

Extreme sports are good for your health: A phenomenological understanding of fear and anxiety in extreme sport

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Abstract

Extreme sports are traditionally explored from a risk-taking perspective which often assumes that participants do not experience fear. In this article we explore participants' experience of fear associated with participation in extreme sports. An interpretive phenomenological method was used with 15 participants. Four themes emerged: experience of fear, relationship to fear, management of fear, and fear and self-transformation. Participants' experience of extreme sports was revealed in terms of intense fear but this fear was integrated and experienced as a potentially meaningful and constructive event in their lives. The findings have implications for understanding fear as a potentially transformative process.

Keywords

anxiety, extreme sports, fear, natural world, phenomenology, well-being

'Extreme sports' have become a universal descriptor for a multitude of non-traditional independent and organized adventure sports. Terms such as 'action sports', 'whiz sports', 'urban sports', 'free sports', 'lifestyle sports', 'alternative sports' and 'fringe sports', are used interchangeably to describe similar activities. We take a narrow view on extreme sports and define them as independent leisure activities where the most likely outcome of a mismanaged mistake or accident is death (Brymer, 2005). The magnitude of difference from other sports was highlighted by an extreme skier (Ulmer in Koerner, 1997: 2) who offered a comparison with basketball: 'Imagine if every time you missed a basket, somebody would shoot you in the head.' Traditional theoretical perspectives on extreme sports suggest that they are an

outlet for 'crazy' individuals with an unhealthy relationship to fear, who are pathological in their search for risk or living out a death wish (Brymer, 2006 [2002]; Brymer and Oades, 2009; Delle Fave et al., 2003; Hunt, 1995b, 1996; Lambton, 2000; Olivier, 2006; Pizam et al., 2002; Rinehart, 2000; Self et al., 2007; Simon, 2002). This article builds upon conflict in the literature which seeks to understand

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experiences of those who choose to participate in dangerous activities such as extreme sports and contributes to our understanding of such activities as positive human experiences (Willig, 2008).

Extreme sports pose challenges unheard of in other voluntary leisure activities. For instance, one person in 10 who successfully summits Mount Everest, on average, will die on the way down as a result of an accident or exhaustion (Sutherland, 2006). Typical activities include BASE jumping (Buildings, Antennae, Span, Earth), extreme skiing, waterfall kayaking, big wave surfing and high-level mountaineering. BASE jumping is considered to be the most extreme of the parachute sports (Celsi et al., 1993), where participants jump from fixed structures such as cliffs, bridges or buildings rather than out of aeroplanes.

Extreme skiing is performed off-piste and on sheer cliffs where a fall results in the skier tumbling out of control. Similarly, waterfall kayaking involves kayaking over river structures of 30 metres or more where a misjudged attempt would likely result in death. In 2009, the world record for waterfall kayaking was a 55-metre descent (Weaver, 2009). Big wave surfers ride waves over 20 feet in height, in which even some of the most renowned surfers have died (Warshaw, 2000). High-level mountaineering includes challenges such as independently venturing above the 'death zone', usually considered to be above 7500 metres where the oxygen is thin and the body struggles to adjust (Breashears and Clark, 1998).

Participation rates in extreme sports have grown exponentially (American Sports Data, 2002; Pain and Pain, 2005). Participation in extreme sports is not 'just a "flash in the pan" but a sign of the times' (Puchan, 2004: 177). Theoretical perspectives have sought to explain participants' motivations through a range of risk focused analytical frameworks that emphasize the abnormality of such behaviours. Typically participation has been judged as negative and deviant (Elmes and Barry, 1999; Pain and Pain, 2005; Self et al., 2007). Participants are typically

portrayed as selfish, teenage boys 'fascinated with the individuality, risk and danger of the sports' (Bennett et al., 2003: 98). Media representations have mirrored these presuppositions (Davidson, 2008; Pollay, 2001; Puchan, 2004; Rinehart, 2005). The assumption is that risk acts as a motivator for participants with little skill and a pathological desire to bond with images associated with extreme sports.

