171 - THE RELATIVE AGE (R.A.) EFFECTC IN THE FORMATION OF THE MALE SOCCER TEAMS THAT PARTICIPATED IN THE RIO 2007 PAN-AMERICAN GAMES.

CARLOS A. PAES; MARIO A. MAZZUCO; JULIMAR L. PEREIRA.
Federal University of Parana, Curitiba, Paraná, Brasil.
Cadre_Paes@hotmail.com

Introduction

Soccer is one of the most popular sports in the world. According to a research made by the International Soccer Federation (FIFA - *Fédération Internationale de Football Association*), the world's most powerfull soccer entity, approximately 240 million people regularly practice this sport all around the world. This research classify t soccer as the major sport in the world. In Brazil, for example, the research showed that almost 7 million people practices it.

BAKER (2003) cited that BARROW & McGEE (1971) already affirmed that not only in schools that sports gather people by age as a form of equalyzing competition. In soccer also thats the most commom way to separate individuals in categories.

However, considerating only the cronological age would not be the perfect way of avaliating the individuals if you consider that people with the same cronological age do not always have the same growing and maturing speed.

In a competitive sport it observes that several times individuals born in the first months of the year are numerically superior then the ones born in the last months of the year. Studies involving 10 european national teams in the categories sub-15, sub-16, sub-17, Helsen et al (2005) concluded that in the formation of all these teams there is a predominance of athletes born in the first trimester of the year.

The age difference among individuals of a same ethary group or "school year" is called *relative age* and its consequence is called Relative Age Effect -REA- (Musch e Grondin, 2001). Barnsley, Thompson & Legault (1992) describes the relative age effect as the total difference in the age among individuals inside every different age group, that can result significant differences of perfomance. BAKER (2003) believes that the effect of the relative age is a factor that can influence in the acquisition of the skills. Barnsley e Thompson (1988); Barnsley et o al. (1985) in a study involving NHL (national hockey league) players, developed the hypothesys that players born in the firsts months of the year were taller, stronger, faster and more coordinated having, in this way, more success as a hockey player than the ones born later.

Several studies demonstrate that the relative age effect interferes in the arrangement of competitive teams, by checking the high prevalence of athletes born in the first semester of the year.

According to this, the present objective of this study is to verify the Relative Age Effect in the formation of the participating teams in the 2007 pan-american games, held in Rio de Janeiro, Brazil.

Methodology

The used data in this research is the Pan-American Games registration form of all athletes, found in the main website of the event: www.rio2007.org.br .

All 222 enrolled athletes of the 12 teams involved in the competition, were divided in two groups: *First semester* (born between 1st of january and june 30rd) and *Second semester* (born between july 1st and december 31st).

The *software SPSS 13.0* was used for the analysis of the data. Binomial with "test proportion" established in 0,50 with p0,05 was used for non-parametric tests.

Results and discussion

The table 1.0 shows the sample, the number of athletes born in the first and second semester and the level of significance (p).

Toda a Amostra (n=222)				
Teams	**N**	**1°sem**	**2°sem**	**p**
All	222	150	72	0,00

Analyzing all the samples data, there is a higher prevalence of individuals born in the first semester (150) over the ones born in the second semester (72) with a p = 0,000.

In a study involving rookie players from NHL , national hockey league from North América, Barnsley e Thompson (1988) found a significance level very similar to the one showed in this study, p < 0,01.

Another study involving 10 different national teams from the sub15, sub16, sub17, and sub18 categories Helsen et al. (2004) showed that 43,86% of the athleter were born in the first trimester and 9,31 were born in the last trimester of the competitive year. The significance level of this study was similar to the present study p<0,01.

The table 2.0, shows the N, the groups, the observed frequency and the level of significance of each team.

RAE (n=222)				
Teans	**N**	**1°sem.**	**2°sem.**	**p**
Argentina	18	15	03	0,00**
Bolívia	18	15	03	0,00**
Brazil	18	13	05	0,09
Colômbia	22	15	07	0,13
Costa Rica	18	13	05	0,09
Equador	18	10	08	0,81
USA	18	11	07	0,48
Haiti	18	09	09	1,00
Honduras	19	13	06	0,16
Jamaica	18	12	06	0,23
México	18	13	05	0,09
Venezuela	19	11	08	0,68

**p<0,01

Analyzing each team's data, it can be said that equatorian team, 1st place in the competition (p = 0,815) and the jamaican team, 2nd place (p = 0,238) didnt showed a significant relative age effect. However, the Bolivian and Argentinan teams, that didnt had a impressive perfomance in the competition, both had an significant relative age effect (p=0,008).

