YOUTH SPORTS
GROWTH, MATURATION AND TALENT

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CHAPTER 9: EFFECTS OF MATURATION ON POTENTIAL PREDICTORS OF TALENT IN SOCCER

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INTRODUCTION

The basic definition of talent identification lies within the recognition of a natural gift or ability of a superior quality that is at least partially innate and affected by numerous environmental conditions (Williams et al., 2000b; Pearson et al., 2006;). Another aspect of talent is performing better than the rest in a certain domain. Furthermore, talent is considered to be domain specific. Williams et al. (2000b) suggested that talent may not be evident at an early age but there will be some indicators that enable trained individuals to identify its presence. Sport science is making an increasing effort in discovering the important predictors and characteristics of talent in soccer (Williams et al., 2000a). Young potentially talented soccer players arrive at the soccer academy as early as age 6 or 7.

In elite soccer there was found to be an over representation of players born in the first quarter of the selection year (Helsen et al., 2005; Vaeyens et al., 2005). This bias towards an overrepresentation is referred to as the RAE [Relative Age Effect]. The explanation often focuses on the advantage of size. Those born early in a particular year, or in other words those who are older at the selection date within the same age category, are, on average: taller, heavier, stronger and more developed than those born later in that year. In most sports, as in soccer, size may be a significant factor in itself. Especially when strength, power and speed are important for different aspects of the game (Helsen et al., 2005; Vaeyens et al., 2005). Thus, when young players tend to be biologically mature coaches and trainers are biased to selecting them. As a result, maturation might also have an effect on the selection and prediction of talent.

When considering the large and ever increasing amount of research done in the soccer domain it is surprising that the effects of maturation on potential predictors of talent has had so little attention thus far. The first publications of maturational effects on talent characteristics started to appear around 1990 but most research is done in the last 10 years (Table 1). This
literature-based review assesses different studies done on biological maturation in soccer within the context of potential predictors of talent. The aim of this review is to assess the effects of maturation on potential predictors of talent in the soccer population within a multi-disciplinary approach. In the discussed research there is great diversity of methods used to establish biological maturation. After an introduction in the important predictors of talent, and maturation assessment methods, the available literature was examined.

**METHODOLOGY**

In the search for relevant articles the following databases have been consulted PubMed, Web of Science and Google Beta. The keywords (physical, biological or sexual) “maturation”, “growth”, “puberty”, “adolescents”, “youth” or “development” were used alone or in combination with the words “soccer”, “football” or “talent (identification)”, “elite” and/or “high potential”. The articles were refined with terms closely associated with physical-, physiological- and/or psychological characteristics. Because of the scarcity of studies on maturation there was no date constraint on the found literature. Since most studies are of the last decade, more focus will be on this period.

Selected articles were reviewed on the following criteria: Type of study (cross-sectional or longitudinal), number of a participants (only males will be discussed), origin of subjects, age range, competition level of the participants (elite, sub-elite, non-elite, or recreational), appearance or absence of control group, aspects concerning player position on the field, maturation assessment method, onset of maturation (early, on-time or late), and maturational effects on potential predictors of talent in soccer.

**RESULTS**

*Talent predictors in soccer*

Because of the broad demands of a soccer game, a multidisciplinary approach is essential in the research and development of talent (Pearson et al., 2006; Vaeyens et al., 2006; Williams et al, 2000b). It is suggested that the potential prediction of talent lies in the physical, physiological, psychological and sociological aspects of soccer (Pearson et al., 2006; Vaeyens et al., 2006; Williams et al, 2000b).