Participant motivations have been explained through a range of analytical frameworks, including edgeworks (Laurendeau, 2008), sensation seeking (Rossi and Cereatti, 1993; Zuckerman, 2000), psychoanalysis (Hunt, 1995a), neotribe or sub-cultural formation (Midol and Broyer, 1995) and masculinity theory (Pollay, 2001; Wheaton, 2003). These perspectives argue that a combination of personality traits, socialization processes and previous experiences induce a desire for a participant to put their life at risk through extreme sports. From theoretical, risk-taking perspectives extreme sports participation is an unhealthy, pathological need for uncertainty, thrills and excitement (Brymer, 2010).

A pitfall of this approach is the development of a negative stereotype which might not actually reflect the experience of participants. More recently studies have found that participation in extreme sports triggers many positive psychological benefits. For example, Willig (2008) included a broad selection of sports traditionally associated with risk and found a variety of positive psychological benefits from participation. Brymer and others (Brymer and Gray, 2010a, 2010b; Brymer et al., 2009) found that extreme sports instigated positive psychological relationships with the natural world which benefits the individual. Participation might develop courage and humility (Brymer and Oades, 2009). In this article we examine the relationship between extreme sports and one particular manifestation of risk, fear, to gain a better understanding of the experience, motivation and potential outcomes associated with the experience from the perspective of extreme sport participants.

Fear and extreme sports

The most commonly associated emotion with extreme sports is fear which in turn is one of the great unmentionable aspects to being human. Fear refers to a feeling state in which there is both a subject and an object. In extreme sports this involves the potential destruction of the physical self. Adults are supposed to control their intense emotions, fear is supposed to be curtailed (Elias and Dunning, 1986). While children are permitted an element of uncensored emotion a similar exposition of reactions in the face of fear by adult men and women is a matter of embarrassment and demonstration of aberrant behaviour. Curtailing fear is no longer a conscious decision but an automatic response (Elias and Dunning, 1986). Fear is not something to be felt, yet should this be so? The late president Roosevelt noted, paraphrasing the French philosopher Montaigne, 'all we have to fear is fear itself' (Marshall, 1968: 65).

In extreme sports the general assumption is that participants must have either an unhealthy relationship to fear or they must be pathologically fearless. Although few studies have attempted to explore the relationship between fear and extreme sports, those that have focus on negative explanations. For example, Hunt (1996: 610) explored a deep sea diver's participation and recognized her findings as a series of fear-related manifestations and concluded that the diver often lacked 'an appropriate sense of fear' and had an inappropriate love of pain. From Hunt's (1995a) perspective extreme sports participants are detrimentally socialized into consenting to unacceptable levels of fear and anxiety. Studies on anxiety indicate that while extreme sport participants are generally less anxious than the average population, anxiety and fear are experienced during the activity (Robinson, 1985).

Overview of present study

To understand better the relationship between the experiences of extreme sport participants

and fear, this article draws on findings from a larger phenomenological study of extreme sport experience. The initial study aimed to gain a deeper understanding of the extreme sport experience from the point of view of extreme sport participants (Van Manen, 1997). The current study focuses upon one aspect of that experience.

Phenomenological research seeks to illuminate the essence of an experience, as understood by participants. Interpretive phenomenology accepts that lived experiences are made sense of through language and therefore participant accounts will reflect this process (Willis, 2001). Although language and explicit accounts are a crucial tool in understanding experience, much of immediate experience is pre-reflective and thus not wholly determined or captured by language (Ajajawi and Higgs, 2007). Interpretive phenomenology aims to penetrate beyond the reflective interpretation of an event in order to reveal the essence of an experience. This process includes elements that might elude language or be underemphasized in explicit accounts because language is not adequate to communicate dimensions of experience (Van Manen, 1997). We thus interpret accounts of extreme sports participants and their experience of fear and anxiety with a view to recuperating the elusive primacy of intense, even transformative extreme sport experiences.

Method

Participants

Following ethics approval, 15 extreme sport participants (10 men and five women aged 30 to 70 years) were recruited from Europe, Australia and North America. Extreme sport participants needed to meet the following inclusion criteria: (a) they participated in 'extreme sports'; and (b) were older than the population usually considered as primary participants. This point was vital because there is a considerable body of research that maintains young people (16–25 years) search for risk-taking opportunities in

diverse activities (Janssen et al., 2007; Jonah, 1986; Sharland, 2006). Interview participants were chosen based upon snow-ball sampling and their willingness to explore, through reflection, the extreme sport experience.

