



Participant Development in Sport: An Academic Review

Executive Summary

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Participant development is a central aspect of any sports development framework as it is concerned with the activities experienced, the pathways followed and the obstacles encountered by players during their sporting and/or physical activity careers. This review seeks to identify the main findings/principles associated with participant development, the methods used to generate this information, and the strengths and weaknesses of the supporting research. It does so by focusing on three broad areas of inquiry: the biological domain, the psychological domain and the social domain.

Biological Domain

During childhood and adolescence there are measurable changes in body shape and structure. These changes relate to an integrated natural development of genes, hormones, nutrients and environmental factors that bring anatomical, neurological, muscular and metabolic/hormonal adaptations. Consequently, this has a direct impact upon the development of specific fitness components. A significant amount of evidence shows that this biological maturation is non-linear and dynamic, meaning an active variance in the development of fitness components between individuals.

At present, the application of such information by practitioners to enhance athletic performance is poor. To date, the best-known model to include such considerations is the Long-Term Athlete Development (LTAD) model. Participant development models must have the flexibility to account for individualised growth rates and by using physical measures, such as peak height velocity and peak weight velocity, the LTAD model advances practitioner understanding to some degree. It uses successful training ethos alongside a greater scientific basis for children and adolescents, and moves away from early specialisation in sport and physical activity to optimise athletic development. The model also acknowledges the need for a balanced training load and competition reflective of the stage of maturation.

It is commonly accepted that training can bring changes in athletic performance. It appears there are natural accelerated improvements in overall athletic performance in young people aged 5–9 years old, as well as specialised fitness-component developments during adolescent biological maturation. Moreover, from conducting training at appropriate maturational time periods, some research suggests accelerated development of athletic performance, known as 'windows of opportunity'. However, participant development should not be driven by windows of opportunity as there is a lack of cause-and-effect evidence; therefore, practitioners should also be aware of the importance of training to advance all fitness components throughout biological maturation during non-critical training periods.

There is a need for long-term training studies to determine whether windows of opportunity actually occur. There is no evidence that failure to exploit these windows of opportunity with appropriate training will result in inhibited development and ceiling limitations later on. A fundamental question is whether these critical periods are included to help develop elite performance beyond an athlete's natural genetic make-up, or merely achieve optimal elite performance faster. Similarly, will misuse of the critical periods bring an increased likelihood of fixed or, more disturbingly, detrimental athletic effects upon participation during adulthood?

Psychological Domain

Individuals are likely to encounter a range of long and short developmental stages and, perhaps more crucially and a greater challenge, transitions between these stages as they progress in their sport. Unfortunately, most existing models fail to acknowledge the non-

linear and dynamic pathways that typify prolonged engagement in sport. Instead, they tend to suggest participants may progress towards either elite sport participation or may, instead, choose to maintain involvement through the recreational years. Alongside the goal of lifelong participation, the design of any effective system must adequately allow for a continuum between these two goals, rather than treating them as separate targets. Such a consideration is missing from these twin-track stage models, since they account for neither the many non-linear pathways inherent in development nor the 'return routes' that are characteristics of the path to excellence.

Although these models describe development as a progression through different stages, they offer little insight into how individuals move through or between stages and different development pathways. While ability can be seen as the building block or defining feature of talent, the process of talent development occurs through a period of structured learning - a process rather than a single event. Therefore, identification of potential must address both the 'ability to get there' as well as the 'ability to be there'. Despite this clear and common characteristic, talent identification processes in sport have persisted with attempts to identify 'talented' athletes based on a limited range of discrete, outcome-based variables (eg performance at age 12) that are tacitly assumed to underpin and, even, inevitably lead to, senior success. For example, many traditional and popular talent identification models (eg Talent Search) use testing protocols that are based almost entirely on a snapshot of current performance (ie how well an athlete performs at **that** particular moment in time) as opposed to an individual's capacity to develop in the future.

