

Going beyond 'Because it's there' - Multiple motivations for pursuing high-risk adventure activities

Abstract

The term 'extreme sports' has become synonymous with a variety of non-traditional high-risk adventure experiences. Participation in extreme sports is difficult to explain because it is a behaviour often seen as fascinating and puzzling given society's efforts to reduce risks of death, or injury. Academics have employed varying theoretical perspectives to explain the motivational dynamics behind people's adventure pursuits. Different factors have been proposed to play a role, ranging from sensation-seeking personality types to the desire to pursue optimal experiences and achieve a sense of self-agency. A literature review of existing research on people's motives to engage in extreme sports is presented, arguing in favour of a multi-faceted view on risk-taking motivation. Various studies are discussed in relation to each other. Different theories and how they complement each other are reviewed to portray motivation as fluid and dynamic. Suggestions for improvement of existing methodologies in the field are put forward.

1. Introduction

When asked why he wanted to climb Mount Everest for the third time, famous alpinist George Mallory remarkably declared: 'Because it's there'. This statement was made in 1923 and has turned into a quintessential phrase to explain the often fascinating phenomenon of voluntary engagement in high-risk adventure (Hales & Buckley, 2006). High-risk activities fascinate and seem difficult to explain, yet most people who pursue risk are aware of the dangers involved. 'Because it's there' does not satisfy the curiosity of those who aspire to understand the complex motivation behind such obvious forms of risk taking (Hardie-Bick & Bonner, 2015). Interestingly, recent statistics from the outdoor industry suggest a surprising 25 % rise in participation in extreme activities since 2009, along with a corresponding increase in injuries and fatalities (Ewert, Gilbertson, Luo, & Voight, 2013). This seemingly puzzling motivation to take part in activities where risk and injury are potential aspects of the experience seems therefore worthy of scientific examination.

The term ‘extreme sports’ is used to denominate activities that are perceived as possessing high levels of risk or inherent danger (Hales & Buckley, 2006). Multiple terminologies such as ‘adventure sports’, ‘alternative sports’, and ‘action sports’ have been used interchangeably, reflecting the lack of a commonly accepted operational definition in the field (Brymer, Downey, & Gray, 2009). Still, a generally accepted view is that they contain ‘inherent elements of physical, emotional, or psychological risk and danger, often with an unpredictable outcome, and typically involve an interaction with the natural environment’ (Ewert, Gilbertson, Luo, & Voight, 2013). Some examples include mountaineering, rock climbing, mountain biking, skydiving, and white-water kayaking, among others.

Multiple theoretical explanations of motivation in adventure recreation have been offered. Earlier frameworks focused on personality traits and profiles such as impulsivity, sensation- and thrill-seeking, extraversion and narcissism as the locus of people’s motivation to pursue adventure (Balint, 1959; Freixanet, 1991; Freud, 1914; Jung, 1923; Mishra & Lalumière, 2011). More recent approaches have extended previous conceptualizations by considering multiple perspectives towards the phenomenon, incorporating factors such as skill development (Csikszentmihalyi, 2002), experiencing rush (Buckley, 2012), overcoming challenge (Lyng, 1999, 2009), and achieving a sense of self-agency and self-actualization (Hardie-Bick & Bonner, 2015; Mackenzie, Hodge, & Boyes, 2013).

1.1. The current review

The current literature review will attempt to present risk-taking as a multi-faceted construct. It will describe it as impelled by factors that are not constant across time and space, and as driven by dynamic tensions between opposing states. The frameworks of reversal theory (Apter, 1982, 2001), edgework (Lyng, 1990), and flow (Csikszentmihalyi, 1988, 2002) will be discussed in more detail. It will argue in favour of a multi-dimensional view towards risk-taking motivations. Evidence for their fluid and dynamic nature will be provided. Risk-taking will be examined as a complex behaviour underpinned by a motivation that goes beyond simple excitement and thrill seeking, and beyond personality characteristics such as narcissism and sensation-seeking, commonly described in earlier literature. A commentary on the psychological reductionism of previous research which describes the pursuit of adventure as reflected by simple idiosyncratic motives or personality traits will be presented. Therefore, the aim of the review will be to go beyond the personality type view, not by discarding it as invalid, but by extending it into a broader framework of a multi-factor model of risk-taking

motivations. The paper at hand will not attempt to provide a comprehensive analysis of the whole literature on the complexities of human motivation for pursuing adventure recreation. Such a review will require a much broader assessment, covering numerous years of analysis in the domains of sports psychology, humanistic and positive psychology, leisure and marketing research, tourism management, and philosophy. Rather, it will support the continuation of a recent trend in psychology to offer a more comprehensive and multi-faceted picture of the complexities of human motivation for participation in extreme sports. In order to avoid redundancy, terms such as extreme sports, adventure sports, high-risk sports, and adventure recreation will be used interchangeably to refer to the same concept of activities characterized by high levels of danger.

2. Existing models of high-risk behaviour

An exploration of the existing literature on thrill-seeking and risk-taking behaviour reveals a major analytical framework of motivation, referred to as the "personality predisposition" model (Lyng, 1990). This approach originated from the earliest attempts to explain voluntary risk taking and supports the assumption that the propensity to engage in risky activities defines two polar personality types: people who value and seek high-risk experiences and people who fear and avoid them (Heimer, 1988). Based on this dichotomy, classifying terms can be introduced for the two modal types, such as the "narcissistic" versus the "anaclitic" (Freud, 1914); the "extrovert" versus the "introvert" (Jung, 1923); and the "philobatic" versus the "ocnophilic", with philobatic referring to a personality type characterized by enjoyment of challenges and uncertainty, whereas ocnophilic – by their avoidance (Balint, 1959). More recent authors who have contributed to this personality-type based research on risk taking have used other similar terms, such as "sensation-seekers" (Zuckerman et al., 1964). For instance, "stress- seeking" has been proposed as a form of behaviour designed to increase the intensity of level of activation or emotion of an organism by individuals who seek arousal (Klausner, 1968).