Participants' affiliation with extreme sports included BASE jumping ($n = 4$), big wave surfing ($n = 2$), extreme skiing ($n = 2$), waterfall kayaking ($n = 2$), extreme mountaineering ($n = 3$) and solo rope-free climbing ($n = 2$).

Interviews

The phenomenological approach requires the researcher to enter the project with an open mind; pre-existing understandings are 'bracketed' or set aside (Giorgi, 1997). Interviews were conducted face-to-face or by phone. One question guided the interview process: 'What is your experience of your activity?' Follow-on prompts were used to explore more deeply aspects of participants' experience.

Data analysis

Each interview was recorded and listened to closely, transcribed, read and thematically analysed, which is referred to as explication. Transcripts were revisited as themes became more explicit. Both formal and non-formal understandings of potential themes were continually questioned, challenged and assessed for relevancy. A series of questions checked the analytical process: 'What is beneath the text as presented?' 'Am I interpreting this text from a position of interference from theory or personal bias?' 'What am I missing?' The researcher highlighted interesting phrases and relevant non-verbal considerations were noted. These notes were reconsidered in terms of potential underlying thematic phrases or meaning units (DeMares, 1998; Moustakas, 1994).

Thematic ideas that emerged from this careful examination were clustered and further defined. Second order themes were considered against the original transcripts to ensure accuracy of interpretations. For example, we made

sure that the analysis did not group together concepts that participants used to make fine distinctions that they found important. This entire process of moving between the parts and the whole was repeated recursively to the point of saturation.

Results

Findings can be conceived in terms of four themes: experience of fear; relationship to fear; management of fear; and fear and self-transformation. Following the explication of these themes we will discuss the experience in terms of fear and anxiety in the context of extreme sports.

Experience of fear

Fear is a critical and potentially aversive part of the extreme sport experience. Participants described a range of ways in which fear may emerge and the ways fear might impact their experiences. Fear was intimately related to decision making in terms of decisions to engage in or not engage in activities and potential consequences of such engagement. That is, the future which involved the potential destruction of the physical self emerged in the present. Fear was expressed as a sense of being overwhelmed but also somatically, in its most primitive form. Fear was also experienced as a barrier which might be perceived as too vast or worked through, in which case a new experience emerged.

The aversive nature of fear is articulated by a BASE jumper who described his experience:

The depth of fear that I've felt in my life, the intensity – it's miserable, it really is. The whole idea of 'no fear' – it's rubbish! Fear in adventure is a miserable, gut-wrenching, terrible experience. It's awful. People who say they love the fear, that's bullshit! The fear part of it is an awful, sickening feeling – nobody's there for that. Some people don't get past it, they walk away. (Participant B)

Fear is experienced as miserable. This term is derived from the Latin, *miserabilis* which refers

to an experience characterized by misery and wretchedness. Fear is thus revealed as an embodied experience. The above participant expresses an acute conflict between two poles, the wish to break through fear and attain the goal, and experience of fear as intense, aversive and bodily. The same BASE jumper also challenges commonly held perceptions concerning the 'no fear' attitude. The participant talks about fear in a new way, referring to 'push past it' that is, he alludes to a potential to experience something beyond fear.

Challenges are expressed further in the following extract:

the most normal thing to be saying at a time like that is I'm scared, I hope I don't wet my pants! Oh God! Oh please, let me do this. They're the things we say. If you want the truth, if you want a true slogan for these kinds of sports it is Oh please-don't let me die! That's a normal response. (Participant B)

Bodily experiences of fear emerge as a primitive emotion connected with the potential to urinate uncontrollably. Prior to engaging in a critical aspect of the extreme sport experience the participant describes a sense of fear which is both ever present and overwhelming. The sense of fear is extreme as he refers to the potential to 'wet my pants' and the potential for death. Despite the presence of such intense fear the participant makes a rational decision to continue.

