

## High School Students' Awareness of Track and Field: The Case of the IAAF World Indoor Track and Field Championships

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### Abstract

This study aims to analyze the effect of the IAAF World Indoor Track and Field Championships on high school students' awareness of the sports of track and field in the host city, Istanbul Turkey. Descriptive statistics and logistic regression were applied to the data collected from total 5,262 high school students before and after the event. Two groups of questions were asked of the students as participants and spectators. The main empirical findings indicate that the most significant factors that inhibit high school students' ability to participate in track and field activities are lack of interest and time. Also, more than 25 percent of the students said that factors keep them from participating in track and field are lack of knowledge of how to participate and lack of access to a track/facility. Additionally, it was observed that female students who are interested in track and field would like to learn and participate in these activities more so than their male peers. Another significant finding is that this tournament considerably increased awareness of both female and male students. At this point, this study tries to draw attention to the importance of sponsoring this kind of sports organization for students and encouraging local and governmental sports authorities to host events in their cities.

### Öz

Bu çalışma Uluslararası Atletizm Federasyonu tarafından düzenlenen Dünya Atletizm Şampiyonasının ev sahibi şehirdeki lise öğrencileri üzerinde bu spora karşı bir farkındalık yaratıp yaratmadığını ortaya koymayı amaçlamaktadır. Bunun için turnuva öncesi ve sonrası olmak kaydıyla toplam 5265 öğrenci ile bir anket çalışması gerçekleştirilmiştir. Sorular bu spora öğrencilerin aktif olarak katılımcı ve izleyici olmaları durumuna göre iki grupta oluşturulmuştur. Çalışmanın en temel bulgularından birisi ortaya koymaktadır ki öğrencilerin atletizm etkinliklerine katılmasına en büyük iki engel atletizme ilgilerinin ve zamanlarının olmayışıdır. Ayrıca, ankete katılan öğrencilerin %25'inden fazlası atletizm tesislerinin eksikliğinden ve atletizm etkinliklerine nasıl katılacaklarını bilmeyişinden dolayı katılmadığını bildirmiştir. Bir diğer önemli bulgu ise atletizme ilgisi olan kız öğrencilerin atletizmi öğrenme ve katılma isteklerinin erkek öğrencilerden çok daha fazla olmasıdır. Ayrıca söz konusu bu turnuvanın ankete katılan öğrenciler üzerinde bu spora ait farkındalıklarını arttırdığı gözlemlenmiştir. Dolayısıyla bu noktada yerel ve hükümet yöneticileri gençlerin sportif faaliyetler katılımlarını arttırmak için bu tür turnuvaların bölgelerinde çokça düzenlenmesini sağlamalıdır.

### Introduction

In recent decades, studies have examined the local impacts of mega-events such as the Olympics, Climbing World Cup, World Cup of Soccer, the World Track and Field Indoor Championship, etc. (Giampiccoli, Lee, & Nauright, 2015; Kim et al., 2017; Kou, Luo & Chau, 2018; Turco & Dinu, 2009). Most of these studies have focused only on the economic impact of mega-events (Hiller, 1998; Lee & Taylor, 2005; Siegfried & Zimbalist, 2006) and, in most cases, did not consider social and cultural



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impacts (Kim & Petrick, 2005; Waite, 2003). However, Kim and Petrick (2005) stressed this issue, stating, "events often bring a variety of social and cultural [attractions] that even influence pre-existing patterns of activity and lifestyle in the host and its neighboring communities" (p. 25). Moreover, in the long run, mega-events may result in a better standard of living for host communities and/or residents (Deccio & Baloglu, 2002; Goeldner & Long, 1987; Slabbert & Oberholzer, 2012). As a result, some studies hypothesize that the social and cultural impacts of sports mega-events are at least as important to the host communities as are the economic impacts (Kim & Petrick, 2005; Mihalik & Simonette, 1998; Ritchie & Aitken, 1985). However, "little is known about the event's social impacts" (Waite, 2003, p.194), and more specifically, there is limited evidence regarding how these mega-events impact awareness of the sports of track and field among high school students.

