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What Doesn't Kill Me...: Adversity-Related Experiences are Vital in the Development of Superior
Olympic Performance

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Abstract

1
2 *Objectives:* Recent research suggests that experiencing some adversity can have beneficial outcomes
3 for human growth and development. The purpose of this paper was to explore the adversities that the
4 world's best athletes encounter and the perceived role that these experiences play in their
5 psychological and performance development.

6 *Design:* A qualitative design was employed because detailed information of rich quality was required
7 to better understand adversity-related experiences in the world's best athletes.

8 *Method:* Semi-structured interviews were conducted with 10 Olympic gold medalists from a variety
9 of sports. Inductive thematic analysis was used to analyze the data.

10 *Results:* The findings indicate that the participants encountered a range of sport- and non-sport
11 adversities that they considered were essential for winning their gold medals, including repeated non-
12 selection, significant sporting failure, serious injury, political unrest, and the death of a family
13 member. The participants described the role that these experiences played in their psychological and
14 performance development, specifically focusing on their resultant trauma, motivation, and learning.

15 *Conclusions:* Adversity-related experiences were deemed to be vital in the psychological and
16 performance development of Olympic champions. In the future, researchers should conduct more in-
17 depth comparative studies of Olympic athletes' adversity- and growth-related experiences, and draw
18 on existing and alternative theoretical explanations of the growth-performance relationship. For
19 professional practitioners, adversity-related experiences offer potential developmental opportunities if
20 they are carefully and purposely harnessed.

21 *Keywords:* elite, excellence, growth, sport, stress inoculation

22

What Doesn't Kill Me...: Adversity-Related Experiences are Vital in the Development of Superior Olympic Performance

Introduction

The ability to positively adapt to adversity is of central importance for optimal sport performance^{1,2}. Positive adaptation has typically been investigated in the context of negative life events³, and traditionally there has been a tendency to assume that such adversities impede growth and development⁴. However, Seery⁵ argued that people with a history of some lifetime adversity report better mental health and well-being than those with no history of adversity. Specifically, some lifetime adversity predicted relatively lower global distress, lower self-rated functional impairment, fewer posttraumatic stress symptoms, and higher life satisfaction over time⁶. Seery suggested that facing difficulties in one's life may contribute to a greater subsequent propensity for positive adaptation via a variety of potential mechanisms including creating a sense of mastery over past adversity, fostering perceived control and belief in managing successfully, and establishing effective social support networks. Hence, this work indicates that, in moderation, the experience of some adversity can have beneficial outcomes⁵.

Across the psychology literature various terms have been used to describe the positive changes that can result from adverse experiences including perceived benefits⁷, stress-related growth⁸, posttraumatic growth (PTG)⁹, thriving¹⁰, positive adaptation¹¹, and adversarial growth¹². One of the most popular areas of inquiry is the topic of PTG where researchers have formulated a number of theoretical models^{13,14}. According to Tedeschi and Calhoun^{13,15}, the process of PTG is initiated by the occurrence of a major life crisis that severely challenges an individual's understanding of the world and his or her place in it. Subsequently, the individual strives to rebuild his or her views of the world and of the future using strategies such as cognitive processing, self-disclosure, social support, and schema change. These strategies together with the sociocultural context of the growth process influence the development of PTG in five main domains: appreciation of life, relationships, personal strength, recognition of new possibilities, and spirituality.

Adversity-related growth has only begun to be recognized and explicitly researched in a sport context over the past few years¹⁶⁻¹⁸. In their opinion article, Collins and MacNamara¹⁹ speculated that

1 “talent needs trauma” (p. 907) and argued that experiencing a variety of challenges during an athletic
2 career can facilitate high-level performance. Research findings have revealed that sport performers’
3 attempts to work through negative events can lead them to perceive growth in the form of a new life
4 philosophy, self-changes, and interpersonal changes¹⁶, and that performers’ experiences of adversity
5 can initiate a process of questioning their identities and searching for meaning in their experiences¹⁷.
6 In their study of Olympic champions, Fletcher and Sarkar¹ reported that experiencing adversity was
7 important in the development of optimal sport performance:

8 Exposure to stressors was an essential feature of the stress-resilience-performance
9 relationship in Olympic champions. Indeed, most of the participants argued that if they had
10 not experienced certain types of stressors at specific times, including highly demanding
11 adversities . . . they would not have won their gold medals. (p. 672)

12 Despite these observations and the recognition that experiencing adversity can have beneficial
13 outcomes for human growth, little is known about the adversities that the world’s best athletes
14 encounter and the perceived role that these experiences play in their psychological and performance
15 development. We investigated these issues by conducting follow-up interviews with a subsample of
16 the Olympic champions who originally participated in Fletcher and Sarkar’s¹ study.

