Adventurous Physical Activity Environments: A Mainstream Intervention for Mental Health

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Sports Medicine July 2016, Volume 46, Issue 7, pp 963–968 DOI: 10.1007/s40279-016-0503-3

Abstract

Adventurous physical activity has traditionally been considered the pastime of a small minority of people with deviant personalities or characteristics that compel them to voluntarily take great risks purely for the sake of thrills and excitement. An unintended consequence of these traditional narratives is the relative absence of adventure activities in mainstream health and well-being discourses and in large-scale governmental health initiatives. However, recent research has demonstrated that even the most extreme adventurous physical activities are linked to enhanced psychological health and well-being outcomes. These benefits go beyond traditional 'character building' concepts and emphasize more positive frameworks that rely on the development of effective environmental design. Based on emerging research, this paper demonstrates why adventurous physical activity should be considered a mainstream intervention for positive mental health. Furthermore, the authors argue that understanding how to design environments that effectively encourage appropriate adventure should be considered a serious addition to mainstream health and well-being discourse.

1 Introduction

Despite increasing societal attempts to minimize dangers in sport, 'adventure' activities, such as skydiving, rock climbing and whitewater kayaking, are gaining in popularity [1, 2, 3]. Further, it would seem that participants herald from a broad cross section of society that includes males and females of various age ranges, income and educational levels [4]. According to Puchan [5], involvement has "been shown not to be just a 'flash in the pan' but a sign of the times in which people are looking for a new way to define their lives and to escape from an increasingly regulated and sanitised way of living" (p. 177).

At the 'extreme' end of the adventure spectrum [e.g., activities such as BASE (Buildings, Antennae, Space, Earth) jumping, big wave surfing, waterfall kayaking and rope-free climbing], the most likely outcome of a mismanaged error or accident is death. Thus, some psychologists view this behavior as irrational and deviant, resulting from ignorance or the inability to self-regulate [6]. Perhaps as a result of this perspective, outdoor play activities that are traditionally categorized as higher risk amongst children have diminished as society increasingly focuses on safety and regulation [7]. In this paper, we argue that adventurous activities are beneficial for health and well-being and, as such, should be encouraged to provide important community benefits.

2 The Traditional Adventure Narrative

The traditional perspective on adventure is risk oriented. Typically, adventure participants are considered risk-takers or adrenaline seekers. Thus they are characterized as people who participate strictly because they enjoy or need to take risks. Adventure sport motives are often limited to a need for adrenaline or because participants like to test themselves through taking unnecessary pathological and socially unacceptable risks [8, 9]. The adventurer is most usually portrayed as a young male "fascinated with the individuality, risk and danger of the sports" [10] (p. 98) and the desire for adventure indicative of some kind of abnormal psychology.

The traditional theories that have been put forward to explain adventure participation are 'edgework' [11], sensation seeking [2, 12, 13, 14, 15, 16, 17, 18, 19, 20], type 'T' personality [21] and psychoanalysis [22]. Edgework explains extreme sport participation from a sociological perspective by proposing that participants voluntarily navigate the edges of control in an effort to escape the routine and monotony of modern life [23]. The sensation-seeking standpoint presents extreme sport participation as an inherent need for novel experiences and intense sensations obtained by taking physical risks [16, 24]. Sensation seekers are hypothesized to continually search for new thrills and excitement in an attempt to alleviate boredom. Those exploring type 'T' explain extreme sports participation as a positive means to live out a deviant personality trait [21]. This theory argues that extreme sports participation is fuelled by needs for uncertainty, novelty, ambiguity, variety and unpredictability [25]. Those espousing the psychoanalytic perspective [22, 26] view extreme sport participation as a pathological and unhealthy narcissistic tendency [26]. These theorists maintain that participants are "denying limitations and vulnerabilities, rationalizing unacceptable behavior and feelings, overestimating abilities and accomplishments, and offering consistently self-serving explanations for successes and failures" [26].

In summary, these perspectives focus on understanding adventurous 'types' of people and propose that personality traits, socialization processes and previous experiences compel a participant to put their life at risk through adventure sports. These perspectives, however, are often the presuppositions of non-participants that are at best inconclusive [6, 27]. The first limitation of these risk-oriented perspectives is that they have had an almost exclusive focus on adventure as a male pastime, which essentially ignores the many talented and experienced women who also participate in adventurous activities. Second, these explanations of risk-taking assume that only those with a certain trait or personality will be interested in adventure. Third, risk-oriented approaches assume that adventure participation is based on a risk continuum in which only those with the right personality or trait will be successful. A fourth issue with risk-oriented approaches is that there is little recognition of the effort, commitment and skill required to participate. However, the most important limitation is that these approaches do not fully reflect the lived experience of participants and, as a result, the psychological health and well-being benefits of adventure sports remain largely unrecognized [27].

