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### *Pattern of player growth in FM23*

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Some of the questions I'll be attempting to answer today include at what age does player growth start slowing down in FM23

- how important is training for player growth
- how important is match experience for our player growth
- do players with a low PA rating grow slower than players with a high PA rating
- are there any attributes that grow faster than others or do they sort of all grow at the same rate all of these

So for this experiment I've created a custom league using the football manager Game editor. There are four teams in the league. These four teams are set up to be exactly identical to one another so same sets of players same coaching staff same medical staff same facilities Etc I'm just using four teams instead of one because it just allows me to gather a larger sample size in a much shorter period of time

The players in all four teams are 10 in all attributes which translates to 97 current ability rating for outfield players and 86 current ability rating for goalkeepers, all players have a potential ability rating of 200 which is the highest possible PA rating in the game.

I deliberately made the gap between the starting CA of the players and the PA rating of the players as wide as possible in order to stimulate player growth as much as possible

**THIS IS THE DATABASE THAT I WILL USE FOR ALL THE TESTS**

My first objective was to find out the effect that training and match experience have on player growth so I set up four different scenarios:

- scenario one
  - the players play between 20 to 30 senior matches appearances in a season as well as doing training as they normally would in a regular football manager save. The training schedule that I used in this experiment is just the default schedule that's already in the training calendar when you start a new save in FM23.
- Scenario 2
  - the players do normal regular training just like scenario one but this time they're suspended for the whole year which means that they'll all have zero match experience for the whole season so that no Club matches and no International matches no friendlies no nothing. All they do is training for the whole year
- scenario three

- the players play between 20 to 30 senior matches but this time I go into the training calendar and I wipe out all training for the whole season so no training for the whole season
- scenario four
  - No training and no match experience, the players are still at the club but they're just doing absolutely nothing for the whole year.

So let's have a look at the results:

- **Scenario one:**

1. Player growth is the greatest when players are doing training and are playing matches.
2. The rate of growth is the fastest during teenage years surprise then after that there is a gradual descend in the rate of growth that occurs slowly but surely as players age
3. When players reach the age of 26 there is a sudden drop by in the rate of growth and from 27 onwards there is pretty much no growth that takes place even if the players are doing training and playing regular football

- **Scenario two:**

1. When the players are doing training but not playing any matches throughout the season the amount of growth is the fastest during teenage years followed by a gradual descent afterwards.
2. From the age of 21 there is pretty much zero growth when players aren't playing any matches which I guess highlights the importance of regular match experience if you want to see your players continue developing past the age of 21.

- **the third scenario**

1. When the players are playing adequate amount of first in football but not doing any training, this is something you might see in a lower league save where the players are contracted on a part-time basis so they're only present at the club a few days a week when there's a match going on but you know they're doing very little training at the club the amount of growth here is even lower than the second scenario so by the age of 19 players pretty much stop growing
2. If they are not doing any training from the age of 23 onwards there's actually negative growth in CA rating this means that when players over the age of 23 are not doing any training their CA rating will start declining even if they are playing regular first team football

- **the fourth scenario**

1. when players don't train and are not playing any matches player growth is the lowest here out of the four scenarios. During teenage years there's a tiny bit of growth but from the age of 19 onwards growth is pretty much non-existent
2. from the age of 23 onwards there is negative growth in CA just like the just like the third scenario

The amount of growth of goalkeepers is pretty consistent from the age of 15 all the way up to 23 and maybe even up to 25. This is in contrast to the growth of Outfield players where the decline in the rate of growth is a lot steeper. With goalkeepers the cut off range seems to be a little bit higher maybe around 28 to 29.

Like Outfield players goalkeepers need both training and regular match experience for maximum growth but there is one big difference between Outfield players and goalkeepers with goalkeepers even when they don't do any training their CA rating will not dip below zero

[illegible]

Of course there's the question of whether Reserve team matches count towards match experience such as the the U23 leagues or the u18 leagues that are held in the English Premier League I have the answers to that, and we will discuss about the results in that test also.

Notice the 19 and 27 years old, when there is a shift in player attribute growth, this means that certain attributes grow or stop growing at certain ages

The only attributes that do not grow before the age of 19 are aggression, bravery determination, they stay the same for the whole life of the player and are not influenced by training (we will talk about this later as SI is lying to us)

In conclusion:

- A. Training and match experience are two crucial ingredients for player growth in fm23, growth will be stunted if a player is missing either of the two ingredients.
- B. The rate of growth in the game is heavily dependent on the PA ratings of players with the same CA ratings were exposed to the same set of stimuli will develop at different rates if they have different PA ratings.
- C. Outfield players 19 and 27 seem to be two points in their career where the rate of growth will suddenly slow down and the number of attributes that grow will be reduced. For goalkeepers that age seem to be are 29 so you know it will occur a little bit later than our outfield players