17 **Method**

18 The sample comprised of 10 Olympic champions (6 male and 4 female) who had collectively
19 won 11 Olympic gold medals spanning four decades. The age of the participants ranged from 33 to
20 70 years ($M = 47.60$, $SD = 12.06$) and a range of individual and team sports were represented:
21 athletics, curling, cycling, field hockey, figure skating, modern pentathlon, rowing, and sailing. The
22 participants represented four countries: five were from England, two were from Scotland, two were
23 from Ireland, and one was from New Zealand.

24 Following institutional ethical approval, the 12 participants of Fletcher and Sarkar’s¹ study
25 were contacted by email and invited to participate in a follow-up interview. The 10 Olympic
26 champions who were willing to be interviewed were re-contacted to arrange a mutually convenient
27 time and location to meet. All of the participants provided informed consent prior to the start of data
28 collection. Face-to-face interviews were conducted and a semi-structured interview guide was

1 developed to facilitate discussions about participants' adversity-related experiences that occurred
2 during their development and prior to their gold medal victory. All of the interviews involved asking
3 open-ended questions, such as "can you describe to me any significant events during your sporting
4 career?" and "could you describe the effect this situation had on you as an athlete?" Although the
5 participants were guided through an identical set of questions, the order of questioning varied with the
6 flow of the conversation depending on the direction taken by the participant. This procedural
7 flexibility enhanced the fluency of the interview and richness of the information gleaned, while still
8 retaining the systematic nature of data collection between the participants. The interviews lasted
9 between 34 and 47 minutes, and the audio recordings were transcribed verbatim, yielding 110 pages
10 of single spaced text.

11 The transcripts were analyzed using the inductive thematic analysis procedures outlined by
12 Braun and Clarke²⁰. First, to become familiar with the data, the transcripts were read and reread, and
13 brief notes were recorded to create some preliminary ideas for the next phase of the analysis. Second,
14 codes of interest were generated by extracting and collating pertinent excerpts of the data. Third, all
15 of the codes were organized into potential themes that reflected the content and meaning of the data.
16 Fourth, the themes were reviewed and refined in relation to the generated codes and the entire data
17 set. Fifth, the themes were labeled and defined by attempting to capture the essence of the data it
18 contained. Sixth, compelling extracts were selected to relate the analysis back to the research
19 question. To establish methodological rigor, a number of practices were employed and these were
20 similar to those adopted by Fletcher and Sarkar¹. Specifically, this involved using a distinctive
21 sample, employing appropriate data collection and analysis procedures, writing a field log and self-
22 reflective memos throughout the research process about potential subjective biases, and using rich
23 quotations from the participants in the hope of allowing complex experiences to vividly emerge²¹.

24 **Results**

25 The results derived from the data collection and analysis procedures represent the collated
26 interview responses from all of the participants pertaining to their adversity-related experiences. The
27 Olympic champions encountered a range of adversities that they considered were essential for
28 winning their gold medals, including repeated non-selection, significant sporting failure, serious

1 injury, political unrest, and the death of a family member. The participants described the role that
2 these experiences played in their psychological and performance development, specifically focusing
3 on their resultant trauma, motivation, and learning. Drawing directly from the experiences of the
4 participants, these incidents and aspects of growth are described forthwith.

5 The most common sporting adversity identified by the participants was repeated non-
6 selection. The Olympic gold medalists recalled how continually failing to be selected for
7 international competitions initially led to intense feelings of frustration, but subsequently fostered
8 greater effort and desire, as the following quote illustrates:

9 I went to trials for the senior team in 1980, 1981, 1982, and 1983 and missed out every time .
10 . . I can remember being pretty furious missing out one or two times when I thought I
11 deserved to be in . . . But when I did get the opportunity, I was elevated into the [rowing]
12 crew that had huge potential [and] I tried my best. That's all you can do really. You just
13 work hard . . . There was probably a hell of pressure there, but it was my first time I'd been in
14 a crew like this . . . so everything was just an opportunity to be taken. If something wasn't
15 right, you'd work hard and listen . . . these guys had won world titles so it was my job to
16 listen and to learn.

