

Talent Management Strategy in Algerian Elite Football

Relative Age Effects in the Under-17 National Team Participating in the 2026 North Africa Cup

إستراتيجية إدارة المواهب في كرة القدم الجزائرية للنجبة

تأثيرات العمر النسبي في المنتخب الوطني أقل من 17 سنة المشارك في دورة كأس شمال إفريقيا
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Abstract:

This study aimed to analyze the Relative Age Effect among Algeria's U17 national team players by examining birthdate distribution across yearly quarters/thirds, differences by training location (inside vs. outside Algeria), and its impact on starting participation. Results showed a clear and statistically significant imbalance in birthdates, with most players born in the first quarter of the year (56%), compared with the other quarters ($\chi^2 = 13.56$, $p < .01$), indicating a strong Relative Age Effect in player selection. For players born inside and outside Algeria, there was also a tendency favoring the first quarter in both groups, but differences were not statistically significant ($p > .05$), suggesting the effect was less decisive and may be influenced by small sample size or environmental and developmental factors. Regarding starting participation, significant differences were found ($\chi^2 = 15.09$, $p < .01$): players born in the first third of the year started more often, while those born in the last third had the lowest rate. Overall, the study confirms the presence of the Relative Age Effect in selection and participation.

Keywords: Relative Age; Football; Algeria U17 National Team; Talent Selection; Sports Development.

المخلص :

هدفت هذه الدراسة إلى تحليل تأثير العمر النسبي لدى لاعبي المنتخب الوطني الجزائري لأقل من 17 سنة، من خلال

فحص توزيع تواريخ الميلاد حسب أرباع/ثلاثة السنة، ودراسة الفروق حسب مكان التكوين (داخل الجزائر وخارجها)، وتأثير ذلك على المشاركة الأساسية. أظهرت النتائج وجود اختلال واضح ودال إحصائيا في تواريخ الميلاد، حيث ولد أغلب اللاعبين في الربع الأول من السنة (56%) مقارنة ببقية الأرباع ($\chi^2 = 13.56$) ، ($p < .01$) ، مما يدل على وجود تأثير قوي للعمر النسبي في عملية الانتقاء. بالنسبة للاعبين المولودين داخل الجزائر وخارجها، ظهر ميل لصالح الربع الأول في كلا المجموعتين، إلا أن الفروق لم تكن دالة إحصائيا ($p > .05$) ، مما يشير إلى أن التأثير أقل حسما وقد يتأثر بصغر حجم العينة أو بعوامل بيئية وتكوينية. وفيما يخص المشاركة الأساسية، ظهرت فروق دالة إحصائيا ($\chi^2 = 15.09$) ، ($p < .01$) ، حيث شارك اللاعبون المولودون في الثلث الأول أكثر كأساسيين، بينما سجل المولودون في الثلث الأخير أدنى نسبة. تؤكد الدراسة عموما وجود تأثير العمر النسبي في الانتقاء والمشاركة.

الكلمات المفتاحية: العمر النسبي، كرة القدم، المنتخب الجزائري أقل من 17 سنة، الانتقاء الرياضي، التكوين الرياضي.

1- Introduction:

Participation in organized youth sports has been linked to various advantageous outcomes, including skill development, psychosocial benefits, physical growth, and increased physical activity in later life. To ensure fair competition and create an age-appropriate learning atmosphere, young athletes are often classified into annual or semi-annual age groups, utilizing chronological age and birth date as primary criteria for competitive assessment. However, the complex dynamics of the athlete development trajectory, along with the diverse organizational contexts, may not always align with these targeted outcomes. The interaction between social policies specifically, the cut-off dates set by organizations to categories youth into annual or semi-annual cohorts and the timing of an individual's birth within that category can lead to individuals being comparatively older or younger than their peers (Musch & Grondin, 2001). The phenomena of relative age effects (RAEs) refers to disparities in participation, selection, and performance in sports that derive from the chronological age

categorisation system, affecting individuals in the immediate, short, and long term.

