



THE SPORTS EVOLUTION OF THE SWIMMER IN THE PERSPECTIVE OF THE COACH

Sebastião Santos, PhD; Research Center in Sports Sciences, Health Sciences and Human Development
(CIDESD) - UTAD

ABSTRACT

Knowledge and understanding of sports performance throughout a sports career can be a long-term planning tool. The objective of the study was to define and mark the moments of evolution of swimmers, as well as to understand how the individual evolves throughout his sports career. The sample was formed by the coaches participating in the Portuguese National Championships of Swimming. The results show that the sport evolution is continuous but with greater evolution and incidence in the juvenile stage (15/16 years). We conclude that it is important to have a holistic perspective on the athlete's sports career, taking into account the critical points of this career, providing tools that reinforce the simultaneous domains of personal development.

Keywords: Sports career, sport performance, swimming, coach

INTRODUCTION

Athletic performance throughout an athlete's career is not a continuous line, it undergoes life-long changes, where there are advances and setbacks. High-level results are more and more dependent on what has been done in training and in recent years.

The Swimming modality is a sporting modality in which the individual almost always acts alone, in a delimited space, so that his motor behavior does not suffer direct interference of his opponents. As in all sports, improving performance is only possible through effective training. In sports performance a great variety of variables (psychological, emotional, physiological, motivational, technical and social accompaniment) intervene that reinforce or degrade these results (Barbosa et al., 2012; Santos, 2017; Santos, 2017a; Santos, 2017b; Santos, 2017c; Santos & Alves, 2018).

During the sports career, it is verified that the evolution of the results is greater at the beginning of the sport practice than during the sports career (Zakharov, 1992). In a study that Dormehl, Robertson, and Willianson (2016) conducted over six years with swimmers, they found that the best performances occurred at ages 18 and 19 years, as in another study with Portuguese swimmers in which there were great improvements in sports performance between 12 and 18 years of age (Costa, Marinho, Bragada, Silva & Barbosa, 2011).

METHODS

Sample

The sample was 30 coaches of the national championships (junior, senior) of a sports season. The average age is 39,8 years (DP=9,1). With an average presence in the modality of 22,5 years and exercising the role of coach for more than 5 years. The academic qualifications vary between the 9th year and the doctorate, the technical qualifications go from the 2nd to the 4th level.

Instrument

We proceeded to construct a measuring instrument to measure critical moments in the evolution of performance of swimmers. The organization, elaboration and validation of the instrument was done according to the criteria of several authors (Bernaud, 2000; Hill & Hill, 2005; Santos, Sarmiento, Campaniço & Alves, 2014). Thus, we elaborated a questionnaire that intends to gauge, to know and to register the evolution of the best performance of the swimmers and to know the critical moments of the sports career.

The questionnaire aims to assess, know and record the evolution of the best performance of swimmers, is composed of 7 questions, of which three are open response and the remainder with a Likert scale (from 1 to 5). The questions are:

- How do you analyze the evolution of swimmers throughout their sporting careers?
 - How important is it to the results in the competitions of the youngest?
 - The percentage in the steps or step where the swimmer's sporting evolution is greater?
 - After how many years of competition has the greatest evolution of the swimmer's performance been recorded?
 - How important is sporting results in the evolution of the swimmer?
- Are there critical moments in the swimmer's sporting career? Which are they?

Procedures

The questionnaires were distributed to the coaches present in the Portuguese National Championship. The scope and objective of the questionnaire were mentioned, the importance of the study and its participation requested.

On the part of the researcher, availability was always demonstrated, to provide any clarification. At the end of the fill were collected.

In the statistical analysis, the means and the descriptive analysis of the frequencies were performed.

From the open response questions, a qualitative evaluation of the data obtained was performed, as they were analyzed in an inductive and deductive way.

RESULTS AND DISCUSSION

When observe at table 1, it was verified that most of the trainers answered that the evolution of swimmers happens at different levels (63,6%), others said that it is continuous (36,4%). However, as shown in table 2, we observed that there was a greater evolution in the sport performance in juvenil (36,4%), infantil (24,2%) and cadete (30,3%). However, all of these levels represent more than 90% of the total responses, where there is an evolution of the sports performance, as we observed that between 5 and 8 years of practice (Table 2 - 45,5%) there were higher performance indices (63,5%) that the evolution will be of different levels, since many of them reflect that the transition to college is an important milestone in the life of swimmers (and that a large part of the swimmers ceases its aquatic activity).