Mazzuco et al. (2006) also verified in a study with similar results that there was no difference among all the teams from the 2005 Confederation Cup held in Germany, Mazzuco's study also showed that the championship winner showed a unbalanced quantity of athletes that were born in the first six months of the year.

CONCLUSION

It concludes with this study that the relative age effect is not associated with the team's final perfomance in the Pan-American games, therefore the only 2 teams that had a significant relative age effect did not made the final games, even considering that all the analysed teams the number of athletes born in the firts semester prevailed.

The present study also indicates the need of more researchs in this area, considering not only the a large number of samples, but also separating all the analised data by teams.

Bibliography

BAKER, J.; HORTON, S.; ROBERTSON, J. and WALL, M. **Nurturing Sport Expertise: Factors Influencing the Development of Elite Athlete.** Journal of Sports Science and Medicine 2, 1-9, 2003.

BARNSLEY, R. H., THOMPSON, A. H. and BARNSLEY, P. E. **Hockey success and birthdate: The relative age effect**. Canadian Association of Health, Physical Activity, Exercise, and Recreation Journal 51, 23-28, 1985.

BARNSLEY, R. H. AND THOMPSON, A. H. **Birthdate and success in minor hockey: The key to the NHL**. Canadian Journal of Behavioral Science 20, 167-
1988.

BARNSLEY, R. H.; THOMPSON, A. H.; LEGAULT, P. **Family planning: Football style. The relative age effect in football**. International Review of Sociology, 27, 78 - 87, 1992.

BARROW, H. M. AND MCGEE, R. **A practical approach to measurement in physical education**. Philadelphia: Lea & Febiger. 1977.

HELSEN, W.F; WINCKEL, J.V. e WILLIAMS, M. **The relative age effect in youth soccer across Europe**. Journal of Sports Sciences, 23 (6), 629-36, 2005.

MAZZUCO, M.A. **O efeito relativo da idade em atletas de profissional na Copa das Confederações da Alemanha/2005.**

MUSCH, J e GRONDIN, S. **Unequal competition as an impediment to personal development: a review of the relative age effect in sport**. Developmental Review, 21, 147-67, 2001.

End.: Rua Guglielmo Marconi, n°870, casa 10.
Tel.: 3367-2307.
E-mail: cadre_paes@hotmail.com

THE RELATIVE AGE (R.A.) EFFECTC IN THE FORMATION OF THE MALE SOCCER TEAMS THAT PARTICIPATED IN THE RIO 2007 PAN-AMERICAN GAMES.

ABSTRACT

The objective of this descriptive article is to verify the effects of the relative age in the formation of the participating teams in the pan-american games, held in Rio de Janeiro, Brazil, in the year of 2007. The used data in this research is the Pan-American Games registration form of all athletes, found in the main website of the event: www.rio2007.org.br .

All 222 enrolled athletes of the 12 teams involved in the competition, were divided in two groups: *First semester* (born between 1st of january and june 30rd) and *Second semester* (born between july 1st and december 31st). The *software SPSS 13.0* was used for the analysis of the data. Binomial with “test proportion” established in 0,50 with p0,05 was used for non-parametric tests. Of the 222 athletes, 150 (68%) were classified in the “first semester” group and 72 (32%) were classified in the “second semester group”, with a p = 0,000. The equatorian team, 1st place in the competition (p = 0,815) and the jamaican team, 2nd place (p = 0,238) didnt showed a significant relative age effect. However, the Bolivian and Argentinan teams, that didnt had a impressive perfomance in the competition, both had an significant relative age effect (p=0,008). In this case, concludes that the relative age effect is not associated with the team's final perfomance in the Pan-American games, therefore the only 2 teams that had a significant relative age effect did not made the final games, even considering that all the analysed teams the number of athletes born in the firts semester prevailed.

KEY WORDS: effects of the relative age, perfomance, soccer.

