Happiness (368), Pleasure (200) – **Total: 1039**
Flow	The positive mental state of being completely absorbed and focused.	Flow (**943**)
Exploration	The act of searching for, discovering, and learning about oneself or a new place.	Explore (**834**)
Fear	An emotion of anxiety induced by impending danger, pain or harm.	Fear (554), Anxiety (164) – **Total: 718**
Rush	An acute transcendent state of euphoria or peak experience.	Rush (363), Peak (325) – **Total: 688**
Escapism	A diversion from unpleasant or boring aspects of daily life.	Freedom (350), Escape (307) – **Total: 657**
Play	Engaging in an activity for pleasure and recreation rather than a serious or practical purpose.	Play (**651**)
Uncertainty	A state of doubt about the future or an outcome.	Uncertainty (**245**)

these dimensions in an adventure tourism context is subsequently explored in more detail (see 4.2–4.4).

Being deprived of context, absolute frequencies of appearance are not necessarily indicative of the respective dimensions' level of importance. Still, automated text-mining results suggest that *physical activity*, the *natural environment* and *risk and danger* are at the theoretical core of adventure tourism, thereby verifying manual screening results. Beyond the affirmed top 19 dimensions, automated text-mining results further suggest the consideration of the previously excluded notions of *play* (158 counts) and *rush* (123). In addition, the dimension of *well-being* emerged as an entirely new dimension, not only apparent in the concept map, but also in the accumulated word-count results with a considerable total of 2086 appearances. These three dimensions were subsequently added for a total of 22 prevalent dimensions of adventure tourism.

4.1. The three-pillars-of-adventure-tourism: a new framework

Fig. 3 illustrates that adventure tourism rests on the three pillars of consumer-based dimensions, product-based dimensions, and hybrid dimensions. The 22 identified adventure tourism dimensions are allocated accordingly.

Consumer-based dimensions comprise intangible, psychological elements or feelings that adventure tourism evokes (e.g. thrill and excitement). Product-based dimensions are a mix of tangible and intangible features of adventure tourism experiences, independent of the consumer mindset (e.g. natural environment, physical activity). Lastly, hybrid dimensions are impacted by both the product and the consumers' perception, −skill level and/or -behaviour (e.g. risk and danger, challenge). Dimensions are listed from top to bottom in order of occurrence, based on manual content analysis. Core dimensions, indicated by the dashed box, are thus sitting at the top. Punctuated boxes mark those dimensions that have predominantly been linked to hard adventure tourism. In the following, the identified adventure tourism dimensions are elaborated.

4.2. Consumer-based dimensions

The following consumer-based dimensions of adventure tourism are comprised of *thrill and excitement*, *fear*, *escapism*, *fun and enjoyment*, *flow*, *conflicting/intense emotions*, *accomplishment*, *play*, *well-being* and *rush*. Based on the analysed literature, adventure tourism is likely to provoke these nine cognitive and emotional responses within the adventure tourist.

Thrill and excitement are often used interchangeably and constitute one of five core dimensions of adventure tourism and the perhaps most vital push factor for adventure tourists (Beckman et al., 2017; Schlegelmilch & Ollenburg, 2013). Buckley's (2006, 2010) definition supports this, declaring excitement a keystone of adventure tourism and the "principal purpose" (2010, p. 19) for consumers to pursue adventure tourism experiences. The factors that result in the emotion of excitement differ between people and activities. For instance, Gyimóthy and