An example from this theoretical tradition is given in a study by Freixanet (1991). He explored the relationship between participation in extreme sports and certain personality characteristics among 27 alpinists, 72 mountaineers, 221 sportsmen and 54 subjects not engaged in any risky sport. It was documented that the engagement in adventure activities was underpinned by a personality profile characterized by: thrill-seeking, emotional stability,

extraversion, conformity to social norms, and pursuing experience by socialized means (Freixanet, 1991).

In line with Freixanet's (1991) findings, another study reported a similar common psychological profile between rock climbers and athletes in other sports, such as rugby, football, and college rodeo (Feher, Meyers, & Skelly, 1998). Authors examined the psychological attributes of 57 rock climbers using a battery of psychometric inventories, such as the Locus of Control (IPC), the Profile of Mood States (POMS), the Sport Competition Anxiety Test (SCAT), the Sports Attitude Inventory (SAI), and the Eysenck Personality Inventory (EPI). All participants were found to possess a type of affect often observed in elite athletes and physically active individuals, termed 'iceberg profile' (Morgan, 1980). They exhibited the following cluster of personality attributes: lower scores in tension, anger, confusion, depression, and total mood disturbance, and higher scores in vigour (Feher, Meyers, & Skelly, 1998).

Earlier investigations on adventure sports in psychology have generally focused on the excitement- or thrill-seeking related to risk taking during these activities (Kerr & Mackenzie, 2012). They have employed quantitative measures such as the Sensation Seeking Scale (Zuckerman, 1971) and the Telic Dominance scale (Morgatroyd, Rushton, Apter, & Ray, 1978) to describe what personality types are more likely to pursue adventure. The motivations behind risk-taking behaviours have hence been viewed as caused by individual differences in people's tendency for sensation-seeking. The latter has resulted in a relative gap in the literature, which ignores a wide range of other explanations for participation in adventure recreation.

More recent investigations argue that the act of taking risks in extreme sports serves numerous distinct goals which go beyond arousal-seeking per se. For example, a study by Woodman and colleagues (2010) explored the agentic emotion regulation function served by ocean rowing and mountaineering using a cross-sectional design. Participants across two studies completed measures of alexithymia, interpersonal control, and interpersonal agency before or during the execution of their preferred adventure sport, and were compared to control subjects on these measures. Authors reported that high-risk ocean rowers and mountaineers exhibited higher alexithymia (difficulty in describing and expressing their emotions), and showed lower interpersonal agency, particularly in the domain of romantic relationships. The act of participating in high-risk pursuits enabled them to feel more agentic

in their emotions and even when sensation-seeking was controlled for, participants' lower interpersonal agency still remained a significant factor underlying their motivation (Woodman, Hardy, Barlow, & Le Scanff, 2010). Hence, the study demonstrated that factors other than mere sensation-seeking guided participants' motivation.

2.1. General issues with earlier research into motivations to pursue adventure activities

Earlier accounts in the field are often formulated by non-participants and are based on theory-driven methodologies. They use quantitative measures such as personality scales and inventories, which do not fully capture the actual lived experiences of extreme sports practitioners. A major setback of these traditional quantitative approaches is the myopic focus on risk-seeking which ignores other important motives and benefits of adventure pursuits. Theory-driven perspectives do not reflect subjects' unique experiences and portray risk taking as impelled by factors that are constant across time and space. This section will outline some of these limitations.

2.1.1. The problem of the single-category approach

A general issue surrounding earlier studies on adventure recreation is that they group together different adventure sports in a single category for the purpose of statistical analysis (e.g., Kerr, 1991; Kerr & Svebak, 1989). For instance, three independent studies using Australian, Dutch, and British participants were carried out by Kerr & Svebak (1989) in order to assess arousal-seeking in performers of both 'risk' and 'safe' sports. For the necessity of statistical analysis, surfing, sailboarding, parachuting, motor-cycling, and glider-piloting were all clustered together as a single category of 'risk' as compared to 'safe' sports, overlooking the contrasting features between them. In doing so, authors failed to consider relevant contrasts between these different types of adventure activities, simplifying the importance of their specific characteristics as motivational drivers. In contrast, recent reviews have questioned the suitability of this single category approach (Brymer, Downey, & Gray, 2010; Woodman, Cazenave, & Le Scanff, 2008; Woodman, Hardy, Barlow, & Le Scanff, 2010; Woodman, Huggins, Le Scanff, & Cazenave, 2009). Some of them will be reviewed below.

2.2. Moving to a qualitative account of people's multiple motivations for adventure pursuits

The following sub-section will demonstrate how the broadening of the research focus on adventure sport motivations has been assisted by the use of qualitative research methods,

such as participant observations and interviews (Allman, Mittelstaedt, Martin, & Goldenberg, 2009). These methodological perspectives provide richer data gathered by means of multiple integrated data sources. Therefore, they are more successful in illuminating the complex and dynamic motivations behind adventure participation.

