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9	Adversity-Related Experiences are Essential for Olympic Success:
10	Additional Evidence and Considerations
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Abstract

2 Drawing on Hardy et al.'s study as the target article, in this commentary, we focus on the adversity-related experiences and consequences of the Olympic and/or World champions that 3 4 they sampled. With this in mind, we divide the narrative into two main sections. In the first section, we explore the association between adversity-related experiences and Olympic 5 success, and provide additional evidence in support of the notion that adversity-related 6 experiences are essential for success at the highest level of sport. In the second section, we 7 discuss the role of adversity-related experiences in Olympic success considering a series of 8 important psychosocial processes that are required for superior performance. In ending, we 9 reflect on the salient (contentious and ethical) issues in the study and practice of adversity-10 related experiences and sport performance. We hope that our commentary adds to the extant 11 12 literature and is useful for future study and practice in performance sport. *Keywords*: adversity, elite, excellence, psychosocial, sport performance. 13

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Adversity-Related Experiences are Essential for Olympic Success:

Additional Evidence and Considerations

It is with pleasure that we comment on Hardy et al.'s study of British Olympic 3 athletes. Firstly, because we have for some time admired the work and contributions of the 4 authors to sport psychology and talent development. Secondly, because we have a 5 longstanding interest in the psychosocial aspects of Olympic champions (Fletcher, 2008; 6 Fletcher & Sarkar, 2010, 2012; Howells & Fletcher 2015; Sarkar et al., 2015). There is much 7 to commend about the study including its purposive sample, comparative design, and 8 9 comprehensive data. If we were to quibble, it could have been more explicit in places how the findings (see also Rees et al., 2016) are situated in relation to previous research in this area, 10 and why some methodological-related procedures were conducted. That said, given the 11 12 wealth of findings reported, it is understandable why the authors focused their attention largely on the results and their interpretation. Indeed, it is with this in mind that we focus on 13 the adversity-related experiences and consequences of the Olympic and/or World champions 14 that they sampled (cf. Fletcher & Sarkar, 2012; Howells & Fletcher 2015; Morgan et al., 15 2013, 2015; Sarkar et al., 2015). 16

17 Adversity-Related Experiences and Olympic Success

As Hardy et al. recognized, the notion that the experience of adversity could be 18 important for sporting success has received increasing attention in recent years. In our 2012 19 20 study of Olympic champions, for example, we reported that "most of the participants argued that if they had not experienced certain types of stressors at specific times, including highly 21 demanding adversities . . . they would not have won their gold medals" (Fletcher & Sarkar, 22 2012, p. 672). In a follow-up study designed to specifically explore this observation, we 23 found that these stressors related to both sport and non-sport (life) adversities that the 24 Olympic champions considered were essential for winning their gold medals, including 25

repeated non-selection, significant sporting failure, serious injury, political unrest, and the 1 death of a family member (Sarkar et al., 2015). A more comprehensive list of sport and non-2 sport (life) adversities were identified in Howells and Fletcher's (2015) study of Olympic 3 4 swimming champions: developmental stressors (e.g., ADHD), external stressors (e.g., family dysfunction), embodied states (e.g., injury), psychological states (e.g., depression), and 5 externalized behaviors (e.g., self-harm). Comparable adversities were reported in Hardy et 6 al.'s study with all of the Olympic and/or World champions sampled experiencing an early 7 8 life (i.e., non-sport) adversity and the majority experiencing a later career (sport or non-sport) 9 adversity. Thus, a convergence of evidence supports the notion that adversity-related experiences are essential for success at the highest level of sport. Interestingly and 10 importantly, by explicitly distinguishing between early life and later career adversities, Hardy 11 12 et al. begin to unravel some of the temporal and contextual nuances underpinning the association between adversity and achievement. More specifically, that early life (i.e., non-13 sport) adversity is essential and that later career (sport or non-sport) adversity has the 14 15 potential to act as a developmental catalyst.

Another significant contribution that Hardy et al. make relates to the experience of the 16 early life adversity in close temporal proximity to a positive sport-related event. Howells and 17 Fletcher (2015) similarly observed that, following adversity, Olympic champion swimmers 18 used the pool as a sanctuary and searched for meaning in their lives. In their study, however, 19 20 Hardy et al. expand on these findings by suggesting that the positive sport-related event involves finding a sport in which the individual felt that they could thrive, finding a 21 significant sport coach or mentor, and/or experiencing an inspirational sporting pathway 22 moment. However, although Hardy et al. argue that the positive nature of this event may 23 counter the negative mental health consequences that typically accompany childhood trauma, 24 we suggest that this positive event may only mask these undesirable outcomes with the 25

positive virtues commonly associated with and expressed by successful Olympic athletes.
 Either way, the relationships between adversity, mental health, and performance represent a
 fruitful area for future research.