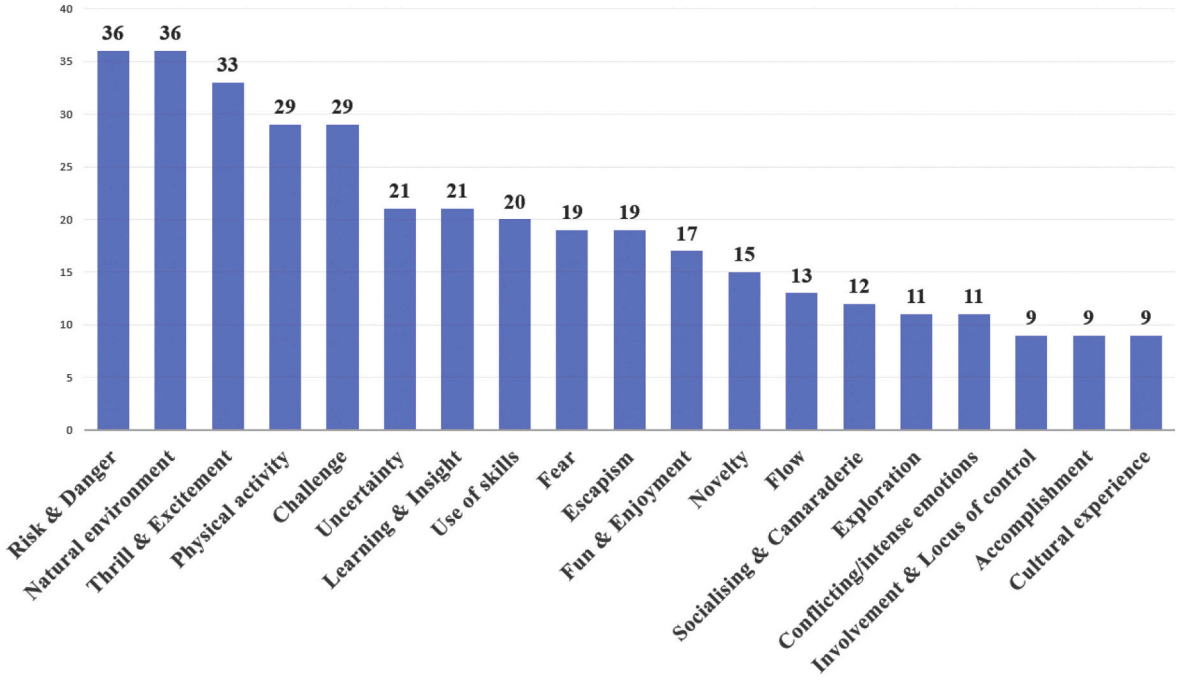

Fig. 1. Adventure tourism dimensions – manual analysis results.

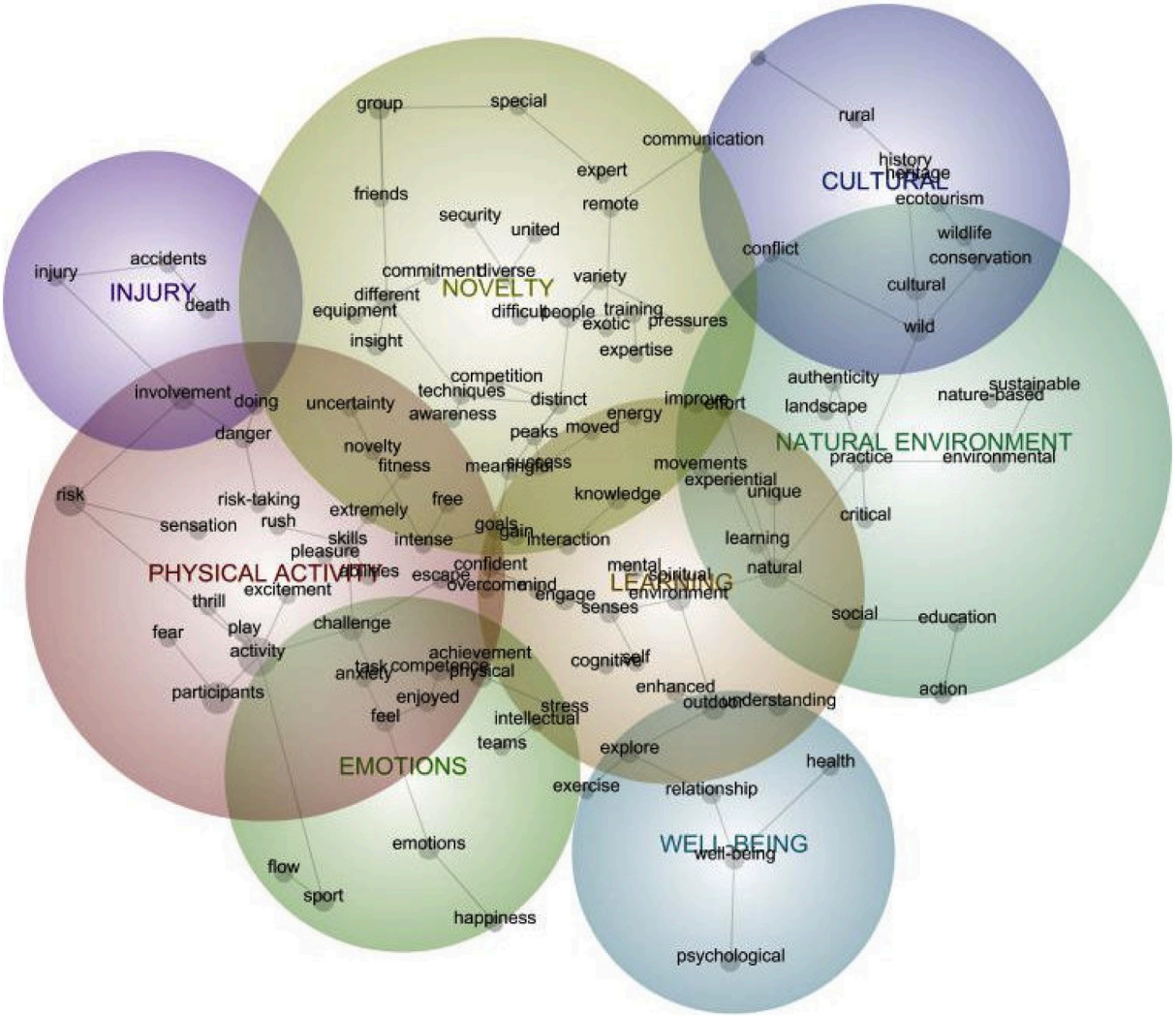

Fig. 2. Adventure tourism dimensions – Leximancer text-mining results.