In contrast with previous research using a personality-type approach to explain extreme sports participation using quantitative measures, a study by Brymer, Downey, & Gray (2009) used various data sources. Authors adopted a holistic perspective from a larger hermeneutic phenomenological viewpoint to study the relationships of extreme sports participants with the natural world. First-hand accounts such as biographies and videos were used, and interviews were conducted with ten male and five female extreme sports aficionados. They reported that their adventure participation enabled them to develop a strong personal feeling of being connected to the natural world. Contrasts between the various sports practised by individuals (base jumping, big wave surfing, waterfall kayaking, extreme mountaineering, and solo rope-free climbing) were better captured by personal accounts in focused conversations face-to-face or via phone. This multiple-data integrative approach provided a richer description of subjects' experiences and more insight into the possible connections between sports' unique characteristics and participants' motives to practise them (Brymer, Downey, & Gray, 2009).

Thus, the diversity among distinct adventure activities is an important factor to consider (Buckley, 2012). A sport's unique appeal is one of the multiple factors motivating individuals to practise it, rendering a single-category approach into adventure activity uninformative (Kerr & Mackenzie, 2012). For example, skydiving, downhill skiing and mountain biking are adrenaline-fuelled sports of shorter duration that offer high opportunities for thrill and excitement. In contrast, mountain climbing and ocean rowing are of longer durations and require strict organization and considerable long-term planning (Woodman, Hardy, Barlow, & Le Scanff, 2010). These unique features determine practitioners' varying motivations - distinct feelings of achievement, reward, and satisfaction result after a more prolonged and challenging adventure, compared to a less challenging one.

The best conditions for executing different extreme sports are subject to change and depend on the sport in question – another important characteristic which makes particular extreme sports more appealing than others (Buckley, 2012). Conditions are dynamic and change according to the weather, the ongoing discovery of attractive sites for practice, and the

continuing progression of expert ability of practitioners (Brymer & Schweitzer, 2013). These aspects determine motivations to seek better opportunities for higher-level rush which are not constant across time and space (rush is referred to as a specific kind of excitement associated with the physical execution of an adventure activity, by skilled practitioners, at the limits of individual ability and under favourable circumstances) (Buckley, 2012).

Interestingly, these apparently obvious contingencies that influence adventure pursuits go beyond the differences between varying sport activities or the geography of outdoor recreation. Different types of sports offer different opportunities to experience rush and flow that are seen as main motivators behind people's engagement in adventure activities (Fave, Bassi, & Massimini, 2003; Hales & Buckley, 2006). To illustrate, a study examined the quality of experience and risk perception related to high-altitude rock climbing among six climbers during an expedition in the Himalaya, by means of an experience sampling method (Fave, Bassi, & Massimini, 2003). Subjects provided repeated self-reports regarding their mood, intrinsic motivation, potency, confidence, engagement, and risk assessment. When both challenges and skills were perceived as positive, flow experiences were reported, and the opportunity to experience flow was described as motivating climbers to participate in the expedition (*a detailed discussion on flow will follow in section 3.3*). The study offered another example of the limitations associated with earlier quantitative research and the single-category approach – grouping different sports under a single category ignores very important characteristics inherent to these sports, and it is these unique features of distinct extreme activities that determine whether practitioners will be motivated to pursue them (Kerr & Mackenzie, 2012).

Similarly, another study employed interviews to investigate the experiences and motivations of sea kayakers in North Wales (Varley, 2011). The author joined courses and expeditions in sea kayaking in order to fully immerse in the experience and observe participants thoroughly over a period of seven months. The presence of risk and unpredictability was found to enable kayakers to explore and re-engage with themselves, to commune with nature, and achieve a degree of self-mastery. The qualitative approach was successful in capturing these unique subjective perceptions.

These studies provide rich data and are clear examples which demonstrate that the motivation to pursue adventure goes beyond sensation-seeking as a personality trait (Brymer, Downey,

& Gray, 2009; Varley, 2011). This should not necessarily indicate the need to discard the excitement- and thrill-seeking dimension completely, but rather emphasizes that human motivation for participation in adventure is multi-faceted, and cannot be attributed to a single idiosyncratic motive or cluster of personality characteristics. Therefore, using qualitative approaches to analyse these motivational dynamics as holistic experiences provides greater depth of study.

3. Multiple motives for pursuing high-risk activities

Having outlined the limitations of earlier research on the motivations behind adventure pursuits, as well as the importance of studying them as underpinned by multiple factors, we will now discuss different theories that go beyond the personality-trait view.

3.1. Reversal theory

This section of the review will describe the main tenets of Reversal theory. It will position adventure pursuits within its framework in order to demonstrate that risk taking is driven by dynamic tensions between opposing states, rather than by factors which are constant across time.

3.1. 1. Reversal theory framework

Reversal theory is a general theoretical model of motivation, emotion and personality developed by Michael Apter and Ken Smith (Apter, 1982, 2001). Within its approach are four pairs of metamotivational states, or domains. They are defined as frames of mind concerned with the way individuals interpret their own motives at a given time.

The first pair is the telic-paratelic one. People in the *telic* state tend to be serious and goal-oriented, while people in the opposing *paratelic* state are spontaneous and playful (Kerr & Mackenzie, 2012). Individuals in the *conformist* state are compliant and agreeable, whereas those in the opposing *negativistic* state are rebellious, unconventional and defiant. People in the *mastery* state are likely to be competitive and dominating, while those in the opposing *sympathy* state are cooperative (Apter, 1982, 2001). In the *autic* state people are egoistic, whereas in the opposite *alloic* state they demonstrate altruism and concern for others (Kerr & Mackenzie, 2012).

3.1.2. The Telic-Paratelic Metamotivational States

The following subsections of the review will focus on the telic-paratelic pair and will describe and discuss it along with the concept of paratelic protective frames. The emphasis on

these concepts is chosen because they are of particular relevance to the current commentary in that they can be used to construct a theoretical framework of a multi-phasic model of people's motivations to engage in extreme sports.

