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Comment on 'Football-specific fitness testing: adding value or confirming the evidence?'

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Abstract
The recent point-counter-point exchange arising from the article by Mendez-Villanueva and Buchheit (Mendez-Villanueva A, & Buchheit M. (2013) Football-specific fitness testing: adding value or confirming the evidence? Journal of Sports Sciences, 31, 1503-1508) generated an interesting debate on the real world utility of fitness testing in professional association football (soccer). In the present authors' opinion, this exchange could also have been placed more in the context of the physical testing and subsequent benchmark profiling of the youth player within elite academy talent identification and development processes. This point is further strengthened by the current media debate at the time of writing on the development of elite youth football players in England and the Elite Player Performance Plan or EPPP (The Premier League, 2011) published by the English Premier League as part of a vision for the future development of youth football in the League and throughout the English professional game. The EPPP recommends the implementation of a national database to enable comparison of Academy player performances against national physical testing 'benchmark' profiles. In continuing the above debate, this letter questions the real world utility and potential pitfalls of nationwide athletic benchmark profiling programmes for elite youth football.

Dear Editor,

The recent point-counter-point exchange arising from the article by Mendez-Villanueva and Buchheit (Mendez-Villanueva A, & Buchheit M. (2013) Football-specific fitness testing: adding value or confirming the evidence? Journal of Sports Sciences, 31, 1503-1508) generated an interesting debate on the real world utility of fitness testing in professional association football (soccer). In the present authors' opinion, this exchange could also have been placed in the context of the physical testing and subsequent benchmark profiling of the youth player within the elite academy talent identification and development process as briefly mentioned by Faude in Counter-Point 4. This point is strengthened by the current media debate at the time of writing on the development of elite youth football players in England and the Elite Player Performance Plan or EPPP (The Premier League, 2011) published by the English Premier League as part of its vision for the future development of youth football in the Premier League and throughout the professional game in England.

Data derived from fitness assessments have been systematically used over the last decade or so in an attempt to identify the 'pathway to success' and provide some explanations as to why academy football players are successful or not in acceding to higher echelons of play (see review by Meylan, Cronin, Oliver & Hughes 2010). As part of this process, some attempts have been made to create normative fitness profiles to enable monitoring and prediction of the rate of progression in elite players across different age categories within individual clubs (Balmer & Franks, 2000; Williams, Oliver & Faulkner, 2011). Similarly, as part of a global vision for youth development in English professional football, the EPPP document recommends the development of a national database to enable Academy sports scientists and practitioners to compare their player's performances against national physical testing 'benchmark' profiles across different phases of the season and year groups. The rationale also provided by the EPPP is for clubs to use the information to measure the effectiveness of their own programmes to ensure that they can constantly refine their club-based programme and aid prediction of elite performance in terms of young player development. In our opinion, while the aforementioned counter point debate discussed the value of fitness-related data to directly inform training programmes and/or performance potential in professional football, none of the contributing authors questioned the real world utility and possible pitfalls of nationwide athletic benchmark profiling programmes for elite youth football.

First, we feel that caution is needed to ensure that the results from a battery of fitness tests are not employed as a marker to discriminate against a certain type of player or compel an academy that typically offers more opportunities to and frequently retains biologically immature and physically smaller players, to modify its talent selection policies if player performances do not 'correspond' to nationwide performance 'benchmarks' or 'norms'. Unfortunately, data derived from fitness testing batteries will always be compared with averages arising from biased homogenous population samples (e.g., biologically mature and physically advantaged players frequently born earlier in the calendar year: Unnithan, White, Georgiou, Iga & Drust, 2012) unless early selection policies evolve in the academy setting. It might be wise therefore to only perform comparisons after each academy has systematically controlled data for chronological age, biological maturity and body size throughout the talent identification and development process. This issue would seemingly strengthen the need for maturity independent performance assessments in the test battery as outlined by Vandendriessche, Vaeyens, Vandorpe, Lenoir, Lefevre, et al. (2012).

Second, while creation of a national database of physical testing data provides a means to compare individual player and group profiles across clubs nationally, questions should be asked as to whether the derived data should be used as benchmarks to contribute towards

'characterisation' of athletic performance at elite standards. For example, a national benchmark standard will in general only mirror the selection policies and subsequent athletic profiles of Academy players in the country within which it is implemented. Within the current debate on English professional football, will profiles reflect in any way or form profiles and standards in peers in recognised 'successful' national talent selection and development models abroad or will it simply continue to contribute to producing the same player 'stereotypes' that frequently bear the brunt of criticism within both the English media and elite football circles? In addition, the utility of comparing performance-related data with that obtained from populations in which the large majority of players will fail to attain professional status is questionable. There is a need for isolation of multidimensional benchmarks and longitudinal milestones achieved in players who eventually attain professional status rather than simply comparing datasets containing information for every player belonging to academies nationwide. Although achieving this objective would take time, it might provide an opportunity to create benchmark profiles that are perhaps less arbitrary and more accurately characterise some of the pre requisites for achieving professional status.

Third, the prediction of a successful career aided by fitness testing benchmarks outlined in the EPPP plan for example is difficult for several reasons. An underlying assumption underpinning most talent identification models is that the characteristics that differentiated the youth football players at the time of identification are retained and enhanced throughout the maturation period; providing a marker for those players that go on to be successful at the adult level (Unnithan et al. 2013). Yet, a comprehensive review by Meylan et al., (2010) concluded that the sensibility of fitness data obtained from testing to distinguish between already highly selected elite youth players (as is the case at Academy level) with a view to career prediction is questionable. In addition, physical performance observed at different milestones of a youth player's career is often unstable throughout adolescence nor automatically reflected in adulthood (Vaeyens, Lenoir, Williams & Philippaerts, 2008) as well as being affected by individual trainability (Pearson, Naughton & Torode, 2006). Bucheit et al (2013) for example, reported very large inter-individual differences in the change in physical performances over the following 4-year period in players presenting similar anthropometric and fitness profiles at 12 years of age. This poor long-term stability led the authors to question the interest of certain physical performance measures in young players in a talent perspective. It notably casts doubt on the ability to predict rate of progression and create guidelines on 'expected' gains in fitness related performance especially as no consensus currently exists on what should be considered a 'meaningful' change across a youth player's development period. Again, the identification and implementation of tests suited to the individual player (accounting for biological maturity, chronological age, playing position demands etc.), and/or his age category should be considered.

Finally, questions can also be asked regarding the relative weighting of benchmark fitness data in a global football talent prediction model and how the 'compensation phenomenon' in which a deficiency in one or more components of an individual player's athletic (and overall) performance can be more than compensated for by excellence in others is accounted for by Academy sports scientists and practitioners. There is a strong call for tests to reflect the principles of 'representative design' (Phillips, Davids, Renshaw & Portus, 2010) whereby factors measured have clear and ideally causative relationships to eventual performance in the target activity. Unfortunately, it may be that certain factors receive an unduly high weighting due simply to the apparent objectivity of that factor (Abbott & Collins, 2004. In short, we use it because we can measure it. For all these reasons, therefore, we suggest caution with the use of unidisciplinary measures in talent programmes.

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