A growing body of literature suggests that adventurous physical activity may improve physical and psychological health and well-being [28, 29, 30, 31, 32]. Participants report outcomes such as positive life transformations, optimal experiences, enhanced quality of life, emotional regulation, development of emotional agency in interpersonal relationships, joy, goal achievement, social connections, escape from boredom, pushing personal boundaries, overcoming fear, and pleasurable

kinesthetic bodily sensations [29, 30, 33, 34, 35, 36, 37, 38, 39]. Research on adventure education and wilderness therapy programs further underscores these findings. Meta-analyses of hundreds of adventure education studies clearly demonstrate that adventure programs facilitate positive health and well-being outcomes, particularly for longer programs and younger participants (e.g., [40, 41]). For example, studies investigating the health benefits of outdoor adventure programs for at-risk youth have found long-term benefits including enhancements in self-concept chemical dependency recovery, and reduced behavioral and emotional symptoms (e.g., [42]). Willig [35] concluded that taking part in adventurous physical activity has the potential to enhance a participant's life in ways that cannot be achieved elsewhere. She suggested that even extreme adventurous physical activity could be considered transformational and that therapeutic adventure activities could be used in "re-establishing psychological balance" [35] (p. 700).

Notwithstanding this growing body of adventure and well-being literature, we have little understanding of how these benefits are achieved. In the remainder of the article, we review the main approaches to understanding the psychological health and well-being benefits of adventurous physical activity and argue that adventurous environments should be seriously considered as an important part of psychological health and well-being design and development.

3 The Mental Toughness Approach: Integrating Risk, Stress, Resilience and Well-Being

The study of adventure is laden with misconceptions and assumptions regarding individuals' subjective experiences and participation motivations. Superficially, fear and risk appear to be integral parts of the adventure experience [6, 43]. In fact, some researchers have highlighted the prominence of fear and anxiety in adventure experiences [44]. Traditional models highlighting the character-building benefits of adventure mirror the risk-taking orientation in that benefits are proposed to stem from risk-taking and participants acting 'out of their comfort zone'. Danger and risk are thought to produce optimal stress and discomfort, thereby promoting character development, improved self-esteem and enhanced psychological resilience (e.g., [45]). Unlike other sports or recreational pursuits in which the element of risk is often viewed negatively, the common thread in adventurous pursuits has traditionally been the positive valuation of risk and active pursuit of risk-taking opportunities to build character (e.g., [46, 47, 48]). The challenge posed by adventure activities lies not in defeating one's opponent, but in encountering, minimizing and mastering physical obstacles through use of personal skills and competencies [49]. Related to this strand of research is the finding that the development of resilience has been identified as a benefit of adventure experiences that serves to buffer the impact of stressful life events [45, 50].

Mental toughness offers a way of integrating many aspects of the adventure activity domain, but perhaps more importantly, it highlights the importance of individual differences in the choice of, and the potential benefits derived from, leisure pursuits. Mental toughness itself has been described as a "narrow personality trait" [51] and has a clear genetic basis [52]. Individuals who score highly on mental toughness are excited by challenge and therefore may be drawn to adventure. Some people may be born to be adventure seekers. Reciprocally, involvement in highly challenging activities may increase mental toughness. It is becoming clear that personality traits have far more plasticity than previously thought.

Applying the concept of mental toughness to the field of adventure provides an opportunity to integrate the extant literature regarding stress, risk, resilience and well-being. Arguably, the most widely used model of mental toughness is the 4 'C's model [53, 54]. In the 4 'C's model, overall mental toughness is a product of four central pillars: challenge: seeing challenge as an opportunity; confidence: having a high level of self-belief; commitment: having the ability to stick to tasks; and control: having the belief that you control your own destiny.

This model also has a well validated and reliable measure of mental toughness: the Mental Toughness Questionnaire (MTQ48) [55]. It has been suggested that mental toughness both encourages individuals to participate in outdoor adventure activities and then this participation helps them to further enhance their mental toughness as they participate [56]. The existence of a clear definition and a psychometrically robust test of mental toughness has allowed researchers to investigate the impact of mental toughness on a range of recreational criteria. For example, Gerber et al. [57] compared the mental toughness of adolescents and young adults with the amount of self-reported exercise they took part in. They concluded that acquiring a mindset of mental toughness might be one way that physical activity and exercise can improve an individual's mental health.

In relation to adventure activities, mental toughness has been specifically linked to some of the central benefits of the 'outdoor adventure experience'. Crust and Keegan [58] argue that tough individuals appear to be future-oriented decision makers who seek out challenges and approach, rather than avoid, potential anxiety-producing situations. They carried out a study examining risk-taking attitude and scores on the MTQ48. They concluded that a willingness to accept challenges was an important attitude that characterizes mentally tough athletes. Crust and Swann [59] linked mental toughness to the experience of flow, the latter being often placed at the very heart of many outdoor experiences. Flow is basically the state in which people are so involved in an activity that nothing else matters, bringing a number of psychological benefits [37, 60]. Crust and Swann [59] reported a strong relationship between the two and suggested that developing mental toughness through sport and active pursuits may actually facilitate the ability to experience flow.