The two states in the Telic-Paratelic pair, as briefly outlined in section 3.1.1., are called "Telic" ("Serious") and "Paratelic" ("Playful"). They refer to whether one is motivated by achievement and future goals, or by the enjoyment of a process as it unfolds (Apter, 2001). In the telic state people generally feel arousal-avoidant, serious, and goal-oriented, whereas in the paratelic state they are arousal-seeking, playful, and spontaneous (Mackenzie, Hodge, & Boyes, 2013). People in the telic state see current activity as a means to an important goal beyond the confines of the present moment, and can plan for future outcomes. Excessive arousal caused by a perceived inability to achieve these end-goals thus produces fear and anxiety. Tranquillity and relaxation are reported to result from lower arousal levels and are preferred in the telic state (Apter, 2001). In contrast, arousal levels in the paratelic state are subjectively experienced in the opposite direction, whereby high arousal is experienced as excitement, and low arousal causes boredom (Mackenzie, Hodge, & Boyes, 2013). The paratelic state is playful, it lacks goal-oriented focus, and activities are pursued as ends within themselves. Attentional focus is employed in the process-oriented goals of the activity itself.

3.1.3. Additional important features of Reversal theory

3.1.3. a) State reversals

An important aspect of Reversal theory and its domains is that people reverse between paired metamotivational states during everyday life (Apter, 1993). This produces significant changes in their emotional experience, outlook, and motivations, as well as in the way individuals attribute meaning to situations. For example, something that used to be perceived as serious can feel exciting following a change in one's circumstances or mindset (Mackenzie, Hodge, & Boyes, 2013). Reversals can be caused by environmental stimuli, frustration, or satiation (Apter, 2001). The theory links the motivational states described to emotion by postulating that if a person is in a state where things are going well, positive emotions will ensue; in contrast, when one's needs in a current state are not met, negative emotions will follow.

3.1.3.b) Dominance

Dominance within the framework of Reversal theory describes the tendency of an individual to behave in particular ways that change as one's circumstances vary (Apter, 2001; Kerr & Mackenzie, 2012). For example, one may reverse into a paratelic state, but if they are telic dominant, they will easily alternate back to telic states. Another way to describe dominance within this model is the amount of time a person spends in one of the two states of each pair over time (e.g., paratelic dominance, mastery dominance). Metamotivational dominances tend to be persistent and may be thought of as personality dimensions. They contribute to a person's motivational style and may bias motivation and behaviour in particular ways over the long-term (Apter, 2001). Importantly, given the dependency of individuals to shift between states upon the environment, dominance as a term distinguishes Reversal theory from earlier, traditional trait theories (Kerr & Mackenzie, 2012). Namely, one's personality is not viewed as a permanent asset, but as a reversing tendency changing in accordance with the environment.

3.1.3.c) Protective frames

Reversals between different metamotivational states are contingent upon the presence of what are called *protective frames*, which makes them an important element of Reversal theory (Mackenzie, Hodge, & Boyes, 2013). Protective frames are cognitively-based and concern the varying ways in which the contents of experience are interpreted at particular times (Apter, 2001). They provide feelings of protection from danger, caused by people's confidence in themselves, others, or equipment (in the context of adventure sports).

Protective frames are active in the paratelic state, enabling participants to experience heightened arousal and challenges as exciting. From the perspective of Reversal theory, protective frames provide adventure sport participants with the feelings of confidence and safety needed to experience pleasure from these high-risk activities (Mackenzie, Hodge, & Boyes, 2013). With a protective frame in place, individuals approach extreme sports with reduced sense of danger and increased confidence in their ability to deal with potential problems surrounding an activity. Therefore, these psychological frames affect subjects' risk perception and evaluation of risk, so that the dangers or threats associated with it are seen as pleasant and enjoyable (Brymer, Downey, & Gray, 2009).

In contrast, protective frames are lacking in the telic state and consequently people experience challenges and increased arousal as anxiety. This reflects that the perception of risk can change if a reversal to the telic state takes place (Apter, 1993). When a reversal

occurs, the experience of emotions related to the activity in question as pleasant is likely to become unpleasant.

A paratelic-to-telic reversal can affect individuals' protective frames and in turn, change their feelings of excitement to anxiety, and ultimately reduce their motivation to continue the pursuit of an activity (Mackenzie, Hodge, & Boyes, 2013). In extreme sports, for example, an equipment failure or malfunction at a crucial point could trigger such a paratelic-to-telic reversal. An illustration of this shift is provided in a study describing the case of an experienced female skydiver who withdrew from skydiving after the death of a friend in a skydiving accident (Kerr, 2007). Another example for the importance of protective frames and their changing nature comes from the study of Buckley (2012) on key motivators in skilled adventure tourism. Buckley reported autoethnographic data from five activities (heliboarding, white-water kayaking, surfing, sailboarding, and kiteboarding). The interviews he conducted demonstrated that risks associated with these sports were perceived as deterrents, rather than attractors, by participants. They were therefore employing measures to reduce risk, such as using helmets, lifejackets, and relied on careful training, expert guides and detailed inspections to decide whether or not to perform an activity. The latter illustrates how in the telic state individuals can plan their long-term goals, connected with certain adventure activities, such as reducing the risks and casualties the activities entail. Also, it demonstrates how the lack of protective frames (at the level when people die or suffer extreme injuries) replaces the positive feelings associated with the adventurous act with fear, and no pleasure is gained by participation.