RÉSUMÉ

C'étude, de caractéristique descriptive , a pour objectif vérifie l'effet de l'âge relatif dans la formation de les equipes participant de les Jouers Pan-Américain de 2007, realize dans la ville du Rio de Janeiro, Brésil. Les números utilize dans la investigation sont lequels constant dans la inscription des les athléte dans les Jouers Pan-Américain Rio 2007, encontre dans le site officiel de le l'occurrence: www.rio2007.org.br. A considérer les 222 inscrire pour les 12 sélections participant, il y a divise les athlétes en deux catégorie: 1ème semestre (1º janvier jusque a 30 juin) et le 2ème semestre (1º julliet jusque a 31 décembre). Par l'analyse de les numéros il y a utilize le software SPSS 13.0 pour test non-paramétrique binominal avec “test proportion” stabiliser en 0,50 avec ≤ 0,05. Des les athlétes, 150 (68%) ont encontrent dans la catégorie 1ème semestre et, 72 (32%), dans la catégorie 2ème semestre, avec p=0,000. Les sélections du Equador, 1ème lieu avec p=0,815 et Jamaica, 2ème lieu avec p=0,238 ne pas présentent l'effet de l'âge relatif significatif, mais, les sélection de Bolivie et Argentine, qui ne pas ont obteni rendement expressif dans les Jouers Pan-Américain, ont obtenit p=0,008, a présent l'effet de l'âge significatif. Dans c'étude, on peut conclure qui l'effet de l'âge relatif ne pas présent association avec le rendement final de les jouers, parce que les uniques sélections qui a obtenit cette différence ne pas arrivé a dispute le titre, même au considere qui dans en toutes sélection analyse prevalait les qui on nais durant le premier semestre.

MOTS CLÉS: L'effet de l'âge relatif, rendement, football

RESUMEN

Este estudio, de característica descriptiva, tiene por objetivo verificar El Efecto de la Edad Relativa (EIR) en la formación de los equipos participantes de los juegos Pan-Americanos de 2007, realizados en la ciudad de Rio de Janeiro. Los

dados utilizados en la investigación son aquellos constantes de la inscripción de los atletas en los juegos Pan-Americanos Rio 2007, de encuentro en el sitio oficiale del evento: www.rio2007.org.br. Al considerar los 22 inscriptos por las 12 selecciónes participantes, hubo separación de los atletas en dos categorías: 1º semestre (1º de enero a 30 de junio) e 2º semestre (1º de julio a 31 de deciembre). Para la análisis de los dados hubo uso de el software SPSS 13.0 para las pruebas que no tienen coordinadas *binominal* con "test proportion" establecido en 0,50 con p0,05. De los 222 atletas, 150 (68%) se encuetran en la categoría 1º semestre y, 72 (32%), en la categoría 2º semestre, con p=0,000. Las selecciónes Del Equador, 1ª colocación con p=0,815 y Jamaica, 2ª colocación con p=0,238 no tuvieron EIR sificativo, sin embargo, las selecciónes de Bolívia y Argentina, que no tuvieron rendimiento expresivo en los juegos Pan-Americanos, resultaron ambas p=0,008, EIR significativo. En este caso, la conclusión es que el EIR no representa associación con el desempenho finale de los juegos, pues las unicas selecciones que obtivieron esa diferencia no llegaron a intentar el titulo, mismo al considerar que en todas las selecciones estudiadas, el que prevalecía eran los nascidos durante el primerosemestre.

PALABRAS CLAVE: El Efecto de la Edad Relativa, rendimiento, fútebol.

O EFEITO DA IDADE RELATIVA (EIR) NA FORMAÇÃO DAS EQUIPES DE FUTEBOL MASCULINO PARTICIPANTES DOS JOGOS PAN-AMERICANO RIO 2007

RESUMO

Este estudo, de característica descritiva, tem por objetivo verificar o Efeito da Idade Relativa (EIR) na formação das equipes participantes dos Jogos Pan-Americanos de 2007, realizados na cidade do Rio de Janeiro, Brasil. Os dados utilizados na investigação são aqueles constantes da inscrição dos atletas nos Jogos Pan-Americanos Rio 2007, encontrados no site oficial do evento: www.rio2007.org.br. Considerando os 222 inscritos pelas 12 seleções participantes, dividiram-se os atletas em duas categorias: 1° semestre (1° de janeiro a 30 de junho) e 2° semestre (1° de julho a 31 de dezembro). Para a análise dos dados utilizou-se o *software SPSS 13.0* para testes não-paramétricos *binominal* com *"test proportion"* estabelecido em 0,50 com p0,05. Dos 222 atletas, 150 (68%) encontram-se na categoria 1º semestre e, 72 (32%), na categoria 2° semestre, com p=0,000. As Seleções do Equador, 1ª colocada com p=0,815 e Jamaica, 2ª colocada com p=0,238 não apresentaram EIR significativo, porém, as seleções da Bolívia e Argentina, que não tiveram desempenho expressivo nos jogos Pan-Americanos, obtiveram ambas p=0,008, apresentando EIR significativo. Neste caso, conclui-se que o EIR não apresenta associação com o desempenho final dos Jogos, pois as únicas seleções que obtiveram essa diferença não chegaram à disputar o título, mesmo ao considerar que em todas as seleções analisadas prevalecia os nascidos durante o primeiro semestre.

PALAVRAS-CHAVE: efeito relativo da idade, alto rendimento, futebol.