

## Commentary on: Addiction in extreme sports: An exploration of withdrawal states in rock climbers

### *Nature Fix: Addiction to Outdoor Activities*

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(Received: September 5, 2016; revised manuscript received: October 24, 2016; accepted: November 6, 2016)

Individuals can display characteristics of behavioral addictions to nature and the outdoors as well as adventure activities. Research on mental health effects of nature exposure is relevant to research on nature and adventure addictions.

**Keywords:** adventure, sport, recreation, tourism, health, mental

At least some individual practitioners of adventure sports, recreation, and tourism display all the characteristic criteria of powerful behavioral addiction (Buckley, 2012, 2015a; Heirene, Shearer, Roderique-Davies, & Mellalieu, 2016). There are also many individuals, however, who take part in the same activities without exhibiting symptoms of addiction. In addition, I suggest that there are individuals who do exhibit symptoms of behavioral addiction, but where the addiction they display is not to a specific activity, but to the natural setting, nature and the outdoors. I, therefore, suggest that there is an opportunity to link research on behavioral addictions and research on the mental health effects of exposure to nature.

Most published research on adventure tourism and recreation makes no mention of addictions. At least 14 different distinct motivations for participation in these activities have been identified (Buckley, 2012). Broadly, these may be divided into external social motivations, and internal individual motivations. Social motivations include making friends, building image, and acquiring social capital. Internal motivations include thrill, nature appreciation, and various physical, mental, or emotional challenges. Social motivations predominate for the more numerous participants at lower skill levels, and internal motivations for the less numerous participants at higher skill levels (Buckley, 2012).

Individuals can develop behavioral addictions at any level of skill, but the most powerful addictions are shown by long-term expert practitioners, as exemplified for the climbers interviewed by Heirene et al. (2016). There are also many practitioners who have converted their skills to a career as guides or instructors, and still continue to practice the same activities when not at work, typically at higher skill levels.

Not everyone involved in adventure activities, however, becomes addicted. Some may try a particular activity but decide it is not for them. Others continue to take part occasionally, but without addiction, as for some of the

climbers interviewed by Heirene et al. (2016). Some individuals are addicted to different activities at different times. From an autoethnographic perspective, for example (Buckley, 2015b), over the past four decades I myself have been addicted to hang gliding, sailboarding, whitewater kayaking, surfing, snowboarding, and kiteboarding at various times and intensities.

This raises three questions for further research. The first is about the activities: what is it that makes some activities more addictive than others? The second is about individual personalities: what is it that makes some people addicted and others not? The third is about process and mechanism: how exactly do individual people become addicted to particular activities, and what determines whether those addictions increase, maintain, or fade over time? For each of these questions, adventure sports, recreation, and tourism can provide ethically straightforward experimental opportunities that are relevant to research on behavioral addictions more broadly (Buckley, 2012). Equally, laboratory and clinical work on both substance and behavioral addictions is relevant in understanding these issues for adventure addictions specifically.

One possibility, for example, is that the addictive component is rush, a combination of thrill and flow, or thrill with skill (Buckley, 2012). If correct, this hypothesis might explain why high thrill but low skill activities such as bungee jumping or scary theme-park rides do not seem to generate the same behavioral addiction as skilled adventure activities. This cannot be the whole picture; however, since there are many low skill activities, notably including automated gaming-machine gambling, which do indeed generate behavioral addictions.

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If thrill is important, then we can consider what personality characteristics and emotions may contribute to thrill experiences. There is extensive research on personality factors, most of it employing the thrill-seeking subscale of the sensation-seeking personality scale (Zuckerman, 2007). Sensation-seeking personalities are prevalent among practitioners of many outdoor adventure activities (Buckley, 2016), but the pattern is not universal. Thrill is driven at least partly by fear (Buckley, 2016), but with differences between individuals and differences between specific events and activities for the same individuals. Fear boosts thrill up to a certain threshold, but beyond that, fear increases and thrill disappears. More complex links between different types of fear, and between triumph and relief as well as thrill, remain to be investigated.

One aspect that does not yet seem to have been investigated at all within the adventure addiction literature, is the importance of the setting, the environment in which the activity takes place. In adventure psychology research, this aspect has only been considered as a contributing factor to risk, difficulty, and skill, for example, different grades of climb, different grades of whitewater rapids, or different types of surfing wave. Research on nature exposure and mental health, however, draws very fine distinctions between the types and degrees of exposure to either built or natural environments, and their effects on cognition, attention, memory, attitude, self-perceived quality of life, and similar factors (Berman et al., 2012; Bratman, Hamilton, Hahn, Daily, & Gross, 2015; Pearson & Craig, 2014).

We may legitimately ask, therefore, whether individuals can become addicted to nature, either jointly or independently of outdoor adventure activities. The evidence suggests that this is indeed possible, and merits research attention. Criteria for behavioral addictions (Lichtenstein, Larsen, Christiansen, Støving, & Bredahl, 2014; Marks, 1990) include: preoccupation, prioritization, cyclical craving and satisfaction, and withdrawal symptoms such as moodiness and inability to pay attention. The “videophilia” hypothesis of Pergams and Zaradic (2008) suggests that in urbanized developed nations, younger generations are losing interest in the outdoors, and instead paying attention to digital multimedia communication and entertainment devices. This hypothesis has been questioned (Balmford et al., 2009; Buckley, 2009); but even if it is indeed correct for some individuals, it does not apply universally.

There are many individuals who do indeed: plan and use their resources so as to spend time in nature, experience emotional distress and powerful nature cravings if confined indoors, experience strong withdrawal symptoms if they do not spend time in nature, and whose attention, memory, and cognition are all enhanced in nature, and depleted as time passes without a nature fix. All of this is entirely consistent with research on nature exposure and mental health, but has not previously been framed as a behavioral prediction. I propose that this would indeed be a valuable perspective, and one worth pursuing in conjunction with continuing research on behavioral addictions to adventure tourism, recreation, and sport.

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*Funding sources:* The author declares that no financial support was received for this study.

*Conflict of interest:* The authors declare no conflict of interest.

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