In common with other participants who envision the ultimate fear, that of non-being, a female mountaineer spoke about her fear as a potential barrier to participation. At the same time she spoke about an opportunity to face her fears and continue:

Shit, just really scary and wanting to turn back and run and of course you can't do that because you came there to do it and so you have to actually face your fears which is an exciting bit too because I think that once you've done enough of what you're doing, in this case mountaineering, your experience gets you out of any difficult

situation. But even when you're experienced you know when it's scary because it should be scary, that's the way it is. (Participant C)

Participant C recognized that certain situations are experienced as scary because they are frightening situations and as such deserve to be respected. Participant C provides further evidence of the human capacity to recognize fear and to see benefits from electing to move into and past that which gives rise to the fear.

In summary, a sense of fear in itself was not a reason to stop participation. Indeed participants were still able to function effectively despite the intensity of fear experienced, thus the debilitating effects of fear did not seem to take hold (Holleman, 1996; Robinson, 1985).

Relationship to fear

Conflict experienced in connection to fear leads to participants having a particular relationship to fear. From a phenomenological perspective this can be best understood by drawing upon the notion of intentionality. That is, participants live in relationship to fear. Extreme sport participants perceive the experience of fear as an essential element to their survival. Fear is spoken about as if it is a healthy, productive experience. One participant described his relationship to fear as if the experience should be embraced:

I think fear is probably the most important single facet in survival. Yeah I think it's a good healthy emotion, fear. People are afraid of fear [but] fear is what keeps you alive, it's your fear that stops you from standing right on the very edge; fear is the most important thing in survival; the most important thing. (Participant D)

The participant supports previously described feelings of fear. However they are also able to objectify fear. Fear is thus not something to be avoided, but embraced as contributing to personal survival. Fear 'keeps you alive', revealing an intimate relationship between fear and the living self.

Managing fear

A climber spoke about the fine line between fear triggering panic and being able to use fear in a positive way:

The fascination I had with solo climbing was controlling the fear and I could often feel the panic rising and I used to talk to myself and that used to sort of calm me down a bit. Panic was coming and I was quick to get control, because once you start tightening up everything becomes more difficult. (Participant E)

Participant E reveals a sense of panic associated with being a solo climber and his capacity to address the panic which would be experienced as calming. A second participant elaborates upon panic and the ways in which addressing panic affects her thinking which she describes as amazing: 'You have that instant of panic when you are in a dangerous situation and then it's like no if I panic I'm lost, dead. It's quite amazing really' (Participant F).

The ability to thwart panic and embrace relaxation is spoken about as if it is a function of the experience of fear:

I think that the ability to relax and stay focused and have a good clarity and good judgment in a situation of extreme danger comes down to experience to a certain degree. I think panic is the reaction of a person who has limited experience in an extreme situation. (Participant G)

Participant G referred to this ability as an instinctual capacity, not necessarily a pure function of experience. Fear is deliberately managed by slowing time: 'In those moments when things do suddenly switch into a life or death situation I'm able to almost slow everything down' (Participant G). Fear is related to clarity and judgement and changes in time perception. The participant was both taken by the experience and simultaneously described a meta-perspective in which the experience was controllable.

The above quotes refer to the multiplicity of experience of fear. In each instance fear is both a

primal emotion and an experience to be savoured, confronted or broken through rather than as stimulus for retreat. Fear emerges as a potential mid-way point between the experience of the mundane and a potential to experience an opening-up-of-the-world, a new kind of freedom.

Fear and self-transformation

Participation in the face of the fear offers considerable benefits as participants note how the experience changes their life. Participants equated the feelings of fear as instigating deep positive feelings and changes in behaviour. For example a climber spoke about the ways fear triggered feelings of well-being:

the feeling of well-being because you got into situations where you were frightened when you got into dangerous positions and the greatest fascination I had from it really was controlling the fear because that's what all the climbing is all about. If you have to move up on that wall there [pointing to a steep cliff], you might have 200 people who can do it, you put [the cliff] 200 feet up and then only maybe 50 people can do it. If you put [the cliff] 200 feet up with no rope, then only two can do it. So really the move is exactly the same, it's just the problem is in your head. That's the fascination I had with solo climbing was controlling the fear. (Participant I)

The participant privileges fear and his fascination with fear and his capacity to control his response. Control of fear is associated with success. Control of fear contributes to his capacity to experience a sense of uniqueness and self-transformation. He is able to take personal responsibility for responses to what many would regard as an instinctual response and feel empowered within the process.