Importantly, the shift between states illustrates how the appeal of adventure activities is impelled by factors that are not constant across time and space, and by dynamic tensions between opposing states. To illustrate, Mackenzie and colleagues conducted qualitative interviews using head-mounted video cameras with white-water surfing novices. Their cross-case analysis showed patterns of Reversal theory throughout participants' experiences (Mackenzie, Hodge, & Boyes, 2013). Shifts between telic and paratelic states were described, particularly surrounding more challenging river rapids. Subjects reported feeling more telic (serious-minded) before rapids, and subsequently reversing to a more paratelic (playful) frames of mind. Importantly, these alternations between states were enabling practitioners to enjoy their experience and to manage the risks involved. Increased perceived arousal and accompanying feelings of anxiety in the telic state before dangerous rapids enabled individuals to sustain their concentration and prepare themselves. These feelings were

precursors to a subsequent reversal to the paratelic state of enjoyment and fun, whereby participants felt satisfied and excited about having managed the challenge of the experience. This increased their motivation to later on reverse to another paratelic state of excitement and participate in another challenging surfing episode.

Collectively, this section presents the basic premise of Reversal theory, providing evidence in favour of a fluid, multi-phasic risk-taking motivation: that almost any activity, including adventure sports, can be performed to satisfy different motives at discrete times (as determined by the state people find themselves in). The advantage of Reversal theory consists in the fact that it can accommodate multiple motivations for behaviour, where other approaches have predominantly suggested single causes (e.g., sensation-seeking; Zuckerman, 1971). In addition, it can explain how changes in motivation can occur over time, reflecting its dynamic nature (Apter, 1982, 2001; Kerr & Mackenzie, 2012).

3.2. *Edgework*

One of the earlier critiques in the domain of risk-taking behaviour was provided in a sociological study by Lyng (1990). The next section will outline his concept of edgework as a perspective towards risk-taking motivation.

3.2.1. *Lyng's criticism of earlier studies examining the motivation to pursue adventure recreation*

Lyng's literature review outlined a number of setbacks in the existing literature on risk-taking, associated with the psychological reductionism predominant in the field. The author presented a report that moved away from the personality traits view on risk taking, to a more comprehensive analysis using a multi-dimensional framework. He achieved this by introducing the concept of *edgework*, which highlights the most sociologically relevant aspects of voluntary risk taking. Lyng's commentary positioned voluntary risk-taking in a broader macro context, tying together factors such as environmental influences, at one end of the continuum, and individual sensations and feelings, at the other. The justification for his commentary came from the apparent paradox in the American society at the time, between the focus on reducing threats to well-being at the societal level, and the growing interest in experiences involving high risk. In Lyng's view, this contradiction between individuals' private agenda to increase risks and the public agenda to reduce them warranted the attention of sociologists and psychologists (Lyng, 1990).

One of the author's initial observations was that there was a gap in the literature on voluntary risk-taking behaviour. He attributed it to the prevailing psychological model of risk taking which views anticipated rewards as the fundamental motivation behind it. Such an approach cannot be reconciled with one of the primary characteristics of voluntary risk-taking, namely, the fact that some individuals place higher importance on the experience of risk-taking itself, than on the achievement of an end goal (Heimer, 1988; Kahneman, Slovic, & Tversky, 1982; Lyng, 1990). In Lyng's view, a major shortcoming of earlier studies consists in their failure to provide a casual explanation for voluntary risk taking (Lyng, 1990). By describing different personality types that have a tendency to pursue risk and adventure, this literature does not account for the mechanisms underlying this motivation and the factors that may change it over time (Kerr & Mackenzie, 2012). Lyng (1990) postulated that such an approach is uninformative and omits important variables that play a role in motivation. To illustrate, stress-seeking is seen as a way to fulfil one's need for arousal, as a means to develop capacities for control over the environment (Klausner, 1968), or as a form of tension-reduction behaviour that is addictive in nature and is associated with a build-up of intoxicating stress hormones. The latter approach portrays high-risk sports as indirect self-destructive behaviours (Delk, 1980). Lyng argued in favour of the opposite view – that risk-taking and adventure pursuits are only pleasurable and motivating when the risks are considered and when they provide people with the opportunity to exercise skill in negotiating a challenge, rather than place themselves in threatening uncontrollable situations (Lyng, 1990). What is more, depicting somebody as a sensation seeker could not explain the origin of the sensation-seeking itself, rendering the personality type view unsubstantial.

3.2.2. Lyng's contribution and conceptualization of edgework

In an attempt to overcome the shortcomings of this earlier literature, Lyng's review proposes a social psychological theoretical framework to explain the motivational dynamics behind high-risk behaviour. In comparison to earlier literature, his approach is not based on perspectives towards personality in which a person is understood in relation to some principle (such as the categorization of different personality types in relation to risk-taking behaviour). Rather, he places importance on the uniqueness of one's individual changing motivations and experiences in association with risk and adventure, and highlights the nomothetic potential for the concept of edgework as a paradigm to explain risk-taking.

Lyng's conceptualization of "edgework" is used as a classifying category for voluntary risk taking. Edgework involves the problem of negotiating the boundary between chaos and order, between risk and what is manageable. It is underpinned by two forms of social determination: internal factors and the external social environment (Lyng, 1990). An ethnographic study by Lyng and Snow (1986) first examined edgework within a social scientific frame. Authors conducted field research in a group of skydivers, employing methodologies such as participant observation, semi-structured interviews, and document analysis. They found a common 'vocabulary of motive' that skydivers used to explain their motivations to pursue risk activities. Edgework was proposed to have the potential of being the perspective most theoretically useful for understanding these motivations. First of all, edgework was suggested to consist in dangerous activities that involve an observable threat to well-being, and which can result in injury or death (Lyng, 1990). These death-defying activities are the major form of edgework, but the term has wider application (Lyng & Snow, 1986). It can include the process of not simply exposing oneself to risky activities, but also testing the boundary between one's own performance and physical limits, as well as between one's body and mind. In addition, it can constitute an endeavour to realise one's creative potential through intense work (Lyng, 2009). These are considered factors internal to a person.

