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The Rocky Road to the Top
Why Talent Needs Trauma

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Abstract

The increasingly well funded and high-tech world of talent development (TD) represents an important investment for most sports. Reflecting traditional concepts of challenge and focus, the vast majority of such systems expend a great deal of effort maximizing support to the young athletes and trying to counter the impact of naturally occurring life stressors. In this article, we suggest that much of this effort is misdirected; that, in fact, talented potential can often benefit from, or even need, a variety of challenges to facilitate eventual adult performance. Our argument is built on evidence that such challenges are more common in athletes who reach the top, together with a critical consideration of the *modus operandi* and impact of psychological/character-focused interventions such as mental toughness and resilience. In conclusion, we explore some implications for the design and conduct of optimum academies and TD environments.

Talent development (TD) systems worldwide are becoming increasingly important in meeting the needs for home-grown elite performers. As a result, all aspects of the TD environment are under scrutiny from optimum pathways and methods that may be used through to the development environment and epistemology of the coaches who are central to its design. Within this scrutiny, most evaluators/programme designers stress that the TD support system must be as supportive as possible;[1] in other words, minimizing and/or countering extraneous pressures on the developing athlete so that she or he can focus solely on the task at hand – negotiating the route to the top.

As another feature of this scrutiny, several researchers have highlighted the importance of psychological characteristics and competencies as central to negotiating this route. Resilience[2] and the growth mind-set[3] or more comprehensive 'profiles' such as mental toughness (MT),[4,5] or the psychological characteristics of developing excellence (PCDEs[6,7]), have been positively associated with both outcome and process on the talent pathway. For example, PCDEs include both mental skills such as imagery and goal setting, as well as the attitudes, emotions and motivation performers need to realize their potential.[6,7] In short, performers high in these and other related constructs seem more likely to get to the top and do better when they get there.

When these two ideas are juxtaposed, however, a potential conundrum emerges. How do young performers acquire, build confidence with and sharpen these mental skills if not through overcoming adversity? And yet a common and face valid philosophy of many pathways is to minimize the number and certainly the impact of developmental challenges. For example, many young athletes across Europe are enrolled in sport schools that deliberately smooth the developmental pathway by providing them with financial,

academic, coaching and sport science support so potential challenges are minimized.[8] In answer, we suggest in this article that a degree of challenge and the inclusion of structured trauma designed and implemented as part of the TD pathway, is not only desirable but essential to eventual high-level performance. In short, we contest that talent *needs* trauma and, thus, purposeful provision of such challenge at appropriate levels is an essential feature of any TD system.

We present our case in four stages. First, we explore evidence for high levels of life challenge as common correlates of senior success. Second, we consider theoretical approaches that account for this concomitance and which, in fact, suggest causation. Third, we present emerging evidence that supports this causative role. Last, we consider the need for an individualized, carefully coordinated approach in TD systems, so that the balance of challenge and development may be optimized.

1. Reported Trauma on the Pathway – Trauma as Correlate

Anecdotally at least, there is evidence that overcoming early life challenge is a precursor to high-level achievement. A quick glance through biographies of elites will usually reveal one or more critical incidents, which the performer retrospectively reports as key moments of their development. Consider this from cyclist Lance Armstrong.[9]

''I joined the swimming club… On the first day of swim practice, I was so inept I was put with the seven-year-olds. I looked around and saw the youngest sister of one of my friends. It was embarrassing. But I tried. If I had to swim with the little kids to learn technique, then that's what I was willing to do. My mother gets emotional to this day when she remembers how I leaped headfirst in the water and flailed up and down the length of the pool, as if I was trying to splash all the water out of it. ''You tried so hard,'' she says. I didn't swim in the worst group for long. Within a year, … I was fourth in the state in the 1500-meter freestyle.''