Table 1 - Evolution and influence factors of swimmers' career

Evolution of swimmers throughout their careers	%	Importance of career outcomes	%
1-continuous	36,4	1-very importante	9,1
2-diferents levels	63,6	2- reasonable importance	60,6
3-constant	0,0	3-little importante	30,3
		4-no importante	0,0

According to most coaches with swimmers in national championships, the best performance will be in Juvenile or after 5 to 8 years of competition, such as the results

of a study by Costa and colleagues (2011) show that there are great performance improvements in swimmers aged 12 to 18 years. However, some coaches point out that sports improvements are occurring throughout their sports career. Unlike other authors who mention that the best evolutions happen at certain moments of the sports career (Junior et al., 2007), it is also mentioned by the group of coaches that one of the critical moments of the swimmer's career is the transition to the university, given their respective requests.

This includes the indication of the youth level or up to 5 to 8 years of sports practice with the achievement of better sports performances.

Table 2 - Critical moments of evolution in the sports performance of swimmers

Stages where there is greater evolution in sports performance	%	By the end of how many years there is the greatest evolution in sports performance	%
1- Cadete (9/12 years)	30,3	1- Until 2 years	0,0
2-Infantil (13/14 years)	24,2	2- 2 to 5 years	27,3
3-Juvenil (15/16 years)	36,4	3- 5 to 8 years	45,5
4-Júnior (17/18 years)	3,0	4- More than 8 years	27,3
5-Sénior (+19 years)	6,1		

When analyzing data on open-ended response issues:

- How important is sporting results in the evolution of the swimmer?

We verified that the coaches give importance to the results in the evolution of the sports performance of swimmers, but refer mainly as a factor of influence the psychological factors as of great importance, to obtain sports results and evolution of the swimmer. The occurrence of premature results inserted in an inadequate context, with little social, family and sports support may lead to these various elements, such as debilitating and restrictive factors of the swimmer generating emotional conflicts.

- Are there critical moments in the swimmer's sporting career? Which are they?

We found that the great majority of the coaches in our sample indicate the existence of critical moments in the sports career of swimmers. In that the great factors of influence will be the passage of the steps (the passage to the senior rank) and the maturation related to the psychophysiological aspects. The evolution of results being greater in the lower echelons or with a few years of competition reinforces the importance of psychological aspects, to keep swimmers in a demanding mode, with an increased and constant motivation.

- Can obtaining excellent results at the start of a swimmer's sporting career be a "handicap" for his progression? Because?

The coaches said that obtaining excellent results at the start of a sports career could be a problem when there is no adequate career plan or when there is no adequate and sustained evolution and improves the training process improperly. This may favor and cause frustration at more advanced ages of swimmers.

The observed data confirm that important sporting results are verified throughout the sports career, with greater impact at certain moments in the life of each swimmer, it is relevant to note that the importance of sports results in the evolution of the swimmer focuses on the psychological factors (according to coaches).

The answers obtained indicate that the results of sport are of relative importance in the sports career of the swimmer. We may think that the results define a sports career and its evolution and are therefore important in its structure. However we will have to take into account social and motivational aspects that will also sustain the swimmer's sporting career.

The satisfaction of the sports career and the achievement of the respective sports objectives overlap many factors of the personal life of the athlete, however a balance is generated between the various parties, but sometimes conflicts arise that hinder certain personal adaptations (Debois, Aurélie , Argiolas & Rosnet, 2012). The transition from upper secondary to university can lead to an increase in academic expectations, which may be jeopardized by increased training intensities, and other possible demands that arise with this new stage of young people and which will be a critical moment for their evolution as swimmers. All these factors are part of a relevant set, so that the athletes can obtain performances of excellence (Celestino, Leitão, Sarmiento, Routen & Pereira, 2015). Thus, several factors are identified for the evolution of sports performance, such as: significant sports results, career commitment, sports complementarity with studies, parents, coach and psychological factors among others (Barbosa et al. These factors become an important social support in their personal and sporting development, as well as in other transitions that take place over a long period of time of life (Stambulova, Engstrom, Franck, Linnér & Lindahl, 2014).