Crust and Clough [56] argue that the available evidence strongly suggests that experiential education plays a significant role in the development of mental toughness. In a sports setting, parents and coaches of young athletes are likely to be crucial in cultivating the correct environment for mental toughness to flourish. Crust and Clough [56] proposed that individuals must be exposed to (rather than sheltered from) challenging situations which allow personal resources such as coping skills to be developed through problem solving. Adventurous physical activity environments may act as a magnet for tough individuals and provide them with an opportunity to fully self-actualize. Additionally, these types of environment offer the intriguing possibility of a way to develop toughness, thus providing tough and especially more sensitive individuals with a potential performance increment as a result of higher levels of toughness [56].

4 The Environment Approach

Recently, numerous theories recognizing the benefits of natural environments, which are inherent in most adventurous physical activity experiences, have emerged. Facilitated and self-directed adventures undertaken in natural environments have been linked with a range of psychological

benefits (e.g., [28, 29, 33, 61]). One explanation for these findings is that the aesthetic, spiritual and novel qualities of natural or unfamiliar environments promote personal development, well-being and self- and environmental awareness (e.g., [41, 62, 63, 64, 65]).

Another explanation is that the environment inherent in adventure provides opportunities to fulfill psychological needs in addition to competence, namely basic human needs for relatedness and autonomy (e.g., self-determination theory; see Deci and Ryan [44] for review). Studies investigating the psychological benefits of adventurous activities have highlighted the importance of autonomy and personal relevance in fostering positive outcomes (e.g., [66]). The environment may promote relatedness and autonomy in various ways. For example, relatedness may be facilitated in activities, such as climbing, where more than one participant is involved due to their generally more cooperative, rather than competitive, nature. Participants often rely on each other for safety and generally work together, rather than competing.

The environment might also promote development when participants act to overcome environmental challenges. The physical characteristic of the environment provides greater opportunities for volitional choice about potential courses of action than traditional sporting activities with more formalized 'rules.' The consequences of these choices may also be more serious, thus making the autonomous decision-making process more salient and meaningful to participants. Successfully overcoming these challenges promotes feelings of competence and positive affect, increases self-efficacy or facilitates a variety of optimal psychological experiences linked to psychological well-being and enhanced mood states [60, 67, 68].

While, in the main, the health and well-being benefits of adventure have been associated with novel experiences inherent in natural environments, a few expert practitioners of adventurous activities such as parkour and BASE jumping attain these benefits by recognizing opportunities for adventure in the urban environment [69, 70]. That is, adventure and the psychological health and well-being benefits of adventure could even be gained by those constrained to urban environments. However, as current urban design actively discourages this type of adventure, it is not easily available to the everyday adventure seeker [71, 72].

These perspectives emphasize the key relationship between environmental settings and psychological processes in promoting health and well-being through adventurous physical activity. Adventurous activities provide unique physical and psychological challenges resulting from interactions with the environment, rather than other people or sporting situations that are 'contrived.' The key element is the development of an environment that invites and encourages adventurous activities. While in part this has been recognized and adventure has been designed into the everyday environment in the form of segregated adventure playgrounds for children [71, 72], the role of adventure in enhancing the well-being of the broader society has been overlooked [72]. Designing challenging features into the everyday urban environment that invite adventurous activities such as climbing (e.g., trees in local green spaces to climb rather than look at or sit under, or rope and other climbable features that might invite climbing from one level to another alongside steps, elevators, ramps or escalators) might be one way to enhance the psychological health and well-being of the broader society [72, 73, 74].

5 Conclusion

Emerging research suggests that adventurous physical activities may promote psychological health and well-being in a variety of ways. In summary, the literature suggests that adventurous physical activities generally provide the following benefits:

1. Increase positive psychological outcomes such as positive affect, self-efficacy and resilience
2. Provide opportunities to overcome challenges and have optimal experiences
3. Provide opportunities to fulfill basic psychological needs of autonomy, competence and relatedness
4. Facilitate feelings of connection to nature (as they normally occur in natural settings)
5. Increase physical activity levels
6. Provide opportunities for participants to experience intense emotions.

Each of these elements has been shown to promote well-being or health. The authors contend that these benefits are often overlooked as developed societies increasingly focus on facilitating 'safe' or undemanding activity choices. Based on the literature reviewed, we conclude that adventurous physical activities may be viable wellness promotion tools that should be included in large scale preventative health strategies.

Despite the growing body of evidence that adventurous physical activity promotes psychological health and well-being, how this occurs remains unclear. The benefits and attractiveness of these activities may depend on the unique relationship between an individual and the environment in which that activity occurs. However, the implications of this literature are that physical activity for all should not mean the same physical activity or competitive sport for all people. In order to facilitate greater benefits and opportunities, individuals should have a diverse range of physical activity options. Open, natural spaces and demanding terrains are needed just as much as indoor gyms and running tracks. Adventurous physical activity is neither pathological nor inappropriate, but rather a reflection of the diversity that is inherent in humanity. Including opportunities for adventurous physical activity in mainstream well-being and health discourses and interventions will expand the range of possible health benefits available to larger segments of society. This requires academics and policy makers alike to broaden their perspectives on adventure and risk and develop environments that encourage appropriate adventure.

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