

## CASE REPORT

# Extreme risk taker who wants to continue taking part in high risk sports after serious injury

M Pain, J H Kerr

*Br J Sports Med* 2004;**38**:337–339. doi: 10.1136/bjism.2002.003111

The case is reported of a 40 year old male high risk sport athlete who had seriously injured himself several times and as a result was partially physically disabled and had trouble with mental tasks requiring concentration such as spelling, reading numbers, and writing. The athlete was referred to a sports psychologist. In consultations, it became clear that he was having difficulty reconciling the difference between his life as it used to be and as it would be in the future. Part of his difficulty was dealing with the frustration and anger “outbursts” which resulted from not being able to perform straightforward everyday motor skills. In spite of his injuries and disability, the patient badly wanted to continue participating in extreme sports. Reversal theory is used in the discussion to provide theoretical explanations of the motivation for his extreme risk taking behaviour.

**A**rousal or sensation seeking behaviour, through participation in sports with a high risk of injury or even death, has been recognised in psychology for some time. The case reported here concerns an extreme risk taker who in spite of severe injuries and partial disability was strongly motivated to continue participating in these types of sport. His consultations with a sport psychologist are described, and theoretical explanations are provided from reversal theory for his extreme arousal seeking behaviour.<sup>1</sup>

### CASE REPORT

A 40 year old man presented for two consultations with a sport psychologist. The athlete had been referred by his psychologist in the Acquired Brain Injury Unit at the local hospital. The client had a long history of participation in dangerous or high risk sports, such as sky diving, rock climbing, jet skiing, and driving fast cars. He had skied since he was a young child and stated that he had been part of a group of skiers involved with the national Olympic ski team. Two years previously he had incurred a compound fracture of his left tibia and fibula while sky diving. Before the accident, he had completed 708 sky dives. After medical treatment, he was warned by his doctor that if he broke the titanium plate screwed into his lower leg, it would have to be amputated. In addition, the athlete had recently suffered severe and life threatening injuries during a go-karting accident. He had decided to take up go-karting, reasoning that his leg would be protected by the kart's bodywork. The accident occurred in his third ever race. He avoided a collision, but in doing so, the kart somersaulted vertically (end to end) twice, and finished up resting on its right side. The client broke his back, broke and dislocated his right shoulder, broke four ribs which punctured both lungs, and incurred serious brain damage. He was taken to hospital, where he spent two months in intensive care and high dependency units. He spent five weeks in a coma, with brain damage and no movement

in his right leg or arm. After intensive rehabilitation, he managed to walk again and gained some strength in his right arm, although it had lost a degree of muscular function, as had his right leg to a lesser extent. The latter caused a limp when walking. His speech appeared to be normal, but he had difficulty spelling, reading numbers, and writing (he is right handed). The client could only work part-time in the family business because of headaches and tiredness and an inability to concentrate for long periods of time. He admitted that this would probably prevent him from working full time again. Even a small amount of reading still produces severe headaches. In the sport psychologist's opinion, these difficulties also precluded asking him to complete any psychological questionnaires and these were administered verbally.

His parents and brother also participate in high risk sports. They have also supported him financially and emotionally in the period since his hospital stay, and his medical expenses, for example, were paid by his father as he could not obtain insurance. From discussions during consultancy, it transpired that he continues to experience frustration, and that he sometimes “lashes out” verbally at his (non-custodial) son, whom he loves very much but does not know very well, as well as his family. Although, not diagnosed as clinically depressed, he said that this accident “destroyed everything”. He appeared to understand that, although he had made an almost miraculous recovery, he was at the end point of his medical journey and that there may be little improvement from this point on. He wanted to know how to reconcile his life as it used to be and what it would be in the future. He imagined himself achieving sporting greatness, but now wondered what he could achieve. He still enjoyed life and liked to push himself, but day to day living in his “new body” is proving hard to deal with.

At the second consultation, designed to follow up on the behavioural strategies suggested in the first session, the client turned up on crutches after a jet ski accident in which he had bruised his heel badly and broken a rib. The jet ski accident came about after he saw another person getting “three metres of air” riding the waves on his jet ski by leaning back, which he tried to emulate. Leaning and moving his feet position farther and farther back to get even higher resulted in the accident. In spite of the accident, the client was in good spirits, and during discussion about his risk sports reiterated that he would never want to give these up, adding that he thought he took “controlled risks”.

### ATTEMPTS AT INTERVENTION

Considering the client's medical history and current disabilities, the sport psychologist explored the possibility of his retirement from participation in elite level high risk sports and the issues arising from this. On the basis of work with athletes who previously have successfully made the transition from an elite athlete to a non-elite athlete, sport psychologists often recommend setting new short term goals and detailed planning in moving from one stage to the next.<sup>2</sup> The

idea is that by setting and achieving some short term goals, the client can focus on the present, make small progressive steps, and recognise new achievements, instead of ruminating on past performance level. However, this strategy was not successful with this client, whose preference, even before his accidents, was to do very little planning in his life, tending not to think more than a month (at the most) ahead. Those few plans that he had made were concerned with high risk sports: to go rock climbing soon and travel with his brother to the United States for a ski trip.