Mykletun (2004) suggest that excitement is triggered when a participant experiences a risky situation but is able to control it. Cater (2006) affirmed the importance of thrill for adventure tourists and points out that successful adventure tourism businesses effectively incorporate thrill elements into their products to enhance their appeal. Thrill may be experienced from low-key adventure tourism experiences by novices. However, the same individuals likely need increasingly more difficult challenges to feel excitement again as they gather experience and develop expertise (Buckley, 2015). For instance, a novice surfer may feel excitement riding in calm waters, but increasingly seeks thrill in more extreme surf and riding larger waves as skills and confidence develop.

Fear is another emotion that adventure tourists may experience (Lee & Tseng, 2015) and perhaps actively seek to stimulate their sensory and emotional response. Cater (2006) suggests that in the search for one's self, some adventure tourists, more than others, seek confrontation with fear. For fear-seekers, experiencing this emotion is central to the experience. Although commercialised adventure tourism activities may not involve real risk and uncertainty of outcome, they often facilitate participants' play with fear. For example, riding in a commercial jetboat at fast speeds is relatively safe, but the experience of travelling at high speeds triggers a fight-or-flight response and releases endorphins in the body in response to this perceived danger and, therefore, this natural, powerful and primitive emotion of fear is activated. Carnicelli-Filho et al. (2010) consolidate this view and imply that while fear is usually perceived as a negative emotion in everyday life, it can be part of the attraction in an adventure tourism context. Fear is not exclusively and directly associated with specific activities, but with the mental process of an individual's imagination (Carnicelli-Filho et al., 2010) or natural bodily response to being in danger, even if the activity is relatively safe.

Escapism is a primary motivator for consumers to engage in tourism, perhaps due to the increase of urban living, job-related stress, overload of information and materialistic society that pushes consumers to escape and experience adventure (Swarbrooke et al., 2003). Adventure tourism experiences in particular provide an avenue of escape through stimulation and intensity that separate them from most consumers' everyday life events (Swarbrooke et al., 2003), such as in wind-surfing, rafting and diving (Triantafillidou & Petala, 2016), or mountaineering (Pomfret & Bramwell, 2016). Patterson and Pan (2007) found that adventure tourists want to "get away from it all" (p. 41) and seek a change of environment to undertake the activity. This is perhaps due to the increase of urban living, job-related stress, overload of information and a materialistic society that pushes consumers to escape and experience adventure (Swarbrooke et al., 2003). The dimensions of *novelty*, *physical activity* and an exotic *natural environment* are often linked to the sense of escapism (Swarbrooke et al., 2003).

The dimension ***fun and enjoyment*** has received rather limited research attention, in contrast to more traditionally associated aspects such as risk and physical activity (Schneider & Vogt, 2005). However, Schlegelmilch and Ollenburg (2013) found that 95% of their Western sample associate fun and excitement with adventure. Although factors