### 1. Purpose

The primary purpose of this research study is to analyze how the International Association of Athletics Federations' (IAAF) World Indoor Track and Field Championships influenced high school students' awareness of the sports of track and field in the host city, Istanbul, Turkey. The researchers investigated awareness from two points of view—participant and spectator—and will also incorporate the following control variables:

- Family members' participation in track and field;
- Friends' participation in track and field;
- Prior introduction to track and field to students in school during physical education class;
- Relatives' or friends' involvement in the World Indoor Track and Field Championships in Istanbul;

- Age of respondent;
- Gender of respondent; and
- Type of school (public or private)

### 1.2 Research Questions and Hypothesis

Q1-What factor(s) most inhibit(s) high school students' ability to participate in track and field?

Q2-Is there awareness of track and field among high school students?

H1: There is no significant difference in awareness among students who identified their interest in track and field as participants on their familiarity with track and field sports before and after the IAAF World Indoor Track and Field Championships held in Istanbul, Turkey.

H2: There is no significant difference in awareness among students who identified an interest in track and field as spectators on their familiarity with track and field sports before and after the IAAF World Indoor Track and Field Championships held in Istanbul, Turkey.

### 2. Literature Review

Both physical educators and sports experts agree that participating in athletic activities provides physiological, psychological, educational and social benefits to participants, including students (Chen, Synder, & Magner, 2010). Therefore, it is thought that mega-events create motivation for physical activity and impact community behavior regarding physical activity (Murphy & Bauman, 2007). Moreover, Matsudo et al. (2004) asserted that physical activity organizations such as World Health Organization (WHO) or mega-events such as the community active day motivate the community to do more physical activities.

Waite (2003) reported that perceptions of cultural and social impacts of sports mega-events are likely to differ across different resident socio-demographic profiles. Likewise, Kim & Petrick (2005) stated, "information by different socio-demographic groups towards social and cultural impacts provides a more exact understanding of who are the beneficiaries and victims of hosting of a mega-event" (p. 26). On the other hand, King, Heo, Hji-Avgoustis, and Lee (2012) claimed that mega-events do not always bring benefits to the host community; they supported this thought with their study findings. They found that there was no relationship between awareness and sense of community or awareness and quality of life.

Besides the studies that investigated positive and negative effects of mega-events, other studies (e.g., Melnick, 1993; Wakefield, 1995; Wakefield & Sloan, 1995) focused on factors that cause individuals to attend or participate in sports events. Melnick (1993) suggested that families' and friends' participation in the event has a significant impact on individuals' willingness to attend these events. Wakefield (1995) and Turco and Dinu (2009) supported these findings. Hohepa, Scragg, Schofield, Kolt, and Schaaf (2007) stressed that besides family and friend support, other factors such as school support should be considered while examining high school students' participation in physical activity events. Another factor that impacts attendance at mega-events is relatives' or friends' involvement. For example, 17 percent of the 1,100 spectators had a relative and/or friend involved in the 2011 Women's Tennis Association (WTA) Championships held in Istanbul, Turkey (Berber, Turco, & Tinaz, 2012). In another study, Turco and Dinu (2009) found that of the 45 competitors, "forty-two percent of the subjects had family and/or close friends travel to Buoteni to watch them compete" (p. 14), and of 156 spectators "forty-one percent of 'event-specific visitors' had a relative or close friend participating in the competition" at the 2009 Ice Climbing World Cup Finals held in Buoteni, Romania (p. 15). Moreover, Kim and Petrick (2005) found that the impacts of mega-events may differ based on gender.

### 3. Methods

In this section, data collection process and the statistical methods used for data analysis are discussed.

#### 3.1. Data Collection

A questionnaire adapted from Kao, Turco, and Wu (2010) was used for data collection. Data was collected from students at high schools in Istanbul over the period of one school week (Monday through Friday) one month (February) before the event and one month after (April) the event, which was held in Istanbul from March 9th to 11th, 2012. Three-thousand students were chosen from public and private high schools as the sample of this study for pre- and post-event data collection.

Schools were selected based on the following factors: location, socio-demographic and economic features and size of student population. This method of sampling was selected to control extraneous variables. Before the surveys were distributed, a brief explanation about the study was given to all participating teachers, so they could understand the reasons for the study and explain its purpose to their students.

The teachers then distributed surveys to students in each chosen school. The last 15 minutes of a certain class period was allocated to filling out the survey, after which, teachers collected the completed surveys. A total of 6,000 surveys were distributed (3,000 before and 3,000 after the event). After eliminating surveys rendered ineligible by respondent errors, the remaining 2,520 pre-event and 2,742 post-event surveys were utilized for analysis.

