



# Participant Development - Key Research Themes

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This document offers a summary of relevant research findings that relate to participant development in sport. It does not aim to provide a comprehensive review. Rather, it highlights and discusses certain aspects of participant development that relate to the UK Coaching Framework.

Each section addresses a specific issue. It explains the importance or relevance of the issue, summarises research findings, and suggests implications for coaches and /or coach educators/developers. Finally, each section offers a useful source of further information on the topic.

The document is extracted from a wider review of the Participant Development Literature commissioned by sports coach UK.

# 1. PARTICIPANT AND TALENT DEVELOPMENT ARE COMPLEX

***"Nature versus nurture, genes versus the environment, culture versus biology ... However it is phrased, the whole dichotomy makes no sense, and it should be pitched out. You might as well speak of a rectangle's having a length versus a width."* (Peter J. Richerson)**

One of the most common topics of conversation among sports coaches is whether talent is the result of nature or nurture; whether the best players achieve their status as a result of lucky genes or through hard work. This is not merely a theoretical discussion: coaches' views about the nature and development of ability will influence the ways they approach participant and talent development, about the participants sport systems support, perhaps most importantly, about the people that are left behind.

## What does Research Tell Us?

Scientists researching high ability in sport can be positioned along a simple continuum between those who think that expertise in a domain is almost entirely the result of genetic gifts and those who think it is the result of experience and environment. A third group, the interactionists, think that ability cannot be understood without taking account of both genes and experience. *Almost every scientist today is an interactionist.* In other words, almost everyone who seriously studies the development of expertise in sport thinks that it is vital to consider both nature *and* nurture.

Many interactionists adopt a "complex systems" view. This means that development is the result of numerous factors that interact with each other: development is more than the sum of the individual parts. A simple way of thinking about this in sport is in terms of three types of factors: biological factors (e.g., innate speed; physique; natural endurance); psychological factors (e.g., mental skills and attitude; motivation; resilience); and sociological factors (e.g., family; social class and income; peer groups). As can be seen from the diagram below, it makes no sense to talk about 'the most important' factors: all are important.



The complex systems approach helps explain participation at every level of sport, from young children sampling for the first time to elite adults. Successful negotiation of these factors can lead to high levels of performance and / or enjoyment, while unsuccessful negotiation can lead to burnout and/or dropout.

Most talent development systems place greatest emphasis on biological perspectives, relatively little on psychology, and none on sociology. But take a look at a summary of some of the characteristics of elite performers in sport:

- Parents achieved high standards in domain
- Relatively high socio-economic status
- Ability and willingness to financially support participation and specialist support
- Ability and willingness of parents to invest high amounts of time to support the child's participation in the activity
- Parents as car owners
- Relatively small family size
- Two parent family

- Attendance at Independent School

Of course, high performers also have exceptional physical and psychological characteristics. But this simple table shows that those with the 'wrong parents' are much less likely to go on to achieve in sport than the lucky few.

### **What does it mean for coaching?**

1. Coaches need to take a broad perspective on participant and talent development, recognising that a great range of factors influence participation at every level.
2. Coaches need to become aware of the contribution of each of the different capabilities that underpin participation and performance in sport – *Personal - Physical - Mental/psychological - Technical - Tactical - Lifestyle* – and how they impact on the different forms of participation and on different sports.
3. Coach education needs to help coaches reflect on their personal theories of expertise in sport, and address limiting beliefs.

### **Useful source of further information**

Baker, J. and Horton, S. (2004) A Review of Primary and Secondary Influences on Sport Expertise. *High Ability Studies*, 15, pp. 211-228.

## 2. EARLY SPECIALISATION HAS ITS DANGERS

*"Although an early specialization trajectory may offer positive experiences and outcomes, it relies on a talent selection process in childhood that may be detrimental to continued sport participation." (Leisha Strachan, Jean Côté and Janice Deakin)*

Opinions about the benefits and necessity of early specialisation vary considerably. Some sports – so-called early specialisation sports, like gymnastics, ice skating and swimming – place great emphasis on young players limiting their participation to one or a small number of activities. Other models caution against the dangers of introducing too much too soon, and stress the value of novices experiencing a wide range of sports before specialising at a later stage.

### What does Research Tell Us?

The strongest evidence in favour of early specialisation comes from research into the effects of practice and training (see also Section 5 – 'Practice, Practice, Practice'). Scientists found that many expert performers in sport (and other areas) began their training at an early age and invested considerable time and energy from the beginning in their specialist sport. Some have speculated that early specialisation is important because if it did not begin early enough, late starters would risk being unable to catch up to those with a head start.