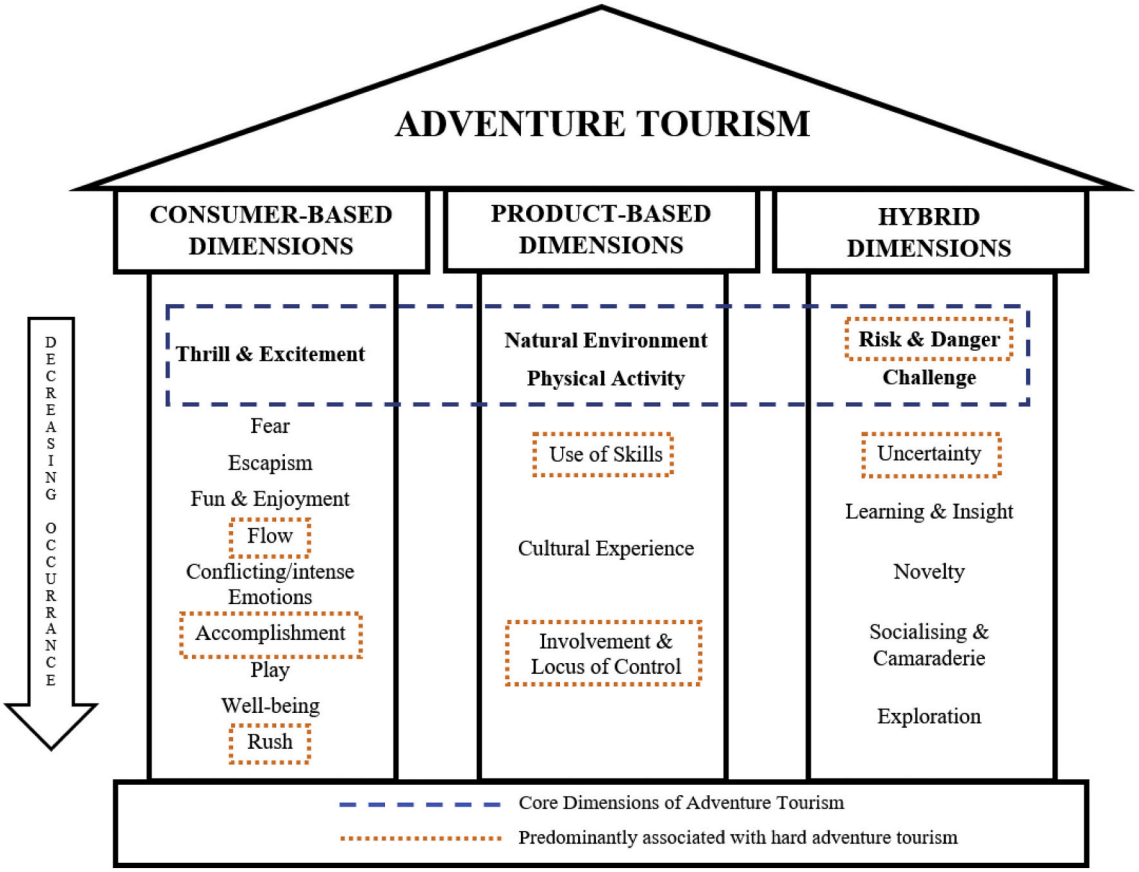

Fig. 3. The three pillars of adventure tourism.

that trigger emotions of fun and enjoyment may be very subjective, the feeling of being in control of a risky situation was identified as one catalyst (Cater, 2006; Gyimóthy & Mykletun, 2004). Whereas adventure tourist novices largely seek comfortable fun from a commodified experience, experts' emphasis lies on a high locus of involvement and control (Buckley, 2012).

Flow is a concept introduced by Csikszentmihalyi and Csikszentmihalyi (1975). To be in a state of flow, balancing the level of challenge and personal skills is required to enable the participant to feel totally immersed and mentally absorbed in the experience (Triantafillidou & Petala, 2015). When in this state of total involvement, one executes actions without consciously thinking about the process of performing the action (Csikszentmihalyi & Csikszentmihalyi, 1975). Flow is predominantly associated with hard adventure tourism, such as in a river rafting setting (Arnould & Price, 1993; Wu & Liang, 2011), in rock climbing (Boniface, 2000), mountaineering (Pomfret, 2006), kayaking (Magnussen, 2012) and wind surfing (Canniford & Shankar, 2012).

Whereas adventure tourists are subject to experiencing a wide variety of emotions, it is ***conflicting/intense emotions*** that often characterise adventurous experiences (Swarbrooke et al., 2003). For instance, mountaineers may feel anxious, timid and fearful during one stage of the adventure experience, such as at the beginning of the climb, but feel elevated, relieved and happy upon summating the mountain (Pomfret, 2006). According to Gyimóthy and Mykletun (2004) adventure tourists simultaneously seek "chaos and order, play and non-play, freedom and control [and thus] telic and paratelic states" (p. 874), as described in reversal theory (Apter, 2001). Pomfret (2006) suggests that "push and pull factors, personality attributes, lifestyles, and perceptions of adventure" (p. 121) influence the feeling of contrasting emotions.

The sense of ***accomplishment*** is considered a key outcome of an adventure tourism experience (Morgan, Moore, & Mansell, 2005; Page, Bentley, & Walker, 2005). It was also found to be a motivating factor for high-challenge sea-kayakers (Morgan et al., 2005), long-distance walkers (den Breejen, 2007) and mountaineers who seek to overcome adversity in harsh conditions and accomplishing self-set goals such as completing a route or reaching the summit (Pomfret & Bramwell, 2016). As such, accomplishment is likely to be particularly relevant in hard adventure tourism. It is linked to the dimensions of challenge, risk and excitement (Pomfret, 2006), use of skill (Sung et al., 1996) flow (Pomfret & Bramwell, 2016) and uncertainty which intensifies the feeling of achievement and satisfaction (Imboden, 2012).

Play is another, perhaps somewhat abstract, dimension of adventure tourism. Gyimóthy and Mykletun (2004) refer to play as an inborn human characteristic that is far more than child's play and mindless, distractive activity. It can be described as behaviour that has no higher objective other than entering an "alternate reality with its own rules, values, and expectations" which is usually spontaneous, voluntary and pleasurable (p. 859). Adults may seek the simplicity and freedom of play in adventure tourism, ignoring external expectations of a moral, culture or technical nature. Play can take many forms and can appear in all tourist activities. However, being conducted in remote outdoor environments, adventure tourism is particularly prone to facilitate deep experiences of adult play as a means to handle risk and enjoyment (Gyimóthy & Mykletun, 2004; Magnussen, 2012). Playfulness can be distinguished into *state of playfulness* and *trait of playfulness* (Wu & Liang, 2011). The former refers to short periods of time which are influenced by people and situations, whereas the latter refers to a more constant playful trait of individuals.