In simple terms, effective talent development will recognise and cater for the varied pathways and different challenges individuals will face as they progress up the pathway. Crucially, many of these concerns will apply irrespective of the eventual goal, whether this is elite performance **or** lifelong physical activity participation. While reflecting upon certain psychological factors being characteristic of those achieving the greatest success in sport, it is important to consider the role psychological factors perform within participation development models. These 'psychological characteristics of developing excellence' (PCDEs) include mental skills, such as imagery or goal setting, as well as the attitudes, emotions and desires young athletes need to successfully realise their potential. For example, an individual must employ a variety of skills to optimise development opportunities (eg first-time appearances at a new level of competition, significant wins and losses, the 'challenge' of learning a new skill), adapt to setbacks (eg injury, slumps in performance, peer-group challenge) and effectively negotiate key transitions encountered along the way (eg selection, demands for increased practice, the push to conform to adolescent stereotypes). Without these important skills and the ability to negotiate developmental challenges, an individual may not maintain the motivation to achieve excellence at any level of participation, regardless of his or her 'talent'.

Therefore it is recommended that participant development models include PCDEs as a key part of their recommendations for practice. Since psychological characteristics appear to be a consistent predictor of performance, regardless of domain or level of achievement, a model promoting the development of a range of PCDEs enables individuals to make unrestricted participation choices across the lifespan.

Social Domain

A number of key social/environmental factors can affect participation, attrition and involvement in sport and physical activity during childhood and adolescence. While there is evidence of the importance of factors, such as the family, socioeconomic status, educational background, geographical location, gender, ethnicity, peers and identity, there is little consideration of any of these factors within existing participant development models. The most influential factor seems to be the family, and young

people from a two-parent/carer family have far more opportunities and access to provision than those from a single-parent/carer family. This is often attributable to socioeconomic variables, as well as practical issues, such as work, transport and the requirements of siblings. With approximately one quarter of young people in the UK living within single-parent families, it is clear that familial support systems and networks are fundamental considerations. Socioeconomic status is also important as, for example, the cost of kit, fees, transport to and from training and matches is vital for involvement in many sports and more crucial as the performer gets older and wishes to participate at a higher level. Clearly, those from two-income families have a financial advantage.

A participant's educational background (and opportunities afforded to participate in sport at and through school) is also important. Those attending fee-paying schools have an advantage of more physical education/sport time and, often, professional coaches over state-funded schools. So, time, opportunity and provision are important. Linked to this is the emerging recognition of geographical location and the 'opportunity' to participate. Research has highlighted that the size of the area in which you live has an effect on access, opportunity and provision. A medium-sized city can be far more facilitative of participation than a rural or urban area. The issues of gender, peer influence and ethnicity also cannot be forgotten, however, these tend to be secondary factors, closely linked to family, socioeconomics, education and geographical location.

There is a need for participant development models to acknowledge and understand the relevance of the social person as much as the body within the sporting experience as without such awareness, it will be impossible to produce a coherent and comprehensive strategy. Furthermore, social and environmental opportunities impact upon involvement at every stage and level of engagement, so, unlike the biological or psychological domains, the thesis underpinning this area comprises a range of social and environmental factors, such as family, socioeconomic status, geography and schooling, which significantly affect participation.

In short, any future participant development models must, not only acknowledge biological and psychological issues, but also reflect the social background of the participants. If future models fail to do so, they will be neither accurate nor effective.

Moving Forwards

The *UK Coaching Framework* aims to 'promote a holistic view of the child, athlete and player'. At its best, a participant development model must be holistic, addressing the complexity of interactions between different domains of functioning and offering clear practical guidelines and directions for further investigation and development, while also providing an empirical and theoretical justification for these statements. Unfortunately, the current state of research in this crucial area does not provide a sufficiently comprehensive understanding of the key interactions between domains, nor provide a sufficiently firm base for future progress and application.

There is little doubt that the recent emergence of participant models like LTAD and Côté's Developmental Model of Sport Participation (DMSP) has brought significant advances in the understanding of sports participation. The same could be said for the progression of the *UK Coaching Framework*. Each model has sought to move beyond the informal approaches that have characterised sports development in the past, and offers an excellent basis for debate and evolution. This Academic Review moves the debate further by gathering, analysing and summarising relevant scientific literature, together with summary recommendations.

Recommendations

- Participant development ought to remain a central feature of the coaching framework for the UK
- Interdisciplinary research should become the norm, rather than the exception, in sports coaching research
- Models, research and proposals should be continually and independently evaluated
- Participant development should be based upon the concept of the development of excellence in different contexts
- The relationship between performance and participation is synergistic
- There is a clear and present need for 'joined-up thinking'
- Policy and practice need immediate revision and future changes should be informed by a purpose-driven research agenda.