Critics of this approach have suggested that there are also serious negative consequences. For example, it has been suggested that early specialisation can result in impaired overall development in childhood, including restricted movement development and the stifling of psychological and social skills. Others have argued that early specialisation occurs at a time when developing bodies are vulnerable to over-use injuries. Perhaps most worrying of all, serious training in a single sport can reduce the fun and enjoyment aspects that are well-established to be vitally important for long-term participation. In other words, there is a real danger that early specialisers become early drop-outs.

An increasing number of studies have questioned the necessity of early specialisation. It has been found that in many sports elite players did not focus on that activity from an early age. On the contrary, these players 'sampled' a range of sports before progressively narrowing down the number of activities. Unlike early specialisers, these players' experiences of early sports were generally play-like, inherently enjoyable and not serious. Up to half of pre-elite athletes reach an elite level in a different sport; so even in the case of elite sport it seems wise to develop a broad range of skills first.

Some studies have found that later specialisers are not placed at a disadvantage to early specialisers, although there is a great deal of variation between different sports.

Research into both early and late specialisation in sport reveals one constant theme: coaches and the wider social support network (including families and friends) are vitally important in the quality of players' experiences of sport. Skilled coaches can mitigate against the potential stresses and strains of sport (which are especially evident among early specialisers) through an awareness of the changes affecting growing and developing bodies, and through encouraging close friendships and family support. An ethical and balanced approach seems most likely to bring about ultimate success.

### What does it mean for coaching?

1. Coaches need to be sensitive to the potential risks of early specialisation in sport.

2. In many cases sampling a broad range of sports is valuable, and lays a solid foundation for later participation.
3. Where early specialisation is considered necessary, coaches need to acknowledge the physical, psychological and social stresses of serious training in childhood, and develop strategies to ensure healthy, overall development.
4. Coach educators need to ensure that all coaches of children are aware of the physical, psychological and social aspects of early training in sport, and that they are able to implement strategies that mitigate any potential harm.

#### **Useful source of further information**

Wiersma, L. D. (2000) Risks and benefits of youth sport specialization: perspectives and recommendations. *Pediatric Exercise Science*, 12, pp. 13–22.

### 3. PERSONAL AND SOCIAL SKILLS ARE IMPORTANT

*"Winning takes talent, to repeat takes character." (John Wooden)*

Sport autobiographies are full of glowing accounts of the benefits of sport to wider aspects of life. But mostly they are rather vague and unhelpful in setting out exactly *how* sports achieve such outcomes. Are there core skills that contribute to both sport and life? Can anyone learn them?

#### What does Research Tell Us?

Some of the most interesting developments in sport psychology in recent years are linked to the so-called 'positive psychology' movement. Positive psychology studies the strengths and qualities that enable people to thrive in different aspects of their lives. An emerging finding from this research is that certain personal and social skills can play powerful roles in supporting development in other areas, in sport and life. The research field called 'positive youth development' (PYD) suggests that development opportunities (including sport) should focus on the following outcomes, called the 5Cs. These have been developed in various ways, including this version:

- *competence* – positive view of one's actions including social competence and cognitive competence
- *confidence* – an internal sense of overall positive self-worth and self-efficacy
- *connection* – positive bonds with people and institutions resulting in successful relationships in family, school and community
- *character / caring* – respect for societal and cultural rules, possession of standards for correct behaviours, a sense of right and wrong and integrity
- *creativity* – finding one's own solutions

An interesting finding is that the relationship between sports participation and the development of personal and social skills seems to be two-way: personal and social skills help people play and succeed at sport; and sport is a powerful medium for developing personal and social skills (though it can also have negative effects e.g. the use of performance enhancing drugs). Therefore, sport can be a valuable way of developing positive qualities in young people (and presumably adults, too). At the same time, the development of these positive characteristics will improve the quality and the sporting experience, such as reducing the harmful effects of early specialisation and high-level training.

#### What does it mean for coaching?

1. Coaches need to take responsibility for the overall positive development of their athletes/players, making sure that their programmes offer opportunities for players to develop the 5Cs.
2. The development of "Personal Capabilities" using the concept of the 5Cs is important for athletes/players at all stages, including participants, performers and elite players.
3. Coach education needs to ensure that all coaching programmes include reference to positive personal development, the 5Cs, and strategies to apply them in the difference contexts in which coaches operate.

