

**81 - EFEITO DA IDADE RELATIVA NOS CAMPEONATOS ESTADUAIS DE FUTEBOL PROFISSIONAL**FERNANDO PETROCELLI DE AZEREDO<sup>1,2</sup>ESTEVÃO VIEIRA PACHECO<sup>1</sup>ANDRÉ LEITE<sup>1</sup>HUGO PINHEIRO DE FREITAS<sup>1</sup>

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**INTRODUCTION**

The selection of talents is a methodological process that aims to frame a number of individuals within the profile established by the observer. The final result tells us who best meets the specific criteria that make up the particular type proposed by the responsible for the process. The method adopted varies according to the characteristics needed to be found (DASILVA ET AL., 2015).

In the process of training in soccer, the first contact of the youngsters can be determinant for success in the sporting modality. The criteria used by clubs to select their players are subjective, and due to the positive results collection, there is a requirement that the players demonstrate good performance in the training and in the competitions from very early on in the base categories, which can compromise their formation. It is the responsibility of clubs to identify talented players as early as possible and to provide appropriate instructions in a supportive environment so that they can achieve exceptional performance levels (BRITO ET AL., 2012).

The word talent is used to characterize people with interesting qualities or attributes in a particular culture and time. In Brazil we have a lot of talents focused on soccer, but little information about the origin of this talent. After all, is talent a genetic inheritance or do we acquire the skills over time because of the privileged environment? There is a great relationship between accumulated training and performance (ROGEL ET AL., 2013).

According to Paoli (2008), football is an aggregate of motor, technical, physical, intellectual as well as emotional, cultural and social qualities as well. Thus, club scouts are based on a particular player model that best meets the tactical needs of the game. With the evolution of physical football, the criterion in the detection of a talented player focuses on physical fitness and maturation. This makes players born in the first semester have a favor of the others in the base. A negative point, because from this, promising young people who have a late maturity are discarded.

In the sports training stage, this has resulted in possible participation, selection and performance advantages for relatively older athletes compared to younger athletes. This is due to the fact that in football, the grouping of athletes is done by age groups, for example, Under-11 years, Under-13s, Under-15s, etc., aiming at the equality of conditions for athletes competing in the same category. However, in the same category, two athletes may present age differences of 12 and up to 24 months (COSTA ET AL., 2014). This supports the asymmetry thesis that favors athletes born in the first quarter of the competitive year and neglects those who would need more time for maturity.

The comparison between dates of births involving young athletes and professionals in sports reveals a discrepant distribution that favors individuals born at the beginning of the competition year. This phenomenon is known as the effect of relative age or EIR. Studies have already been developed to determine the EIR in professional soccer players in countries such as Sweden, Germany, Japan and Australia, where there was predominance in those who were born specifically in the first quarter of the year. Recent data point to the same result in Spanish professional football players and base categories, professional players from Norway and Brazilian players both in the professional and in the base categories (RABELO ET AL., 2016).

The term "relative age" represents the fruit of different dates of birth during the same year, it is the age difference between children of the same age group. The first studies that reported the EIR (effect of relative age) were conducted in the 1980s, where the research was aimed at clarifying the reasons for learning deficits of some children in schools. Coming to the following conclusion that the youngsters born in the final months, close to the date of turning to next year, had a low income or were consistently categorized as lower IQ than others. This disadvantage accompanied the children throughout all school years. (DIAMOND, 1983).

According to Ramos Filho (2017), athletes born at the end of the year have a significant impact on sports training, harming them as they act against older athletes, even if they are only months apart. However, they will be more technical, productive and more valued in adulthood. The problem is that in order to do this it is necessary that they survive and be selected in previous phases, since athletes born at the end of the year leave the sport or are discarded. For this disparity is more evident in smaller categories and as the athletes reach adulthood this difference decreases. Some examples of other studies that point out the effect of relative age on soccer were made in Germany (GROSSMANN & LAMES, 2013), in the United States (VINCENT & GLAMSER, 2006), Spain (JIMÉNEZ & PAIN, 2008), Portugal (FOLGADO ET AL., 2006), Sweden and England (SIMMONS & PAULL, 2001), and France (DELORME ET AL., 2009). All bringing results that corroborate with the argument that the EIR favors those born in the first months of the competitive year. The effect of relative age directly influences the rise of professional athletes. There is a higher volume of players born in the first six months of the competitive year, with a higher concentration in the first quartile, compared to the others, as was already observed in the Carioca, São Paulo and Minas Gerais championships. This boosts a pre-judgment, where players born in recent months do not have fair chances to qualify and train athletically. The choice of coaches to promote relatively older players is due to the fact that immediate success is superior to the long-term commitment in training athletes to the top level (BOSCHI ET AL., 2016). The objective of this study is to verify if the effect of relative age (EIR) influences the participation of soccer players in high-performance competitions, given that previous data indicated that the EIR interferes directly in this participation.