A climber described her experience:

It's an amazing experience because you know that if something goes wrong you can only blame yourself for not dealing properly with it. So it's very empowering and of course on big mountains anything can happen. So yeah that's the way it feels like very at peace with yourself afterwards

and very content and yeah happy to have been able to deal with the situation. (Participant J)

The participant, in common with others, achieves a sense of uniqueness in describing herself as the arbiter of her experience rather than a sense of recklessness or self-destruction. She describes her sense of achievement which results in a personal sense of harmony. Fear thus emerges as far more complex than the traditional notion of an adrenaline rush as participants reveal their capacity to harness fear as they achieve a sense of identity and uniqueness.

A BASE jumper recalled how in his early days fear shaped his perception of life:

[Following his involvement] ... at the end of the day I had an epiphany because I did not die but I really enjoyed it. An environment that I never imagined existed was opened up to me. I realized that all that stuff that I had feared, like everybody else, was fundamentally wrong ... and [the idea that] I don't do that so I'm not crazy you know it's one of those self-validations. (Participant K)

Another BASE jumper noted how her experience of fear in extreme sports aided her adjustment to fear in everyday life 'because we've overcome these fears in a physical environment other fears are generally insignificant' (Participant L).

Whereas fear is generally considered as a barrier to do things participants in the current study describe experiences during which they not only work through fear but fear opens a doorway to transcendence. For example, a BASE jumper related how BASE jumping was the 'ultimate metaphor for jumping into life rather than standing on the edge quivering'. She described an acceptance of the inevitability of death and development of an intimate connection to nature as if just 'a leaf in the wind': 'you're totally vulnerable and totally part of the environment at the same time. It's about accepting that you're mortal and that you're very vulnerable and that you're like a piece of dust really or a leaf in the wind' (Participant M).

Working through fear in an extreme situation empowers everyday life. A big-wave surfer

described how the intensity of fear induced tears but continuing brought about a deep transformational experience which he attributes to his ability to survive a divorce which was 'probably the worst moment in my life' (Participant N). The transformational experience was described as an aura that stayed with him:

You get that little rush of what it was all about because it's well embedded in your brain and as soon as you flash back to it and start thinking about it you get that same vibe. Just fulfilled and satisfied with being able to do that, let alone in those days when you were doing it. That's how strong that aura is; it will stay with you for as long as you care to remember. (Participant N)

Fear emerges as part of the experience and meaning of extreme sports. Participants are very clear about the intense feelings during the preparation and pre-activity stage. It would seem that participants consider those who do not feel fear are a danger to themselves and others (Terwilliger, 1998). The body prepares for the typical responses to fear, to run, fight or hide. However, the response is not one of flight, fight or freeze, it would seem that at some point an extreme sport participant recognizes fear but is able to move through fear and gain a transformational experience. It is not even the presumed desire for the adrenalin rush but more the ability to keep the effects of adrenalin from destroying a moment of autonomy in which the individual is able to experience a new sense of self which transcends fear:

We do these things for a number of reasons but one of the most powerful reasons for me is overcoming my own personal fears. That gives you so much more of an insight into your being into your potential and into your capacity. (Participant K)

At the same time a participant is able to experience oneness within the environmental context that he or she is participating with.

The analysis of participants' experience of extreme sports reveals the occurrence of fear in its various forms, participant relationships to

fear and the ways in which participants' both manage fear and are able to harness and transcend fear which participants equate to a sense of personal liberation.