4. All involved with coaching ought to ensure that the natural tendency to stress competition is balanced by a recognition of the importance of positive experiences and outcomes that emphasise the development of personal qualities.

#### **Useful source of further information**

Holt, N. (2007) *Positive Youth Development through Sport*. London: Routledge.

## 4. BASIC SKILLS LAY A FIRM FOUNDATION

*"Children who possess inadequate motor skills are often relegated to a life of exclusion from organised and free play experiences of their peers, and subsequently, to a lifetime of inactivity because of their frustration in early movement behaviour." (Seefeldt, Haubensricke and Reuchslein)*

Sports skills involve a dazzling array of specialist movements and actions. Yet, many sports coaches are encouraging their athletes/players to develop a broad foundation of 'basic' or "fundamental" movements and actions that are not only common to all sports but also underpin these specialist and more sport specific skills. So, fundamental movement skills (FMS) programmes are increasingly common in sports clubs and at schools. This trend is apparent from the proliferation of a wide range of "Fundamental" and "Multi-Skill" type programmes in school and community settings in recent years.

### What does Research Tell Us?

There have been few long-term studies of the relationship between basic and specific movement skills in sport, and this is probably due to the difficulty of carrying out this type of research. However, there is a consensus among researchers that FMS are of great significance in terms of both early and later participation in sport and other activities. FMS are generally characterised in terms of movement, object manipulation and stability. It has been suggested that these skills make up the common actions of almost all later sports skills, and that a failure to develop a sound foundation will prevent young athlete/players from benefitting from physical play activities, and will leave weaknesses in their repertoire of movement skills throughout their sporting careers. In other words, FMS are the building blocks of sports participation and performance. This might explain why early specialisation is rarely an effective preparation for lifelong participation in sport. Early specialisation taken to the extreme has been shown to lead to what has been termed as "one-sided development" (i.e. mastery of only narrow base of skills) that in turn tends to lead to several negative consequences (see Section 2 - 'Early Specialisation has its Dangers').

### What does it mean for coaching?

1. FMS should form a central part of all coaching programmes for young people, whatever their sport.
2. Coaches from different sports could profitably come together to share movement skill ideas in order to offer rich, varied and stimulating experiences for all young players.
3. Even within a particular sport, coaches should encourage the development of a wide range of skills especially in the early years of participation. For example, in team games playing and learning the skills associated with different positions and in sports such as Swimming, Gymnastics, and Athletics children being exposed to a range of skills (e.g., variety of aquatic skills and all Swimming strokes; variety of Gymnastics disciplines/apparatus; variety of running, jumping the throwing skills).

### Useful source of further information

Haywood, K and Gretchell, N. (2001) *Life Span Motor Development, 3rd Edition*. Champaign, IL: Human Kinetics.



## 5. PRACTICE, PRACTICE, PRACTICE

*A New Yorker is approached in the street near Carnegie Music Hall, and asked, "Pardon me sir, how do I get to Carnegie Hall?" He replies, "Practice, practice, practice."*

The 'Amadeus Myth' is the belief that exceptional performance is produced by mysterious powers or abilities limited to a special few. Obviously genetics makes a significant contribution to development, but does it explain such amazing achievements, or are there more important factors? What is the difference that makes the difference?

### What does Research Tell Us?

Research has highlighted the vital role of practice in high-level performance. Some scientists have suggested that the apparent fact that some people pick up skills at a faster rate than others is best explained by sustained but unobserved practice, and this claim is supported by a many studies on elite performers' lives. Interestingly, there is evidence of a distinct pattern in the time necessary to progress from beginner to expert: high performers in lots of different areas (music, poetry, science, mathematics and, of course, sport) have reported at least ten years of concentrated practice in order to reach their high level of mastery. Of course, not all practices are equally valuable, and mere quantity of practice is unlikely to result in expert performance; quality of practice is also required. There is also the key issue how this quality of practice is progressively developed over long periods of time. Some talk about 'deliberative practice' to refer to activities that are structured, goal-orientated, require effort and are not always inherently enjoyable. The type of sport is an important factor, too. Some sports, mainly new Olympic sports, will usually require less investment of time to make it to the top. Others (like golf, according to some recent research) can take as long as twenty years. These years of practice are likely to involve lots of both informal practice (i.e. playful activity without the guidance and support of a coach) and more formal practice (i.e. activity sessions guided by a skilled coach). But whatever the variations and patterns that exist, one thing seems absolutely clear: practice matters.

