A RESEARCH ON THE ROLE OF
RELATIVE AGE EFFECTIVENESS
IN SPORTS TERMINATION

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Abstract:

Development in children; may vary according to the growth stages. Therefore, the age factor is one of the most controversial topics in child training. Children belonging to the same age group develop at different speeds and at different times according to each other. Because of the rapid development of childhood during puberty, even during the birth of the age of the developmental superiority can be seen even at birth. This suggests that children may fall into disadvantages within the same age group, according to the birth month. It is believed that children are affected by this disadvantage as well as external factors in sport finishing. The Naili Moran Age Groups Races organized by the Turkish Athletics Federation (TAF) to strengthen infrastructure work include sportspeople aged 12-15 years. The study was based on the participation of these age groups for the 2016 and 2017 seasons, and the data was downloaded from the TAF website. In the study, the achievement levels of 328 athletes (n = 172) and male (n = 156) were examined. In this study, four quarters of a year were separated and success and failure rates of the athletes were determined according to the quarters. For statistical analysis, in the SPSS 22.0 program, independent samples t test, one way ANOVA and LSD correction tests were used. When the months of birth of the male and female athletes were examined, it was seen that the births were higher in the first quarter of the year for each age group. It was observed that the athletes born in the first quarter were more successful than the athletes born in the other quarters. It was

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determined that the athletes who continued the sports in the following year (2017) were successful and the athletes who had dropped in the following year had a failed year in the 2016 season. It is thought that the bad grades obtained in the termination of the sport are influenced and the success status is due to the Relative Age Effect.

Keywords: relative age, athletic, sports termination

1. Introduction and Objective

Development in children; may vary according to the growth stages. Therefore, the age factor is one of the most controversial topics in child training. Children belonging to the same age group develop at different speeds and at different times according to each other. "*It has been suggested that the size of the relative age effect may be affected by additional maturational variation at ages associated with the onset of puberty, generally applicable at the ages of 13-15 in boys and 12-14 in girls*" (Musch, Grondin, 2001). Because, during the adolescence period when child development is rapid, developmental superiority can be seen even in births during the different months of the year. "*RAE is especially relevant during the adolescence years, due to the fact that physical characteristics are related to an increased chronological age*" (Burgess, et al., 2010).

This suggests that children may fall into disadvantages within the same age group, according to the birth month. The influence of relative age can lead to physical differentiation, which can influence coaches who want to succeed. "*Coaches may focus more attention on those players with greater physical prowess. It is very likely that increased training for relatively older players at the younger ages perpetuates an early relative age effect. This training benefit becomes an increasing advantage for the older players as they reach the late adolescent ages*" (Williams, 2010). It is thought that children are affected by this disadvantage as well as external factors in the termination of sport.

2. Method

Turkey Athletics Federation (TAF), to strengthen their infrastructure Nail made by Moran Age Group Race covers 12-15 age group athletes. The study was based on the participation of these age groups for the 2016 and 2017 seasons, and the data was downloaded from the TAF website. In the study, the achievement levels of 328 athletes (n = 172) and male (n = 156) were examined. In this study, four quarters of a year were separated and success and failure rates of the athletes were determined according to the quarters. In the statistical analysis, independent sample t test, one way ANOVA test

and LSD correction were used in SPSS 22.0 package program besides frequency and percentage analysis

3. Findings

In the study, the months in which the male and female athletes were born were determined and classified as gore for a quarter of a century. Through this classification, the success conditions and therefore the reasons for failure of the unsuccessful athletes have been determined. For every age group, athletes born in the first quarter were found to be more successful than the ones born in the other quarter. The unsuccessful athletes have been observed to have continued unsuccessful or abandoned sports on the next attempt. Some findings in the research are shown below.

Table 1: Distribution of Girl Athletes by Birth Calendar

	January	February	March	April	May	June	July	August	September	October	November	December	Total
12 Age	7	7	5	8	3	9	5	6	4	3	0	2	59
%	%11.86	%11.86	%8.47	%13.56	%5.09	%15.25	%8.47	%10.17	%6.78	%5.09	%0.00	%3.40	%100
13 Age	10	7	7	8	7	3	1	5	5	2	7	2	64
%	%15.63	%10.94	%10.94	%12.50	%10.94	%4.69	%1.56	%7.81	%7.81	%3.12	%10.94	%3.12	%100
14 Age	8	3	5	4	4	3	5	7	2	4	1	3	49
%	%16.33	%6.12	%10.21	%8.16	%8.16	%6.12	%10.21	%14.29	%4.08	%8.16	%2.04	%6.12	%100

Table 1 gives the distributions of female athletes by month of birth. When the table is examined, it is seen that the individuals born in the first months of each age group are higher.

