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#### ABSTRACT

Excelling at the highest level of sport continues to be a priority for many National Governing Bodies (NGB) and sport coaches. Multiple challenges exist here, however, many of which relate to the difficulty in establishing talent identification models that work well and also allow for 'late-developers'. Selection periods predicated on certain age ranges and periods, the notions of early and late specialisation, and the discourse related to deliberate play and practice (and subsequent expertise) all play a part in the complex tapestry of equitable competition, selection to excellence, and development. Of note, many youth sport coaches do not possess the necessary expertise and skill to fairly navigate these kinds of problems, and it is the contention of this commentary that (outside of specific NGB talent ID systems) they should prioritise longer-term, athlete-centred philosophies and outcomes. Importantly, given the evidence of athletes who have successfully transitioned sports due in large part to their athletic ability, this commentary puts forward the notion that youth sport coaches should focus on developing their participants' athletic ability, agility, footwork, and power; all characteristics that many sports necessitate at their highest levels.

**Keywords:** Talent Identification; Talent Development; Potential; Relative Age Effect; Athleticism; Sport Transitions

# YOUTH SPORT, SUCCESS, AND TALENT IDENTIFICATION

Given the significant amount of research dedicated to the positive role that sport can play in the development of young people, it is of no surprise that various governments, organisations, and agencies continue to promote the use of youth sport. Much of this is founded on the premise that sport not only helps with developing physical literacy, but that it also contributes to a range of psychological and social developmental stages for young participants (1-2). The implications for sport coaches here often relate to consideration of the appropriate methods that each developmental stage necessitates. However, identifying and realising effective coaching environments for young performers that promote resilience, acceptance, self-esteem, alongside physical literacy is, oftentimes, overruled by what can seem to be an emphasis on performance outcomes and performance sport. This culture of podium type sport, whereby winning is of prime importance, by nature prioritises excellence, execution, and the encouragement of processes through which young performers acquire skilled performance. Subsequently, these aims and hoped for outcomes are put at the forefront of many coaches' philosophies (3).

This is of no real surprise when we consider the wider cultural frameworks within which sport operates and, indeed, is the context within which this commentary operates. With the popularity of professional sport and the success of various international sport competitions, the search for expert sporting potential becomes increasingly competitive in terms of securing young playing talent. The identification and subsequent nurturing of individuals who are deemed capable of succeeding in elite level sport forms a foundation for the competitive sports experience of many people. Indeed, underpinned voung bv philosophical, physiological, psychological, and ethical dimensions, many National Governing Bodies (NGBs) commit significant resource to understanding how talent identification systems can filter into talent promotion and progress (4).

What often happens here is that some countries effectively attempt to buy their way to success. However, there is not always a direct correlation between fiscal spend and ultimate medal triumph. Here, there are numerous examples of how countries with smaller talent pools can overachieve in terms of medal counts and success in international sport (5). This is in comparison to countries with larger populations and resources, and serves as proof that ingenuity, increased expenditure with outcome goals, and a rational approach to the identification and nurturing of talent can pay dividends and be successful in comparison to programmes that do not follow the same protocols. Here though, there are two perennial problems which are now outlined.

The first is that talent ID programmes do not necessarily identify all of the best talent. In fact, there are multiple examples of athletes missing out on early talent ID selection and maturing/ succeeding late through a variety of sports. This is of no surprise when we understand the mechanics of physiological and psychological growth and maturation in young people, and the role that support systems (i.e. significant others) play in their development. Moreover, the cultural milieu in which young people operate also dramatically influences how some athletes are selected. The Relative Age Effect (RAE), for example, clearly demonstrates how school year dates and other chronological based selection periods can and do favour older children both physically and cognitively.

The second problem relates to sport coaches that are not operating at the forefront of talent ID programmes. Here, it is worth noting that talent ID is often predicated on coach assumptions and a cultural acceptance of what constitutes early and late specialisation; education, knowledge, and training then are paramount yet at times under-developed and under-resourced. More often than not as well, a self-imposed onus of sorts for coaches seems to be a preoccupation with finding exceptional talent and outliers. Given the aforementioned problems in talent ID, one in which continued mistakes with identifying young talent continue and the reality that they (ID programmes) do not necessarily select the best talent, it is probably prudent to ask why sport coaches do not focus instead on talent development.

Given the fact that many youth sport coaches are not experts within the field of talent ID and talent development, this commentary's position then is one that asks exactly what they might focus on and crucially how they can maximise the potential of their participants.