### What does it mean for coaching?

1. Coaches need to allow enough practice time for their players to develop. Coaches should encourage their athletes/players to practice on their own or with groups of friends in informal unstructured settings (e.g. specific skill practice on own or in groups such as Netball shooting/passing; small-sided skill based games/activities; getting involved in "fun runs" and similar activities that promote and develop overall fitness etc).
2. In most cases where the practice session is guided by a coach, this means structured practice, with good quality feedback, goal setting and support. However, some time should be given to more informal activities (such as game based activities at the end of a practice session or as part of warm down).
3. Since some of this practice may not be motivating in itself it is important that players are taught the mental skills to deal with frustration and boredom if they arise. Skilled coaches should have a repertoire of practices that "sugar the pill".

### Useful source of further information

Starkes, J.L. and Ericsson, K.A. (2003) *Expert Performance in Sport*. Champaign, IL: Human Kinetics.

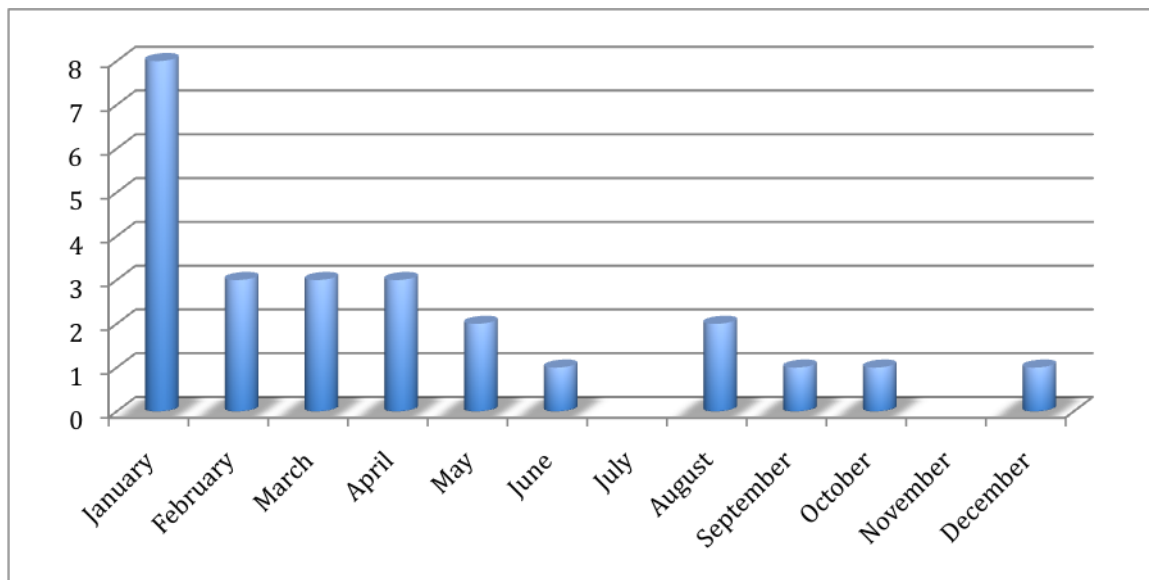
## 6. YOUR FUTURE IS WRITTEN IN THE STARS

*"The one nagging doubt in the back of my mind was that my rivals were bigger: I was really small and facing some tall, strong units in my position." (Steven Gerrard)*

Steven Gerrard's quotation reflects a phenomenon that has enormous relevance for coaches: he was young within his age group, and for years found it very difficult to compete with older peers. This is called 'relative age effect'.

### What does Research Tell Us?

Take a look at this chart, which shows the birth dates in a player roster of a Canadian elite junior Ice Hockey League in 2007:



Unless we are to accept astrological explanations, it seems that this team has a problem. Numerous studies have shown that players born early within the selection year have a considerable advantage over those born later. This seems partly because of the physical size, strength and matured coordination of players who can be up to one year older than their team mates. Those with the benefit of extra months of development are more likely to be identified as talented and progress to the next level of the selection where they would be expected to receive better coaching, play with a higher standard of peers and opposition, compete and training more frequently. Those who are younger relative to their age group are more likely to be overlooked.