**MATERIALS AND METHODS**

The effect of relative age (EIR) on soccer talent selection was evaluated in the following situation: the birth dates of all male professional players, semifinalists of the Carioca and São Paulo championships, A series, of 2018 were collected.

The birth dates of 689 players were collected. The information was acquired from the register of players published on the website of the Federation of Soccer of the state of Rio de Janeiro ([www.fferj.com.br](http://www.fferj.com.br)) and of the São Paulo Football Federation ([www.futebolpaulista.com.br](http://www.futebolpaulista.com.br)). The birth dates of the players were separated in quarters and the first quarter: born in the months January, February and March; 2nd quarter: born in April, May and June; 3rd quarter: born in July, August and September; 4th quarter: born in the months of October, November and December, to be then compared so that it could be concluded if there is predominance in the choice of players who were born in the first months of the year.

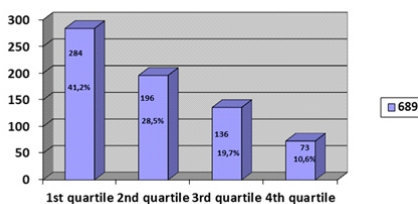
The procedure used was descriptive statistics where the data were analyzed and the population data profiles were presented. The chi-square test was used to compare the differences between quartiles. We adopted a significance level of  $p < 0.05$ . We use the program Statistic 7.0.

The results were presented through tables to facilitate the understanding and systematize the values found.

Results

Quartile	Observed	Expected
Q1	284 - 41,2%	172,25
Q2	196 - 28,5%	172,25
Q3	136 - 19,7%	172,25
Q4	73 - 10,6%	172,25
Total of Athletes	689 - 100%	

Level of significance  $p < 0,05$   
 Chi-Square:  $\chi^2 = 77.16$ ;  $p = 0.000000$



ARGUMENT

The objective of the study was to verify the effect of relative age on soccer players in high-performance competitions. In the specific case the semifinalists of the carioca and paulista of 2018.

It was evident from the results found that there is a predominance of players born in the first and second quartile within these high-performance teams. This completes the claim of other authors that the effect of relative age influences player selection. Paoli (2008), for example, emphasized the evolution of physical football, which as a consequence anticipated maturation in the detection of a talent. This concept causes players to remain late in their previous choices, and the memorization observed is a maturity difference between the two teams.

Rabelo (2016) points out that the EIR presents itself in other European countries, exposing the fact that it is not only a national trend. And it is in the basic categories that this numerical superiority occurs in athletes born in the first months of the year. The result of this study, with the semifinalists from Rio de Janeiro and São Paulo, resemble the result found by Rabelo in professional players from Sweden, Germany, Japan and Australia, where there was a greater disparity in the number of athletes born specifically in the first quartile.

The first studies on the effect of the relative age made by Diamond (1983) argue the low income in the learning of young people born at the end of the year when compared to those born at the beginning of the year. Many were even categorized as having lower IQ than others. This raises the question that cognitive development is also influenced by the EIR. If we take into account the development of grassroots football, EIR affects not only the physical maturation of young athletes but also the understanding and tactical notions of play. Again giving credit to the elders within the same age group.