The client had not thought of retiring because he was concentrating on getting fit and well in order to return to high risk sports again. This was confirmed by the fact that he had recently taken up sky diving again (the leg had healed and the titanium plates removed so there was no longer the threat of amputation). He said that he still gets a buzz from sky diving, but now avoids going in big competitions, preferring to jump "for the fun of it". From the way that he described his accident and his subsequent rehabilitation, it became clear that he was well on the way to accepting his transition from elite sport to his new limited physical state, albeit with lapses during which he experienced strong feelings of frustration. It also became apparent to the sport psychologist that it was vitally important for the client to be able to continue pursuing his risk sport activities (albeit at a lower level), even though he ran the risk of further injuries. Between the first and second consultations, a check with a colleague identified that a group of injured former elite athletes were using modified sporting equipment to allow themselves to continue their participation. The sport psychologist was confident that he would benefit a great deal from making contact with them, especially in coming to some acceptance of his injuries and his future limitations and expectations, and passed on contact details. He stated that he was not averse to socialising with "like minded" (and "like bodied") people in the disabled former elite athletes group. Discussion at this consultation also centred on developing psychological strategies for dealing with anger outbursts resulting from not being able to, for example, open a particular door in his girlfriend's house with his right hand, reverse his car, or cope with computer glitches at work. On a practical level, simple strategies, such as changing the door handles, were recommended to reduce the likelihood of frustration occurring, as well as making the client more aware of the warning signals that indicate when frustration levels are building up, thus allowing steps to be taken to reduce frustration and avoid angry outbursts. The recommended psychological strategies for dealing with this type of anger included taking a time out and learning to relax using breathing techniques.<sup>3</sup> In summary, although the goal setting strategy was not successful, the client did manage to make considerable progress in reconciling his past and future lifestyles. This was largely due to the success of the anger management strategies, which made his anger outbursts less frequent and intense. It later transpired that the client did not make contact with the injured former elite athletes group.

## DISCUSSION

Clearly this client had an extreme liking for high risk sports. In spite of injuring himself severely and incurring disability, he was determined to continue his participation in these activities. Such paradoxical behaviour, in which people engage in activities that are potentially harmful to their health and wellbeing, are well recognised in reversal theory literature as being associated with the paratelic motivational concept.<sup>1 4 5 6</sup> There are three aspects to the paratelic motivation behind the client's extreme arousal seeking, risk taking behaviour that help to explain why he continues to

want to participate in high risk sports. It is important to note that the focus in this case report concentrates on the paratelic concept. There are other metamotivational states and dominances in reversal theory that may also be important in athletes' motivation for participation in high risk sports, but in this case the paratelic state and paratelic dominance plays the predominant role. (Metamotivational states are frames of mind to do with the way a person interprets his or her motives at a given time.)

Firstly, reversal theory recognises that some people with particular personality characteristics deliberately seek out situations where they can experience high arousal in the form of pleasant feelings of excitement. Paratelic dominant athletes spend most of their time in the paratelic mental or motivational state, and telic dominant athletes spend most of the time in the telic state. Paratelic dominant athletes are arousal seekers, and previous research has shown that they enjoy participating in high risk sports.<sup>7 8</sup> By way of contrast, previous research has also shown that athletes who perform relatively safe sports, such as long distance running, cycling, or badminton have personalities of the "telic dominant" personality type.<sup>8 9</sup> Telic dominant athletes tend to be arousal avoiders, they plan well and set themselves goals, and prefer low intensity experiences.

Secondly, reversal theory claims that athletes can only enjoy dangerous or high risk sports, where high arousal is experienced as pleasant, through the development of a psychological or phenomenological "frame" known in reversal theory as a "paratelic protective frame". A paratelic protective frame gives the person a feeling of safety, even when the dangers and threats are part of his or her phenomenological field, and that this produces the paradox of danger that is not danger. The example of skating on a frozen river has been used to illustrate the protective frame concept.<sup>4</sup> Different skaters will have different perceptions of the dangers involved, and this will influence how far away from the bank of the river they will skate over the ice. Some individuals, with the most robust protective frames, may venture out to the middle of the river where the ice is thinnest. The protective frames of others may only allow them to venture out so far, or perhaps stay close to the bank. For some the development of a protective frame does not take place at all, because the activity of skating on a frozen river is perceived as too dangerous. They remain firmly on the bank.

Thirdly, it is likely that the client has become seriously dependent on high arousal experiences, hence his strong motivation to continue participating in high risk sports in spite of further danger to his health and wellbeing.

