Psychology of Sport and Exercise 27 (2016) 157–167

Contents lists available at ScienceDirect

Psychology of Sport and Exercise

journal homepage: www.elsevier.com/locate/psychsport

Surviving the 2015 Mount Everest disaster: A phenomenological exploration into lived experience and the role of mental toughness

Christian Swann [a, *], Lee Crust [b], Jacquelyn Allen-Collinson [b]

[a] Early Start Research Institute, University of Wollongong, Australia
[b] School of Sport and Exercise Science, University of Lincoln, UK

ARTICLE INFO

Article history:
Received 30 June 2016
Received in revised form
25 August 2016
Accepted 26 August 2016
Available online 28 August 2016

Keywords:
Climbing
Coping
Emotion
Extreme environments
Mental health
Natural disaster

ABSTRACT

Objectives: The 2015 Nepal earthquake and subsequent avalanche at Mount Everest Base Camp is the deadliest mountaineering disaster to date. This study is novel in exploring the lived experiences of survivors and the role of mental toughness in their psychological responses to the disaster.
Design: Phenomenological study.
Method: Ten mountaineers, who were on expeditions during the earthquake, participated in phenomenological interviews. Data were analysed inductively and thematically, while strategies to enhance trustworthiness were also employed.
Results: Seven dimensions emerged from the data, which captured climbers' psychological responses to the disaster, ranging from the moments the earthquake hit to reflections on the disaster after returning home. Contrasting emotional responses were described, and suggested to depend on experience and mental toughness. Negative emotional and behavioural responses were reported in the aftermath. Some climbers reported post-traumatic stress, but also a strong desire to return to Mount Everest and continue mountaineering.
Conclusions: These findings provide detailed insights into the lived experiences of climbers who survived the 2015 Nepal earthquake and Base Camp avalanche. Findings also shed light on the role of mental toughness in coping with and responding to a major natural disaster.

1. Introduction

High-altitude mountaineering is considered one of the most dangerous sports, with high accident rates and numerous fatalities each year (Wickens, Keller, & Shaw, 2015). The term “death zone” is commonly used to describe climbing above 8000 m because air contains approximately one third of the oxygen available at sea level, temperatures can drop below minus 30° Celcius at the summit, and as such humans can only survive temporarily in such conditions. Of the 14 mountains in the world that rise above 8000 m in altitude, Mount Everest (8,848 m) is the highest and attracts a few hundred climbers each year. Numerous factors combined (e.g., altitude, temperature, wind, snow conditions, etc.) make climbing peaks such as Mount Everest a risky pursuit. Since the first ascent in 1953, over 4000 climbers have achieved the summit of Mount Everest, although more than 280 people have died on the mountain (e.g., Mu & Nepal, 2016). High profile incidents on Mount Everest include the 1996 disaster where eight lives were lost in a single day (e.g., Elmes & Barry, 1999) and the 2014 avalanche where 16 Nepalese guides were killed in the Khumbu icefall (e.g., Stokes, Koirala, Wallace, & Bhandari, 2015), a dangerous and unstable section of the route just above Base Camp.

On 25th April 2015 an earthquake measuring 7.8 on the Richter scale struck Nepal, triggering avalanches in the Himalayas. The most deadly avalanche descended from Pumori mountain into Mount Everest Base Camp where most teams and expeditions were located (Salas, 2015). Three hundred and fifty nine climbers were granted permits to climb Everest in 2015, many of whom were at Base Camp during the avalanche (Parker, 2015). The impact of the avalanche caused devastation at Base Camp and, in total, 22 climbers died and over 60 were injured (Farrer & Beaumont, 2015), making it the deadliest disaster in the history of climbing Mount Everest.

The aim of this study was to explore the *lived experiences* of mountaineers who survived the 2015 Nepal earthquake and

* Corresponding author. Early Start Research Institute, University of Wollongong, Wollongong, New South Wales 2522, Australia.
E-mail address: cswann@uow.edu.au (C. Swann).

http://dx.doi.org/10.1016/j.psychsport.2016.08.012
1469-0292/

subsequent avalanche at Base Camp. Specifically, we focused on the psychological and emotional challenges involved for these climbers, and the role of mental toughness in coping with this disaster. Such catastrophic events pose significant short-term and long-term emotional challenges and psychological consequences (García, 2011). Indeed, survivors at Base Camp remained at an altitude of 5300–5400 m, a height which impacts on physical and cognitive functioning (e.g., Bahrke & Shukitt-Hale, 1993). Furthermore, these individuals were in an extremely isolated location with limited supplies (including medical) or access in and out of the area. Therefore, this event presents a significant but, as yet, under-researched context in which to understand climbers' psychological and emotional responses.