#### 3.2. Data Analysis

Descriptive statistics were utilized to derive answers to the first research question. Frequencies of response were generated and are provided. However, to test the second research question more formally, the two hypotheses mentioned above were developed, and a logistic regression model was utilized to test them.

As part of the process, before testing the logistic regression model, a set of chi-square tests of independence ( $\chi^2$ ) was utilized among both variables (based on the two points of view: participant and spectator), and relationships were tested between each of these variables against every control variable (i.e., family participation, friends' participation, prior introduction to track and field in school, relatives' or friends' involvement, age, gender, and type of school). Almost all the chi-square tests of independence ( $\chi^2$ ) were statistically significant ( $p < .05$ ).

Logistic regression has been widely used among social science researchers (Osborne, 2006) to determine how well a set of predictor (independent) variables explains a dependent variable. Moreover, this method "allows you to test models to predict categorical outcomes with two or more categories" (Pallant, 2013, p. 483) or discrete variables (Osborne, 2006). Since the model studied contained seven dichotomous independent (predictor) variables (i.e., family members' participation,

friends' participation, prior introduction to track and field in school, relatives' or friends' involvement, age, gender, and type of school), logistic regression was utilized to assess the impact of this number of control factors on the likelihood of whether the students' awareness of track and field changed during the time period in question. In other words, the effect of time as a predictor variable was tested to assess its predictive ability while the experiment controlled for the effects of other predictors in the model. Logistic regression was utilized among respondents who identified their interest in track and field as a participant and those who identified as a spectator. SAS version 9.4 was the statistical program utilized to perform the chi-square tests of independence and the logistic regression model.

#### 4. Findings

More than 40 percent of the students stated, in both the pre- and post-event surveys, that the most important factors inhibiting high school students' ability to participate in track and field are "Lack of interest: I have no interest in track and field" and "I do not have time to participate". Moreover, more than 25 percent of the students also mentioned, in both pre- and post-event surveys, that the main factors restricting their ability to participate in track and field are "Lack of instruction: I do not know how to participate" and "Lack of access to track/facility: There is not a track/facility near where I live". In the pre-event survey, 3.93 percent of students felt "social pressure"; 5.29 percent indicated so in the post-event survey. These factors are delineated in Table 1.

**Table 1. Inhibitory Factors to High School Students' Ability to Participate in Track and Field**

	Pre-Event*	Post-Event*
Lack of instruction: I do not know how to participate	27.18%	29.61%
Lack of interest: I have no interest in track and field	48.06%	44.16%
Lack of access to track/facility: I cannot afford to participate in track and field	8.53%	8.06%
Lack of access to track/facility: There is not a track/facility near where I live	24.56%	27.50%
Social pressures: Others would not want me to participate in track and field	3.93%	5.29%
Lack of fitness	15.36%	16.85%
I do not have time to participate	47.78%	41.14%
Lack of proper equipment	20.00%	15.86%
Other	6.94%	8.53%

\*Percentages may not add up to 100% because the "Select all that apply" option was given.

#### 4.1. Participant Analysis

Descriptive statistics about students who identified an interest in track and field as a participant are shown in Table 2 below.