In addition to his extreme risk taking, the client's liking for intense experience and spontaneous action, lack of planning and absence of goal setting in daily life, his participation in several types of high risk sports, and his reluctance to give them up all point to the client being an extreme "paratelic dominant" personality type. This was confirmed by his score of 7.5 out of a maximum score of 42 on the telic dominance scale (low scores indicate paratelic dominance).<sup>5 6</sup> Also, the fact that he comes from a family of high risk sport participants is important, because researchers have now isolated a risk taking gene, which suggests that some people are biologically preprogrammed to be risk takers.<sup>10</sup>

From the point of view of reversal theory, it can also be concluded that the client has a very robust protective frame, which is still in place despite all his injuries and disability. Furthermore his current feelings of frustration are probably due to being unable to perform certain motor tasks, but may also have been caused by withdrawal symptoms brought about by restrictions on his thrill seeking by his increasingly injured body. In this case, the client's frequent need for experiencing high levels of arousal through high risk sports is

### Take home message

- Some people have personalities that predispose them to taking physical risks through activities such as dangerous or extreme sports.
- Continued participation may lead to dependence on the high levels of arousal associated with such activities.
- This case study shows the utility of reversal theory as a framework for sport psychology consultancy.
- Psychologists and other medical practitioners have to accept that some clients may ignore medical advice and continue to engage in potentially destructive behaviour.

necessary to maintain his personal emotional equilibrium. For the sport psychologist, the question to decide is, does his dependency need to be treated in the same way as, say, alcohol or gambling dependency? Some dependencies can be seen as “positive” so long as the behaviour does not become too extreme. In this case the client has injured himself so badly so often that his dependency is a threat to his life. Even so, the athlete showed no signs of wanting to retire from his sky diving, rock climbing, jet and snow skiing activities.

Finally, how did reversal theory inform the interventions attempted by the sport psychologist with this client? As indicated above, the athlete’s metamotivational state balance was extremely biased towards experience in the paratelic state. His infrequent reversals to the telic state were often sudden and accompanied by high levels of arousal, which resulted in outbursts of anger. The suggestion of the goal setting technique therefore had a dual purpose. Not only would it have allowed the client to have a better understanding of his progress in rehabilitation, but because goal setting is essentially a telic oriented activity, it would have required him to spend more time in the telic state. Had it been successful, this strategy may have contributed to a more healthy balance, in terms of emotional health, between telic and paratelic states. The anger management strategies proposed by the sport psychologist were concerned with

trying to ensure that, when the athlete suddenly reversed to the telic state, there was no accompanying high arousal. This intervention involved finding ways to reduce levels of frustration that may induce a reversal and the use of calming and relaxing techniques to reduce arousal levels. Generally, as an intervention strategy, reversals to the telic state were to be encouraged, but in the absence of high arousal. This case has illustrated how the systematic structure of reversal theory, on which counselling interventions can be based, works rather like a computer operating system on which many software programs can be managed.<sup>11</sup> In this sense, reversal theory’s approach to athlete counselling is a truly eclectic one.

### Authors’ affiliations

**M Pain, J H Kerr**, Faculty of Health and Sport Sciences, Kokushikan University, Tokyo, Japan

Correspondence to: Professor Kerr, Faculty of Health and Sport Sciences, Kokushikan University, 7-3-1 Nagayama, Tama-shi, 206 8515 Tokyo, Japan; kerr@kokushikan.ac.jp

### REFERENCES

- 1 **Apter MJ**. *Motivational styles in everyday life: a guide to reversal theory*. Washington: American Psychological Association, 2001.
- 2 **Hall HK, Kerr AV**. Goal-setting in sport and physical education: tracing empirical development and establishing conceptual direction. In: Roberts GC, ed. *Advances in motivation in sport and exercise*. Champaign, IL: Human Kinetics, 2001:183–233.
- 3 **Potter-Efron R, Potter-Efron P**. *Letting go of anger: the 10 most common anger styles and what to do about them*. Oakland, CA: New Harbinger Publications, 1995.
- 4 **Kerr JH**. *Motivation and emotion in sport: reversal theory*. Hove, UK: Psychology Press, 1997.
- 5 **Kerr JH**. *Experiencing sport: reversal theory*. Chichester: Wiley, 1999.
- 6 **Murgatroyd S, Rushton C, Apter MJ**. The development of the telic dominance scale. *J Pers Assess* 1978;**42**:519–28.
- 7 **Zuckerman M**. *Sensation seeking: beyond the optimal level of arousal*. Hillsdale, NJ: Erlbaum, 1979.
- 8 **Cogan NA, Brown RIF**. Metamotivational dominance, states and injuries in risk and safe sports. *Pers Individ Dif* 1998;**10**:789–800.
- 9 **Kerr JH, Svebak S**. Motivational aspects of preference for and participation in risk and safe sports. *Pers Individ Dif* 1989;**27**:503–18.
- 10 **Ebstein RP, Novick O, Umansky R, et al**. Dopamine D4 receptor (D4DR) exon III polymorphism associated with the human personality trait of novelty seeking. *Nat Genet* 1996;**12**:78–80.
- 11 **Kerr JH**. *Counselling athletes: applying reversal theory*. London: Routledge, 2001.