Further investigation of performers' self-reported progression to the top reveals similar 'influential low points'. Best seen as a 'Deliberate Experience',[10-13] these lows often represent a turning point, resulting in a (self-reported) refocusing or increasing of effort. Of course it may well be that for less resilient individuals, such experiences are often the last straw that precipitates retirement or withdrawal. As such, a focus on pre-emptive preparation that equips athletes with the skills needed to cope with challenges would seem a sensible TD strategy. Ideally, each event is successfully overcome, then interpreted as a positive growth experience and a catalyst for development.[6,14] Be that as it may, the self-generated development trace used by Ollis et al.,[13] and by several authors since,[7] offers good evidence that such ups and downs are important waymarks or transitions of progress. Indeed, recent pilot work suggests that an overly smooth linear progression towards the top is often symptomatic of problems.[15] Supporting this, evidence suggests that successful and highly supported young athletes are less likely to succeed at senior level compared with peers who, although less successful at early ages, persevere and enter support programmes later.[8] Without the early learning and development of skills and confidence that such 'hiccups' can generate, the developing performer can often be knocked back by the sudden, unexpected and rapid increases in challenge that inevitably occur as one nears the top of the performance pyramid. In fact, this 'sudden shock' may also account for the emerging contrast between the higher representation of early birthdate athletes in each age group[16] and the lower 'conversion rates' of these same athletes to senior status when contrasted with their less common younger peers.[8]

This qualitative evidence is supported by a number of retrospective and prospective investigations differentiating those who do and don't make it to the top level. In one such study, Van Yperen[17] showed that academy players who eventually made it to elite level in football were significantly higher in acknowledged 'challenge' factors such as number of siblings and minority ethnicity. Furthermore, their family background reflected over three times the divorce rate of peers who failed to reach the highest level. Interestingly, certain types of 'trauma' seem to be associated

with certain sports groups, at least nationally. Thus, whilst higher incidence of single-parent families seems common in football, early departure to boarding school (another 'natural' source of trauma) is common in rowing. These psychosocial differences notwithstanding, there is a disproportionately high incidence of early trauma, or at least incidents with the potential to traumatize, in the life histories of elites. The knowledge and skills the athletes accrued from 'life' traumas and their ability to carry over what they learned in that context to novel situations[18] certainly appears to affect their subsequent development and performance in sport.[19] The benefits of this approach out with the performance domain to areas such as personal well-being is equally noteworthy.

2. The Developmental Benefits of Overcoming Trauma – Trauma as Precursor

In the Introduction, we alluded to several theories that see the evolution of coping skills as an important outcome of development. In fact, this idea is far from new and has been suggested by several authors. For example, building on the formal 'Stress Inoculation Training' (SIT) process of Meichenbaum,[20,21] Rosenbaum developed the concept of learned resourcefulness as the general development of a proactive coping approach to challenge. Defined as ''a basic behavioral repertoire for the self-regulation of internal events,''[22] the construct of learned resourcefulness has been related empirically to various self-regulatory behaviours against real-life stressors, such as tolerance of pain,[23] compliance with medical advice[24] and protection against substance abuse.[25] Assessed by the Self Control Scale (SCS)[26] this construct offered a very practical tool to explore the idea of generic or transferable development; changes that may occur due to one set of experiences but which could be shown to benefit how one dealt with subsequent and different challenges. As an example, novice Israeli sailors coped successfully with sea sickness under combat conditions as a result of previous experiences through which they had developed (learned) resourcefulness.[27] Given the strength and breadth of the 'learning transfer' effect[20] and its obvious applicability to the challenges of performance, it is surprising that, at the time, these ideas received attention from only a few sport psychologists.[28,29] More recently, however, the concepts have emerged in other academic discourse such as life skills[30] and positive youth development research.[31]

Since this original work, several research lines have expanded on the same ideas of transferrable learning, albeit that some have not recognized the link. Thus, for example, recent work by Duckworth and colleagues has used measures of self-control to predict attainment in a variety of social challenges. In somewhat similar fashion to the SCS, Duckworth's use of a questionnaire to measure 'grit' (''perseverance and passion for long-term goals'') offered effective prediction of academic achievement in a variety of settings.[32] Another parallel thrust has emerged from the burgeoning, if inconsistently defined, construct of MT. For several researchers, notably Clough and Crust, MT is the characteristic that supports progression along the pathway towards elite performance.[33,34] Of course, in order to be successful, a young athlete must be more than persistent and committed to the development pathway; they must also be resilient. Masten et al.[35] define resilience as ''the process of, capacity for, or outcome of successful adaptation despite challenging circumstances.'' Although resilience has been well described as a process, and systemic recommendations offered for education in its broader sense,[36,37] approaches for the optimum teaching and structured exercise of resilience skills as a preparation for challenge has been less apparent in sport. Once again, however, these ideas seem relatively well developed in other performance domains such as medicine,[38] education[39] and the military.[40]

Notably, possession of the characteristic(s) is often seen as a given, with little consideration of exactly how it is/they are developed. This lack of mechanism is a challenge, especially in designing systems that may promote the possession, deployment and evolution of the characteristic(s). Fortunately, however, another evolving construct, the PCDEs[6,7] addresses these considerations.