4 The Role of Adversity-Related Experiences in Olympic Success

The experience of adversity is, of course, not enough on its own to guarantee Olympic 5 success. Coupled with a positive sport-related event (Hardy et al., 2017) and growth-related 6 transitional processes (Howells & Fletcher, 2015; Sarkar et al., 2015), there are a series of 7 important psychosocial processes that are required for superior performance. We concur with 8 9 Hardy et al.'s conclusion that trauma plays an influential role and have argued that "[emotional] trauma stemming from adversity can leave an indelible impression on an 10 individual's psyche and schema, to the extent that his or her raison d'être is established or 11 12 altered" (Sarkar et al., 2015, p. 478; see also Howells & Fletcher, 2015). There are similarities between the "demonstration of high achievement and superiority becoming 13 fundamental psychological exigencies for that individual" (Sarkar et al. 2015, p. 478), 14 15 adversity-related traumas "acting as extreme motivational triggers" (Howells & Fletcher, 2015, p. 45) and fuelling ambition, effort, and application (Sarkar et al. 2015), and what 16 Hardy et al. term "a deep-seated need to succeed" (p. 65). Similarly, parallels can be drawn 17 between "a 'dark side' of core psychological processes" (Sarkar et al. 2015, p. 477-478), 18 including a "self-serving indifference and disturbing malevolence" (Sarkar et al. 2015, p. 19 20 478), "a single-minded, narcissistic desire to prove one's worth" (Sarkar et al. 2015, p. 478), "highly driven mindsets that bordered on the obsessional" (Howells & Fletcher, 2015, p. 45), 21 and what Hardy et al. describe as "obsessive/perfectionistic, and ruthless/selfish, attitudes to 22 sport" (p. 171). Perhaps the most significant advance that Hardy et al. make in these areas is 23 the profundity of both the relationships between and the role of these psychosocial 24 characteristics and Olympic success. 25

Some of the most novel and interesting interpretations of Hardy et al.'s work are, in 1 our opinion, the links they make with psychodynamic and attachment theories. We are not 2 aware of any previous research in Olympic sport that has examined these areas and Hardy et 3 4 al. draw some well-reasoned and intriguing conclusions based on the interface between their original data and existing theory. As they suggest, future researchers would do well to reflect 5 on their observations and design studies to further explore related concepts in more detail. 6 Given previous research in this area and the nature of the reported data, we were somewhat 7 surprised that theories relating to adversarial growth (Howells & Fletcher 2015; Sarkar et al., 8 2015), social support (Fletcher & Sarkar, 2012; Howells & Fletcher 2015; Morgan et al., 9 2013, 2015), and learning (Morgan et al., 2013, 2015; Sarkar et al., 2015) did not feature and, 10 therefore, may also warrant future inquiry in Olympic sport. Another related worthwhile area 11 12 of research is the extent to which Olympic champions deceive themselves in terms of their perceptions of adversity-related experiences and the role they play in their development and 13 performance (cf. Howells & Fletcher, 2016). 14

15 Concluding Remarks

In 2015, we recognized that "to add to our studies of superior Olympic performance, 16 researchers could compare in more depth the developmental journeys of serial gold medalists 17 ... and those who underperformed, to better understand differences in their respective 18 adversity-related experiences..." (Sarkar et al., 2015, p. 478) so we were excited to see Hardy 19 20 et al.'s study – and we were not disappointed after reading it. Notwithstanding the advances that their research makes, it is important to note that the topic of adversity-related experiences 21 and sport performance raises some contentious and ethical issues that require further 22 23 consideration, something that Hardy et al. acknowledge. In Table 1 we take this opportunity to reflect on the salient issues that we have encountered following the presentation and 24 publication of our research in this area. We hope that our commentary adds to the extant 25

1 literature and is useful for future study and practice in performance sport.