Overall, there exists a propensity to favor athletes born at the onset of the year or within a specific selection timeframe (proximate to the eligibility cut-off date established for recruitment). Contemporary research indicates that relative age effects (RAE) in sports are regarded as a universal phenomenon influencing a broad spectrum of competitive athletic disciplines (Cobley, Baker, Wattie, & McKenna, 2009), and this phenomenon is particularly evident in team sports, notably football (Augste & Lames, 2011), as well as in individual sports (Baker, Janning, Wong, Cobley, & Schorer, 2014). Moreover, children and adolescents born in the early months of the year possess significant advantages relative to their peers born later in the year, encompassing areas such as academic performance (Crawford, Dearden, & Greaves, 2014) and facets of emotional and social development (Goodman, Gledhill, & Ford, 2003). Various theories elucidate this effect and its persistence across older age groups in football, including the Matthew effect (Merton, 1968), the Pygmalion effect, and the Galatea effect (Hancock, Adler, & Côté, 2013).

The Matthew effect, often referred to as the phenomenon whereby "the rich get richer," denotes a tendency for individuals who attain success in a particular domain to accumulate further achievements over time. This occurrence can be attributed to the enhanced availability of support, resources, and opportunities that such individuals access in comparison to their counterparts. In the realm of football, this effect manifests through relative age effects, whereby players born

earlier in the year exhibit greater physical maturity and development than those born later (Crawford, Dearden, & Greaves, 2014). The disparity may, in certain instances, amount to an entire year; for instance, a player born in January may significantly outpace a peer born in December of the same year in terms of development. Consequently, these players are often chosen for more advanced teams and programs, granting them superior training and developmental prospects. Over time, a self-reinforcing cycle emerges, wherein early-born players continue to thrive, particularly during adolescence, while those born later encounter challenges in bridging the gap, resulting in an inequitable allocation of opportunities within the sport of football.

The text also highlights the Pygmalion effect, which posits that elevated expectations can positively influence individuals, thereby enhancing their performance. In the realm of relative age effects, players born in the earlier months of the year have a heightened likelihood of being selected for youth teams and football academies, resulting in increased expectations from coaches. This, in turn, fosters improvements in their performance, reinforcing the Matthew effect and establishing a self-fulfilling prophecy .

Conversely, the Galatea effect suggests that individuals who receive encouragement, consistent support, and affirmative feedback are predisposed to perform at a higher level. Within the context of relative age effects, players born in the initial months of the year benefit from greater support and motivation from coaches and their environment, which bolsters their performance and affords them additional opportunities for advancement in their athletic careers.

Research reviews and meta-analyses have also identified a multitude of factors that influence the magnitude of relative age effects in sports (Smith, Weir, Till, Romann, & Cogley, 2018), including playing position, gender, age, and competitive level. In contrast, an alternative perspective known as the "underdog hypothesis" (Kelly, et al., 2020) suggests potential advantages for players born late in the year, particularly as they transition to professional levels. Younger players selected for national teams may have enhanced prospects of becoming professionals later (Skorski, Skorski, Faude, Hammes, & Meyer, 2016), as their efforts to demonstrate their abilities and secure developmental opportunities during their formative years yield benefits.

In 1985, Barnsley and his associates were pioneers in examining the influence of relative age on athletic performance. Their investigation revealed that Canadian ice hockey players born towards the conclusion of the eligibility period (specifically between October and December) were significantly less likely to participate in youth teams or advance to higher-tier professional teams when contrasted with those born at the outset of the year (from January to March). Following this foundational research, numerous subsequent studies have corroborated the presence of analogous effects within both male and female youth sports environments. For instance, a comprehensive international analysis conducted by (Helsen, van Winckel, & Williams, 2005) indicated a notable over-representation of athletes born in the initial quarter of the year on national teams and in professional youth programs spanning various age groups. A comparable observation was noted by (Massa, et al., 2014) within the realm of professional

football in Brazil. Considering the plethora of evidence demonstrating pronounced relative age effects in youth football across nations such as the United States, Australia, Brazil, Germany, and Japan, it becomes evident that this phenomenon possesses a universal nature and remains unaffected by variations in the commencement and conclusion dates of the sporting year across different countries (Votteler & Höner, 2017).