Built on earlier work by Orlick and Partington,[41] possession of PCDEs has been shown to facilitate progression along the talent pathway in a variety of performance domains and through both formal and informal talent development environments (TDEs). A feature of the mechanistic operation of PCDEs is that different combinations of skills are useful for different performance domains and different individuals at different times.[7] For the moment, however, note that a toolbox of skills, with the knowledge to enable appropriate and effective deployment, would seem to offer more potential benefit than a generic skill or set of skills. In this respect, PCDEs seem to share more with learned resourcefulness than SIT; a portfolio of transferable skills rather than a specific package targeted at a specific issue.

From a general perspective, all these approaches offer evidence for learning from adversity. Notably for practical application, however, only two have to date presented a structured method of development, apart from the participants acquiring the skills themselves 'naturally' through reflection on experience. We consider this more fully in the final section. For the moment, however, we would emphasize two aspects: first, the advantages of developing the skill-set through a variety of means, then on-going evaluation/refinement through a range of formative and summative tests. Essentially, skills need to be taught, exercised and supported against real-life challenges if genuine and transferrable benefits are to accrue. As a result, performers learn generalizable skills, how to deploy them and build confidence in their capacity to do so. Second, the strong evidence from a variety of sources suggestive of a positive causative influence that these skill sets can confer, most notably for individuals following a developmental pathway.[6,7] Once again, the need for proactive teaching then supported deployment then facilitated reflection to evidence success stands out.

3. Minor Traumas as Preparation for Major Ones – Trauma as Causation

On the basis of the first two sections, we see a suggestive case for the application of structured challenge, with associated learning activities, testing and refinement as key features of a talent pathway. Is an even stronger case possible, however? In simple terms, what evidence of direct causation exists for this sort of approach?

There is certainly good evidence for the self-regulatory skills that may result from 'trauma' and their causative role in achievement. This evidence is all the more impressive when the broad scope of achievement domain is considered against the equally wide range of challenge. For example, returning to Duckworth's work, self-discipline and self-control are better predictors of academic achievement than IQ,[42] enable adolescents to better control weight gain[43,44] and have well established causative impact on desired behaviour on a longitudinal basis.[45]

Other evidence speaks to the causative benefits of developing such skill sets against challenge in terms of both eventual outcome and process markers along the pathway. Often overlooked research into MT (although in this case, presented as a distinct, well defined and operationalized construct) by Deinstbier,[46] supports the idea that encountering and overcoming challenge develops a set of skills and attitudes that strengthen the individual for subsequent experiences. Deinstbier offers strong and testable mechanistic explanations for how this occurs, predicting that intermittent exposure, followed by periods of adjustment before more challenge, results in a differential hormonal response to stress characterized by a more solution-focused perception.[47,48] As such, this theory suggests a training process akin to SIT or even physical training through overload, but with a clear and causative process delineated. The point for the present article is that, through training, performers may develop more functional approaches to challenge as their preferred behaviour, so long as that approach matches the challenge.[49]

There is also increasing evidence for causative influences from other approaches. For example, explicit teaching of PCDEs, coupled with structured challenge to test and refine these skills, was shown to positively impact on the transition to university and new training environments for student athletes.[50] The sum total of all these ideas is that there appears to be a strong case for

the causative role which skills developed through previous 'structured trauma' can play in aiding adjustment to new challenges. For a young athlete on a TD pathway this might include relevant challenges such as playing in an older age-group or out of position, being set higher expectations and standards than his/her peers, de-selection from certain events or selection to international competition, military-style challenges, or being relocated for intense training camps in foreign and/or 'basic' conditions. Accordingly, it would seem sensible to make such activities an established and integrated part of TD pathways, so long as the challenges are preceded by skills training, and supported and debriefed to fully realize the benefits.