1.1. Mental toughness

Several motivational and cognitive mechanisms can contribute to different, and sometimes opposite, psychological outcomes (e.g., meaning-construction or distress) after trauma and loss (Park, 2010). For example, García, Cova, Rincón & Vázquez (2015) found that rumination processes (e.g., brooding and cognitive strategies) mediated both posttraumatic symptoms (PTS) and posttraumatic growth (PTG) following a natural disaster. In particular brooding (i.e., passive focus on causes and consequences, recurrent comparisons, and dwelling on obstacles) has been found associated with negative emotions and maladaptive outcomes such as PTS, while more active strategies concerned with deliberately and consciously coping appear related to adaptive outcomes and PTG (García, Cova, Rincón & Vázquez, 2015). Similarly, personality has been found to influence behaviours and psychological outcomes – especially in extreme environments such as high-altitude mountaineering (e.g., regarding risk-taking; Barlow et al., 2015; Monasterio, Alamri, & Mei-Dan, 2014). Mental toughness (MT) is reported to have particular importance for high-altitude mountaineers (Crust, Swann, & Allen-Collinson, 2016; Fawcett, 2011). Researchers generally agree MT is a multi-dimensional construct comprising values, attitudes, emotions and cognitions that enable people to successfully pursue their goals and perform consistently well regardless of obstacles or adversity (Coulter, Mallett, & Gucciardi, 2010; Hardy, Bell, & Beattie, 2014). Researchers in sport and exercise have found mentally-tough individuals to be disciplined, persistent, confident, and able to demonstrate resilience by moving on quickly (without dwelling on negative experiences), and refocusing on goals following setbacks (Cook, Crust, Littlewood, Nesti, & Allen-Collinson, 2014; Crust, Swann, Allen-Collinson, Breckon, & Weinberg, 2014). Most researchers agree that MT is a relatively stable disposition/trait construct that is important in coping with stress and is unlikely to change quickly over time (Hardy et al., 2014).

Two previous studies used a phenomenological approach to examine MT in mountaineering. Fawcett (2011) provided a case example from a larger sample of interviews with elite high-altitude mountaineers and explorers, which emphasised the contextual nature of MT. Safety and survival were found to be crucial issues and the participant reported keeping emotions in check, control of ego, self-knowledge, and the ability to make correct decisions under-pressure as indicative of MT. Generally, a realistic perspective was adopted, involving perseverance and suffering, calculated risk-taking, but also the acceptance that sometimes conditions were too dangerous to continue. Crust et al. (2016) interviewed 14 mountaineers including guides, expedition leaders, and doctors to understand the role of MT in decision-making – particularly around the decision to persevere or abort summit attempts. Participants emphasised the importance of MT in mountaineering, and described rational, flexible, and vigilant decision-making. In contrast to much MT literature, these mountaineers accepted limits, demonstrated restraint, and sacrificed personal goals to aid others, while also reporting costly perseverance as some mountaineers were described as "too tough", over-competitive, goal-obsessed, and biased decision-makers.

While the measurement of MT has been the subject of intense debate (cf. Gucciardi, Hanton, & Mallett, 2012; Perry, Clough, Crust, Earle, & Nicholls, 2013) several studies have used questionnaire-based approaches to demonstrate the associated behavioural correlates. These correlates have generally consisted of performance on physical tasks, with evidence supporting MT relating to pain endurance (Crust & Clough, 2005), cross-country race times (Mahoney, Gucciardi, Ntoumanis, & Mallett, 2014) and physical training tasks (Gucciardi, Peeling, Ducker, & Dawson, 2016). These performance variables essentially measure perseverance and the ability to persist despite the presence of pain or fatigue. Whilst these studies support conceptual foundations by highlighting meaningful correlations (Mahoney et al., 2014), most definitions of MT emphasise the ability to cope with psychological as well as physical stressors. Outside of sport, findings have supported the conceptualisation of MT as a positive psychological construct, with significant and positive relations reported with psychological wellbeing (Stamp et al., 2015), most likely attributable to effective stress management. Furthermore, numerous studies have examined the relationship between MT and coping. Using questionnaire-based research, Nicholls, Polman, Levy, and Backhouse (2008) found higher MT to be associated with greater use of approach/problem focused coping, and less use of avoidance/emotional coping. Follow-up research found MT correlated with more effective coping (Nicholls, Levy, Polman, & Crust, 2011). Qualitative research (Crust, Nesti, & Bond, 2010; Crust et al., 2014) found maintaining perspective/sense of reality, seeking support, compartmentalising, and refocusing quickly after setbacks were indicative of greater mental toughness.

While much extant literature has examined MT within traditional team sport settings (Cook et al., 2014; Gucciardi, Gordon, & Dimmock, 2008; Hardy et al., 2014) this potentially provides too narrow a view of the construct. Similarly, past researchers have been critical of MT literature that focused mainly upon reactions to adversity, and the ability to cope and recover following setbacks. Gucciardi et al. (2008) emphasised that MT is also important in positively construed situations but is best understood "in the context of those conditions in which mental toughness is required" (p. 262). Nevertheless, while adversity in team sports might represent injury, de-selection, or performance slumps, in high-altitude mountaineering adversity can involve critical survival situations involving life or death decision-making. The extreme adversity faced during the earthquake and subsequent avalanche provides an ideal and unique context to understand the decision-making, behavioural responses, cognitions, and emotions perceived to underpin MT.

In seeking to understand the characteristics and development of MT, numerous qualitative studies (see Anthony, Gucciardi, & Gordon, 2016) have interviewed elite athletes, coaches, and/or parents. Past work has generally adopted a "career-based" semi-structured interview that required elite participants to reflect on experiences which have occurred over several years (i.e., throughout their career; see Swann, Keegan, Crust, & Piggott, 2016). Whilst this approach has added to knowledge (e.g., general behaviours, critical incidents etc), it can represent a selective process where information conforming to the ideal mentally-tough athlete is over-emphasised. This argument appears central to Andersen (2011) labelling MT as an idealised, selective, and fantasy construct detached from realistic accounts of human experience. As such, some literature on MT appears to represent a super-human