Recent research indicates that maturation may have a greater effect on performance compared with the effect of relative age, although the study of (Hill, Scott, Malina, McGee, & Cumming, 2020) confirms that both factors are independent of each other. Therefore, there is a need for different strategies to address the effects of relative age and the bias linked to players' maturation (Parr, et al., 2020), especially in academies specialized in forming football players, as the process of joining youth academies plays an essential role in the appearance of this effect (Grossmann & Lames, 2013). The study of Grossmann & Lames (2013) showed that the effects of relative age are stronger among academy players compared with players of the amateur U17 and U19 categories, although the evidence indicates that specialized training environments are linked to short sporting careers and high withdrawal rates in adulthood, especially in sports such as ice hockey and football (Cobley, Baker, Wattie, & McKenna, 2009), where some older players choose to move to other sports because of overtraining, psychological burnout, or other factors, and some older players who trained intensively in their early stages choose not to continue in practice.

The effects of relative age are considered among the central issues in the field of talent identification and development in youth football, where it has received increasing interest in recent years in international contexts, and from here the need appears to study this phenomenon in the Algerian context, especially at the level of the national teams, which represent a decisive stage in the path of talent development. From this standpoint, this study seeks to analyze the extent of the presence of relative age effects inside the Algerian national under-17 team participating in the North Africa Cup 2026 in Libya, which achieved qualification to the Africa Cup after occupying second place with 7 points from two wins over the Egypt and Libya teams, a draw with the Tunisia team, and a loss to the Morocco team. This is done through presenting a group of basic research questions:

- Are there imbalances in the distribution of the players' birth dates inside the composition of the national team that reflect effects of relative age?
- Does selection at the level of the starting lineup tend to favor players born at the beginning of the year compared with others?
- Does the intensity of these effects differ according to the training environment, between players active in clubs inside Algeria and their counterparts professional abroad?

Starting from the scientific literature, the study assumes:

- The composition of the Algerian under-17 national team may show a greater representation of players born in the first quarter of the year (January - March) compared with others.

- Players born in the first quarter of the year (January - March) have a greater probability of being present in the starting lineup compared with others.
- Relative age effects differ according to the training environment, where they are stronger among players trained locally compared with those trained abroad.

The importance of answering these questions appears in order to strengthen our understanding of the advantages of date of birth and relative age effects, and to create more suitable training environments. This requires the main concerned parties such as coaches, policy makers, and researchers to understand the potential effect and the interaction between a group of factors, such as place of birth, participation in activities, and relative age. Therefore, this study is not limited to addressing relative age effects only, but it also studies the role of other advantages linked to date of birth such as the environment of upbringing and training.

In general, this study aims to expand our understanding of the methodological, contextual, and practical considerations within the Algerian youth football system in order to create more suitable environments.

2- Study Methodology:

2.1- Sample:

This study includes 25 male football players, participating with the Algerian under-17 national team in the 2026 Union of North Africa tournament in Libya and qualifying for the Africa Cup of Nations.

The players were divided into two categories according to place of birth: inside Algeria, 17 players; outside Algeria, 13 players, and into four quarters according to date of birth.

2.2- Data collection:

The statistical data used in this study were obtained from:

- The official website of the Algerian Football Federation www.faf.dz regarding the list of called-up players.
- The FAF Connect platform www.fafconnect.dz regarding Algerian players born in Algeria, and the data obtained from this platform included: players' first names and surnames, their dates of birth, their place of birth, and the clubs they play for.
- The official websites of the French and German clubs in which Algerian players born abroad are active, and the data obtained from these websites included: players' first names and surnames, their dates of birth, their place of birth, and the clubs they play for.