4. Building Trauma into the Talent Pathway – Trauma as a Development Tool

Given that the case for such personal development in TD has been made, is there any evidence on how this can be best accomplished? There is emerging evidence that extremely pertinent mental skills such as self-control can be taught, with consequent impacts on commitment and persistence.[51] Given that such skills can be taught, such 'formal' education would seem to offer much as a strand in any talent pathway. Certainly, parallel educational activities such as life skills and psychological skill development are increasingly common features of formal academies.[52] However, to increase the likelihood of positive transfer and application of these skills, there is little doubt that building the requirement and opportunity for using such skills into TDEs is another useful feature. In regard to MT, Crust and Clough[53] emphasize the need for such opportunities to be built into the fabric of the TDE. In a similar vein to the ideas of deliberate experience presented earlier, Crust and Clough suggest that the natural setbacks and failures that are an inevitable part of the pathway should be used as a focus for critical reflection, learning and subsequent application; an idea suggested by Martindale et al.[54] In short, authors increasingly recognize that both smooth and rough times can offer unique developmental opportunities to athletes as they progress along the pathway if they are purposefully and effectively exploited.

Of course, one question that merits attention is how much challenge and of what types can be employed for optimum development. For example, there is good evidence that too great a challenge in childhood can 'limit' adult achievement and adjustment.[55] Gender[56] and other psychosocial factors have also been shown to play a mediating role in stress reactivity. Furthermore, constructs such as learned helplessness[57-59] show that solely positive outcomes from the imposition of pressure are hardly inevitable. Consequently, and as with so much in performance psychology, the 'with who, how much and when' decisions are likely to be a very individualized process impacted by a variety of characteristics and prior experiences. For example, Mineka and Zinbarg[60] show how early learning and individual vulnerabilities can affect later responses to stress, either long or short term. In simple terms, the degree of control perceived on early stressors has a significant influence on the individual's perceived ability to control challenges in later life. Such ideas put the lie to systematized TD, in which important individual differences and contextualizing background data are often ignored. Supporting this, the need for such individualization to cater for all aspects of the bio-psychosocial situation of each performer is also well documented.[56,61]

Work on early influences[62] also emphasizes the need for such developmental programmes to start early or, at the very least, be built on a sound and well structured early educational experience. Examples of such programmes and the wide ranging benefits they can bring are cited throughout this article: the pilot programme in Scotland ''Developing the Potential of Young People in Sport'' (DPYPS),[63] which used physical challenge and taught PCDEs alongside physical education, offers another template for such a base. Another important feature of DPYPS was its' integrated approach, whereby all the agencies involved (in that case, teachers at primary and secondary level, parents and youth sport coaches) were providing a similar message through a variety of methods.[63] Thus, PCDEs were formally

taught, encouraged and modelled through coach behaviour and coaching systems, and transferred and tested through a variety of means, both explicit and implicit. As a result, young participants reported the successful application of PCDEs to a wide range of challenges, including academic performance and extracurricular participation, enabling them to set, meet and exceed personal aspirations already raised by the programme itself.[52] Effective use of these skills has also been associated with the achievement of self-set goals in unstructured performance environments[64] and overcoming real-life challenges (e.g. transition to university[50]).

Identifying youngsters who lack the ability to cope must surely be a feature of any educational system; all the more important in a system aimed at generating eventual high performance. As such, the call made earlier for carefully structured, well supported and individualized challenge as an essential feature of the TDE seem both specifically (to high performance) and generally (holistic education wise) relevant. In contrast, delaying or avoiding challenge would seem to be of both questionable value and poor practice, notwithstanding the crucial importance of an individual approach to avoid the potential downsides, such as learned helplessness or developed insecurities.

5. Conclusion

There appears to be a strong case for both the direct exploitation of life event challenges and the artificial generation of challenge when this is seen to be developmentally appropriate. The talent pathway should not be a comfortable place to be; rather, it should offer a variety of lessons to be learnt through both explicit and implicit means. The provision of skills, formally taught but also developed through a variety of parallel interacting routes such as coach modelling, TDE structure and competition[63] is essential; such development should not just be left to chance or the serendipity of supportive home backgrounds. Finally, support through the early challenges, with confidence and skill building debriefs afterwards, will help to optimize the development, although the importance of doing this on an individual basis is obvious. Perhaps the most obvious implication of our suggestions is the need for further confirmatory investigation in talent academies and also in more general school systems.

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