**Table 2. Demographic Profile of Students Interested in Track and Field as Participants**

Demographics %	Pre-Event					Post-Event					
	a	b	c	d	e	a	b	c	d	e	
Gender	Male	3.8%	10.4%	42.0%	29.7%	14.1%	2.6%	9.3%	46.9%	24.5%	16.9%
	Female	1.8%	3.6%	34.7%	37.5%	22.4%	2.0%	5.9%	27.5%	36.8%	27.7%
Type of School	Public	2.7%	6.8%	37.6%	32.9%	19.9%	2.9%	7.5%	36.9%	30.6%	22.1%
	Private	2.3%	4.5%	39.4%	41.9%	11.9%	1.5%	12.0%	38.3%	27.4%	20.8%
Age	15	0.9%	6.3%	40.6%	37.1%	15.2%	-	12.5%	20.8%	45.8%	20.8%
	16	2.4%	6.5%	40.0%	31.6%	19.6%	0.7%	4.9%	41.9%	25.4%	27.2%
	17	3.4%	6.7%	34.6%	35.4%	19.8%	2.2%	8.4%	37.7%	32.8%	18.9%
Family Members' Participation	18	2.0%	6.4%	41.2%	33.8%	16.6%	8.8%	14.6%	30.3%	26.3%	20.1%
	Yes	11.7%	13.0%	42.3%	20.1%	13.0%	14.7%	18.3%	40.7%	11.7%	14.7%
Friends' Participation	No	1.7%	5.8%	37.4%	35.6%	19.4%	1.4%	6.6%	36.7%	32.3%	22.9%
	Yes	4.6%	10.7%	46.7%	21.8%	16.2%	4.6%	12.0%	44.3%	22.7%	16.4%
Prior Introduction to Track and Field in School	No	1.1%	3.1%	30.6%	44.3%	21.0%	1.5%	5.2%	31.9%	35.4%	26.0%
	Yes	2.8%	6.6%	42.3%	32.0%	16.3%	3.8%	7.3%	42.2%	25.6%	21.1%
Relatives' or Friends' Involvement	No	2.6%	6.5%	34.8%	35.6%	20.6%	1.6%	8.0%	30.2%	36.1%	24.1%
	Yes	11.3%	16.1%	36.3%	25.0%	11.3%	6.6%	16.8%	43.0%	11.7%	21.9%
	No	2.2%	6.0%	37.9%	34.6%	19.2%	1.8%	7.0%	36.6%	32.6%	22.1%

Participant\*

- a. I am a keen track and field athlete who participates regularly and is involved in competition
- b. I like to run regularly but not in any formal competition
- c. I occasionally run for fun and fitness

d. I have absolutely no interest in track and field

e. I would like to learn to participate in track and field

Among the respondents who identified interest in track and field as participants:

- The number of female students who stated “I like to run regularly but not in any formal competition” increased from 3.6% before to 5.9% after the event.

- While 42.0% of male students stated “I occasionally run for fun and fitness” in the before-event survey, this percentage increased to 46.9% in the after-event survey.

- Although the number of male students who stated that “I have absolutely no interest in track and field” decreased from pre-event (29.7%) to post-event (24.5%), male students who stated “I would like to learn to participate in track and field” increased from pre-event (14.1%) to post-event (16.9%).

- While in pre-event survey, 37.5% of the female students stated, “I have absolutely no interest in track and field” and 22.4% stated, “I would like to learn to participate in track and field”, in the post-event survey 36.8% of the female students stated, “I have absolutely no interest in track and field” and 27.7% said, “I would like to learn to participate in track and field”.

- Before the event, 4.5% of the students enrolled in private schools stated, “I like to run regularly but not in any formal competition”, this rate increased to 12.0% after the events. Also, the percentage of students who stated “I would like to learn to participate in track and field” increased almost 9% (from 11.9% to 20.8%) from pre-event to post-event. Affirmative responses for the same question increased by 2.2% for students enrolled in public schools.

- The students enrolled in private schools who stated, “I have absolutely no interest in track and field” decreased by 14.5%, the percentage of affirmative answers for this question from students enrolled in public schools decreased by 2.3%.

- On average, in both the pre- and post-event surveys, more than 40% of students whose family participated in the event and more than 44% of students whose friends participated in the event stated, “I occasionally run for fun and fitness”.

- On average, in both the pre- and post-event surveys, more than 42% of the students who had a “prior introduction to track and field in school” before the event stated that “I occasionally run for fun and fitness”. Among these students, the rate of affirmative answers to the question “I have absolutely no interest in track and field” decreased from 32.0% to 25.6%. In response to the question “I would like to learn to participate in track and field”, answers increased from 16.3% to 21.1% from the pre- to the post-event survey.

- “Relatives’ or friends’ involvement” in the event increased from 36.3% to 43.0% for students who stated “I occasionally run for fun and fitness” and from 11.3% to 21.9% for students who stated, “I would like to learn to participate in track and field,” and decreased from 25% to 11.7% for students who stated, “I have absolutely no interest in track and field” from the pre- to the post-event surveys.

- Overall, across almost all variables in the model, the percentage of students who stated, “I have absolutely no interest in track and field” decreased, and the percentage of students who stated, “I would like to learn to participate in track and field” increased from pre-event to post-event.