17 The majority of the participants had encountered at least one significant perceived sporting
18 failure during their athletic career before their gold medal victory. Examples of this sporting failure
19 included disappointment in a major championship, underperformance at a previous Olympic Games,
20 or losing in an early round in an Olympics that they ultimately succeeded in. One participant
21 described her team's highly focused reflection and increased effort after failing at a major
22 championship just a couple of months prior to winning gold:

23 The European Championships [were the] test run for the Olympics . . . and it was a disaster,
24 but it was a good thing it was a disaster. Because there were team harmony issues that had to
25 be sorted. We had to take a long hard look [at ourselves and] . . . we were disappointed that
26 we didn't perform, but that was a massive learning curve. It was the kick up the backside
27 [that we needed] . . . so it made us work that extra bit harder over the next two months.

28 Failing at a previous Olympic Games provided the most emotive extracts regarding adversity-

1 related experiences in sport. Interestingly, the majority of participants stated that if they had not
2 underperformed at a previous Olympics, they would have not won their gold medal. The following
3 quote provides an example of a participant's intense negative emotions after some distressing
4 performances at a previous Olympics and how this initiated learning:

5 In Athens . . . we finished . . . somewhere like eighth. It was pretty disappointing. In the next
6 round . . . we beat the old world record but [the opponents] set a new world record . . . so they
7 knocked us out. We pulled ourselves together and then went up to the [next event]. In the
8 semi-final I finished second or third [and] made the cut to the final. But then after the race
9 [the referee] disqualified me for doing an illegal move which everyone says I was robbed. I
10 was absolutely gutted and literally left the Olympic village that day . . . Instead of looking at
11 the big picture, I let things get to me. I had a horrible experience . . . and that's why I didn't
12 ride a bike for six months. [But] if I hadn't have failed in Athens, I wouldn't have succeeded
13 in Beijing . . . It takes losses like that sometimes, even though they're hard to swallow, hard to
14 deal with. It will benefit you later on in life. I just learned . . . not to get so hyped up or
15 worried about stuff.

16 Other significant sporting losses occurred during the Olympics where the participants became
17 champions. In the following quote, the athlete discusses how he and his teammates responded to, and
18 learnt from, their failure in the opening round of the Olympics where they then went on to win a gold
19 medal:

20 We lost that first round [at the Olympics] . . . and we had to do the repêchage [a race that
21 allows competitors who have lost in a previous round another chance to qualify]. That was
22 really important. I think if we hadn't lost that I don't think we would have won the final.
23 There was no aggression [in the first round and we] were furious. It was a three day wait
24 before the repêchage . . . [and we were] getting more and more angry and annoyed and we
25 were kicking ourselves. [But] some guys in the crew thought that [we raced the repêchage]
26 better than our final. We just learnt to race properly in that repêchage. We learnt to race with
27 lots of passion.

28 Some of the participants experienced a serious injury during their preparation for the

1 Olympics. In many cases, their ambition to fulfill their athletic potential helped them to overcome
2 this negative incident as the following quote highlights:

3 I had a major injury . . . the year before the Olympics, tearing the hamstring off the bone at
4 the back of the pelvis, which could probably have put me out if it hadn't been for my
5 determination to get back. . . I don't think I was the most gifted [athlete] but I just hung in
6 longer. And it's that level of willingness to push yourself and see how much you can get out
7 of yourself, which I think was one of the key factors [to winning gold].

8 Two adversities identified by Olympic champions were related to non-sporting situations.
9 For example, some of the older gold medalists were exposed to political unrest and terrorism during
10 their athletic careers, and they felt that these negative circumstances were important in igniting their
11 motivation to perform at the highest level:

12 Very often . . . I'd be travelling into [name of town] and bombs would be going off as I was
13 actually progressing into the town centre. And that was . . . very scary because you could see
14 the plumes of smoke going up as you were going into the city on the bus. But you . . . just
15 had to do it. You had to be determined that it was important to get your training session in . .
16 . I just single-mindedly wanted to achieve my dream despite what was happening . . . I wanted
17 to please [people], and particularly because we were going through such dreadful times . . . I
18 wanted to bring some good news back.