Subjective ***well-being*** portrays sentiments that arise from peoples' actions, thoughts and feelings (Ryan & Huta, 2009) and which include both hedonic and eudaemonic elements (Houge Mackenzie & Hodge, 2020). Hedonic elements of well-being, such as excitement, joy and

happiness are more immediate, short-lived sentiments, whereas eudaemonic elements, such as autonomy, competence, relatedness and beneficence (Houge Mackenzie & Hodge, 2020) provide a deeper sense of purpose, meaningfulness and fulfilment (Ryan & Deci, 2001). Though hedonic benefits of adventure tourism are more commonly associated and perhaps more obvious, eudaemonic facets of subjective well-being can also be highly important (Houge Mackenzie & Hodge, 2020). The eudaemonic benefit of autonomy relates to a sense of purpose and self-direction (Ryan & Deci, 2017), competence describes an individals' expression of capacities and effective interaction with the environment, relatedness is the feeling of belonging and connectedness to others, and beneficence refers to the feeling of positively impacting the lives of others (Houge Mackenzie & Hodge, 2020). The natural environment that is prevalent in adventure tourism was found to further increase well-being benefits that are gained through the physical activity as such (Peacock, Brymer, Davids, & Dillon, 2017; Pretty, Peacock, Sellens, & Griffin, 2005). Nature reduces stress, promotes flourishing of social capital, restores attention, and benefits resilience, mental and physical recovery, thus increasing overall well-being (Houge Mackenzie & Hodge, 2020). However, there is also a chance of adventure tourism impacting well-being negatively, due to an "increased exposure to risk [that] can lead to real injury, illness, and other negative consequences, which ultimately detract from an individual's wellbeing" (Holm, Lugosi, Croes, & Torres, 2017, p. 121). The diverse range of adventure-related catalysts and deterrents for well-being thus reflect the multidimensional nature of adventure tourism.

Buckley (2012) argues that perceived risk can be a motivator for soft adventure tourists, whereas skilled participants rather seek the experience of ***rush***. Accordingly, "rush involves the simultaneous experience of thrill and flow [, which] does not convey the experience fully [but] is the closest available approximation" (p. 963). It is an addictive state that combines intense concentration with precise, fast-paced physical coordination and heightened adrenalin levels. As thrill is physiological and adrenalin-based, it can be experienced in very different contexts and basically by anyone. However, flow necessitates skill. Thus, Buckley argues that rush is predominantly experienced by high-skilled, experienced adventure tourists.

4.3. Product-based dimensions

Product-based dimensions of adventure tourism encompass the two core dimensions of the *natural environment* and *physical activity* as well as the three other product-centred aspects *use of skills*, *cultural experience*, and *involvement/locus of control*. These five facets of adventure tourism are determined by the adventure tourism product, not by the mindset of the adventure tourist.

The ***natural environment*** is another core element of adventure tourism, as adventure tourism often occurs in "a wilderness rather than an urban tourism experience" (McConnell, 1991, p. 359). The environment, together with physical activity in the environment, co-creates the adventure tourism experience (Buckley, 2006; Cheng, 2017). The outdoor environment facilitates adventure experiences with specific geographic and physical features, and is often vital in facilitating sensory stimulus, risk, challenge, novelty and other dimensions of adventure tourism (Carnicelli-Filho et al., 2010; Swarbrooke et al., 2003). Landscape features of importance in adventure tourism include, but are not limited to, forests, mountains, gorges/canyons, plants, wildlife, the sea and rivers (Giddy & Webb, 2016). Besides those physical features, the climate and weather at the respective location at the time of performing the adventure activity can also be vital (Buckley, 2010). For instance, the level of snow, surf, wind or rapids may be of utmost importance for skiers, surfers, kite-flyers and kayakers respectively (Buckley, 2017), with dedicated adventure tourists likely having specific requirements. Furthermore, Buckley (2006) conveys that the greater the tourists' skill level, the more likely they are to observe and enjoy the natural environment, rather than having to concentrate on what they are doing. The natural environment is particularly significant where activities involve direct immersion and interaction with the environment, and a lesser role if that is not the case (Giddy, 2018; Giddy & Webb, 2016). As such, the natural environment is a "necessary element of the majority of adventure tourism activities" (Giddy & Webb, 2018, p. 2125).

The core dimension of ***physical activity*** is commonly identified as pivotal for adventure tourism (Sung, 2004; Swarbrooke et al., 2003). It has been argued that adventure tourism involves "practical engagement [and] physical effort" (Beedie & Hudson, 2003, p. 208) and action (Naidoo, Ramseook-Munhurrun, Seebaluck, & Janvier, 2015; Swarbrooke et al., 2003). It is foremostly "experiential and participatory in nature" (Sung, 2004, p. 346), which is a differentiating factor to the overlapping sector of nature-based tourism. Accordingly, nature-based tourism is centred around observing while adventure tourism is centred around physically experiencing the landscape (Buckley, 2010; Giddy & Webb, 2016). Due to physical activity being inherent in adventure tourism, respective activities may require certain physical skills from the participant to be performed successfully, especially in a hard adventure context.