Chi-square tests of independence and logistic regression model were performed for participant analysis. The results of chi-square tests of independence and logistic regression model are presented below.

**Table 3. Testing Global Null Hypothesis for Participant Analysis: BETA=0**

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	591.4452	8	<.0001
Score	539.6903	8	<.0001
Wald	578.6140	8	<.0001

The overall model is significant because the likelihood ratio, chi-square statistic is 591.4452, with eight degrees of freedom at p-value<.05. In other words, the full model containing all predictors was statistically significant, indicating that the model was able to distinguish between the effect of

awareness among students who identified interest in track and field as a participant on their familiarity with track and field sports.

**Table 4. Analysis of Maximum Likelihood Estimates and Odds Ratio Estimates for Participant Analysis**

Parameter	Analysis of Maximum Likelihood Estimates					Odds Ratio Estimates			
	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq	Point Estimate	95 Wald Confidence Limits		
Intercept	5	-1.8172	0.5877	9.5608	0.002				
Intercept	4	-0.2513	0.5874	0.183	0.6688				
Intercept	3	2.1093	0.588	12.8658	0.0003				
Intercept	2	3.5462	0.5925	35.8198	<.0001				
Family Members' Participation	1	0.8367	0.0982	72.615	<.0001	2.309	1.905	2.799	
Friends' Participation	1	0.7251	0.056	167.3713	<.0001	2.065	1.85	2.305	
Prior Introduction to Track and Field in School	1	0.2916	0.0552	27.9105	<.0001	1.339	1.201	1.491	
Relatives' or Friends' Involvement	1	0.5449	0.1061	26.3785	<.0001	1.724	1.401	2.123	
Age	1	-0.0759	0.0345	4.8431	0.0278	0.927	0.866	0.992	
Gender	1	-0.6624	0.0537	151.9095	<.0001	0.516	0.464	0.573	
Type of School	1	-0.0573	0.0824	0.4835	0.4868	0.944	0.803	1.11	
Time	1	0.1484	0.054	7.5437	0.006	1.16	1.043	1.29	

In the participant analysis, the control variables (i.e., family members' participation, friends' participation, prior introduction to track and field in school, relatives' or friends' involvement, age and gender) are statistically significant at  $p < .05$ . However, the control variable (i.e., type of school) is not statistically significant at  $p < .05$ . In other words, other than "type of school," the other control variables significantly influenced awareness among students who identified their interest in track and field as a participant on their familiarity with track and field sports.

According to Tabachnick and Fidell (2013), the odds ratio represents "the change in odds of being in one of the categories of outcome when the value of a predictor increases by one unit" (p. 461). According to the odds ratio estimates, which are "very important in the interpretation of logistic regression coefficients" (Allison, 2012, p. 26), the odds increased by 16 percent from the pre-event to the post-event survey. As shown in Table 4, except for "type of school," all other control variables each made a unique and statistically significant contribution to the model. The strongest predictor of track and field awareness was "family members' participation", recording an odds ratio of 2.309. After controlling for all other factors in the model, this clearly indicated that respondents whose families participated in track and field were more than two times more likely to report awareness of track and field than those whose family members did not participate.

#### 4.1. Spectator Analysis

Descriptive statistics of students who identified an interest in track and field as spectators are shown the table below.