#### TALENT DEVELOPMENT

As the above outlines, the reality is that sport coaches do not necessarily always select the best talent for ID programmes. We see this through the aforementioned late-developers who succeed despite systemic disadvantages (such as sports with recognisable patterns evidencing RAE) for those outside of certain selection systems. This, unsurprisingly, can lead us to further pose the question of who else has been missed. What comes into question then is exactly what sport coaches might do for sports that do not necessarily rely on early specialisation. Here, when we posit that all coaches can (with knowledge and effort) improve the skill of their participants, then facilitating involvement and progress of all might well be considered essential. This is in light of making sure that more athletes continue to be involved in sport, and has the additional virtue of ensuring that fewer late-developers may become lost to their sports or, indeed, any sports. This is by reducing, in a small fashion, some of the systemic disadvantages that continue to exist in top-heavy selection systems that favour the engagement of fewer and fewer people as levels of performance rise.

This kind of selection disadvantage is explained well through the Standard Model of Talent Development (SMTD), whereby broad foundations of high participation are filtered upwards to the elite level in the manner of a pyramid model. Despite evidence and discourse extolling the benefits of other models, SMTD type systems continue to have relevance in the eyes of many sport organisations (4). This may be overtly so, in the case of structures for progression that clearly demarcate thresholds for excellence and selection, or even in a subtler fashion. For instance, whereby early specialisation is encouraged and missing out on in particular levels through deselection (or non-selection) make continued progression in the sport unlikely or, at the least, difficult.

In contrast to talent ID models then, talent development models concentrate on long-term engagement, long-term planning, and shift the focus from a selection, coach, and representative based system to one that is more athlete-centred. To be sure, a particularly salient feature of talent development models is that they seek to accelerate the acquisition of skills and performance,

in much part through offering a range of focused (i.e. strength and conditioning) and also ancillary (such as counselling and lifestyle support) measures. Given the case that athletes that are assisted in terms of development and exposed to discipline-specific practice and support will, almost invariably, improve their performance, it is no wonder that some advocate this approach above straightforward talent ID systems that focus on the few.

In light of this, some coaches look to provide the most appropriate environment for all of their participants. However, there are some prevailing ideas that exist in coaching, particularly in the realm of coaches that do not understand or subsequently use evidence-based practice. For instance, many sport coaches' ideas of how skill can be developed is predicated on the idea that accruing a total of 10,000 hours of coaching will develop expertise. The position here then is that if you start too late, then there will not be enough time to fully develop an athlete's potential, particularly when early specialisation sports are considered. However, two of the fundamental questions sport coaches should ask themselves are A) are all skills equal? and B) do all skills need 10,000 hours in order to develop and subsequently demonstrate expertise? Here then, education is of the utmost importance, particularly given some of the misconceptions that abound regarding the development of expertise through hours, play, and practice.

#### DELIBERATE PRACTICE AND SKILL DEVELOPMENT

There is a broad body of work underpinning the notion of deliberate practice in the context of developing expertise. It is generally agreed that deliberate practice involves a process that oversees highly structured practice that is undertaken with the specific purpose of improving performance. Situated explicitly in the domain of performance and specialisation, whether music, arts, or sport, the concept focuses on incrementally difficult vet specific tasks that have categorical outcomes. The work of Côté and Fraser-Thomas (6), for instance, illustrates the way in which deliberate practice can be seen, through cognitive or physical effort, to improve expertise. Crucial to deliberate practice, therefore, is how skilled performance is prioritised. This sits somewhat at odds with deliberate play, although both are intertwined and somewhat indivisible during transition periods between the both. However, whilst deliberate play is seen to be the less effective method of developing expertise, there are a number of significant positive elements attributed to it. Not the least, the accruement of skills that are honed somewhat through playful, constantly engaging activities that are not privy to structure nor (at times) coach instructions and time waiting to move from drill to drill. Deliberate play then, has the virtue of acting as a precursor to future iterations of deliberate practice and the honing of performance.

The issue then is not simply whether deliberate practice can be solely viewed as contributing to the development of expertise in the context of sport. Rather, it is the incremental increases in the percentage of activity that uses it, and the subtle shifts from play to practice that predicate how increases in sport performance and execution can be accrued. Given this, both can be seen to be essential to talent development. The trick, however, is to understand the impacts and consequences of when to shift priorities. Here, the common consensus is that many early specialisation sports overemphasise selection processes that lessen the transition between deliberate play and deliberate practice. And by dint of the fact that many sports coaches replicate the belief systems of sports that encourage early talent ID, an emphasis on seeking to over-coach and hope for increases in skill development prevail. In adopting this approach, one that may miss or negate the totality of skill development and proficiency of players and athletes, coaches may through misconception overlook some participants who have not fully realised their potential at different time periods. Added to this, additional layers of complexity arise with the aforementioned difficulties in assessing RAE. and the other significant problem of truly knowing whether there are different amounts of practice necessary for certain skills. Some skills, for instance tackling in contact sports, are generally considered to be learned faster than other more complex ones (7-8).

