



GROWTH AND MATURATION IN HUMAN BIOLOGY AND SPORTS

*FESTSCHRIFT HONORING ROBERT M. MALINA
BY FELLOWS AND COLLEAGUES*

PETER TODD KATZMARZYK
MANUEL J COELHO E SILVA
EDITORS

IMPRESA DA
UNIVERSIDADE
DE COIMBRA
COIMBRA
UNIVERSITY
PRESS

CHARACTERISTICS OF CONTRASTING SKELETAL MATURITY STATUS AT THE BEGINNING OF LONG-TERM SOCCER TRAINING

António J Figueiredo
Manuel J Coelho-e-Silva
Vítor Severino
Ricardo Rebelo-Gonçalves
Robert M. Malina

^(a) This chapter substantially overlaps a previously published manuscript (Figueiredo et al., 2009, in references). It is reproduced with permission: License number, 3157590204287; Content publisher: Informa Healthcare; Content publication: Annals of Human Biology).

INTRODUCTION

Participation in youth team sports is based primarily on chronological age groups which often span two years. Variation in size, function and skill associated with age per se and with maturity status within two-year age groups can be considerable. Studies of young athletes are often limited to growth and maturity status independent of functional capacities and sport-specific skills; the same is true of studies of function and skill (Malina 1994, Malina, Bouchard & Bar-Or 2004). As a result, potential interactions among size, maturity, function and skill are often overlooked as youth progress in a sport.

Behavioral dimensions such as goal orientation, motivation, and perceptions of ability and success, have not ordinarily been considered in studies of young athletes that focus on biological and performance characteristics. Interactions between biological and behavioral variables may influence sport performance per se and persistence in a sport, and thus merit consideration. Observations of boys in the Adolescent Growth Study of the University of California (Berkeley), for example, indicated variation in behavioral characteristics associated with biological (skeletal age) maturity status (Jones 1949, 1958, 1965, Jones & Bayley 1950, Eichorn 1963). Early maturing boys received greater social recognition from peers, were more at ease in social interactions, were considered more physically attractive and physically efficient, and were treated more favorably by adults compared to late maturing boys. On the other hand, late maturing boys were generally considered more eager, expressive and more attention seeking but lower in social prestige than early maturing boys. Although dated, the results highlight the potential relevance of interactions between biological maturity and behaviors among adolescent boys which are implicit in commonly used models of adaptations to puberty (Petersen &