Another important feature of edgework is that it requires a special set of individual capabilities (Lyng, 1990). One of them is the exercise of certain skills against challenges of different forms. Indeed, a major motivator behind people's engagement in risk sports is the opportunity to develop and use their competence. Therefore, a valuable aspect of the experience is skilled performance (Lyng & Snow, 1986). This emphasizes that risk activity pursuits are not impelled by factors which are constant across time and space, but rather, are determined by a motivation to improve oneself as a dynamic entity and achieve progress – another internal motivator of social determination which Lyng considered sociologically relevant. Furthermore, the adrenaline-inducing aspect of the risk activity is not the only goal behind the motivation to pursue it (Lyng, 1990). Rather, the quintessential aspect of the motivation lies in the opportunity to face challenge and explore oneself in relation to it, as an existential dimension concerning individuals' freedom to exercise choice, and achieve a sense of empowerment. The latter ultimately is said to redeem people's self-responsibility (Brymer & Schweitzer, 2013). Kerr & Mackenzie (2012) found support for this view in a recent investigation. The authors explored the motivations of adventure sport practitioners using interviews. Their article features the case of a 52-year-old mountaineer who started climbing

when he was 28 years old. He reported being motivated by the opportunity to test his natural aptitude to extend his comfort zone and his personal limits. The climber's own description of his motivation to pursue climbing despite his fear of heights was outlined - he was not motivated by adrenaline per se, but was seeing climbing as a medium to re-gain self-confidence without an evaluative audience, and learn how to be more self-sufficient. The latter example is in line with Lyng's theoretical standpoint. It illustrates how people pursue risk-taking not because of a higher innate survival capacity, but because they are driven to learn new skills and challenge themselves despite their fears. Hence, there are multiple factors which go beyond people's inherent skills that explain their adventure pursuits.

The analysis of Lyng described in this section is important for one primary reason relevant to the current review. It rejects earlier ideas depicting idiosyncratic motives and personality features as the driving forces behind the motivation to pursue adventure. In addition, it portrays risk-taking as dynamic, whereby edgeworkers are motivated by the challenge to improve, and transcend their activity-specific skills (Ewert, Gilbertson, Luo, & Voight, 2013). The latter argument illustrates the insubstantiality of a view on risk-taking as a form of self-destructive behaviour reported by Delk (1980), since extreme sports undertakers often report that if they perceive their skills as insufficient, they do not gain pleasure from adventure activities (Buckley, 2012). Recent studies have supported Lyng's finding that the appeal of risk taking is enriched by a thorough knowledge of the consequences it encompasses, and an opportunity to exercise skills within a highly hazardous terrain (Apter, 2001; Hardie-Bick & Bonner, 2015; Mackenzie, Hodge, & Boyes, 2013).

Taking the socio-psychological approach further, Lyng also proposed that modernity's rationalizing forces cause people to become 'disenchanted' with their surroundings. As a result, they turn to risk-taking to re-enchanted their lives (Lyng, 2009). He claimed that in a society over-preoccupied with risk management, engaging in edgework and risky behaviours acted as a form of resistance and protest (Lyng, 1990). These are external factors related to the social environment. Such a postmodern sociological perspective positions risk within a framework of multiple interacting motives. It rejects a rigid categorization of risk and therefore depicts it as a complex behaviour.

3.2.3. The risk-recreation paradox

Hardie-Bick and Bonner (2015) reiterated Lyng's (1990) and Buckley's (2012) in discussing the risk recreation paradox related to the ever increasing engagement in voluntary risk-taking despite society's efforts towards safety and risk reduction. Individuals tend to visit rural environments in order to practise sports such as skydiving, white-water rafting, scuba diving, and rock climbing (Hardie-Bick & Bonner, 2015). This attempt to remove the metaphorical 'safety harness' imposed by society and swarm to rural settings suggests that there is more to the countryside experience than the mere appreciation of rural landscapes. The pursuit of a dangerous activity within this peaceful setting seems paradoxical and challenges the traditional view on the countryside (Douglas, 2013). What is more, the pursuit of 'risk' seems ambiguous because people usually pursue positive experiences, but risk is generally used to refer to negative or undesirable outcomes in academic theorizing. Numerous studies have reported a negativistic view on risk by describing how society teaches individuals to avoid it (Fraser & Furedi, 1998) or uses it as a form to maintain social control (Foucault, Burchell, Gordon, & Miller, 1991).