#### **LATE-DEVELOPERS – THE EVIDENCE**

Whilst we can acknowledge the differences between early and late specialisation sports, what is perhaps of note is that some sports do rely on fully developed systems of power in the human context. In other words, physiological systems that invariably have to wait till adulthood to be fully realised. The two codes of rugby, for instance, and American Football all benefit from athletes who have maximised or are at near maximum for size, strength, and power relative to their playing positions. What this means oftentimes is that athleticism out-trumps some elements of skill.

Physical power then, is of utmost necessity here and this does mean that latecomers to these types of sports can successfully transition based on their athletic ability. Examples of athletes who have taken up sports late are Tom Savage (Rugby Union), Keven Perry (Rugby League) and a swathe of athletes within American Football who have not come through the normal USA talent production system. Also of note are athletes that have transitioned from other sports to contact sports, for instance Abi Ekoku and Christian Okoye, both of whom came to rugby league and American Football respectively in their twenties with no previous experience. Both were, however, high level athletes (Discus throwers) and ultimately relatively successful (especially so in the case of Christian Okove) given their excellent physical capabilities.

There are also examples of high-level rugby players, who mixed their formative years of learning rugby with both contact and noncontact versions (touch and tag), yet have picked up sufficient skill in contact defence to compete at the top level. Benji Marshall, for instance, is an example of someone who played touch rugby to international standard alongside rugby league. Agility, power, speed and strength then are commonly indisputable characteristics of a number of sports at the top level, and athletes can and do transition between them even if, such as the case of Brian Carney who moved from Gaelic Football to rugby league, they did not necessarily reach the highest echelons within their 'first sport'.

But whilst this commentary has outlined a number of examples of players who have come to contact sports late, these are still somewhat the exception. But we must be cognisant of the fact that this does not necessarily mean that there are not other players capable of making these kinds of transitions, but that in part (the extent to which we cannot fully appreciate) the talent ID systems are not catered to pick up such players readily. In other words, many sports cultures rely on early talent ID systems and academy type systems which preclude later sport and athlete switches.

#### MAINTAINING MOTIVATION, HOTHOUSING AND FOCUSING ON DEVELOPMENT

Of note, and still within the realm of this commentary's position of what youth sport coaches may focus on to maximise the potential of their participants, some sports bodies, the NFL in particular, use hothousing and fast-track and mature-age talent ID processes. There certainly does not seem to be too much of a problem in American Football with regards to allowing older, non-experienced players the opportunity to develop and then eventually play. Indeed, talent ID in this regard also means that talent support, skill familiarisation and sport acceleration can be used. The NFL have used a number of different talent ID/development programes over the years, and their current NFL International Player Pathway Programme (NFLIPPP) had its roots in the 1990s when the NFL World League of American Football (WLAF, which changed its name to NFL Europe and then NFL Europa) started their Operation Discovery programme to find and develop international players. Presently, the NFLIPPP looks to find the best athletes for the sport, and several worldwide combines help select potential players (oftentimes with extensive sport experience from elsewhere) to join their programme.

Their approach here relies on 'hothousing' players with the required physical abilities and offering them the opportunity, if not finally selected to an active roster, to join a team as an eligible eleventh practice squad member (where other teams without a NFLIPPP player can only have ten). And whilst these international practice squad players cannot be activated to the game day roster for the year they are assigned this role, they are also not necessarily subject to the same scrutiny as other players and are given, in effect, some job security in order that they can focus on developing their new craft in the company of top-level players, coaches, and the actual sport system.