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Table 1

Salient Issues in the Study and Practice of Adversity-Related Experiences and Sport Performance

Issue	Reflections
Are adversity and trauma really essential for Olympic success? Do all Olympic champions experience adversity and trauma at some point in their lives?	The available evidence to date that has sampled Olympic champions and investigated adversity and trauma (viz. Hardy et al., 2017; Howells & Fletcher, 2015; Sarkar et al., 2015) has found that they have experienced adversity and trauma, and that they are perceived as playing an essential role in their success.
What about Olympic champions who have not experienced adversity and trauma?	To date, there is no evidence of any Olympic champions who have not experienced some adversity and trauma at some point in their lives.
If an athlete has not experienced adversity and trauma at some point in his or her life does that mean that he or she cannot be successful in Olympic sport?	The evidence suggests that he or she will not be successful at the highest levels (i.e., winning an Olympic gold medal and, in particular, winning gold medals across Olympic Games).
To be successful at Olympic level, should adversity and trauma be imposed on (aspiring) athletes?	No, that would be unethical and potentially abusive and harmful. Briefly, the main implications of the research are threefold: 1) if a child or athlete experiences adversity and trauma he or she may potentially grow and develop as a result of this experience, to the point that it enhances his or her sport performance (Howells & Fletcher, 2015; Sarkar et al., 2015), 2) that athletes should be exposed to relevant and progressively demanding stressors that, with appropriate support, become surmountable challenges (Howells & Fletcher, 2015; Sarkar et al., 2015), and 3) that athletes who grow from adversity and cope with stressors will, all things being equal, have a competitive advantage over those who do not (Hardy et al., 2017).
Should talent be identified and subsequently selected on the basis of experiencing adversity and trauma?	No, there are a multitude of psychosocial and non-psychosocial factors that are needed to grow from adversity and also to achieve at the highest levels of sport.
Should athletes be supported through adversity or challenged to cope with demanding stressors?	Both. The environment needs to balance and combine the support offered to and challenges imposed on athletes, depending on a wide range of contextual and developmental factors.

Is adversity and trauma all you need to be successful?	No. Most people who experience adversity and trauma are not successful at the highest levels. The evidence suggests that a positive sport-related event (Hardy et al., 2017) and growth-related transitional processes (Howells & Fletcher, 2015; Sarkar et al., 2015) are also essential features of the adversity-related experience, not to mention a multitude of other psychosocial and non- psychosocial factors that are needed to be successful.
Doesn't everyone experience adversity and trauma at some point in their life? But not everyone experiences Olympic success.	Probably, but most people do not also experience a positive sport-related event and growth-related transitional processes, together with developing a multitude of other psychosocial and non-psychosocial factors, and that is why they don't experience Olympic success.
Does adversity and trauma cause or produce Olympic success? Or rather do talented athletes need adversity and trauma to succeed?	Adversity and trauma do not cause or produce Olympic success (see previous page). Rather, the available evidence to date indicates that early life (i.e., non-sport) adversity is essential for the development of talent to the highest levels, <i>and</i> that later career (sport or non-sport) adversity has the potential to act as a developmental catalyst for talented athletes (Hardy et al., 2017; see also Howells & Fletcher, 2015; Sarkar et al., 2015).
Rather than adversity-related experiences being essential for Olympic success, isn't it the psychosocial skills that athletes already have and that are further developed as a consequence of the trauma that are essential?	Although the genetic and preexisting psychosocial characteristics that an individual has will contribute to how he or she responds to and potentially grows from adversity, the evidence indicates that it is the adversity-related experience that is essential in the emergence of <i>new</i> psychosocial characteristics (Hardy et al., 2017; Howells & Fletcher, 2015; Sarkar et al., 2015). The psychosocial skills that athletes already have or bring to the adversity and trauma will not be enough on their own (even if they are further developed) to achieve at the highest levels.
Life or non-sport adversity and trauma are not essential for Olympic success.	The available evidence to date that has sampled Olympic champions and investigated adversity and trauma indicates that early life (i.e., non-sport) adversity is essential for the development of talent to the highest levels (Hardy et al., 2017; Howells & Fletcher, 2015; Sarkar et al., 2015).

What about the evidence that traumatic adversities in childhood are related to a number of undesirable mental health consequences?	Although it appears that adversity and trauma, together with a positive sport-related event (Hardy et al., 2017) and growth-related transitional processes (Howells & Fletcher, 2015; Sarkar et al., 2015) are important for Olympic success, it remains unclear if this
	counters or masks undesirable mental health
	consequences.
Is there conflict, or at least a tension, between	Probably. Practitioners will likely need to
sport psychologists' desire to enhance sport	make difficult decisions relating to whether
performance and their ethical obligation to	an intervention enhances sport performance
optimize mental health, particularly at the	but might compromise mental health, or
highest levels of sport?	improves mental health but limits sport
	performance.