RELATIVE AGE EFFECTS IN ELITE JUNIOR RUGBY UNION IN AUSTRALIA

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Introduction

The relative age effect (RAE) is an uneven distribution of birth dates favouring those born early within an age category (1). Since high-intensity collision sports such as rugby union are suited to players with increased mass, speed and power, it is likely that the RAE is prevalent in youth players. No studies have examined if the RAE exists in Australian rugby union or if it is associated with playing position or team performance. Therefore, the purpose of this study was to examine RAE in elite Australian youth rugby union players.

Methods

Player records were accessed for 1932 elite U16 rugby players, from 12 representative regions competing at the Australian National Age Championships between 2004 and 2010. Players' birth dates were divided into 4 Quarters (Q1 = Jan–Mar, Q2 = Apr–June, Q3 = Jul–Sept and Q4 = Oct–Dec), and also month of birth (Jan–Dec). Expected birth-date distributions were calculated from available age-matched Australian male population birth statistics. Chi-square statistics were used to examine differences between observed and expected birth date distributions in all players and general playing positions (forwards and backs). Comparison of birth date distributions between players in the 1st (top 8 teams) and 2nd division (bottom 4 teams) was also conducted.

Results & Discussion

Similar to other team sports (2), more rugby union players born in the first quarter were selected (37.8% overall, 39.7% forwards, 37.2% backs) than those born in the fourth quarter (13.04%, 13.5%, and 13.2%, respectively). The quarterly birth-date distributions of all groups differed significantly from the general population (overall, χ^2_3 16.92; forwards, χ^2_3 17.56; backs, χ^2_3 15.42, all $P<0.001$). The monthly birth rate distributions also differed to the general population (overall, χ^2_3 21.1; forwards, χ^2_3 59.1, all $P<0.05$), suggesting a stronger RAE amongst the forwards. These are likely due to size advantages, but further research is required to elucidate this hypothesis. Players in the 2nd division were born later in the year than those in the first division.

Conclusion

These are the first results to show the RAE in young elite Australian rugby union. These findings suggest that the true playing potential of all players in this age group is not being realised. Given the importance of these championships in the talent pathway within Australian rugby union, further investigation is needed to examine if a more holistic approach to talent identification and development can minimise the RAE and enhance pathways for all younger players.

References

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