It is perhaps of no surprise that the NFL has adopted such a system, nor that the Canadian Football League (CFL) has followed suit and as of this year has allocated slots on their team roster to global players. Both leagues sit within the American and Canadian context, and their school sport systems, and at times their university sport systems, place an emphasis on multi-sport participation. Indeed, statistics from the NFL Combine (whereby the best college players undertake a battery of tests in order to

help determine draft choices) show that 88% of players drafted in 2018 had played multiple sports during high school (9). Whether through luck or design, what this means is that many players have participated and, at times, succeeded in multiple sports and have accrued the benefits that each one can give. This is likely in terms of the specific athletic traits necessary for the sport, the game play and decision making that each one has, and the mental skills and characteristics that are complimentary to all performance sport success. The work of Côte and Hancock (10). in particular, acknowledges the positive consequences that multiple sport seasons and multi-sport participation offers in terms of the development of athletes.

## MULTI-SPORT PARTICIPATION AND DEVELOPING ATHLETICISM AND MOVEMENT

The idea of promoting multi-sport participation in order to develop overall athletic ability is clearly not without precedence. Indeed, the general consensus is that it is essential to virtually every type of sport and the foundation of sound movement and function patterns for overall physical development. Indeed, models such as Long Term Athlete Development (LTAD), the Youth Participation Development Model (YPDM), and sampling all emphasise the necessity of developing physical literacy and an understanding of sport through engaging in multiple games, activities, and types of sport (11-12). Much of the premise here is based upon the idea that fundamental movement skills form a foundation for later sports performance, and that sport-specific skills can be developed around critical developmental stages. Sampling (13), also emphasises the improvement of sport skills and overall development over the use of competition. But it extends this somewhat by more explicitly acknowledging the role of psychological development, in order to avoid burnout, and looks to leave specialisation as late as possible. In sum, these models provide guidance for 'good' practice that is based upon empirical knowledge.

It is also true that a number of sports emphasise athletic ability and, through fundamental coaching techniques, help reinforce the motoric patterns necessary for expressing changes in direction (agility) and other sport specific demands. Baseball, with their athletic stance, American Football, with their football position, rugby union, with their tower of power, tennis, with their split step, are all examples of sports that stress the importance of developing an athletic core. For these sports and others, the development of transferable skills and power/ agility/ footwork is genuinely imperative in determining just how successful participants can be in terms of excellence. The real trick here then is understanding this in the context of young people that are developing at different rates, and this subsequently means that youth sport coaches need to understand the consequences of banding young people together because of chronological age, including using predetermined selection periods for talent ID. Unsurprisingly, using chronological age instead of biological age, can confer physiological and cognitive advantages to those that are bracketed within the earlier periods of selection and is illustrated by RAE (14-15).

So, whilst we could argue the benefits of talent ID and the drawbacks of early specialisation, what certainly seems apparent, if we seek to improve overall sporting performance, is the following: first, that maintaining participation, in order to increase development for many, is necessary to ensure that late-developers are not lost. And second, that fostering and promoting coaching, training sessions, and protocols that deliberately emphasise athletic core skills, movement patterns, and agility helps. In a simple sense, athletes that are powerful and can move well will, all things being equal, have a higher chance of success in many sports.

#### **CONCLUSION**

The fundamental rationale for this commentary's position of what youth sport coaches may focus on, is to ask them to maximise the potential of their participants. This is because many youth sports coaches lack the necessary expertise related to the realms of talent ID, and the talent ID systems themselves oftentimes systemically disadvantage many sport participants in terms of selection. From outlining the cultural milieu within which performance sport operates and some of the physical and cognitive disadvantages that SMTDs create, to the examples of players and systems that focus on development above ID, this commentary calls for youth sport coaches to 'sidestep' biased selection systems and focus on developing participants with high transferable athletic skill and power. This is because in much part some of the problems associated with talent ID and education are difficult to overcome without significant resource. Because of this, what coaches can focus on is the development of their participants. Particularly given, as shown in the

examples in this commentary, many sports critically rely on athletic development. Here then, we can further reinforce the existing collective evidence-based practice related to the benefits of multi-sport participation. But we can re-emphasise the necessity of developing agility, speed, and movement for invasion type sports at the very least.

What this means is that whilst youth sport coaches do operate in a field that is, at times, non malleable or lacking fluidity, there are some elements to what we can see as effective coaching practice that are controllable. These are the aforementioned foci on maximising potential and athletic development, something that ensures that all youth sport coaches will positively engage with the coaching process by improving their participants. The helpful by-product of this is that improving these physical traits will help maximise many participants' ability to succeed across a multitude of sports. Given the documented high drop-out and attrition rates among young sport participants, then the opportunity to either develop late in one sport or even transition to another sport (and examples of both have been outlined in this commentary), should focus the ideals and philosophies of youth sport coaches. Here then, including footwork, agility, and power as concrete objectives of player development should take a high priority for youth sport coaches.

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