The ***use of skills*** is mainly required in hard adventure tourism, where the interplay between risk and competence, in form of specific skills, shapes the experience (Imboden, 2012). Besides soft and hard adventure, the use of specific skills can also be differentiated between commercial adventure tourism and private adventure recreation. Accordingly, adventure tourists may foremostly seek new experiences where the focus is not necessarily on specific skills, whereas adventure recreationists more likely seek to build upon past adventure activities and aim to further develop their skillset (Giddy, 2018).

The ***involvement and locus of control*** dimension is "characterised by decision-making, developing one's abilities, gaining control, and forming friendships" (Pomfret, 2006, p. 117). Naturally, the level of involvement/the locus of control differs between adventure tourism experiences and even within one form of activity. For instance, a skydiver may take full control over the jump or be a mere passenger strapped into a tandem skydive harness. Buckley, McDonald, Duan, Sun, and Chen (2014) also found significant cultural differences in levels of involvement between domestic Chinese-style river rafting, called *piaoliu,* and Western-style white-water rafting. The Chinese version was found to be highly commodified, representing a passive activity where participants float down modified, shallow waterways without a guide or means to steer the raft. This is opposed to Western river rafting where participants have a higher locus of control and actively shape the experience through their actions. Gyimóthy and Mykletun (2004) argue that emotions such as joy and excitement are experienced when one feels in control of a risky situation. Thus, investigating influences of the locus of control on perceived outcomes of adventure tourism experiences, especially from a cross-cultural perspective, may yield interesting insights.

Cultural experience is increasingly endorsed as a key adventure tourism dimension by the Adventure Travel Trade Association, 2018b, 2019; Adventure Travel Trade Association, East Carolina University, and Outside Magazine, 2017b). According to the ATTA definition of adventure tourism which was adopted by the UNWTO (2014), 'interaction with culture' is one of three major elements of this adventure tourism besides the natural environment and physical activity. While the ATTA conveys growing interest from the demand side to experience cultural enrichment in adventure tourism, this is not reflected in academic research. Although some academics cite/adopt this definition, the cultural component has not been discussed in-depth and its relevance remains questionable.

4.4. Hybrid dimensions

The subsequent dimensions of adventure tourism include the two core dimensions of *risk and danger* and *challenge* as well as five other

hybrid dimensions, namely *uncertainty*, *learning/insight*, *novelty*, *socialising and camaraderie*, and *exploration*. These seven dimensions are shaped by both the physical product and the adventure tourist's cognition and ability. For instance, an adventure tourism experience may be offered in varying levels of difficulty, resulting in different levels of challenge which however is also dependent on the participant's skill level. Likewise, an adventure tourism offering may allow or even encourage socialising between participants, but to what extent participants actually socialise is mostly up to the individual.

The core dimension of ***risk and danger***, whether perceived or real, is perhaps the most controversial element of an adventure tourism experience. Besides the commonly associated physical risk, adventure tourism may also involve social risk (Mackenzie & Kerr, 2012; Walle, 1997), emotional risk (Mackenzie & Kerr, 2012; Schlegelmilch & Ollenburg, 2013) and intellectual risk (Schlegelmilch & Ollenburg, 2013). Examples include humiliation/the loss of face, fear/anxiety, and the risk of making mistakes/not appearing competent respectively. Risk is often seen as "inherent in adventure tourism" (UNWTO, 2014, p. 68). This viewpoint is endorsed by Carnicelli-Filho et al. (2010) who state that respective activities are prone to risk and danger as they are typically performed outdoors where there are many external elements that can't be controlled. A number of other studies also accentuate risk as a component of adventure tourism (Beckman et al., 2017; Cater, 2006; Lee & Tseng, 2015; Wang et al., 2019). In addition, Weber (2001) stresses the inherent nature of risk in adventure tourism by posing the question of whether an activity can be regarded as adventurous if it does not involve risk at all. Yet, several publications convey that risk is not central to an adventure tourism experience from a consumer perspective (Adventure Travel Trade Association, East Carolina University, & Outside Magazine, 2017a; Buckley, 2012; Cater, 2006; Gyimóthy & Mykletun, 2004), and that research has neglected to examine other, more relevant factors (Cheng et al., 2018; Peacock et al., 2017). These risk-critical voices argue that rather than risk, adventure travellers seek an aroused state, fear, thrill and rush. These opposing viewpoints on whether risk is a central dimension of adventure tourism convey a need for more consumer-based research in this regard.

Challenge is the final core dimension of adventure tourism that provides participants with an adrenalin rush (Buckley, 2012) and the opportunity to test their physical and mental limits (Triantafillidou & Petala, 2016). Besides physical activity, challenge was found to be the major differentiating factor of adventure tourism to more general nature-based tourism (Cheng et al., 2018). Tsaur et al. (2013) differentiate four different sources of challenge in an adventure tourism context: intrapersonal, interpersonal, activity and environment. Accordingly, intrapersonal challenge describes the challenge of inferior personal abilities in a given situation; interpersonal challenge means psychological or physical challenge between participants; activity challenge is derived from attributes of the activity; and environment challenge is linked to the often unique setting of an adventure tourism experience.

