

There Is No Such Thing as an International Elite Under-9 Soccer Player

Dear Editor-in-chief

In a recent article published in *the Journal of Sports Science and Medicine*, Müller and colleagues (2018) presented an article on the relative age effect in international elite under-9 soccer players. Their aim was to investigate the association between biological maturity and the relative age effect in young footballers. Our aim in writing this letter is to highlight theoretical and ethical perspectives, which influenced our beliefs on the contribution to knowledge of this paper.

Long-term athlete development involves highly complex processes in which there are an almost incalculable number of interactions that can influence the rate and magnitude of development of young athletes. Whilst there are anecdotal examples of great athletes being 'talent spotted' early in their development, we know that systems used to predict the future athletic success of pre-pubescent children are of questionable validity (Ford et al., 2011). A well-documented phenomenon in youth sport (Cobley et al., 2009), the relative-age effect (RAE) represents a bias in the form of an over-representation of athletes born early in the selection year (Musch and Grondin, 2001). Measurements like these and others such as predicted *age at predicted peak height velocity* suggests that simple physical measurements can bring efficiencies to talent identification systems in which pre-pubescent children are ultimately model inputs. However, Kiely (2018) argues that the danger of using such measurements is that training theory is biased towards "readily measurable physical dimensions of training" whilst neglecting psycho-emotional consideration that are more difficult to measure. We believe that Müller et al. (2018) have fallen into such a trap.

There are many social norms and organisational pressures present within the facets of professional football, which do not sit comfortably with us, which we believe the authors of this paper help perpetuate. The use of words such as 'elite' has added to the development of an artificial mythology in and around the culture of child youth sports programs. Against the background of significant concerns about the quality and appropriateness of the contemporary youth sport experience the International Olympic Committee (Bergeron et al., 2015) presented a critical evaluation of the state of science and practice of youth athlete development. Their consensus statement called for a more evidence-informed approach to youth athlete development through the adoption of viable, evidence-informed and inclusive frameworks of athlete development that are flexible. The statement suggested that the 'culture' of specific sports and youth sports in general, has become disproportionately both adult and media centered. There is a need to address interactions between athletes, coaching styles and practices, the effects on youth athletes from parental expectations and the view of youth athletes as commodities,

which is often intrusive with a fine line between objectivity and sensationalism. Semantics are important in this regard, in which Müller and colleagues (2018) talk about pre-pubescent children using the quasi-mythopoeic terms 'elite' and 'international'. Whilst consensus on what 'elite' means remains elusive, Williams et al. (2018) argue that quantitative performance data should be prioritised over using subjective terms such as international or professional status. Such performance data is unlikely to be available for such a young participant cohort. A title such as "Maturity Status Strongly Influences the Relative Age Effect of Prepubescent Children Who Show an Early Aptitude for Playing Soccer" may capture the nature of the study more effectively. However, doing so frames the paper differently in which importance and contribution to knowledge may be diluted.

The authors may well be studying phenomena within an environment where talent ID starts young and the language they use is consistent with the discourse of certain soccer environments. However, we argue that researchers and applied practitioners must be aware of their ethical and moral responsibilities to ensure that their work does not add credence to approaches that are unlikely to be in the best interest of their subjects. We recognise that applied practice is developed through a process of social osmosis, in which experience, organisational pressures and power dynamics all influence decision-making of practitioners. Further, conforming to the status-quo is all too easy unless practitioners have considered their practice beyond a positivist discourse. Therefore, researchers should think deeply about sociocultural and psycho-emotional influences of research and how others may apply it.

Rather, we suggest that a Critical Realist approach is more appropriate when exploring talent identification, most specifically because metrics such as RAE in pre-pubescent children add little to knowledge unless presented within the social context. We recognise that there are few areas of sport that are as complex yet resistant to change as child youth football. Rothwell et al. (2018) noted that forms of life are founded upon specific socio-cultural, economic and historical constraints that have shaped the development of performance in a particular sport or physical activity. Language plays an important role in developing common practices and forming discourse within such environments. Bailey and colleagues (2010) acknowledge that development cannot be fully understood without the consideration of the wider sociological perspective, thus contextual factors (e.g. place of birth) are being explored in relation to their influence on access to resources vital for attaining elite level of performance (Baker and Logan, 2007). A youth players' potential must be prioritized over selection methods that may be influenced by physical size or geographic location in relation to access to resources. Therefore, we argue that the work of Müller et al. (2018)

fills a gap in knowledge that probably does not need to be filled and that the RAE is a consequence of talent development systems that focus on positivist physiological ‘snapshots’ of performance (e.g. Helsen et al., 2000). Rather than proposing solutions that fit within the status quo (e.g., bio-banding, additional education for academy personnel, rotating cut off dates, player quotas), we believe that Müller et al. should have challenged the status quo, and drawing upon expert statements such as that offered by the International Olympic Committee, advocated against an elite international tournament for 9-year olds.