### What does it mean for coaching?

1. Coaches need to be extremely careful not to mix up maturity and ability: otherwise they could be losing some of their most talented players.
2. An over-emphasis on selection for competitions in the early stages of a sporting career is an unwise strategy: keep players playing and competing, and remember that early success does not necessarily predict later achievement.
3. Coaches should create quality coaching and competitive opportunities that allow as many participants and possible to participant in sport (e.g. provide more

coaches for the junior section of a club with a high coach-participant ratio; run not just one competitive team but two or three teams to give everyone who wants to a chance of competing etc).

#### **Useful source of further information**

Gladwell, M. (2008) *Outliers: The Story of Success*. London: Allen Lane.

## 7. MINDSET MATTERS

***"When Michael Owen was earning £10,000 a week he didn't want £20,000 a week – he wanted to be a better player ... And if he gets more money his edge doesn't go down, his performance level doesn't go down. Michael just wants to do better." (David Platt, Former England Under-21 Football Manager)***

We often read that the right mental attitude is vital for sporting success. But what does that mean? Is it a win-at-all-costs approach, or something else?

### **What does Research Tell Us?**

The psychologist Carol Dweck found that people generally hold one of two fairly firm beliefs about their ability: they consider it either a fixed trait or something that is changeable and can be improved over time with effort. She calls these the fixed and growth mindsets. There is persuasive evidence that mindset can seriously influence performance in the long-run.

It seems clear that the growth mindset relates to long-term success - this is the attitude linked to dedication, hard work and a love of learning. It is also an important factor in the development of resilience, which is an essential ingredient of achievement in any area. This mindset does not deny the role of talent, but it puts it in its place: talent is just the starting point.

There is another aspect of mindset that matters: the coach's beliefs about the origins of high performance can affect the judgements made about who is worth supporting, selecting or dropping. Research shows that many coaches have a fixed mindset, and consequently underplay the role of effort in sports performance.

### **What does it mean for coaching?**

1. Mindsets can be changed, and the messages that players get from coaches and parents about ability, effort and success can be very influential.
2. Coaches need to reflect on their own beliefs about ability and effort, and change them if they turn out to limit the potential development of players.
3. Success and enjoyment in sport are long-term matters, and coaches should make sure that their attitudes and practices encourage growth, hard work and progressive improvement.

### **Useful source of further information**

Dweck, C. (2006) *Mindset: the new psychology of success*. New York: Ballantine Books.

## 8. AGES AND STAGES

*It ain't what you do it's the way that you do it.  
It ain't what you do it's the way that you do it.  
It ain't what you do it's the way that you do it.  
And that's what gets results. (Bananarama)*

We often hear people talking about talent development or participant development, but what does this development look like? What is the process of developing from beginner to champion?

### What does Research Tell Us?

Development in sport is rarely simple, smooth and direct. Many researchers have found that players pass through different stages as they progress from beginner to expert. The best-known model of this development comes from the educational psychologist Benjamin Bloom, who suggested that players move through three stages:

1. the "early years" (Initiation), when the individual is drawn into the area;
2. the "middle years" (Development), when the individual becomes committed to the area;
3. "the later years" (Mastery), when the individual makes the domain the centre of his/her life.

Each of these stages has its own challenges. For example, it seems that the early years should be a time of enjoyment and variety, whereas the middle years require plenty of opportunities for practice and structured guidance from a skilled coach. Making sure that players at different stages experience the right sort of sporting activities will increase the likelihood that they will stay within the system and improve.

Recent participant development models have built on Bloom's ideas, such as those of Istvan Balyi and Jean Côté:

<b>BALYI'S LONG-TERM ATHLETE DEVELOPMENT MODEL</b>	<b>CÔTÉ DEVELOPMENTAL MODEL OF SPORT PARTICIPATION</b>
<b>FUNDamental</b>	<b>the sampling phase (6-12 years)</b> when children are given the opportunity to sample a range of sports, develop a foundation of fundamental movement skills, and experience sport as a source of fun and excitement
<b>Learning to Play &amp; Practice</b>	
<b>Training to Train</b>	<b>the specializing phase (13-15 years)</b> when the child begins to focus on a smaller number of sports, and while fun and enjoyment are still vital, sport-specific emerge as an important characteristic of sport participation
<b>Training to Compete</b>	
<b>Training to Win</b>	<b>the investment phase (16+ years)</b> when the child becomes committed to achieving a high level of performance in a specific sport, and the strategic, competitive and skill development elements of sport emerge as the most important
<b>Retaining</b>	

### What does it mean for coaching?

1. Coaches need to recognise the stages of development of their players, and coach accordingly.
2. It is rarely the case that 'squeezing' players through the stages quickly will lead to ultimate success as they need time to learn the lessons from each phase of their development.
3. National Governing Bodies (NGBs) should invest time and effort into developing sport specific participant development models and ensure that this knowledge base is fully integrated in coach education and development programmes.