These studies are all linked by a predominant view on risk as negative and give rise to the question of why individuals voluntarily engage in risk activities, if they are socially constructed or taught to be risk-averse (Hardie-Bick & Bonner, 2015). As outlined previously, earlier theories on risk behaviour have described numerous personality types to account for this motivation, such as the 'extroverts' (Jung, 1923) and the 'narcissistic' (Freud, 1914). Other investigations have proposed impulsivity, sensation-seeking, and low self-control as the locus of this motivation (Mishra & Lalumière, 2011). However, as noted importantly by Lyng (1999, 2009) and Hardie-Bick and Bonner (2015), if the explanation of risk-taking was exclusively related to personality types, the number of individuals pursuing risky activities should remain relatively stable over time. The fact that it shows progressive increases suggests a cause, more complex in nature, which underlies the phenomenon (Lyng, 2009). Authors describe numerous such reasons for engagement in risk endeavours: a potential of a strengthened sense of self, following a successful confrontation with nature, and a demonstration of individuals' moral character. These self-referential complex reasons make the action particularly tempting (Goffman, 1969; Hardie-Bick & Bonner, 2015; Lyng, 1990). Research by Csikszentmihalyi's has further extended the framework of analysis addressing risk-taking behaviour. He observed that people describe as their happiest those experiences in which they accomplish something difficult and worthwhile, and which cause them to feel sheer, intrinsic enjoyment (Csikszentmihalyi, 2002; Hardie-Bick & Bonner,

2015). This formed the basis of his argument that there are even more complex motivations to pursue adventure, and they are related to the experience of happiness. The next section will discuss this possible explanation of adventure pursuits by introducing the concept of flow.

3.3. *Flow as a framework for understanding the attractions of engaging in high-risk pursuits*

The question of why people voluntarily pursue high-risk activities was addressed by another author called Csikszentmihalyi. His phenomenology of enjoyment can be used as an alternative perspective to study the psychological and experiential aspects of risk taking. Flow is at the centre of this framework and refers to ‘the state in which people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it even at a great cost, for the sheer sake of doing it’ (Csikszentmihalyi, 1988, 2002).

3.3.1. *Risk-taking as an autotelic experience*

This section will discuss Csikszentmihalyi’s view on risk-taking as an autotelic experience, by demonstrating how it relates to Lyng’s concept of edgework, described earlier, and how it extends it.

The focus of Csikszentmihalyi’s work on risk-taking as seen in association with the concept of flow, presents risk as appealing because it provides individuals with the opportunity to achieve something difficult. Risk activities offer opportunities for a flow experience because they are demanding and challenging in nature, and grant no external rewards to people, just intrinsic enjoyment, and happiness. This makes risk-taking essentially an optimal experience in Csikszentmihalyi’s words (Csikszentmihalyi, 2002; Hardie-Bick & Bonner, 2015). It provides its own reward to people, and such experiences are termed *autotelic*.

An important tenet of the flow theory which differentiates it from Lyng’s view on edgework is the emphasis on a *proportionate* risk to participants’ level of ability, which is manageable, rather than challenging. In contrast to Lyng, Csikszentmihalyi suggests that in order for people to fully enjoy high-risk pursuits, the level of danger must correspond to their level of ability (Hardie-Bick & Bonner, 2015). While Lyng is mainly concerned with pushing boundaries to test one’s limits, Csikszentmihalyi argues that pushing oneself to such an extreme can lead to feelings of anxiety and thus prevents the experience of flow

(Csikszentmihalyi, 2002). He portrays the feelings of control and enjoyment among participants as more important, rather than the intensity of the challenge. This resonates with Buckley's view (2012) described earlier on how the lack of protective frames in extreme sports, when dangers are too high, replaces the enjoyment linked to the adventurous act with fear. Hence, flow occurs when the situational demands correspond to individual ability. It is this balancing act that motivates participants to engage in high-risk pursuits.

3.3.2. Flow as an extension of edgework

While edgework is the most widely used sociological explanation for understanding people's engagement in high-risk activities, it does not fully account for the intricate safety routines of its practitioners (Ewert, Gilbertson, Luo, & Voight, 2013).

Using data from semi-structured interviews with skydivers and climbers, Hardie-Bick and Bonner (2015) reported that participants aimed to manage and control the risks related to their sports in order to fully enjoy them. Some of the subjects demonstrated willingness to take higher risks on the edge of their ability, which can be explained with Lyng's framework of edgework. However, the majority of individuals revealed motivations that cannot be captured by the edgework perspective. Rather, they can be examined better through Csikszentmihalyi's framework of flow which places risk within a paradigm where the following motivators play a role: opportunities for action, challenge-skill balance, deep involvement and concentration, merging of action and awareness, transcendence of time, loss of self-consciousness, and the emergence of a stronger sense of self upon completion (Csikszentmihalyi, 2002; Mackenzie, Hodge, & Boyes, 2013). This emphasizes the importance of the feeling of competence and control.

A common aspect of both Lyng's and Csikszentmihalyi's views concerns their assertion that high levels of concentration required in risk activities provide a powerful contrast to people's everyday regular experience (Csikszentmihalyi, 2002; Lyng, 2009). High-risk pursuits allow practitioners to control fear, display courage, and achieve a sense of personal agency. Seen within a broader psycho-sociological context, this compensates for individuals' absence of direct control over their lives, making flow a state of being which is rarely experienced normatively (or that is 'optimal') (Csikszentmihalyi, 2002).

In summary, Csikszentmihalyi's research concentrates on the pleasurable and enjoyable aspect of risk which is carefully considered, rather than unnecessarily high, as experienced in the state of flow. In contrast to Lyng's approach, it emphasizes how participants enjoy the challenge of managing, rather than maximizing, the risks involved in their pursuits. Importantly though, both frameworks are in contrast with earlier research on extreme sports motivations and its personality-trait perspective. They focus on the multi-faceted nature of people's motivation to engage in adventure recreation, and provide support from practitioners' own reports that risk-taking in the context of sport is much more than a 'death wish'.

4. Risk as a multi-factor motivational construct

The last section of the review will cover a recent study exploring people's motivation to engage in extreme sports. To the author's knowledge, it is the only existing investigation in the field that examines risk as a multi-factor motivational construct. It complements the existing literature by exploring multiple motives to pursue adventure, as well as the interaction between them. In doing so, it offers a new approach to assess the multi-faceted motivation behind risk-taking.