**Table 5. Demographic Profile of Students Interested in Track and Field as Spectators**

Demographics %		Pre-Event					Post-Event				
		a	b	c	d	e	a	b	c	d	e
Gender	Male	7.8%	23.7%	42.5%	10.7%	15.2%	5.0%	32.2%	34.4%	13.9%	14.5%
	Female	2.9%	15.5%	55.8%	10.9%	14.9%	2.0%	22.5%	52.5%	14.4%	8.5%
Type of School	Public	5.5%	19.8%	48.8%	11.1%	14.9%	4.2%	27.6%	42.3%	14.3%	11.5%
	Private	2.3%	14.4%	57.8%	9.3%	16.1%	6.0%	26.9%	42.9%	10.8%	13.4%
Age	15	2.7%	17.4%	53.6%	9.4%	17.0%	-	12.5%	60.4%	20.8%	6.3%
	16	5.5%	18.9%	50.4%	11.6%	13.5%	1.0%	31.0%	41.8%	16.4%	9.8%
	17	4.7%	20.1%	49.0%	10.7%	15.5%	4.0%	27.2%	43.2%	13.4%	12.2%
	18	6.4%	16.9%	49.7%	10.1%	16.9%	9.0%	28.1%	39.7%	12.0%	11.2%
Family Members' Participation	Yes	10.9%	31.4%	39.3%	8.8%	9.6%	21.4%	24.0%	36.5%	11.4%	6.6%
	No	4.4%	17.7%	51.2%	11.0%	15.6%	2.5%	28.1%	42.8%	14.3%	12.3%
Friends' Participation	Yes	7.0%	24.3%	48.8%	10.6%	9.3%	10.0%	32.5%	37.2%	11.7%	8.7%
	No	3.4%	14.7%	51.2%	11.1%	19.7%	0.5%	24.5%	45.6%	15.4%	14.0%
Prior Introduction to Track and Field in School	Yes	4.7%	21.1%	51.7%	9.6%	12.9%	5.1%	30.0%	41.9%	11.9%	11.2%
	No	5.2%	17.6%	49.0%	11.7%	16.5%	3.7%	24.4%	42.2%	17.2%	12.6%

Relatives' or Friends' Involvement	Yes	15.3%	24.2%	40.3%	10.5%	9.7%	6.3%	35.7%	36.9%	11.5%	9.5%
	No	4.5%	18.7%	50.6%	10.9%	15.3%	3.6%	26.6%	43.3%	14.4%	12.1%

Spectator\*\*

- I am an avid fan of track and field, and always try to attend or watch tournaments on TV
- I am interested in track and field, and see it when I can
- I am not particularly interested in track and field, but might enjoy seeing it in Istanbul
- I am not interested in track and field, but I sometimes attend or watch it because family or friends are interested
- I have absolutely no interest in track and field or the associated festivities, even when it is held in Istanbul

Among respondents who identified an interest in track and field as spectators:

- More male students stated, "I am an avid fan of track and field, and always try to attend or watch tournaments on TV" (7.8%) and "I am interested in track and field, and see it when I can" (23.7%) than did female students, whose responses were, respectively, 2.9% and 15.5% in the pre-event sample.
- Although more male students (23.7%) stated, "I am interested in track and field, and see it when I can" than did female students (15.5%) before the event, both the percentage of male and female students increased by more than 7% after the event.
- While the 14.4% of students enrolled in private schools stated, "I am interested in track and field, and see it when I can" before the event, this rate increased to 26.9% in the after-events survey. The percentage increased from 19.8% to 27.6% among students enrolled in public schools.
- "Family members' participation, friends' participation and prior introduction to track and field in school" affected students in the samples, who stated, increasingly, from pre- to post-event, "I am an avid fan of track and field, and always try to attend or watch tournaments on TV" by 10.5%, 3% and 0.4%, respectively.
- Overall, of all the variables in the model, the percentage of students who stated, "I am interested in track and field, and see it when I can" increased, and the percentage of students who stated, "I am not particularly interested in track and field, but might enjoy seeing it in Istanbul" decreased from pre-event to post-event.
- Of all the variables in the model, while the percentage of students who stated that "I have absolutely no interest in track and field or the associated festivities, even when it is held in Istanbul" decreased, the percentage of students who stated that "I am not interested in track and field, but I sometimes attend or watch it because family or friends are interested" increased from pre-event to post-event.

Chi-square tests of independence and logistic regression model were performed for spectator analysis. The results of chi-square tests of independence and logistic regression model are presented below.

**Table 6. Testing Global Null Hypothesis for Spectator Analysis: BETA=0**

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	304.8048	8	<.0001
Score	288.5320	8	<.0001
Wald	304.6438	8	<.0001

**Table 7. Analysis of Maximum Likelihood Estimates and Odds Ratio Estimates for Spectator Analysis**

Parameter	Analysis of Maximum Likelihood Estimates				Odds Ratio Estimates			
	DF	Estimate	Standard Error	Wald Chi-Square	Pr > Chi Sq	Point Estimate	95% Wald Confidence Limits	
Intercept	5	1	-2.2306	0.5909	14.2502	0.0002		
Intercept	4	1	-1.3867	0.5903	5.5181	0.0188		
Intercept	3	1	0.7051	0.5901	1.4277	0.2321		
Intercept	2	1	2.9228	0.593	24.2967	<.0001		
Family Member's Participation		1	0.6449	0.0965	44.6706	<.0001	1.906	1.577 2.303
Friends' Participation		1	0.5693	0.0561	102.8744	<.0001	1.767	1.583 1.973
Prior Introduction to Track and Field in School		1	0.3542	0.0556	40.6472	<.0001	1.425	1.278 1.589
Relatives' or Friends' Involvement		1	0.3429	0.1053	10.6043	0.0011	1.409	1.146 1.732
Age		1	-0.0599	0.0347	2.9885	0.0839	0.942	0.88 1.008

