

# Study reveals birth month impact on soccer careers

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What do soccer players Jamal Musiala, Arda Guler and Cristiano Ronaldo have in common? Not only are they shining for their respective nations in Germany; they were each born in February. Researchers at the University of Strathclyde have found that this is not a coincidence.

A research project at the University of Strathclyde, headed by MSc Applied Economics student Aidan Rooney and Dr. Markus Gehrsitz, has discovered strong evidence of a relative age effect at this summer's European soccer tournament.

This phenomenon, also observed in education and various other sports, refers to the overrepresentation of individuals born earlier in a cohort.

The study found that there are almost twice as many January-born players as there are December-born players in the squads, even though both months have similar birth rates. Generally, there is a clear drop-off in the representation of later-born players relative to those born in the first few calendar months of the year.

## **Age advantage**

Researchers call this phenomenon the "relative age effect." Because most [soccer](#) confederations use 1st January as an eligibility date for their youth squads, January-born players are almost one year older than December-born players of the same cohort. Their initial age advantage may well translate into a better chance of being selected for their national youth squads.

The Strathclyde researchers confirm that the relative age effect is indeed more pronounced at the youth level. Their analysis of Under-17s squads from European championships earlier this year revealed that there were over four times as many players born between January and March as between October and December. Under-17 champions Italy is a case in point; its 20-man squad featured 11 players born in the first quarter of the year and only one December-born player.

Lead Researcher Aidan Rooney explains, "One year might not seem a large difference, but at the youth level it may mean that January-born

players have experienced almost 10% more playing time than December-born players."

However, the initial advantage seems to flatline eventually. The study investigated the correlation between birth month and player market value—a proxy for player performance and quality. Among players, birth month was not a significant predictor of market value.

Dr. Gehrsitz said, "The age advantage is huge at the youth level and an early birth-month still substantially increases the odds of making a national squad at the adult level. But once a player reaches that level, other factors determine whether they become a superstar."

## **Key influence**

Debate surrounds exactly how birth month influences a player's chances of selection. Physical development appears a key influence and the study's findings support this channel. Previous research also points to psychological factors, social skills, and playing experience.

One should also be careful not to generalize. What is true on average need not be true in individual cases. Indeed, Kylian Mbappe (December), Pedri (November) and Ilkay Gundogan (October) are each world-class in their own right and among the best players in Europe, despite being born in the latter months of the year.

Whatever the mechanism, an early birth month still helps prospects get a foot on the career ladder. An earlier-born youth player within a given age group may be more likely to stand out owing to their likely greater height, strength and physical, mental and emotional maturation. As such, more coaching opportunities may be presented to them, boosting their chances of becoming professionals and leading to the skewed distribution we see in the professional game.

In their professional careers, particularly at international tournaments, attributes like height become less distinctive, blending them into the broader competitive field.

At what can be considered the pinnacle of the sport athleticism is a given. True elite status then requires distinguishing factors like exceptional skill, remarkable speed, or a consistent ability to score.

## **Standing out**

Aidan Rooney said, "Our findings are really interesting and, while initially surprising, make a lot of sense and paint quite a clear picture of the role that birth month plays in all of this.

"The essence is this: being born early in the year significantly enhances a young player's chances of standing out within their age group and being picked up, boosting their chances of turning professional and possibly getting picked for their national team further down the line.

"However, these advantages only go so far. At the elite level, success depends on a variety of other, more important factors. Hence, it is not the case that the best players are the early-born ones."

The study will be submitted for publication and peer review in the autumn.

Provided by University of Strathclyde, Glasgow

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