

INVESTIGATION OF FACTORS DETERMINING PERFORMANCE AMONG COMPETITIVE SWIMMERS AND THEIR COACHES

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Abstract

In our country, swimming is one of the most successful sports. The question arises as to what might be the key to success. What are the factors that determine effectiveness? We sought the answer to this in our research. We examined the opinions of competitive swimmers (N=63) and swimming coaches (N=27) in the Eastern Hungary region. We used a questionnaire method during the survey. We focused separately on inherited and acquired skills and the importance of the coach-athlete relationship, relying on previous literature. Based on our results, the five most important factors for success are competition and training stress tolerance, performance motivation, the ability to learn competition technique, the coach-athlete relationship, as well as parents' moral support. Based on the athletes' opinion, the most decisive factor in their success is the coach's expertise, diligence, internal motivation, and parents' support.

Keywords: *swimming, athlete-coach relationship, sports performance, talent*

THEORETICAL BACKGROUND

Talent is more than the existence of internal qualities. Innate abilities are essential, but they can become abilities due to external influences, which is how an athlete can become successful. Endowment - as Czeizel puts it (2003), refers to genetic possibilities, while ability refers to performance realized in social activity. In addition to the innate talents and external influences, the research on sports talent also focuses on the psychological factor and the training work as essential determining factors (BAKER – HORTON, 2004; ERICSSON et al., 1993; ERICSSON - CHARNNESS 1994; ERICSSON – LEHMANN, 1996; PÉRUSSE et al., 2001; WILMORE et al., 2001). Becoming an athlete, the development of talent, and success is a long process in which, in each period, different things come to the fore. In the first period, the role of parents is prominent. Family background plays a vital role in developing sports talent, especially during the early phases of a sports career. Research by Révész et al. (2012) showed that 51% of competitive swimmers started sports because their parents took them to the sports club.

Moreover, 52% of them chose swimming as the sport they were specifically interested in, based on their parents' advice. Further research results (RÉVÉSZ et al., 2012; SZABÓ-RÁCZ - BÍRÓ, 2012; DINYA et al., 2016; BERECZ et al., 2015) also confirm that the influence of parents is one of the most significant factors in starting sports and choosing



a sport. Even after this, the role of parents' remains, as positive parental behavior strengthens the athlete's motivational base while imposing high demands on the athlete can have a negative effect on sports performance.

Several segments of talent management are decisive in an athlete's career. The most important external factors are the family, and the internal factors are the athlete's attitude and perseverance (LINDNER - KERR, 2001; PLUHÁR et al., 2003; VERNACCHIA et al., 2000). Ericsson et al. (1993, 1994, 1996) attribute a primary role to training. According to them, abilities and inherited factors are secondary to achieving excellent results. It takes at least ten years, i.e., approximately 10,000 hours, for the athlete to perform at a high level (ERICSSON, 1993, 1994). They consider endurance, tolerance for failure, and motivation to be necessary. According to Baker and Horton (2004), genetics and training are the primary factors influencing success. They attribute a role to socio-cultural and background factors (training venue, team of professionals, equipment), thus secondary influencing factors. The coach-athlete relationship is also crucial for achieving effective sports performance. Examining swimming coaches, Révész (2008) found that, in the coaches' opinion, effectiveness is determined mainly by the coach-athlete relationship. In this, the leading and managing role of the coach appears dominantly. In the coach-athlete relationship, Révész (2008) emphasizes the support of the psychological side of athletes. The coach is vital in motivating, overcoming stress, and preparing the competitor for success and failure. Kalinowski (1985) also examined swimmers and found that the condition for achieving peak performance is the coach's support, which is based on proper pedagogical methods. This was supported by Jowett and Cockerill (2003). In addition to training preparation, complex pedagogical preparation is also necessary (GOMBOCZ, 2005). Training does not only consist of training management; the coach must also have a high level of pedagogical and psychological knowledge. Pedagogical knowledge is most necessary for junior athletes, and psychological knowledge is significant for adult elite athletes (SZABÓ, 1995). The role of environmental factors also influences success. Among these, Coté (1999) mentions the role of peers, which is the most decisive.

METHOD

We used a questionnaire method in the research. The questions in the questionnaire cover the choice of sport, the training conditions, the coach-athlete relationship, and the characteristics of the talented competitor. The questionnaire contained both closed and open-ended questions. For Likert-scale questions, the swimmers and the coaches had to determine how much they agreed with the given statement on a scale from 1 to 5. Disagreement with the question and definition was given a value of 1, and complete agreement was given a value of five. We surveyed swimmers from Debrecen who are still actively competing and coaches from the Eastern Hungarian region. In the case of competitive swimmers, those who are members of the associations participating in the Hungarian Swimming Association competition system are considered part of the sample. Those who only attend swimming lessons or swim at an amateur level and those who



practice sports as part of a healthy lifestyle for prevention and rehabilitation were not included in the sample. During the selection of the associations, we used the Hungarian Swimming Association list of associations as a basis. The list includes the Eastern Hungarian associations that participate in the Hungarian Swimming Association competition system. During the research, 84% of the questionnaires sent out were returned. For competitive swimming, 63 people (N=63) were included in the sample, of whom 32 were men (50.8%), and 31 were women (49.2%). We also examined the coaches. The coaches participating in the preparation of the competitors are those who participate in the preparation of the competitors included in the sample, as well as those who are professionals of the associations registered by the Hungarian Swimming Association in the regions of Eastern Hungary. 55.6% of the professionals in the sample (N=27) are men, and 44.4% are women. Based on professional experience, 59.3% have ten years or more of coaching and teaching experience, and 14.8% have 2 to 4 years of professional experience. No one has two years or less of professional experience. Five years or more of coaching and teaching experience is characteristic of 85.2% of the sample.