Table 2: Distribution of male athletes by birth calendar

	January	February	March	April	May	June	July	August	September	October	November	December	Total
13 Age	4	6	8	3	6	7	3	3	7	11	6	1	65
%	%6.15	%9.23	%12.31	%4.62	%9.23	%10.77	%4.62	%4.62	%10.77	%16.92	%9.23	%1.53	%100
14 Age	12	6	3	10	11	6	10	3	4	15	6	3	89
%	%13.48	%6.74	%3.37	%11.24	%12.36	%6.74	%11.24	%3.37	%4.49	%16.86	%6.74	%3.37	%100

In Table 2, distributions of male athletes by month of birth are given. When the table is examined, it is seen that the individuals born in the first six months in the two age group are higher.

Table 3: Quarterly Distributions of Female Athletes by Month of Birth

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
12 Age	19	20	15	5	59
%	%32.20	%33.90	%25.42	%8.48	%100
Degree	28.89	36.64	36.00	37.20	
13 Age	24	18	11	11	64
%	%37.50	%28.12	%17.19	%17.19	%
Degree	26.75	34.44	33.09	38.55	
14 Age	16	11	14	8	49
%	%32.65	%22.45	%28.58	%16.32	%100
Degree	27.13	13.73	23.57	28.87	

Table 3 gives the distributions of the female athletes according to the trimester they were born with. When the table is examined, it is seen that the individuals born in the first two trimesters in each age group are higher. In addition, when grades were examined, it was seen that the grades of the individuals born in the first two trimesters were lower.

Table 4: Quarterly Distributions of Male Athletes by Month of Birt

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
13 Age	18	16	13	18	65
%	%27.69	%24.62	%20.00	%27.69	%100
Degree	22.44 a,b,c	30.06 b,c	36.62 c	41.89	
14 Age	21	27	17	24	89
%	%23.60	%30.34	%19.10	%26.96	%100
Degree	32.33 a,b,c	41.56 b,c	47.28 c	55.48	
a-Significant difference from the 2nd quarter, b-Significant difference from the 3rd Quarter, c-Significant difference from the 4th quarter					

Table 4 gives the distributions of male athletes according to the trimester they were born. When the table is examined, it is seen that the individuals born in the first two trimesters in each age group are higher. When the grades were examined, it was seen that the individuals born in the first trimester had lower levels of the individuals born in the second trimester than those in the other trimester, and those born in the third trimester had lower levels than those in the last trimester.

Table 5: 2016-2017 Season Comparison of 12-Year-Old (2004) Girl Athletes

2016 - 2017 Athletes in Progress				
1st Quarter	**2nd Quarter**	**3rd Quarter**	**4th Quarter**	**Total**
10	9	4	1	24
%41.66	%37.50	%16.67	%4.17	%100
26.50 puan	39.36 puan	67.50 puan	82.00 puan	
2017 Sports Releases				
1st Quarter	**2nd Quarter**	**3rd Quarter**	**4th Quarter**	**Total**
9	11	11	4	35
%25.71	%31.43	%31.43	%11.43	%100
31.55 point	33.90 point	30.27 point*	26.00 point	
* There is a significant difference between those who continue and those who quit				

In Table 5, the ratios of the 12-year-old girl athletes to those who continue and leave the spore are given. The dropping of the athletes is lower than that of the lower grades.

Table 6: 2016-2017 Season Comparison of 13-Year-Old (2003) Girl Athletes

2016 - 2017 Athletes in Progress				
1st Quarter	**2nd Quarter**	**3rd Quarter**	**4th Quarter**	**Total**
12	8	5	3	28
%42.86	%28.57	%17.86	%10.71	%100
19.58 point	30.62 point	26.20 point	28.00 point	
2017 Sports Releases				
1st Quarter	**2nd Quarter**	**3rd Quarter**	**4th Quarter**	**Total**
12	10	6	8	36
%33.33	%27.78	%16.67	%22.22	%100
33.91 point	37.50 point	38.83 point	42.50 point	

Table 6 shows the percentage of 13-year-old girl athletes continuing and leaving the spore. It is shown that the athletes of the ongoing players have lower ratings.