Ramos Filho (2017) says that players born at the end of the year tend to be more productive and technical, being more valued in adulthood. But for this to occur it is necessary that they overcome the obstacle of the selective. It then needs a reflection on the part of the base regarding the decision making. Also noteworthy is the EIR present in the study in other countries, such as Grossmann & Lames (2013), for example, who identified the effect of relative age on the transition from base to professional Bundesliga (German professional football league) between 2010 and 2012, analyzing all sub 17, sub 19 and professional teams as well as the German men's and women's selection in 2012. Since the maturity difference is most evident in the early stages of the base, decision-making in talent selection should lead in the EIR.

CONCLUSION

The result of this study concluded that the effect of relative age (EIR) influences the transition of soccer players to the base and participation in high-income competitions. In the semifinalist teams of the Carioca and Paulista championship of 2018, there was a higher number of players with birth dates in the first half of the year and with a more significant volume of births between January and March.

It should be noted that at the bottom there is a need for immediate success, which leaves the long-term commitment to training second to none. This scenario favors the EIR, which promotes an advantage to more mature players within the same age group. As a consequence, those born in the first semester, with an emphasis on the first quartile, leave in front of the others with regard to the choice of talents. Boschi (2016) argues about this, which leads us to think that the criterion in the selection of the players needs to be paid attention to the effect of relative age.

Long-term studies are needed to see if this EIR factor decreases, and to seek a better criterion in decision-making when selecting athletes. It is important to think about pedagogical approaches and to put them into practice, in order to propose equal chances among players. Brito (2012) emphasizes that clubs are responsible for training, and should offer the best instructions and provide the best environment for players to reach the peak of their talents. One raised strategy would be to divide the categories into two groups, placing those born in the first semester in team A and those born in the second semester in team B, in order to reduce the disadvantages of maturation among athletes.

All this understanding will provide fair chances for many talents that are lost in the training process and who cannot access high-performance competitions such as the Carioca and Paulista championship.

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## Abstract

The objective of this study was to verify if the effect of relative age (EIR) influences the participation of soccer players in high-performance competitions, in an analysis done in the semi-finalists of the Carioca and Paulista football championships. The birth dates of 689 players were collected. The information was acquired from the register of players published on the website of the Federation of Soccer of the state of Rio de Janeiro ([www.fferj.com.br](http://www.fferj.com.br)) and of the São Paulo Football Federation ([www.futebolpaulista.com.br](http://www.futebolpaulista.com.br)). The birth dates of the players were separated in quarters and the first quarter: born in the months January, February and March; 2nd quarter: born in April, May and June; 3rd quarter: born in July, August and September; 4th quarter: born in the months of October, November and December, to be then compared so that it could be concluded if there is predominance in the choice of players who were born in the first months of the year. The procedure used was descriptive statistics where the data were analyzed and the population data profiles were presented. The chi-square test was used to compare the differences between quartiles. We adopted a significance level of  $p < 0.05$ . The result of this study concluded that the effect of relative age (EIR) influences the transition of soccer players to the base and participation in high-income competitions. A higher number of players were observed, with birth dates for the first semester (69.7%) and a more significant volume of births between January and March (41.2%).

Key-Words: Football, Relative age, Selection of talents.

## RÉSUMÉ

L'objectif de cette étude c'était vérifier si l'effet de l'âge relative (EAR) a influence dans la participation des joueurs de football dans compétitions de haut rendement, à travers d'une analyse des demi-finalistes des championnat carioca et paulista de football. Ont été collectées date de naissance de 689 joueurs. Les informations étaient acquies à travers du cadastre de joueurs publié au site de la Fédération de Football de Rio de Janeiro ([www.fferj.com.br](http://www.fferj.com.br)) et de la Fédération de Football de Sao Paulo ([www.futebolpaulista.com.br](http://www.futebolpaulista.com.br)). Le date de naissance des joueurs ont été divisées en trimestres, en étant le premier trimestre : ceux nées dans les mois de janvier, février et mars ; deuxième trimestre : ceux nées dans les mois de avril, mai et juin ; troisième semestre : ceux nées dans les mois de juillet, août et septembre ; et quatrième trimestre ceus nées dans les mois de octobre, novembre et decembre, pour que alors puissent être comparés entre eux afin de conclure s'il y a prédominance dans le choix des joueurs nées aux premiers mois dell'année. La procédure utilisée c'était la statistique descriptive, où les données étaient analysés et présenté les profils de la population. C'était effectué l'essai « chi carée » pour la comparaison entre les carées. Ç'a adopté un niveau de signification de  $p < 0,05$ . Le résultat de cette étude a conclu que l'effet de l'âge relative (EIR) a influence sur la transition des joueurs de football dans la base et dans leur participation aux compétitions de haut rendement. Où il a été observé un numéro supérieur des joueurs avec la date de naissance au premier semestre (69,7%) et avec un volume plus significatif des nées entre janvier et mars (41,2%).