19 The second adversity outside of sport, identified by participants, was the death of a close
20 family member. Some of the gold medalists described how this major life event was a motivating
21 factor for their subsequent sport participation, as the following quote highlights:

22 [Mum sadly] died within six months of them identifying the fact that she had cancer. That
23 was an absolutely traumatic loss . . . And then to have a new woman come into our lives . . .
24 and live with us very soon after my mother's death . . . There was a lot of anger. There was
25 hurt. There was disappointment. My escape was to get out and do sport . . . I wanted to
26 achieve for my mum's sake. I wanted to prove to her that I was good and that she had created
27 this daughter who was an achiever.

28 **Discussion**

1 Adversity-related experiences were deemed to be vital in the psychological and performance
2 development of Olympic champions. The findings provide support for the concept of growth
3 following adversity in elite sport. The adversities identified by the participants initially led to trauma
4 with the champions recalling that they were ‘furious’, ‘absolutely gutted’, and ‘angry’. However,
5 rather than eliciting prolonged maladaptive behavioral responses, these extremely intense negative
6 emotions appear to have fueled the champions’ subsequent effort and application. Tedeschi and
7 Calhoun^{13,15} asserted that some degree of emotional distress is necessary for growth to occur,
8 especially when accompanied by constructive cognitive processing. In the present study, the process
9 of negative emotions stimulating growth, in the form of increased exertion and execution, may begin
10 with athletes concentrating on *why* they were experiencing those (distressing) emotions rather than
11 focusing on *what* they were feeling²². At the time of the trauma, the participants also appear to have
12 adopted a self-distanced psychological vantage point rather than a self-immersed perspective. The
13 combination of these two psychological mechanisms – a “why” focus on emotions from a self-
14 distanced viewpoint – served to attenuate emotional reactivity by directing the individual’s attention
15 to a less concrete and more abstract analysis of his or her experience. Both of these mental processes
16 enabled a ‘cool’, reflective processing of negative emotions whereby individuals could make sense of
17 their experience without reactivating excessive ‘hot’ negative affect²³.

18 Adversity and the resultant trauma served to ignite the Olympic champions’ desire to excel at
19 the highest level, for both personal and others’ gain. Some athletes, for example, reported aspirations
20 to ‘please people’ and to ‘achieve for my mum’s sake’. These quotes illustrate the ability of Olympic
21 gold medalists to exploit adversities to fuel their ambition. Adversity-related experiences may also
22 have shaped the athletes’ motivation through an alternative “darker” explanation. After encountering
23 adversity, some champions reported feelings of wrongdoing, and they described how this sense of
24 injustice drove them on in their performance development. These feelings of wrongdoing and
25 injustice seem to reflect the process of spatial-symbolic engulfment motivation or the marking of
26 one’s psychological territory via acquisition²⁴. Spatial-symbolic engulfment refers to a “dark side” of
27 core psychological processes; a side that not only spurs growth and development but also self-serving
28 indifference and disturbing malevolence²⁵. In the context of elite sport, this extreme form of

1 motivation may be characterized by the creation of a single-minded, narcissistic desire to prove one's
2 worth via the achievement of Olympic success. Indeed, the findings suggest that trauma stemming
3 from adversity can leave an indelible impression on an individual's psyche and schema, to the extent
4 that his or her *raison d'être* is established or altered, and the demonstration of high achievement and
5 superiority become fundamental psychological exigencies for that individual. This explanation
6 resonates with Tedeschi and Calhoun's^{13,15} model of PTG in which they propose that trauma may
7 require individuals to reconfigure shattered belief systems. This destruction of fundamental schemas
8 can lead individuals to revise their life narratives with the trauma acting as a catalyst or turning point
9 for an alternative life story^{13,15}.

10 After the trauma and the ignition of motivation, the experience of adversity seems to have
11 stimulated learning and increased confidence for subsequent challenging situations². More
12 specifically, the knowledge that the champions' accumulated from negative events appears to
13 mobilize previously untapped resources and create a sense of mastery for future adversities^{5,6}. The
14 champions who engaged in purposeful reflection seemed to accelerate their learning²⁶, since the
15 reflective process offers a means of generating self-awareness, formulating new knowledge and, in
16 some cases, empowering individuals to implement change in their performance-related practices²⁷.
17 Valuing the learning that has occurred in the aftermath of trauma and reflecting on how it creates new
18 pathways and opportunities is an important aspect of the growth process^{13,15}. To illustrate, Roepke and
19 Seligman²⁸ recently found that engaging with new possibilities – seeing new doors opening in the
20 wake of adversity – was a powerful predictor of growth. This finding provides theoretical support for
21 the emerging science of *prospection*, which proposes that humans are drawn by the future rather than
22 solely driven by the past²⁹. Thus, it may be that “to grow, people . . . need adversity in the past and
23 possibility in the future” (p. 7)²⁸.

