

# Sailing – an Early Specialisation Sport?

By Mark Lyttle

Early and late specialisation models have received much attention around which is best to achieve elite level in sport. Lyttle (2013), in a review of published papers, found much evidence to support the view that many hours of accumulated, deliberate practice and experience in a sport are required to reach elite level and the level of expertise achieved is directly related to the hours accumulated. Most athletes, who reach elite level, start sport at an early age, whether in a multiple sports or just one. While these early starters start accumulating hours sooner but there is little empirical evidence to say that either the late starters can't catch up or that early specialisation is a pre-requisite or has a higher success rate.

Each sport may have early bloomers (like Tiger Woods) that possess all the dimensions of "talent" at an early age that allows them to specialise early but in the absence of compelling evidence to prove they are the rule, they may be the exception.

Each sport is different in terms of the age of peak performance, the physical and mental skills needed, the degree and complexity of sports specific skills and the structure and organisation of the sport itself. Given the downside risks with early specialisation and the lack of a compelling case, maybe the question should be what transferable skills should be developed in young children to allow them to excel in a specific sport later on as teenagers and which sports are open to this in their structure and organisation? Also identifying, using empirical evidence, which specific skills cannot easily be developed at a later age and which sports they are needed in.

This discussion paper takes sailing as an example and attempts to identify where further research is needed.

**What skills are important to develop early?** Sailing involves multiple, diverse skills that must be applied in a dynamic, and often unpredictable, environment. Taking the skills needed by National Junior Squad sailor provided by the RYA, the following classification is proposed:

- **Boat handling** – the core skills needed to manoeuvre the boats around the course in all type of conditions (light or heavy air, flat water, waves etc), including tacking, gybing, starting and mark-rounding. These are mechanical skills that can be acquired through practice and indeed as the skills must, to some extent, be "relearned" when moving to different types of boat, the indicators are that they could be acquired at any age through appropriate hours of practice
- **Boat speed** – setting aside the highly technical aspects of "boat tuning", the skills of steering the boat to gain the best speed and course are critical. Some would say it is an "intuitive feel" and that the sensory response needs to be developed early. On the other hand, many coaches would suggest that accumulated hours of practice is the most important driver in "automating" these steering skills. Also a number of accomplished sailors have proposed methods for improving these skills (e.g. Twiname, 1993 suggests sailing blindfolded). Watanabe, 2007, found that certain motor responses caused by sensory stimuli were improved in early learner musicians and the effects could be long lasting. While core steering skills cannot be acquired without many hours of practice, it could be that these are aided by early exposure and this may be an area where further research is needed
- **Race strategy and tactics** – Scarponi (2008) describes the complexity behind decision making in races, where sailors assess risk connected to decisions (based on uncertain events) and estimate gain /loss probabilities. When expressed like this, it is clear these skills are beyond the live assessment of most sailors and must be acquired and assimilated through many hours of racing. These payoff matrices based on patterns and events are internalised for future use. There is no

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way around collecting the accumulated experience and while starting early helps this, it is not a prerequisite.

- **Physical fitness** – there is an argument that in some boats and conditions, this is the primary factor. Certainly there is a threshold of fitness required in classes like the Laser, but it needs to be tested whether the fittest or most athletic sailor wins
- **Mental skills or toughness** – sailing is unlikely to be dissimilar to other skills based sports where a strong commitment and resilience is needed to training and competition over long periods. Mental toughness can be trained but early specialisation can also lead to later problems (as reported in Lyttle’s review). Assessing mental attributes in younger athletes, who are still developing, appears difficult (Abbot and Collins , 2004) but sailing should assess the research available from other sports.

**How to identify talent?** Talent identification has been used successfully in some sports, mainly where the athlete’s physical and physiological characteristics are prerequisites or primary drivers. For example, height of an athlete or VO2 max in rowing. In others sports which are more skill based, talent identification results have been less emphatic (Pinder, Renshaw and Davids, 2013).

In sailing, predicting the physical size of sailors when younger may help with early identification. There may also be some barriers in acquiring boat speed skills if certain senses are poor – sight or hearing for example, and a literature review could identify published research that helps establish thresholds. In order to determine whether some sailors start with a “built in “ advantage, testing decision making based on patterns and scenarios could also be explored. Other sports could be used to assess whether attributes like mental toughness or commitment can be used to identify talent.

At this stage though, there is little evidence to suggest that early talent identification will yield significant results.

**How to speed up the process of attaining skills?** Whether or not sailors are predisposed to certain skills and regardless of when they start, there is no substitute for accumulating the hours of deliberate practice. With improved research, it may be possible to speed up the acquisition of those skills. As sailing is a sport where much preparation time is needed to achieve quality training time and this is often outside a sailor’s control (training in heavy air requires heavy air), any improvements would be well received. Are there techniques that could be used to improve decision making or boat speed? For example

- Interactive races where sailors make choices that result in gains or losses and can “sail” many races quickly without ever getting in a boat
- Use of GPS to “relive” scenarios and help internalise positioning on the race course
- Video taken from the sailor’s view line to help recognise patterns as if they as sitting in a boat
- Develop feel with video images and sound as if in the boat (or extending to virtual reality?).

## References

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## Sailing – an Early Specialisation Sport?

By Mark Lyttle

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