Mots Clés : Football, L'âge relative, Sélection de talents.

## RESUMEN

El objetivo de este estudio fue verificar si el efecto de la edad relativa (EER) influye en la participación de jugadores de fútbol en competiciones de alto rendimiento, en un análisis realizado en los semifinalistas de los campeonatos carioca y paulista de fútbol. Se recolectaron las fechas de nacimiento de 689 jugadores. La información fue adquirida a partir del registro de jugadores publicado en el sitio de la federación de fútbol del estado de Rio de Janeiro ([www.fferj.com.br](http://www.fferj.com.br)) y São Paulo ([www.futebolpaulista.com.br](http://www.futebolpaulista.com.br)). Las fechas de nacimiento de los jugadores se separaron em trimestres siendo: el primer trimestre

nacidos en los meses de enero, febrero y marzo; el segundo trimestre los nacidos en los meses de abril, mayo y junio; tercer trimestre nacidos en julio, agosto y septiembre y cuarto trimestre los nacidos en octubre, noviembre y diciembre. Para entonces comparadas entre sí para que se pudiera concluir si existe predominio en la elección de jugadores que nacieron en los primeros meses del año. El procedimiento utilizado fue la estadística descriptiva donde los datos fueron analizados y presentados los perfiles de los datos de la población. Se realizó la prueba qui-cuadrada para la comparación de las diferencias entre cuartiles. Se adoptó un nivel de significancia de  $p < 0,05$ . El resultado de este estudio concluyó que el efecto de la edad relativa (EER) influye en la transición de jugadores de fútbol en la base y en la participación en competiciones de alto rendimiento. Donde se observó un número superior de jugadores con fechas de nacimiento dirigidas al primer semestre (69,7%) y con un volumen más significativo de nacidos en enero y marzo (41,2%).

Palabras Clave: fútbol, edad relativa, selección de talentos.

#### RESUMO

O objetivo deste estudo foi verificar se o efeito da idade relativa (EIR) influencia na participação de jogadores de futebol em competições de alto rendimento, em uma análise feita nos semifinalistas dos campeonatos carioca e paulista de futebol. Foram coletadas as datas de nascimento de 689 jogadores. As informações foram adquiridas a partir do cadastro de jogadores publicado no site da Federação de futebol do estado do Rio de Janeiro ([www.fferj.com.br](http://www.fferj.com.br)) e da federação paulista de futebol ([www.futebolpaulista.com.br](http://www.futebolpaulista.com.br)). As datas de nascimento dos jogadores foram separadas em trimestres sendo o 1º trimestre: nascidos nos meses janeiro, fevereiro e março; 2º trimestre: nascidos nos meses abril, maio e junho; 3º trimestre: nascidos nos meses julho, agosto e setembro; 4º trimestre: nascidos nos meses outubro, novembro e dezembro, para serem então comparadas entre si para que se pudesse concluir se existe predominância na escolha dos jogadores que nasceram nos primeiros meses do ano. O procedimento utilizado foi a Estatística descritiva onde os dados foram analisados e apresentados os perfis dos dados da população. Foi realizado o teste qui-quadrado para a comparação das diferenças entre quartis. Adotou-se um nível de significância de  $p < 0,05$ . O resultado deste estudo concluiu que o efeito da idade relativa (EIR) influencia na transição de jogadores de futebol na base e na participação em competições de alto rendimento. Onde foi observado um número superior de jogadores com datas de nascimentos voltadas para o primeiro semestre (69,7%) e com um volume mais significativo de nascidos entre janeiro e março (41,2%).

Palavras Chave: Futebol, Idade relativa, Seleção de talentos.