A critical-realist approach to research focusses on the knowledge-practice gap, in which scholars focus on influencing applied practice to practical effect. The process of the act of moving research into the hands of coaches, clubs and organisations is a challenging and complex process. There is a constraining dominance at play here. The grip of convention on player development and practice is seemingly fueled by a cultural inertia and this is reflected in the language. Early talent ID programs and so called elite grassroots coach education programs marketed using sensationalistic language could well be aiding the preservation of these embedded habits and beliefs. We believe that academics have a responsibility to use their knowledge and skills appropriately, in which acquired knowledge is used in the positive advancement of practice rather than reinforcing unhelpful social-norms, habits and beliefs.

Andrew Kirkland¹ and Mark O’Sullivan²

¹ Faculty of Health Sciences and Sport, University of Stirling, Stirling, UK; ² Centre for Sports Engineering Research, (Skill Acquisition theme), Sheffield Hallam University, Sheffield, UK / Research & Development Department AIK FF Stockholm

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✉ Andrew Kirkland

Faculty of Health Sciences and Sport, University of Stirling, Stirling, UK

E-mail: andrew.kirkland@stir.ac.uk

Authors’ response

Dear Editor-in-chief,

Unfortunately, we had to realize, that the letter to the editor by Andrew Kirkland & Mark O’Sullivan with the title “There Is No Such Thing as an International Elite Under-9 Soccer Player” turns out to be a strong misinterpretation of our article.

The aims of our paper are:

Relative age effect in soccer: The *relative age effect* (RAE) is a well-documented phenomenon in youth sport (Cobley et al., 2009). This effect exists when the relative age quarter distribution represents a biased distribution among the four quarters with an over-representation of athletes born early in the selection year (Musch and Grondin, 2001). RAE is present in several age categories of national and international soccer (Sierra-Díaz et al., 2017). The existence of the RAE in several age categories in soccer indicates that the talent development system in this sport discriminates against relatively younger athletes and

a lot of talents get lost because talent in a sport does not depend on the birth month (Lames et al., 2008).

RAE and level of maturation: The favorable selection of relatively older athletes compared to relatively younger athletes is influenced by the maturational differences between them (Baker et al., 2014). The short-term consequences are that relatively older and earlier maturing athletes seem to be more “talented” and are consequently selected, whereas relatively younger and less mature athletes are often excluded and drop out of sport (Müller et al., 2017; Romann and Cobley, 2015). As a consequence, the combination of a relatively older age and an advanced maturation positively influence the selection and thus, might lead to the RAE.

Starting point of RAE: Gutierrez Diaz Del Campo et al. (2010) found a significant RAE among prepubescent youth soccer players from Spain (under-11 till under-13) selected for elite youth teams of Spanish clubs. But no study assessed the maturity status and its influence on the RAE at an international youth level among prepubescent

athletes younger than 11. As a consequence, in the present study we investigated prepubescent soccer players who were selected for the U9 Eurochampionship in 2016 in Vienna.

Elite international soccer players U9: we called the participants of the U9 Eurochampionship 2016 in Vienna “elite international U9 soccer players” and we don’t understand what is wrong with this. At the Eurochampionship 2016 in total 40 teams from 18 nations, most of them representing well known elite soccer clubs, participated in the tournament.

We have not fallen into any kind of “trap”. The main goal of our research is to find out the mechanisms responsible for RAE and to find solutions to avoid discrimination of talented and motivated young athletes in the future.

Lisa Müller¹✉, **Josef Gehmaier**², **Christoph Gonaus**², **Christian Raschner**¹ and **Erich Müller**²

¹ Department of Sport Science, University of Innsbruck, Innsbruck, Tyrol, Austria; ² Department of Sport Science and Kinesiology, University of Salzburg, Salzburg, Salzburg, Austria

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✉ **Mag. Lisa Müller, PhD**

Department of Sport Science, University of Innsbruck, Fuerstenweg 185, A-6020 Innsbruck, Austria