According to Argenton (2015, p. 922), the "idealtypus of adventure is a journey into the unknown". While it is debatable just how uncertain the outcome of professionally organised adventure tourism activities really are, ***uncertainty*** of outcome is generally associated with adventure (Beedie & Hudson, 2003; Pomfret & Bramwell, 2016; Tseng Ch, 2015). Uncertainty may be a push factor for some adventure tourists, especially in hard adventure, while others may for example seek thrill and excitement without confronting actual risk and uncertainty of outcome (Lepp & Gibson, 2003).

Learning and insight in tourism comprises the four categories of cognitive-, affective-, psychomotor- and personal development (Cutler & Carmichael, 2010). Cognitive development concerns knowledge and mental skills; affective development is the discovery of feelings and emotions; psychomotor development means the acquisition of physical skills; and personal development refers to the discovery of self (Cutler & Carmichael, 2010). Whereas Walle (1997) and Weber (2001) convey that gaining insight and knowledge are at the core of adventure tourism, Gyimóthy and Mykletun (2004) state that this is "neither the goal nor the main motivational force behind adventure tourism" (p. 873). How much of a factor learning plays in adventure tourism may come down to the nature of the activity and the participants' skill level. For instance, there is relatively little to learn from a short experience where the locus of control is low, such as in a bungee jump. However, affective development can play a role even in such experiences. During longer experiences with a low client-guide ratio, such as a guided small-group kayaking expedition over several days, it is more likely for participants to advance their skill set and knowledge (Buckley, 2006). The aspect of learning/education has gained in significance with adventure tourists in recent years (Adventure Travel Trade Association, East Carolina University, and Outside Magazine, 2017a; Schneider & Vogt, 2005).

Offering a change from everyday life, ***novelty*** plays a major role in tourism and motivates people to travel (Chang, 2011). Novelty was furthermore identified as the top motivation factor of adventure tourists in South Africa (Giddy, 2018) as well as in a survey of US American consumers (Adventure Travel Trade Association, East Carolina University, and Outside Magazine, 2017b). Other publications also highlight the importance of novel situations and experiences in an adventure tourism context, such as the one by Cater (2006) and Giddy and Webb (2016).

The role of ***socialising/camaraderie*** in adventure tourism experiences has not seen much academic attention to date. Socialising means the process of adventure tourists meeting and talking to new people who share a common passion and experience, whereas camaraderie refers the establishment of a bond, feelings of togetherness and enhanced group harmony between participants, triggered by such shared experiences (Triantafillidou & Petala, 2016). Buckley (2012, 2015) conveys that the social component, meaning social interactions as well as social capital, may be of high importance to novice adventure tourists in particular. This is supported by Cheng (2017) who identifies group interaction in adventure tourism as an important factor for Chinese post-80s travellers. The tour guide's role as facilitator of group harmony, social interactions and conversations is key to a positive social experience in adventure tourism (Buckley, 2010).

Exploration of something different to ones' usual environment are general motivators for tourism (Mlozi & Pesämaa, 2013) and "core components of the adventure process" (Swarbrooke et al., 2003, p. 13). Traditionally, adventure has been associated with the voyages of great explorers, such as Marco Polo, Christopher Columbus and James Cook and the exploration of foreign lands in the pursuit of discovery of new land, prosperity and scientific development (Gyimóthy & Mykletun, 2004; Weber, 2001). Nowadays, reason to chase adventure is not primarily related to this form of exploration anymore, given that the world is already mapped, studied and globalised (Swarbrooke et al., 2003). Instead, an individual's quest for increased knowledge and self-discovery with the ambition to explore and to determine ones' own mental, physical or emotional capabilities, strengths and respective limits is what drives the quest for adventure (Swarbrooke et al., 2003; Weber, 2001). Adventure tourism facilitates these more modern forms of exploration and discovery, providing an avenue for self-actualisation (Gyimóthy & Mykletun, 2004).

The above 22 dimensions are elements of adventure tourism from a theoretical perspective. Some dimensions are typically applicable to a softer/non-skilled adventure tourism experience (e.g. *fun*, *socialising*), whereas others are predominantly found in the harder/skilled adventure tourism sphere (e.g. *flow*, *rush*, *use of skills*). Adventure tourism dimensions are not mutually exclusive but interrelated. For instance, *risk* may trigger *thrill* or *fear*, and *novelty* might be closely related to feelings of *escape* as well as *uncertainty*. *Rush* involves *thrill* and *flow* (Buckley, 2012), while the dimensions of *challenge*, *involvement* and *learning* also have obvious links between them. Indeed, there are a multitude of prospective links between the various dimensions that jointly shape an adventure tourism experience. While *risk & danger*, the *natural*

environment, *thrill & excitement*, *physical activity* and *challenge* are seemingly intrinsic, indispensable components of adventure tourism from a theoretical perspective, the content analysis conveys that other dimensions such as *learning & insight* and the *use of skills* are also highly applicable, but not necessarily core components of adventure tourism.