Discussion

This article sought to build upon the literature which seeks to understand the experiences of those who choose to participate in dangerous activities such as extreme sports and add to our understanding of such activities as positive human experiences (Willig, 2008). Willig has previously investigated the experience of participating in a broad range of sports considered to be risk oriented and identified the diversity of experience associated with the nature of sport. The current study identified a common experience, that is, the experience of fear as a complex phenomenon which is recognized as being real but also open to challenge. The participants in the current study describe events during which fear was experienced, recognized and in a sense transcended leading to a range of outcomes. These ranged from the achievement of a personal sense of mastery to a loss of sense of self and identity during which individuals describe their sense of oneness with nature. These findings are consistent with other in-depth studies on the extreme sport experience (Willig, 2008).

The findings provide a critique of fear as understood within conventional psychology that is fear is generally associated with dread. Generally, adults restrict intense emotions and shy away from fear (Elias and Dunning, 1986). However, participants in this study are pointing to a different understanding of the relationship between personal experience and fear. Extreme sports participants embrace fear, claim that fear is a 'friend' and once the ability to recognize and invite a relationship with fear is learnt, fear can be experienced as transformational.

The experiences explicated are consistent with findings in some studies involving less extreme sports where the relationship between perceptions of fear and self-improvement has

been noted by researchers in less extreme adventure sports (Ewert, 1986; Robinson, 1992). Fear has been interpreted as a positive contribution to personal growth and the development of authenticity (Arnould and Price, 1993). For example, Arnould and Price (1993: 29) noted that participants on a white water raft trip experienced fear which helped to cement a sense of self.

Their concerns carry an undercurrent of fear of rafting – that this is something they might die doing. Such fears contribute to [a] perception of the experience as extraordinary and set the stage for a rise of intensification that extends and renews the self.

The current findings suggest that the meaning of the experience of fear for participants in extreme sports needs to be distinguished from fear as used in common language. Fear is not a protagonist but represents a stage which can be recognized and transcended. From an evolutionary perspective fear is related to survival (Ewert, 1986). Those who were 'too fearful to face the do-or-die world outside' (Marino, 2001: 1) probably starved. For Ewert (1986: 45) a 'successful' society is one which tends to 'insulate itself from both environmental (e.g. cold, dark, hunger) and societal/psychological (e.g. confrontation, alien cultures) fear'. Paradoxically, Ewert (1986) noted that by facing and overcoming fear a person can gain valuable self-knowledge and personal growth. These sentiments are well expressed in the current study by several participants, perhaps summarized by the following quote from the BASE jumper who expressed that: 'if you can face your fears you get a new dimension on life, new possibilities. The second is that life's sweet, explore it and treasure it' (Participant B).

Participants in this study also report that facing fear in extreme sports and learning to participate despite the intensity of the fear facilitates the management of fears in other aspects of life. That is by facing our greatest 'true' fears whether they be death, uncertainty or something else and taking action despite

these fears we transcend our own limitations and invite new possibilities into our lives.

The nature of fear can thus be seen as existing on a continuum of experience and from an evolutionary perspective as being linked to survival. Conceivably the continuum of fear at one extreme is related to the potential of non-being and at the other end of the continuum as the potential for life-fulfilment. Participants undertaking an extreme sport are able to achieve a sense of life-fulfilment and as a result psychological well-being.

Summary

The extreme sport experience involves intense fear. However, rather than letting the influence of fear take control of the situation the extreme sport participant continues to undertake their chosen sport. That is, extreme sport participants face intense fears, accept that control of the future is not always possible and move through these fears to participate fully in the action. It would seem that by taking this action despite the intense fears participants were able to move towards a greater understanding of self. Furthermore, the indications are that a participant who makes that choice, who participates despite the fear reportedly has a magical experience, that is, something that cannot be expressed in words.

Competing Interests

None declared.