24 The current findings have a number of applied implications for practitioners and coaches
25 working in elite sport. It is important to encourage athletes to actively engage with challenging
26 situations that present opportunities for them to raise their performance level²⁶ and, in doing so,
27 expose athletes to appropriate and progressively demanding stressors. Drawing from theories of stress
28 inoculation³⁰, it has been suggested that exposure to adversity in moderation can help individuals to

1 develop resilience in the face of future pressure situations^{5,6}. A possible approach for directly
2 generating challenge could be systematic exposure to realistic critical incident simulations³¹. Regular
3 pressure training and testing may provide an opportunity for performers to deal with the challenge of
4 evaluation and judgment in a controllable and supportive environment. Furthermore, setbacks and
5 failures that are encountered on the pathway to sporting excellence could be used as a focus for
6 learning, reflection, and praxis. For example, in an elite team sport context, Morgan et al.² suggested
7 holding small group meetings to reflect on the benefits of experiencing adversity and to discover
8 whether there are novel strengths to be gained. In terms of facilitating growth, practitioners and
9 coaches may find it useful to draw on elements of the PTG enhancement strategy designed for
10 soldiers in the U.S. Army³². These include: understanding the trauma response as a precursor to PTG,
11 emotional regulation enhancement, constructive self-disclosure, creating a trauma narrative with PTG
12 domains, and developing life principles that are robust to challenges. As a caveat to these applied
13 suggestions, practitioners and coaches must ensure that such initiatives are tailored to an individual's
14 psychosocial development and are suitably debriefed to fully realize their benefits¹⁹.

15 The findings of our research suggest that adversity-related growth has the potential to be an
16 interesting and informative area of future inquiry. To add to our studies of superior Olympic
17 performance, an important issue for consideration is the temporal course of growth in a variety of
18 Olympic athletes. More specifically, by employing a multi-method approach, researchers could
19 compare in more depth the developmental journeys of serial gold medalists, one-off gold medal
20 winners, finalists, and those who underperformed, to better understand differences in their respective
21 adversity-related experiences and growth trajectories. When conducting future work in this area,
22 researchers should ensure that they draw on the most recent growth models such as Joseph et al.'s¹⁴
23 affective-cognitive processing model of PTG. Furthermore, researchers may also wish to explore
24 other possible mechanisms of the growth-performance relationship such as the process of disengaging
25 from a particular goal to re-engaging with an alternative goal³³, the support and satisfaction of
26 psychological needs³⁴, the development of a survival mindset³⁵, and exposure to punishment-
27 conditioned stimuli³⁶. Finally, researchers should explore if psychometric assessments and screening
28 can be used to ascertain whether aspiring athletes possess a propensity for adversity-related growth.

Conclusion

The gold medalists interviewed in this study believed that adversity-related experiences were essential for their Olympic success. These traumatic experiences appear to have positively influenced athletes' subsequent performance in sport by igniting motivation and stimulating learning. In the future, researchers should conduct more in-depth comparative studies of Olympic athletes' adversity- and growth-related experiences, and draw on existing and alternative theoretical explanations of the growth-performance relationship. For professional practitioners, adversity-related experiences offer potential developmental opportunities if they are carefully and purposely harnessed³¹.

Practical Implications

- It is important to encourage athletes to actively engage with challenging situations that present opportunities for them to raise their performance level and, in doing so, expose athletes to appropriate and progressively demanding stressors.
- Regular pressure training and testing may provide an opportunity for performers to deal with the challenge of evaluation and judgment in a controllable and supportive environment.
- Setbacks and failures that are encountered on the pathway to sporting excellence could be used as a focus for learning, reflection, and praxis.
- Elements of the PTG enhancement strategy for soldiers in the U.S. Army³² may be a useful evidence-based framework to facilitate growth.
- Practitioners must ensure that such initiatives are tailored to an individual's psychosocial development and are suitably debriefed to fully realize their benefits.

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