There is a need to have a holistic view of developing the athlete's sporting career for a detailed view on the transition from the critical moments of an athlete's sporting career. However, it is necessary to understand and take into account individual differences with the needs of elite athletes (Dubois et al., 2014), as well as the transitions inside and outside the sports modality (Henriksen & Mortensen, 2014), and in a modality such as Pure Sports Swimming (Dormehl et al, 2016).

CONCLUSIONS

The understanding of the evolutionary moments of the athlete will become beneficial in the application or not of a certain methodology for the efficiency of the training and "per se" of the sport performance. We recommend that, from an early age, work be done not only on the technical aspects of the sport, but also on the psychological and emotional aspects, and should teach the swimmers psychological strategies as well as emotional control strategies so that they can maintain a consistent and continuous sports career and thus do the appropriate transitions throughout their sporting and personal life, reinforcing simultaneous domains of life development.

REFERENCES

- Barbosa, T., Costa, M., Meijas, E., Marinho, D., Louro, H. & Silva, A. (2012). Pico da carreira desportiva em nadadores de nível mundial: análise das idades dos participantes dos Jogos Olímpicos de Pequim 2008. *Motricidade*, 8(4), 52-61.
- Bernaudo, J. (2000). *Métodos de avaliação da personalidade*. Lisboa: Climepsi Editores.
- Costa, M., Marinho, D., Bragada, J., Silva, A. & Barbosa, T. (2011). Stability of elite Freestyle performance from childhood to adulthood. *Journal Sport of Science*, 29, 1183-1189.
- Debois, N., Aurélie, L., Argiolas, C. & Rosnet, E. (2012). A lifespan perspective on transitions during a top sports career: A case of an elite female fencer. *Psychology of Sport and Exercise*, 13, 660-668.
- Dubois, N., Ledon, A., & Wylleman, P. (2014). A lifespan perspective on the dual career of elite male athletes. *Psychology of Sport & Exercise*. <http://dx.doi.org/10.1016/j.psychsport.2014.07.011>.
- Dormehl, S., Robertson, S. & Williams, C. (2016). Modelling the Progression of Male Swimmers Performance Through Adolescence. *Sports*, 4(2), 2-9. doi:10.3390/sports4010002
- Ericsson, K. (2014). Why expert performance is special and cannot be extrapolated from studies performance in the general population: A Response to criticism. *Intelligence*, 45, 81-103.
- Henriksen, K. & Mortensen, J. (2014). Reality and Dreams of Elite Athletes' Experienced Career Paths with Young Talented Athletes' Imagined career Paths. *Scandinavian Sport Studies Forum*, 5, 69-91.
- Hill, M. & Hill, A. (2005). *Investigação por questionário* (2ª ed.). Edição Silabo.
- Junior, A., Popov, L & Bulgakova, N. (2007). Trayectoria del desarrollo de indicadores morfofuncionales como critério de identificación del talento desportivo en natación. *Fitness Performance*, 6(6), 382-387.
- Navarro, F. & Arsenio, O. (1999). *Natacion II – La Natación y su Entrenamiento*. Gymnos Editorial. Madrid, España.
- Santos, S. (2018). Estudo exploratório das emoções prementes no rendimento desportivo. *Boletim da Sociedade Portuguesa de Educação Física*, 41, 113-118.

Santos, S. (2017a). Cross-sectional and longitudinal study of the motivation of swimmers in the practice of swimming. *International Journal Of Current Advanced Research*, 6(11), 7323-7327.

Santos, S. (2017b). The framing and gender differences in the relevant competitive emotions of young swimmers. *Asian Journal of Science and Technology* 8 (11), 6726-6731.

Santos, S (2017c). The relation of the intensity of the emotion in the influence of the sport performance. *International Journal of Scientific & Engineering Research*, 8(10), 152-167.

Santos, S., Sarmiento, H., Alves, J. & Campaniço, J. (2014). Construcción de un instrumento para la observación y el análisis de las interacciones en el waterpolo. *Revista Psicología Del Deporte*, 23 (1), 191-200.

Stambulova, N., Engström, C., Franck, A., Linnér, L., & Lindahl, K. (2014). Searching for an optimal balance: Dual career experiences of Swedish adolescent athletes. *Psychology of Sport and Exercise Special Issue on Dual career development and transitions. Psychology of Sport and Exercise*, 21, 1-11. doi: 10.1016/j.psychsport.2014.08.009

Zakharov, A. (1992). *Ciência do treinamento desportivo*. Rio de Janeiro, Brasil: Ed. Grupo Palestra Sport.