2.3- Data analysis:

The first of January is the internationally adopted cut-off date for football players. Therefore, the month of January was considered the first month and December the last month in all statistical analyses.

Dates of birth were divided into four periods, each one lasting 3 months, as follows:

- First quarter Q1: January, February, March.
- Second quarter Q2: April, May, June.

- Third quarter Q3: July, August, September.
- Fourth quarter Q4: October, November, December.

The chi-square test (χ^2) was used to determine the significance of differences between the expected distribution of birth dates in each quarter of the year and the actual distribution. Since the chi-square test does not show the size of the differences between the distributions, Cramer's V coefficient was also used, in line with relative age effect studies such as Kelly and others (2020).

According to the commonly accepted statistical standards, Cramer's V values are interpreted as follows:

- Value ≥ 0.06 indicates a small effect size
- Value ≥ 0.17 indicates a medium effect size
- Value ≥ 0.29 indicates a large effect size

Odds Ratio (OR) and 95% Confidence Intervals (CI) were also used for comparison between the observed and expected distributions.

3- Discussion:

The process of talent identification in various sports frequently exhibits a bias towards athletes born in the earlier months of the year, as these individuals tend to demonstrate greater maturity, enhanced physical strength, and increased speed. Additionally, they gain advantages associated with the relative age effect, which includes greater experience and earlier physical development, in contrast to those born later in the year who may exhibit lesser physical maturity. The primary objective of this research was to assess the magnitude of the relative age effect (RAE) among members of the national under-17 team competing in the

North Africa Championship 2026 in Libya. To achieve this, the birth dates of 25 selected players were analyzed, and these dates were categorized into four quarterly segments of the year. It was posited that the relative age effect would manifest significantly within the selection processes, favoring athletes born at the beginning of the year, and that variances in the magnitude of this effect would be evident depending on whether the players trained within Algeria or abroad. Furthermore, the relative age effect was examined within the starting lineup of the national under-17 team that participated in four tournament matches, with the hypothesis that the selection process for the starting lineup would exhibit pronounced bias towards players born at the beginning of the selection year, resulting in a disproportionate representation of relatively older athletes in the national under-17 team's starting lineup.

The study reached:

- The presence of a relative age effect in the list of the national under-17 team participating in the North Africa Championship 2026 in Libya.
- The presence of a relative age effect whether the players were active in Algerian clubs or foreign clubs, and there is no difference in the level of the effect between them.
- The presence of a relative age effect in the participation of players as starters in the matches.

The findings align with the prevailing evidence suggesting that individuals born in the initial quarter of the year are disproportionately represented in professional youth football across various age divisions. A comprehensive

investigation conducted by Bozděch et al. (2023), which involved a review of 563 independent research samples from 90 scholarly articles, identified adolescence as a pivotal factor in exacerbating the relative age effect, as the highest effect sizes were noted during this developmental stage. Furthermore, the ratio of players born at the beginning of the year compared to those born later increases with higher performance levels, particularly during adolescence, corroborating the findings of the current study.

In a separate analysis by (Helsen, van Winckel, & Williams, 2005), which sought to examine potential discrepancies in the distribution of birth dates among youth football players across ten European nations (encompassing 2,175 age cases), it was determined that players born in the first quarter of the selection year (January to March) were overrepresented in all national teams within the under-15, 16, 17, and 18 age categories, as well as in the UEFA under-16 championships and the Meridian Cup. The study also revealed that relatively older players exhibit a heightened likelihood of being recognized as "talented," reinforcing the results of the current research regarding player representation within the sample and their participation as starters.

Additionally, Helsen et al. (2012) conducted a study to compare the distribution of birth dates among professional football players across ten European countries over a decade, spanning from the 2000/2001 season to the 2010/2011 season. Their findings indicated the persistence of relative age effects throughout this timeframe, suggesting no significant alterations in the relative age effect within professional football in Europe over the last ten years. This stability reaffirms the

robustness and continuity of this phenomenon, further substantiating the current study's findings.

