

Biobanding evaluation nets positive results among academy football teams

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Our latest research into biobanding shows positive results both in terms of performance and injury reduction, as well as players' experience of training. Credit: University of Bath

Matching young players according to their developmental or biological

age, as opposed to their chronological age, has positive effects in terms of performance, talent identification and injury reduction in football, according to a significant new study.

The paper, published in the Journal of Sports Sciences, from researchers in our Department for Health was also the first to explore athletes' experiences of competing in a 'biobanded tournament'.

Grouping players by biological age

Biobanding, a term growing in prominence among sports scientists, coaches and teams, is an effort to level the playing field when it comes to training and development for young players. Proponents suggest that by restricting players for training to those of similar size and strength, late developers have a better chance to shine and young players of all sizes have a better chance of improving their game.

The tournament, an initiative organised by the Premier League, which took place earlier this year involved young players from 11-a-side academy teams from Reading, Southampton, Stoke City and Norwich City football clubs.

The selection process can involve players playing up with older children, or playing down with young peers. For this tournament, players aged 11 – 14 who were between 85-90 percent adult maturity were included.

Results suggest that for early maturers, the bigger children who in ordinary circumstances might dominate training due to their strength and stature, described biobanded games as a superior physical challenge and therefore a particularly useful learning experience.

Players suggested this was a useful step in preparing them for future competitive matches against more physically able opponents including

adult teams. Findings suggested that biobanded encouraged them to adapt their game, emphasising their technique, tactics and teamwork over sheer physicality.

For later maturing players, the biobanded tournament was less of a physical challenge but they identified a number of advantages including a greater chance to show their skills, exert influence in the game and take-on leadership roles. Late maturing boys also reported greater confidence and composure on the ball – something that previous studies have shown to be a key predictor of success and development in sports.

Overwhelmingly positive

Comments from players involved in the study suggest their experiences were overwhelming positive. Transcripts from the research highlighted them as reporting:

"You learn a lot more playing like this than you would normally playing with your age group."

"It gives us more freedom...we get a chance to prove to ourselves that when we are up against people our same size, we're good. We're really good... and make an impact on the game."

"You learn a lot more playing like this than you would normally playing with your age group."

Several unique challenges also emerged by grouping players differently by their [biological age](#). These included age-related differences in psychological and social development, game knowledge and experience as well as playing with new team mates.

Growing interest in biobanding

Lead author, Dr Sean Cumming of the Department for Health and Institute for Mathematical Innovation, said: "With a growing interest across sports in adapting biobanding as a training and selection strategy for teams, this was the first study to evaluate young players' own experience of a biobanded tournament.

"Combined with previous work that looked at how this new training and selection regime can help coaches spot hidden talent among late maturers and can reduce injury risk, this study reinforces the positive effects biobanding can have for players across the spectrum - both early and late maturers.

"We're excited about the future prospects for biobanding in football and for a range of other sports from rugby and cricket to ballet and gymnastics."

Dr Cumming is currently working with a range of sports teams and governing bodies across the world helping them to take advantage of the training and developing opportunities biobanding offers.

The researchers behind the study are keen to stress that biobanding works best alongside standard, [chronological age](#) competitions in order to vary [training](#) regimes.

More information: Sean P. Cumming et al. Premier League academy soccer players' experiences of competing in a tournament bio-banded for biological maturation, *Journal of Sports Sciences* (2017). [DOI: 10.1080/02640414.2017.1340656](#)

Provided by University of Bath

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