Gender	1	-0.2084	0.0534	15.2283	<.0001	0.812	0.731	0.901
Type of School	1	0.1954	0.0829	5.5492	0.0185	1.216	1.033	1.43
Time	1	-0.1344	0.0543	6.1202	0.0134	0.874	0.786	0.972

The overall model is significant because the likelihood ratio, chi-square statistic is 304.8048 with eight degrees of freedom at  $p$ -value<.05. In other words, the full model containing all predictors was statistically significant, indicating that the model was able to distinguish awareness among students who identified their interest in track and field as *spectators* on their familiarity with track and field sports.

In the spectator analysis, the control variables, (i.e., family members' participation, friends' participation, prior introduction to track and field in school, relatives' or friends' involvement, gender, and type of school) are statistically significant at  $p$ <.05. However, the control variable, age, is not statistically significant at  $p$ <.05. In other words, other than age, all the other control variables significantly influenced high school students' awareness of track and field. The odds increased by 14 percent (1/0.874) from the pre-event to the post-event survey. As shown in Table 7, except for age, all other control variables made a unique and statistically significant contribution to the model. The strongest predictor of awareness was family members' participation, as it was in participant analysis, recording an odds ratio of 1.906. After controlling for all other factors in the model, this finding clearly indicated that respondents whose families participated in track and field were almost two times more likely to report an awareness of track and field than were those whose family members did not participate.

### 5. Assumptions and Limitations

One of the main assumptions in this study is the selection of the sample groups. Pre-event surveys and post-event surveys were collected from different schools. However, the selection of schools was based on their similarity in many aspects (i.e., location, socio-demographic and economic features, and size of the student population). Since this study was conducted with high school students in Istanbul, Turkey, the results may not be generalizable to other countries. Moreover, this study focused on awareness of track and field events, so the results may not be generalizable to other mega-events, such as the World Cup of Soccer, the Olympics, the Ice Climbing World Cup, etc.

### Conclusion

The most significant factors that inhibit high school students' ability to participate in track and field are lack of interest and time. Their lack of interest can occur due to a lack of track and field awareness. The fact that students must attend classes between 8:30 AM to 3:00 PM might account for the lack of time. In participant analysis, the percentage of male students in the pre-event survey and the post-event survey who stated "I like to run regularly but not in any formal competition" is greater than the percentage of female students who said the same. However, the percentage of female students in both the pre-event and post-event survey who stated, "I would like to learn to participate in track and field" is greater than the percentage of male students who said the same. Accordingly, female participants are willing to run not only for exercise, but would also like participate in official competitions. This result is in line with the study of Kim and Petrick (2005). They found that positive impacts of mega-events were rated higher by women than by men.

There is a significant difference in awareness among students who identified an interest in track and field as a participant on their familiarity with track and field sports prior to and after the IAAF World Indoor Track and Field Championships in Istanbul. Further, there is a significant difference in awareness among students who identified their interest in track and field as spectators on their familiarity with track and field sports before and after the IAAF World Indoor Track and Field Championships in Istanbul. According to Hohepa et al. (2007), "low parental support and low peer support were associated with reduced odds of being regularly active after school" (p. 54). In our study, in both participant and spectator hypothesis testing, the strongest predictors of track and field awareness are family members' participation and friends' participation, respectively.

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At this point, this study endeavours to draw attention to the value of hosting mega sports organization for students and encouraging local and governmental sports authorities to host mega sports events in their cities. In developing countries, especially Turkey, similar types of mega events may increase awareness and participation among high school students as the study results revealed. Therefore, high school officials should announce and promote upcoming sports events to draw more students' attention towards athletic events. Also, since awareness as a participant may increase after such mega-events, high school students should be encouraged to participate in sports events.

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