Ewert and colleagues (2013) used a large sample of 801 subjects practising rock climbing, white-water kayaking, sea kayaking, and canoeing to explore their motivations for participation in adventure recreation over a period of six years. Gender, experience level, and activity type were used as independent variables. A 40-item questionnaire was employed to assess the skill and experience level factors, as well as motivations to participate in adventure activities. A level of experience, and motivation indexes were computed. In addition, the interactions between the independent variables were investigated using explanatory factor analysis and subsequent discriminant analysis. This approach enabled the researchers to examine the contribution of multiple variables and their interaction. Following factor analysis, three factors that best described the underlying adventure recreation motivation of participants were retained: self-image, sensation-seeking, and social (Ewert, Gilbertson, Luo, & Voight, 2013). Of these three factors, consequent analysis using three-way ANOVAs demonstrated significant differences regarding activity type, gender, and experience level. Analyses revealed some interesting patterns concerning subjects' specific motivation to engage in extreme sports. For example, female subjects had higher social motives compared

to males. Furthermore, the type of sport activity was shown to play a role in individuals' motivation for participation. This yields support for previous findings (Brymer, Downey, & Gray, 2010; Kerr & Mackenzie, 2012; Woodman, Cazenave, & Le Scanff, 2008; Woodman, Hardy, Barlow, & Le Scanff, 2010; Woodman, Huggins, Le Scanff, & Cazenave, 2009)

With regards to experience level, the study supported previous research demonstrating that skill and experience are important motives in high-risk pursuits (Buckley, 2012; Csikszentmihalyi, 2002; Lyng, 1990). In addition, it was documented that beginner and intermediate experienced participants had lower social motives compared to advanced sports practitioners. For the interaction effect between activity type and experience, subjects with higher levels of experience reported significant higher-sensation seeking motives than those who were beginners in sea kayaking and rock climbing. In contrast, practitioners with advanced experience revealed lower sensation-seeking motives than beginners in the case of canoeing. The latter finding is particularly interesting in light of the discussed literature in this review. First, it agrees with earlier studies which stress the importance of sensation-seeking as a motive to pursue adventure (Ewert, Gilbertson, Luo, & Voight, 2013; Freixanet, 1991). However, in contrast with previous investigations, this study analysed sensation-seeking along with other factors relevant to the adventure experience, demonstrating that the unique interactions between these factors underlie different people's motivations for participation. This extends past research and complements it by indicating that the personality traits view should not be discarded prematurely. Rather, personality factors can be analysed alongside other relevant motives implicated in risk pursuits, and their interaction effects can be explored. In proposing the latter, Ewert and colleagues agree with recent authors suggesting multiple motives to engage in extreme sports (Apter, 1982, 2001; Kerr & Mackenzie, 2012; Lyng, 1990, 2009; Mackenzie, Hodge, & Boyes, 2013; Varley, 2011; Woodman, Hardy, Barlow, & Le Scanff, 2010). However, despite acknowledging this multi-faceted nature of adventure motivation, they also emphasize that individuals involved in high-risk recreation are not a homogeneous group. Hence, different clusters of these known multiple motives may play a differential role for each person (Ewert, Gilbertson, Luo, & Voight, 2013). In other words, people are unique in what they aspire to achieve with their pursuits, thus different motivation structures can be composed for each individual, without the exclusion of people's personal traits from statistical analysis. The methodological approach of analysing personal traits alongside other factors, as well as their interaction effects, can therefore provide more insight into risk as a multi-factor motivational construct.

Engagement in adventure activities is related to a spectrum of motivations, but it is the specific interaction of some or all of them that underlies motivation. To illustrate, motivations can include sensation-seeking through challenging sports endeavours, often within a social environment, which is supportive and provides people with a positive view of themselves (Ewert, Gilbertson, Luo, & Voight, 2013). The interaction between the supportive social setting and the sensation-seeking personality trait can be the unique combination of factors which underpins subjects' motivation for adventure recreation, rather than the two factors on their own. In summary, the use of specific factors in statistical analysis, as well as the unique .interaction effects between them, offers a promising avenue for future research in the field

5. Conclusion

The aim of the current review was to critically discuss existing research on people's motivation to participate in high-risk activities. It presented a brief critique of the psychological reductionism characterizing earlier literature which refers to personality traits to explain adventure pursuits. Using the frameworks of Reversal theory (Apter, 1982, 2001), edgework (Lyng, 1990), and flow (Csikszentmihalyi, 1988, 2002), it was demonstrated that no singular motivation can be attached to involvement in extreme sports. Rather, multiple motives play a role in adventure recreation pursuits, and the discussed evidence elucidated a wide range of them. It appears that risk-taking is a complex behaviour underpinned by a complex motivation that goes beyond sensation-seeking. Future studies should therefore employ a multi-dimensional perspective and use various data sources to study the phenomenon. The potential of qualitative methodologies to illuminate multiple motives using participants' own reports and generate richer data was illustrated in that respect. Still, instead of arguing against the personality traits view, the present review suggests that personality factors be analysed alongside other relevant variables to explore potential interaction effects underlying each individual's unique reasons to pursue adventure. Therefore, a continuation of a recent trend in psychological research to provide a multi-faceted picture of the complexities of risk-taking motivation is encouraged. An important challenge for future investigations would be to find more comprehensive and informative ways, and design better methodologies, to study adventure pursuits with the depth and thorough consideration they warrant.

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