



XXXV Congreso Internacional ASEPELT

Data-science findings to mitigate the shortage of football referees.



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Punto de partida

Kent: Abuse of grassroots referees leads to call for action

🕒 17 September 2021



| The Kent FA has lost nearly a quarter of its referees since last season

Calls for grassroots football referees to be respected have been made amid a sharp drop in people signing up to officiate matches in Kent.

The Kent FA now has 24% fewer referees since the end of the 2020/2021 season, with many matches played without one.

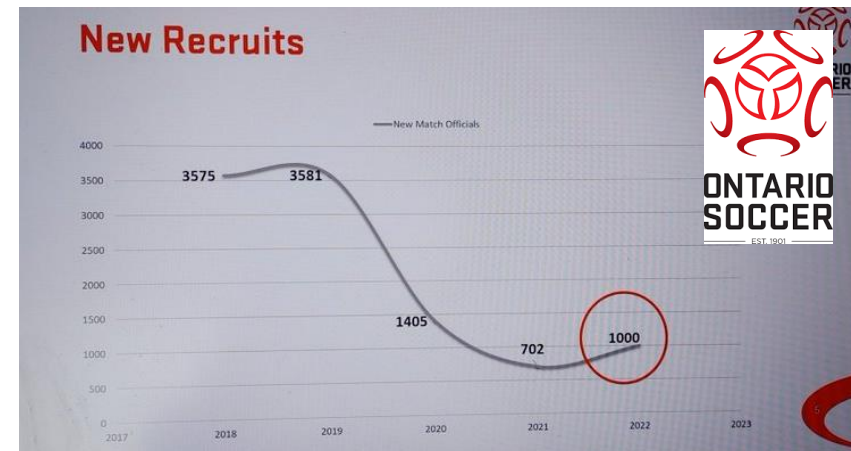


US referee numbers are plunging and aggression is to blame

We all want better officiating. But it's tough for referees to develop when abuse from players and spectators hound them out of the game



📷 MLS is well stocked with referees but there are problems at lower levels of US soccer.



Data-science findings to mitigate the shortage of football referees.

Punto de partida

FULL TIME		
REAL MADRID	3 1	PARIS
TEAM TOP 5 DISTANCES		
	11.40 km	VERRATTI
MODRIĆ	10.54 km	
	10.31 km	NEYMAR
VALVERDE	10.17 km	
BENZEMA	10.17 km	
NACHO	9.96 km	
	9.71 km	HAKIMI
	9.51 km	MARQUINHOS
	9.47 km	NUNO MENDES
VINÍCIUS JÚNIOR	9.32 km	
10.25 km	TEAM AVERAGE	9.80 km



* Cipriano, P., Martins, P., Duarte, R., Preto, L., Peixoto, C., & Moreira, M. (2019). Investigation on Soccer Referees: A Narrative Review. *Polish Journal of Sport and Tourism*, 26(3), 20-28.

La investigación sobre los árbitros de fútbol



PERSONAL

Biographical

- Year of birth
- Age at start
- Sex
- Education level
- Profession
- Family status
- Football player
- Victim of threats or violence
- Income level

Vocational

- Motivation in the beginning
- Family and Friends in refereeing

ORGANIZATIONAL

- Training and Development
- Mentoring for talents
- Performance management
- Promotion policies
- Remuneration
- Recruitment and Selection
- Communities and Support
- Accreditation and Certification
- Institutional relations

- Lifespan
- Success
- Engagement

Stages

Preguntas de investigación

¿Es significativo el efecto de siguientes variables en la carrera del árbitro (duración y progresión)?

- Sexo
- Lugar de Nacimiento
- Nacionalidad
- Rol
- Sede
- Edad al comienzo
- Grupo de talentos
- Motivo para comenzar
- Riesgo o Causa de la baja
- Influencia de amigo/familiar para comenzar
- Experiencia como jugador o entrenador
- Vocación al comienzo
- Razones para comenzar
- Razones para continuar
- Autoevaluación para promocionar
- Amenazas y violencia
- Participación en programas de desarrollo
- Dependientes a su cargo
- Nivel académico



Tabla resumen de Resultados

Variable	Exploratory	Confirmatory	Hazard ratio
Male			
Madrid born			
Spanish			
Office	Better Alcalá y Aranjuez		
Start age		The younger the better	1.08
Talent			
Friend or Relative Influence to start			
Player/Coach previous exp			
Vocation to start			1.47
Feel ready to promote			
Threats and abuse			
Support programs participation			
Dependents	Only men		0.37