Moreover, (Práxedes, Moreno, García-González, Pizarro, & Del Villar, 2018) undertook an analysis to investigate the impact of relative age within Spanish amateur clubs. Their conclusions indicated that players born in the early months of the year are more frequently selected to participate in higher-level teams within each age category, which aligns with the results of the present study.

Data were not collected that allow explaining the causes of this phenomenon directly. Therefore, only assumptions can be presented, among them the popularity of the sport of football, as sports with high popularity tend to raise levels of competition from an early age, which may lead to strengthening the relative age effect. A study by showed that the relative age effect is more widespread in popular sports such as men's football. So, in Algeria, football is considered the most popular sport in terms of number of practitioners, and the same applies in the countries where Algerian players are active outside Algeria, which are France and Germany. So, in France, according to data of the French Football Federation in the year 2006, the number of football practitioners was about 2.1 million licensed players, while the number of practitioners of the second sport, which is handball, was about 492 thousand licensed players, that is about 4 to 5 times more. The same applies in Germany, where the amateur section in the German Football Federation includes about 6.9 million members and around 25,000 clubs, meaning that a quarter of the practitioners of all sports in Germany in the year 2018, who are 27 million athletes, practice football.

Because of the large number of children wishing to join talent development programs in football, coaches in these sports do not rely on an open-door policy, meaning registering all those wishing to engage in practicing football, but rather they follow a more selective strategy in the stages of early selection, where the players more physically ready are selected, especially in contact sports such as football, and consequently the chance is greater for relatively older players. This is due to the fact that the search for immediate performance currently outweighs talent identification, whose goal is achieving results in the long term (Augste & Lames, 2011).

The older players presumably benefited from social and psychological benefits, such as the Matthew effect or Pygmalion, which provided them with an initial edge that enhanced their likelihood of being included on the national team roster. Furthermore, players chosen for superior teams gain additional experience as they progress through age categories, which significantly contributes to their development. This, in turn, enhances the player's motivation (González-Víllora, Serra-Olivares, Pastor-Vicedo, & Teoldo da Costa, 2015), resulting in increased self-confidence and effort.

Players born in the early months may demonstrate superior compatibility with environmental and training requirements, as those selected by elite teams in each category, in accordance with the deliberate practice theory, accumulate a greater number of training hours. Their accumulated experience exceeds that of other competitors, granting them a competitive advantage in attaining optimal performance levels (Ward & Williams, 2003);, as a positive correlation between

practice and performance is suggested by the deliberate practice theory (Ericsson, Krampe, & Tesch-Römer, 1993). In contrast, athletes born towards the end of the year do not have the same opportunities for training with elite coaches or competing at the highest levels (Figueiredo, Gonçalves, Coelho-e-Silva, & Malina, 2009), hence increasing the likelihood of psychological burnout and disengagement from football practice. Players born in the first quarter of the year presumably had advantages in maturation, as those born earlier have developmental benefits during selection relative to those born later. This results from their superior physical, physiological, and psychological development (Musch & Grondin, 2001). In the end, several limitations must be taken into consideration when interpreting these results, and they are:

- Dividing birth dates into yearly quarters may be arbitrary.
- The sample size is small, 25 players.
- It is not possible to determine the level of physical maturation accurately based on birth date only.
- Only some variables were analyzed (year of birth, yearly quarter, place of formation, participation as a starter with the national team).

4- Conclusion:

The study shows the existence of a clear effect of relative age in the highest levels of Algerian youth football, which is the national under-17 team, and although relative age is less influential than physical maturation in performance, the early selection process may greatly affect the path of players.