### Useful source of further information

Bloom, B.S. (Ed)(1985) *Developing talent in young people*. New York: Ballantine.

## 9. TRANSITIONS NEED TO BE RECOGNISED

*"People perish during transitional phases. In Scoresbysund they would shoot each other in the head with shotguns when the winter started to kill off summer. It's not difficult to coast along when things are going well, when a balance has been established. What's difficult is the new. The new ice. The new light. The new feelings." (Peter Hoeg, Miss Smilla's Feeling for Snow)*

Models of athlete/player development generally focus on the stages and pathways players ought to experience as they progress through their sporting careers. But what about the gaps between the stages and pathways? How important are transitions in development?

### What does Research Tell Us?

Most models offer a detailed account of the challenges associated with the different stages and pathways they describe. However, research also highlights the vital importance of the transitions between them (between, for example, participation and performance pathways; or between childhood and young adult stages). Athlete/player development is complex (see Theme 1) and it is almost certainly the case that players do not simply skip from stage to stage without obstruction. In fact, the ability to move successfully between stages of participation is important if players are to remain in the sports system and to realise their potential. Some talented young people become disengaged because of their inability to deal with changing circumstances, and presumably many more recreational players abandon their sport because of the difficulty of overcoming the new barriers that participation in the new stage presents.

Psychologists have suggested that mental skills like goal-setting and imagery can help players deal with transitions effectively and cope with the new challenges that each stage requires. Support from family, friends and mentors also helps players deal with the challenges facing them during transitions during their sporting careers.

### What does it mean for coaching?

1. Coaches need to recognise that transitions between stages and pathways are as important in player development in the stages and pathways themselves.
2. It is important that players are taught the mental skills that will help them deal with the pressures of transitions; coaches are the usually the most suitable people to teach these skills.
3. It is important for coaches to see the bigger picture in terms of things that will affect an athletes/player's life outside sport, and how this can sometimes have a negative impact on sport participation and performance (e.g. affect of academic pressures/exams; affect of changing careers and/or personal circumstances; affect of moving from home etc).

### Useful source of further information

Abbott, A., Collins, D., Martindale, R. and Sowerby, K. (2002) *Talent identification and development: an academic review: a report for sportscotland by the University of Edinburgh*. Edinburgh: sportscotland.

## 10. LUCK NEEDS TO BE MANAGED

*"I should be so lucky. Lucky, lucky lucky." (Kylie Minogue)*

The 'common sense' view of athlete/player development is that each individual progresses to a level and type of participation that reflects his or her interest and ability in an activity. The findings presented in this review suggests that common sense might not be right. There are lots of factors that interfere within the process of athlete/player development that can mean that otherwise outstanding performers do not realize their potential because they are unlucky.

### What does Research Tell Us?

Luck refers to those factors for which you are not responsible. Whether or not you decide to dedicate 10,000 hours of your time to practicing sport is your responsibility. Whether or not there is a club in travelling distance, that you can afford and that has the quality of coaches necessary for my advancement is down to luck. Understood like this, luck infuses almost every aspect of athlete/player development in sport, and while some unlucky situations are beyond most people's control (only science fiction currently offers the possibility of taking responsibility for height or VO2 Max), others are not.

The following diagram shows some of the aspects that that research has found can influence athlete/player development, and which are to some extent beyond the responsibility of the individual:



### What does it mean for coaching?

1. Success in sport is not simply down to the athlete/player. Coaches need to acknowledge that there are numerous factors that can influence development that might be partly beyond the control of the individual player.
2. Coaching systems should aim to neutralise the effects of luck on player development by ensuring that opportunities are offered fairly to all potential players.
3. National Governing Bodies of sport should actively provide coaching interventions to improve participation amongst groups that are known to be in circumstances that result in barriers to their participation in sport (such as minority ethnic groups).

### Useful source of further information

Bailey, R., Collins, D., Ford, P., Macnamara, A. Toms, M. and Pearce, G. (2009) *Participant Development in Sport: an academic review*. Leeds: sports coach UK.