References

- Ajjawi R and Higgs J (2007) Using hermeneutic phenomenology to investigate how experienced practitioners learn to communicate clinical reasoning. *The Qualitative Report* 12(4): 612–638.
- American Sports Data (2002) 'Generation Y' drives increasingly popular 'extreme' sports. 1 August. Available at: <http://www.americansportsdata.com/pr-extremeactionsports.asp>.
- Arnould EJ and Price LL (1993) River magic: Extraordinary experience and the extended service encounter. *Journal of Consumer Research* 20: 24–45.
- Bennett G, Henson RK and Zhang J (2003) Generation Y's perceptions of the action sports industry segment. *Journal of Sport Management* 17(2): 95–115.
- Breashears D and Clark L (Writer) (1998) Everest: The death zone. In: Breashears D and Clark L (Producer) [film].
- Brymer E (2005) *Extreme Dude: A Phenomenological Exploration into the Extreme Sport Experience*. Unpublished Doctoral Dissertation, University of Wollongong, Wollongong. Available at: <http://ro.uow.edu.au/theses/379>.
- Brymer E (2006 [2002]) Extreme sports: Theorising participation – a challenge for phenomenology. Paper presented at the ORIC research symposium, University of Technology, Sydney.
- Brymer E (2010) Risk and extreme sports: A phenomenological perspective. *Annals of Leisure Research* 13(1&2): 218–239.
- Brymer E and Gray T (2010a) Dancing with nature: Rhythm and harmony in extreme sport participation. *Adventure Education & Outdoor Learning* 9(2): 135–149.
- Brymer E and Gray T (2010b) Developing an intimate 'relationship' with nature through extreme sports participation. *Loisir* 34(4): 361–374.
- Brymer E and Oades L (2009) Extreme sports: A positive transformation in courage and humility. *Journal of Humanistic Psychology* 49(1): 114–126.
- Brymer E, Downey G and Gray T (2009) Extreme sports as a precursor to environmental sustainability. *Journal of Sport and Tourism* 14(2–3): 1–12.
- Celsi RL, Rose RL and Leigh TW (1993) An exploration of high-risk leisure consumption through skydiving. *Journal of Consumer Research* 20: 1–23.
- Davidson L (2008) Tragedy in the adventure playground: Media representations of mountaineering accidents in New Zealand. *Leisure Studies* 27(1): 3–19.
- Delle Fave A, Bassi M and Massimini F (2003) Quality of experience and risk perception in high-altitude climbing. *Journal of Applied Sport Psychology* 15: 82–98.
- DeMares R (1998) *Peak Experiences with Cetaceans: A Phenomenological Study*. Unpublished doctoral thesis, The Union Institute Graduate College, California, San Francisco.
- Elias N and Dunning E (1986) Quest for excitement in leisure. In: Elias N and Dunning E (eds) *Quest*