RESULTS

The factors determining effectiveness were examined on a scale from 1 to 5. The coaches participating in the study had to evaluate how much they agreed with the statements we defined. Competition and training stress tolerance (mean 4.44) were considered the most critical factors determining effectiveness. This is followed by performance motivation (mean 4.29) and the ability to learn competition techniques (mean 4.22). The coaches considered anthropometric characteristics (mean 4.07), dexterity (mean 3.92), good water position (mean 3.96), and endurance (mean 3.85) to be decisive. Less influential factors included inherited abilities (mean 3.77), speed (mean 3.66), flexibility (mean 3.55), and strength (mean 3.33) (Table 1).



Table 1: The mean of the factors determining effectiveness based on the coaches' opinions (N=27) examined on a Likert scale from 1 to 5

Factors determining the performance	Results of coaches (mean)
Competition and training stress tolerance	4,44
Performance Motivation	4,29
Ability to learn competition technique	4,22
Anthropometric characteristics	4,07
Dexterity	3,96
Good water level	3,92
Stamina	3,85
Inherited skills	3,77
Speed	3,66
Flexibility	3,55
Strength	3,33

Source: own research

Based on the coaches' opinion, the coach-athlete relationship is the most decisive of the external factors (mean 4.14). The moral support of the parents (mean 4.11), team unity (mean 4.00), and the professional knowledge of the coach (mean 3.92) are also important factors in terms of success. The coach's personality (mean 3.85) and acquired skills (mean 3.55) were factors that were influencing factors that were placed behind in terms of effectiveness (Table 2).

Table 2: The mean of the external factors determining effectiveness based on the coaches' opinions (N=27) examined on a Likert scale from 1 to 5

Factors determining the performance	Results of coaches (mean)
Coach-athlete relationship	4,14
The moral support of parents	4,11
Team unity	4,00
Coaching skills	3,92
Coach's personality	3,85
Acquired skills	3,55
Friends, teammates	3,33
Financial background of parents	3,11
Infrastructure	2,81
School, teachers	2,77

Source: own research

We were also interested in the opinions of the athletes. During the investigation, we also covered what the swimmers, based on their opinion, owe their results and successes too. The coach's expertise was considered to be the most decisive (mean 4.22). Diligence (mean 4.14), internal motivation (mean 3.85), parents' support (mean 3.77), and coach's motivation (mean 3.66) are also decisive. The swimmers did not attach great importance to their abilities (mean 3.33), the influencing role of their teammates (mean 2.81), or the leadership role of the association (mean 2.77). The least influencing factors were the facilities and equipment (mean 2.51) and the financial situation of the association (mean 2.51) (Table 3).

Table 3: Mean results of factors determining effectiveness based on the opinions of athletes (N=63) examined on a Likert scale from 1 to 5

Factors determining the performance	Results of competitive swimmers (mean)
Coaching skills	4,22
Diligence	4,14
Intrinsic motivation	3,85
Parental support	3,77
Coach's motivation: A given	3,66
Ability	3,33
Teammates	2,81
Association leaders	2,77
Facilities and equipment	2,52
Association's financial situation	2,52

Source: own research

DISCUSSION

The opinions of coaches and athletes regarding sports performance were assessed using a questionnaire method. Based on the coaches' opinions, we wanted to determine the characteristics of success in competitive swimming. We discussed inherited and acquired abilities separately, relying on the research results of previous literature. Based on our results, coaches described the successful and talented swimmers with the following characteristics: the first most important factor is competition and training stress tolerance, the second is performance motivation, the third is the ability to learn competition technique, the fourth is the coach-athlete relationship and the fifth is the parent's moral support. Based on the results of our research and the coaches' opinion, psychological characteristics are more important than motor skills. Dexterity can be highlighted among the coordination skills, while endurance plays the most significant role in conditional skills. The role of peers also affects effectiveness. The interviewed coaches attribute an important role to team unity. Competition and training stress tolerance are among the most critical factors for developing talent, and reducing the tension associated with everyday training can influence the further stages of preparation. Successful preparation is essential for acquiring higher-level skills and for later success. Coaches also treat performance motivation as a priority area. Based on the athletes' opinions, the coach's expertise is the most decisive factor regarding their effectiveness. According to the athletes, diligence, internal motivation, the support of parents, and the coach's motivation are also critical.

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