Which confirms once again the spread of relative age effects in the highest levels of football, and the need to understand its mechanisms more deeply, as a study of FIFA under-17 World Cup players in the Qatar World Cup 2025 showed the existence of a clear advantage for relatively older players, where there was greater representation of players born in the first months of the selection year in all continental federations except the African federation, especially Sub-Saharan teams, and its reasons are still not fully understood. Despite the possibility of errors in registering birth dates, there is a need to study other explanations such as differences in strategies of selecting and developing talents, especially since it is known that relatively younger players, despite the challenges linked to their age, may show high levels in motor skills, tactical intelligence, and psychological abilities, and this requires from them developing special physical, technical, and tactical skills to remain in competition. But the problem lies in that some less mature players may withdraw early because of this disparity, and what the effect of maturation leaves of consequences on the formation of athletes, where relatively older players benefit from the accumulation of experience in sports practice compared with the younger ones.

Therefore, the study recommends finding ways to reduce the effect of relative age, such as:

- Changing the annual cut-off date or rotating it.
- Adopting alternative criteria for classifying players (such as technical characteristics).

- Developing formation systems inside academies and selection for national teams according to formative objectives, so that priority is given to searching for sporting talents instead of achieving short-term results.
- Evaluating the biological maturation of players.
- Ensuring equal opportunities in selection and participation and putting a competition system that encourages that, through guaranteeing the participation of all youth players in the best teams inside each category, based on their talent and not on their chronological ages, and that through organizing competitions according to the level of sporting experience of children, so that teams of high level compete with their counterparts and teams of medium and low level with their counterparts, for balanced competition reduces frustration among children.

And in the end, the role of coaches and officials of sports clubs remains decisive, as they must be aware of this phenomenon and take it into consideration when selecting and developing talents.

And finally, it must be emphasized that this study was a preliminary study due to the small sample size, as it included only the players of the national under-17 team participating in the North Africa Championship 2026. Therefore, it is necessary to conduct studies on the rest of the categories of the national teams for males and females, in addition to amateur and professional clubs, as well as comparative studies between them in this field.

4.1- Study Results:

Table No. 1 shows that the distribution of birth dates of the national under-17 team players shows a clear superiority of players born in the first quarter of the year (Q1) compared with the rest of the quarters, as this category recorded the highest representation percentage (56%), against a noticeable decrease in the second quarter (20%), third (8%), and fourth (16%).

The chi-square test showed statistically significant differences ($\chi^2 = 13.56$, $p < .01$, $V = 0.43$), which indicates that this disparity is not random, but reflects a real pattern in the distribution of players. The effect size ($V = 0.43$) also indicates a medium to large effect of the relative age effect.

In more detail, it becomes clear that:

- The first quarter (Q1) represents the largest percentage of players, which reflects a clear advantage for this category.
- The second quarter (Q2) records a noticeable decrease compared with the first quarter.
- The third quarter (Q3) shows the weakest representation among all categories.
- The fourth quarter (Q4) remains below the expected average, despite its relative superiority over the third quarter.

In general ($n = 25$), these results show the presence of a clear relative age effect, where the majority of players are concentrated at the beginning of the year, against relatively weak representation at its end, which reflects the possibility of the presence of bias in selection and training processes in favor of relatively older players within the same age category.

And Table Two concerning players born inside Algeria shows that the distribution of birth dates tends relatively in favor of the first quarter of the year (Q1 = 46.7%), compared with the rest of the quarters, which came with lower percentages (Q2 = 20%, Q3 = 20%, Q4 = 13.3%).

Category	Q1	Q2	Q3	Q4	Total	χ^2	P	Effect Size (V)	Effect
Players	14	5	2	4	25	13.56	<0.01	0.43	Medium-Large
(%)	56	20	8	16	100	—	—	—	—

Distribution of birth dates of players active inside Algeria according to birth third

Category	Q1	Q2	Q3	Q4	Total	χ^2	P	Effect Size (V)	Effect
Starting Players	7	3	3	2	15	3.27	>0.05	0.27	Small-Medium
(%)	46.7	20	20	13.3	100	—	—	—	—

Despite this apparent disparity, the chi-square test showed that the differences between the observed and expected distribution are not statistically significant ($\chi^2 = 3.27$, $df = 3$, $p > .05$), which means that this difference may result from statistical chance and not from a real fixed pattern.