Table 7: 2016-2017 season comparisons of 14-year-old (2002) girl athletes

2016 - 2017 Athletes in Progress				
1st Quarter	**2nd Quarter**	**3rd Quarter**	**4th Quarter**	**Total**
4	3	4	1	12
%33.33	%25.00	%33.33	%8.34	%100
16.75 point	5.66 point	9.75 point	1.00 point*	
2017 Sports Releases				
1st Quarter	**2nd Quarter**	**3rd Quarter**	**4th Quarter**	**Total**
12	8	10	7	37
%32.43	%21.62	%27.03	%18.92	%100
30.58 point	16.75 point	29.10 point	32.86 point	
*There is a significant difference between those who continue and those who quit				

In Table 7, ratios of 14-year-old girl athletes to those who continue and leave the spore are given. The running athletes have lower ratings.

Table 8: 2016-2017 Season Comparison of 13-Year-Old (2003) Male Athletes

2016 - 2017 Athletes in Progress				
1st Quarter	**2nd Quarter**	**3rd Quarter**	**4th Quarter**	**Total**
8	4	3	1	16
%50.00	%25.00	%18.75	%6.25	%100
21.25 point	13.50 point *	33.33 point	37.00 point	
2017 Sports Releases				
1st Quarter	**2nd Quarter**	**3rd Quarter**	**4th Quarter**	**Total**
10	12	10	17	49
%20.41	%24.49	%20.41	%34.69	%100
23.40 point	35.58 point	37.60 point	42.17 point	
*There is a significant difference between those who continue and those who quit				

In Table 8, the ratios of 13-year-old male athletes to those who continue and leave the spore are given. The running athletes have lower ratings.

Table 9: 2016-2017 Season Comparison of 14-Year-Old (2002) Male Athletes

2016 - 2017 Athletes in Progress				
1st Quarter	**2nd Quarter**	**3rd Quarter**	**4th Quarter**	**Total**
10	14	6	0	30
%33.33	%46.67	%20.00	%0.00	%100
36.10 point	30.00 point *	39.50 point	0 point	
2017 Sports Releases				
1st Quarter	**2nd Quarter**	**3rd Quarter**	**4th Quarter**	**Total**
11	13	13	24	61
%18.04	%21.31	%21.31	%36.34	%100
28.90 point	54.00 point	51.16 point	55.48 point	
*There is a significant difference between those who continue and those who quit				

In Table 9, the ratios of 14-year-old male athletes to those who continue and leave the spore are given. The running athletes have lower ratings.

4. Conclusion

When the months of birth of the male and female athletes were examined, it was seen that the births were higher in the first quarter of the year for each age group. Badkoglu and Beşer'in basketball infrastructure in the research conducted in the same results came out in the research. "*According to the results of the analysis, it was determined that there was a statistically significant difference in the accumulation in the first months of the year, especially between the January and March months*" (Badkoğlu-Beşer, 2015). The results in Tables 3 and 4 show us that male and female athletes concentrate in the first two quarters.

According to the research that Arslan and his colleagues had done in professional soccer leagues, similar results were obtained "*reveals that the majority of all*

athletes in the sample are in Ç1, then in Ç2, Ç3 and Ç4 respectively" (Arslan ve diğerleri, 2017).

It was observed that the athletes born in the first quarter were more successful than the athletes born in the other quarters. It was determined that the athletes who continued the spore in the following year (2017) were successful and the athletes who had dropped in the following year had a failed year in the 2016 season. "*However, research in different sports has found that athletes born early within the selection year are more likely to be selected for elite teams and talent development programs than those born later in the same year*" (Augste and Lames, 2011; Delorme and Raspaud, 2009; Ulbricht, et al., 2015). It is thought that the bad grades obtained in the termination of the sport are influenced and the success status is due to the Relative Age Effect.

Similar concerns are expressed by other researchers interested in this topic: "*the marked relative-age effects in athletics must exclude some talented younger athletes from youth and junior championships and presumably discourage them from continuing to senior championships. The consequences are a lower overall standard of performance and, for some athletes, termination of involvement in athletics before realising their full potential. An alternative structure and calendar is needed to make youth and junior athletics championships more equitable*" (Stephen, et al., 2014). In addition, younger age groups can be targeted for events where all the athletes of the festival are awarded rather than the competition environment. When the findings are examined, it is seen that at least two separate competition groups should be planned in one age group and not in the annual competition calendar. On this count, there may be a chance for athletes born in the last quarter. The effect of relative age can also be reduced in this way.

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