Tabla resumen de Resultados

Motives to start	Exploratory	Confirmatory	Hazard ratio
Felt interested			
Friends/family			
Money			
Practise sport			
To continue in football			
A challenge			
A social activity			



Tabla resumen de Resultados

Causes to leave	Exploratory	Confirmatory	Hazard ratio
Suffering an aggression			
Insufficient physical shape			
Disappointment			
Personal incompatibility			
Professional incompatibility			1.45
Loss of interest			
Scarce follow-up			
Requirements and tests			0.62
Disagreement with Committee			
Remuneration			
Demotion			
Unfair promotions			



Tabla resumen de Resultados

Motives to continue	Exploratory	Confirmatory	Hazard ratio
Promotion			0.72
Extra income			
Social status			
Relationship with Committee			
To be part of refereeing			
Relationship with referees			
A healthy life			
Participate in social activity			



Descriptive analysis

Motivaciones al comenzar

Variable	Proportion
It appealed to me	28%
To continue in football	24%
To earn some money	20%
Like a challenge	12%
Because my friends/family did	12%

Motivaciones para continuar

Variable	Proportion
As an extra income	55%
Expectations of promotion	53%
To practice a sport or stay fit	52%
To continue in refereeing	44%
The relationship between the referees	29%
To have a social activity	25%

No altruista

Academic level

	Elementary	Primary	Second. Compulsory	Second. Not compulsory	Grade or superior	Other
Madrid	2.4%	8.5%	41.0%	6.0%	41.4%	0.7%
Referees	0.0%	0.0%	4.9%	31.5%	63.1%	0.5%

Mayor nivel académico



Descriptive analysis

Causas de baja

Variable	Proportion	Av. seniority*
Incompatibility with professional duties	36%	8.84
Incompatibility with personal obligations	25%	8.56
Colleagues receive the promotion you deserve	22%	8.46
To be, or nearly, a victim of an aggression	19%	7.05
Scarce follow-up by the Committee	17%	8.71
Lack of physical shape or injury	15%	9.52
Disappointment for not having been included in development programs	15%	9.09
Loss of interest	14%	8.89
Insufficient remuneration	14%	10.51
Disagreement with the Committee about a question	13%	8.43
Demotion	11%	6.76
Increase the physical or test requirements	9%	10.83

*Only non-active referees, average seniority at the dropout (8.92).



Aprendizajes

RECRUITMENT AND SELECTION:

- Profiles accepting a higher level of rivalry in officiating demonstrate a longer career.
- Starting officiating sooner positively influences the duration of the career.
- Referees reach university academic level more than the rest of the population.

TRAINING AND DEVELOPMENT:

- The talent program does not demonstrate a positive impact on the duration of the career.
- A more personalised monitoring and support channels would help reduce dropouts.

REMUNERATION:

- Renumeration appears to be significant for referees to officiate longer.

PUBLIC RELATIONS AND COMMUNICATION:

- Further promoting social awareness concerning the role of referees is essential to mitigate abuse and violence.



Método

1. Simple independence tests between the variables.
2. Following this, a survival analysis to study the hazard ratios among referees over the course of their career, taking into consideration the failure event when the referee ends their career. In this way, it is possible to understand how different explanatory variables influence the likely career lifespan of referees. 'Seniority' was used as a time-dependent variable for this survival analysis, indicating the number of years of experience at the end of the analysis period (year 2021) or when the referee quit. The 'Status' variable indicates whether the referee was still active (failure event). There were 496 censored records (still active) at the end of the study period.



Datos

- Referees members of the RFFM, who started their career between 1991 and 2021, and had officiated in the leagues from Junior to First Division La Liga level (ten categories in total).
- The survey was open between January 19 to February 9, 2022 and achieved 758 responses (a response rate of 38%). The sample was adequate for the results to be significant under a confidence level of 99% and a margin of error of 4%. 38% is considered a good response rate for this research population because only one out of three referees usually participate in the mid-season tests organised by the RFFM, and 34% of the recipients of the survey were not active referees.



Próximos episodios...

- Comparativas nacionales e internacionales
- Peer-to-peer support impact to extend the referee's career
- Income level as a trigger to become a football referee



Muchas gracias, many thanks!

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