- for Excitement: Sport and Leisure in the Civilizing Process. Oxford: Basil Blackwell, pp. 63–90.
- Elmes M and Barry D (1999) Deliverance, denial, and the death zone: A study of narcissism and regression in the May 1996 Everest climbing disaster. *Journal of Applied Behavioral Science* 35(2): 163–187.
- Ewert A (1986) Fear: Uses and abuses in outdoor adventure activities. *The Underseas Journal* First Quarter: 44–48.
- Giorgi A (1997) The theory, practice, and evaluation of the phenomenological method as a qualitative research procedure. *Journal of Phenomenological Psychology* 28(2): 235–260.
- Holleman M (1996) The wind on my face. In: Rogers SF (ed.) *Solo: On Her Own Journey*. Washington: Seal Press.
- Hunt JC (1995a) Divers' accounts of normal risk. *Symbolic Interaction* 18(4): 439–462.
- Hunt JC (1995b) The neutralisation of risk among deep scuba divers. Unpublished.
- Hunt JC (1996) Diving the wreck: Risk and injury in sport scuba diving. *Psychoanalytic Quarterly* LXV: 591–622.
- Janssen I, Dostaler S, Boyce WF and Pickett W (2007) Influence of multiple risk behaviors on physical activity-related injuries in adolescents. *Pediatrics* 119(3): e672–e680.
- Jonah BA (1986) Accident risk and risk-taking behaviour among young drivers. *Accident Analysis and Prevention* 18(4): 255–271.
- Koerner BI (1997) Extreeceme: The peril the thrill. The sheer rebellion of it all. High-risk sport add spice to the humdrum of American lives. Available at: www.uwnews.com/usnews/issue/970630/30extr.htm.
- Lambton D (2000) Extreme sports flex their muscles. *Allsport*, September(SB49): 19–22.
- Laurendeau J (2008) 'Gendered risk regimes': A theoretical consideration of edgework and gender. *Sociology of Sport Journal* 25(3): 293–309.
- Marino B (2001) Are you a type T? America loves a risk-taker most of the time. But how much is too much. Available at: www.here2listen.com/public/topics/addiction/risk-taking.html.
- Marshall SLA (1968) Stress-seekers in everyday life. In: Klausner SZ (ed.) *Why Man Takes Chances*. New York: Doubleday, pp. 59–72.
- Midol N and Broyer G (1995) Toward an anthropological analysis of new sport cultures: The case of whiz sports in France. *Sociology of Sport Journal* 12: 204–212.
- Moustakas CE (1994) *Phenomenological Research Methods*. Los Angeles, CA: SAGE.
- Olivier S (2006) Moral dilemmas of participation in dangerous leisure activities. *Leisure Studies* 25(1): 95–109.
- Pain MTG and Pain MA (2005) Essay: Risk taking in sport. *The Lancet* 366(1): S33–S34.
- Pizam A, Reichel A and Uriely N (2002) Sensation seeking and tourist behavior. *Journal of Hospitality & Leisure Marketing* 9(3&4): 17–33.
- Pollay RW (2001) Export 'A' ads are extremely expert, eh? *Tobacco Control* 10: 71–74.
- Puchan H (2004) Living 'extreme': Adventure sports, media and commercialisation. *Journal of Communication Management* 9(2): 171–178.
- Rinehart R (2000) Emerging arriving sports: Alternatives to formal sports. In: Coakley J and Dunning E (eds) *Handbook of Sports Studies*. London: SAGE, pp. 501–520.
- Rinehart R (2005) 'BABES' & BOARDS: Opportunities in new millennium sport? *Journal of Sport & Social Issues* 29: 232–255.
- Robinson DW (1985) Stress seeking: Selected behavioural characteristics of elite rock climbers. *Journal of Sport Psychology* 7: 400–404.
- Robinson DW (1992) The risk-sport process: An alternative approach for humanistic physical education. *Quest* 44: 88–104.
- Rossi B and Cereatti L (1993) The sensation seeking in mountain athletes as assessed by Zuckerman's sensation seeking scale. *International Journal of Sport Psychology* 24: 417–431.
- Self DR, Henry ED, Findley CS and Reilly E (2007) Thrill seeking: The type T personality and extreme sports. *International Journal of Sport Management and Marketing* 2(1–2): 175–190.
- Sharland E (2006) Young people, risk taking and risk making: Some thoughts for social work. *British Journal of Social Work* 36(2): 247–265.
- Simon J (2002) Taking risks: Extreme sports and the embrace of risk in advanced liberal societies. In: Baker T and Simon J (eds) *Embracing Risk: The Changing Culture of Insurance and Responsibility*. Chicago, IL: University of Chicago Press, pp. 177–208.
- Sutherland A (2006) Why are so many people dying on Everest? *British Medical Journal* 333: 452.
- Terwilliger C (1998) Type 'T' personality. *The Denver Post*, 28 March, 1E, 4–5E.

- Van Manen M (1997) *Researching Lived Experience: Human Science for an Action Sensitive Pedagogy*. London, Ontario: The Athlone Press.
- Warshaw M (2000) *Maverick's: The Story of Big-Wave Surfing*. San Francisco, CA: Chronicle Books.
- Weaver M (2009) Kayak record: Down the creek with a broken paddle. *Guardian: News Blog*. Available at: <http://current.com/1m4hm4c> (accessed 9 April 2010).
- Wheaton B (2003) Lifestyle sports magazines and the discourse of sporting masculinities. Paper presented at the Leisure and Visual Culture, Roehampton University, Surrey.
- Willig C (2008) A phenomenological investigation of the experience of taking part in 'extreme sports'. *Journal of Health Psychology* 13(5): 690–702.
- Willis P (2001) The 'things themselves' in phenomenology. *Indo-Pacific Journal of Phenomenology* 1(1): 1–16.
- Zuckerman M (2000) Are you a risk taker? *Psychology Today* November/December: 130.