The effect size reached ($V = 0.27$), which indicates a weak to medium effect, which reflects the limited relative age effect inside this sample.

In more detail:

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- The first quarter (Q1) represents the highest percentage of players, which indicates the presence of an initial tendency in favor of this category.
- The second and third quarters (Q2 and Q3) recorded equal and medium percentages.
- The fourth quarter (Q4) represents the lowest percentage, which is in line with the general direction of the relative age effect, but it is not statistically strong.

In general ($n = 15$), the results do not show sufficient evidence for the presence of a strong relative age effect among players born inside Algeria, despite the presence of simple indicators that call for more study using larger samples.

And Table Three concerning players born outside Algeria shows the presence of a clear relative superiority of players born in the first quarter of the year ($Q1 = 53.8\%$) compared with the rest of the quarters, which recorded equal and relatively low percentages ($Q2 = Q3 = Q4 = 15.4\%$).

Category	Q1	Q2	Q3	Q4	Total	χ^2	P	Effect Size (V)	Effect
Non-Starting Players	7	2	2	2	13	3.15	>0.05	0.28	Small-Medium
(%)	53.8	15.4	15.4	15.4	100	—	—	—	—

Despite this apparent variation, the chi-square test showed that the differences between the observed and expected distribution are not statistically significant ($\chi^2 = 3.15$, $df = 3$, $p > .05$), which indicates that this difference may result from statistical chance and not from a fixed pattern.

Also, the effect size reached ($V = 0.28$), which is classified as a weak to medium effect, which reflects the presence of a limited relationship between date of birth and chances of representation in this sample.

In more detail:

- The first quarter (Q1) records the highest percentage, which indicates the presence of a tendency in favor of players born at the beginning of the year.
- The other three quarters (Q2, Q3, Q4) show balance in the percentages, but they are much lower than the first quarter.

And in general ($n = 13$), the results show initial indicators of the presence of a relative age effect among players born outside Algeria, but this effect is not statistically confirmed, which calls for caution in interpretation and the necessity of conducting additional studies on larger and more representative samples.

The table concerning the participation of starting players according to birth third shows the presence of a clear imbalance in distribution in favor of players born in the first third of the year ($Q1 = 48.8\%$), compared with the rest of the thirds, where the percentages decrease gradually in the second third (27.9%), then the third (16.3%), reaching the lowest representation in the fourth third (7.0%).

From the statistical side, the chi-square test showed that these differences are statistically significant ($\chi^2 = 15.09$, $df = 3$, $p < .01$), which indicates that this variation is not attributed to chance, but reflects a real pattern in the distribution of starting participations.

Also, the effect size reached ($V = 0.34$), which is classified as a medium effect, which indicates the presence of a considerable relationship between date of birth and number of starting participations.

In more detail:

- The first third (Q1) records the highest percentage of participations, which reflects a clear advantage for these players in being present as starters.
- The second third (Q2) shows a medium representation, but it is much lower than the first third.
- The third third (Q3) shows an additional decrease in the number of participations.
- The fourth third (Q4) represents the weakest presence, which reflects a greater difficulty for these players in obtaining chances of starting participation.

These results indicate the presence of a clear relative age effect not only in selection, but also in chances of starting participation, where players born at the beginning of the year enjoy greater chances to play as starters, which may be linked to physical and developmental factors that affect coaches' decisions.

And in general, the results indicate the presence of a relative age effect in the squad list of the Algerian national team U17, whether in the called-up list, place of development inside and outside Algeria, or in the starting lineup, where the percentage of players born in the first quarter (BQ1) was greater than those born in the fourth quarter (BQ4), with a medium to large effect percentage.

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