Observations regarding theories used in adventure tourism research are limited. The reviewed studies only occasionally discuss existing theories and apply them even more sparingly. However, some of the specified theories relate to adventure tourism dimensions, thus providing a theoretical basis. These include flow theory which relates to the dimension of *flow*, risk theory and edge work which relate to *risk & danger*, reversal theory relating to *conflicting/intense emotions* and subjective well-being (SWB) that links to *well-being*. Other theories mentioned are predominantly based on psychological models and include self-determination theory (SDT), subjective well-being (SWB), self-determination theory (SDT), stress appraisal theory, arousal theories, ecological dynamics (ED), generational cohort theory, and the 3 M model of personality.

5. Conclusion

This paper highlights key dimensions of adventure tourism and demonstrates that the elements of this type of tourism are far more sophisticated and complex than the simple dyadic of soft and hard adventure activities. Accordingly, this study contributes to existing research by presenting a new and holistic conceptualisation of adventure tourism – the three pillars of adventure tourism framework – which incorporates 22 adventure tourism dimensions. The dimensions *risk and danger*, the *natural environment*, *thrill and excitement*, *challenge* and *physical activity* are at its core. Rather than describing the indistinct scope of adventure tourism via specific activities, we suggest that it is these core dimensions that differentiate the sector from other forms of tourism. The 17 additional dimensions are also frequently associated with adventure tourism, but not to the same extent as the five core dimensions. Thus, these 17 dimensions may apply in an adventure tourism context but are dependent on the consumer, the nature of the experience, or both, as exemplified by the three-pillars-of-adventure-tourism framework. In this framework, the 22 dimensions span across three pillars of adventure tourism, that is consumer-based elements, product-based elements, and hybrid elements.

This study's findings intend to assist tourism practitioners to fathom the essence of what makes certain tourism activities adventurous. Operators can audit their tourism experience and its adventure level by determining the prevalence of the identified core dimensions and the possible occurrence of additional identified dimensions. Those practitioners that identify a lack of applicable dimensions but seek to clearly position themselves as adventure tourism providers may alter their experience design to incorporate the five core dimensions and to thus heighten the experience's adventure level. The three pillars and respective key concepts of adventure tourism serve as a stepping stone to better comprehend this complex, indeed multi-dimensional, sector. Our findings reveal that the elements that comprise an adventure tourism experience are predominantly consumer-centred, with 10 consumer-based dimensions identified, more so than product-based (5) or a mix of the two (7). This suggests that the meaning of adventure predominantly lies with the consumer, rather than with industry. As such, the three-pillars-of-adventure-tourism framework provides new theoretical anchors to conceptualise and distinguish adventure tourism, thereby contributing to existing research.

6. Limitations and future research

While this study advances our conceptualisation of adventure tourism, the data and analysis selected presents some limitations and opportunities for future research. The chosen approach to content analysis combines manual and computational methods to holistically screen the adventure tourism literature. Merits of the manual analysis include the meticulous judgement of context, applicability and validity of any dimension as drawn from the literature. However, the manual analysis is subjective and does not account for the depth of discussion of dimensions which varies greatly between and within publications. For instance, a dimension could be mentioned once as part of a literature review without further elaboration or studied empirically in great depth. Both instances result in one count of appearance as displayed in Fig. 1 and the Appendix. The subsequent automated text-mining approach arguably compensates this to some extent, but not wholly. With the graphical output of the computational analysis (Fig. 2) holding little value, we complemented this analysis with a frequency-of-appearance variant. This results in manual allocation of automated, context-deprived word-counts to dimensions (Table 1), thus reducing the original benefit of objectivity somewhat. Still, this method of analysis is valuable in that it triangulated and largely verifies initial findings while resulting in the addition of three previously excluded dimensions.

The selected literature comprises high-quality academic journal papers only, neglecting books and 'grey' literature, such as reports from governmental and nongovernmental organizations. While we sought to identify characteristics of adventure tourism independent of specific activities, the analysed academic literature often focuses on specific activities with a tendency towards hard adventure tourism. This may have resulted in dimensions that are prone to hard adventure (e.g. flow) being relatively prominent. As such, the 22 resulting dimensions represent a purely theoretical, academic meaning of adventure and are subject to further research.

Future research could incorporate broader sources of knowledge on adventure tourism, for example, grey literature and/or a wider scope of academic literature on adventure tourism, which would provide a more holistic analysis of adventure tourism dimensions. Other methods of content-analysis, especially regarding computational analysis and output may also be beneficial to further consolidate the range and significance of adventure tourism dimensions. The empirical, at best consumer-based, investigation of the three-pillars-of-adventure-tourism framework is recommended and would further unpack the meaning of adventure and verify the applicability of the 22 presented dimensions. Such research may also reveal additional dimensions of adventure tourism. And finally, given the Western predisposition in tourism research (Nagai, Benckendorff, & Tkaczynski, 2018; Yang & Ong, 2020), and adventure tourism research in particular (Cheng et al., 2018; Rantala et al., 2018), a cross-cultural approach and comparison of associated and sought-after dimensions would provide insights in the increasingly diversifying adventure tourism market.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.tmp.2020.100776.

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