

DOI: <https://doi.org/10.58984/smbic2301115I>

THE IMPACT OF THE INTRODUCTION OF THE VAR TECHNOLOGY ON THE SPECTATORS AND MEDIA COVERAGE OF FOOTBALL

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Abstract: *The paper deals with the introduction of VAR (Video Assistant Referee) as a technical aid for the purpose of minimizing refereeing mistakes and errors. The research in the paper includes the definition of VAR and the observations of various experts, scientists and survey participants. The goal of the research is to determine the influence of VAR on the audience, media and quality of the media coverage of football. The paper provides five hypotheses. The first one implies that VAR makes journalists and media more critical of refereeing mistakes. The second one entails that the introduction of the VAR technology has increased the trust in referees. The third hypothesis suggests that VAR has a negative effect on football as a game as well as on the emotions of spectators and fans. The fourth one relies on the fact that the application of VAR is still in the development stage and the last one presupposes that football is still more prone, despite the application of VAR, to discussions about refereeing decisions than other sports. In order to support the above hypotheses, a survey was conducted. The content analysis is based on the quantitative method, though some elements of the qualitative method have also been used. The discussion has generated the elements which confirm the set hypotheses. The concluding considerations indicate the need to proceed with the use and development of IT technology in sports as well as with related research.*

Keywords: VAR, refereeing decisions, football, controversies, media

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Introduction

Sports have always offered plenty of intrigue when it comes to refereeing decisions. The development of information technology has improved the quality of sports in general. This particularly refers to the introduction of the VAR (Video Assistant Referee) technology. VAR comes as a team of match officials who review video footages from a football game as to provide the referee with assistance. The application of the VAR technology is made possible only if the match organiser has met all the relevant VAR criteria (as prescribed in the VAR Manual) and obtained a written licence and approval from IFAB and FIFA (IFAB, 2019:135). In this sense, the paper presents VAR as a new technological tool.

Considering that the paper is aimed at defining the role of VAR in sports generally and in football in particular, the relating research is designed to revolve around five hypotheses which reflect the total impact of sports-related information technology on the audience, media and overall quality of reporting and media. The research is based on a survey conducted using both the quantitative and qualitative method as to confirm the set hypotheses.

The first hypothesis implies that VAR makes journalists and media more critical of refereeing decisions and mistakes. The second one refers to the introduction of the VAR technology in the context of building trust in referees. It is expected to demonstrate whether VAR has a positive or negative effect on public, media and fans perception of football referees performance. Here a particular emphasis is placed on the influence of VAR on the public, media and fans with respect to controversial refereeing decisions, i.e. non-sanctioned offences. The key question is whether VAR will reduce the number of those or not.

The third hypothesis suggests that VAR exercises excessive influence on football as a game and on spectators and fans. Indeed, it is not clear if VAR represses emotions when play is stopped for several minutes, particularly when that happens in the final stage of the game.

The fourth hypothesis entails that VAR is still imperfect and that it will take years to improve this system as a whole, meaning the technology itself and the performance of on-field and VOR (Video Operation Room) referees and other actors. The last hypothesis indicates that football is still more prone, despite the application of VAR, to discussions about refereeing decisions than other sports provided with the VAR or similar technology.

The completed survey has resulted in key elements needed to confirm or overrule the set hypotheses. The concluding considerations justify the reasons for carrying out such research. This particularly concerns the development of sports-related information

technology and its application, which should contribute to greater objectivity and better sports coverage and reporting.

Basic VAR Features

As part of preparational topic elaboration, here are some basic features of the VAR technology that help referees make important on-field decisions. Briefly, VAR match officials are located in a VOR (*Video Operation Room*) where they review all the controversial moments in the game and directly communicate with the referee through headphones (FIFA, IFAB 2019:135). There are two ways of reviewing video footage from the game or in other words, there are two ways how VAR exercises its influence on the game. The first one is the so-called *silent check* where the match officials in the VOR inform the referee that there has been no mistake in assessing some situation in the game, so there is no need to stop play. The other situation requires referee's consultation with the match officials in the VOR. The latter one relates to moments in which it is difficult to determine what actually happened and thus reviewing video footage is necessary (IFAB, 2018).

When VAR detects a clear refereeing mistake, three scenarios are possible. In the first one, the original refereeing decision is overturned on advice of VAR. The second one refers to *on-field review*, i.e. the referee stops play and has another look at the situation on the sideline monitor. In the third one, the referee ignores VOR recommendation (IFAB, 2019) According to the IFAB Laws of the Game, there are 12 VAR-related principles which shall be adhered to by match officials:

A video assistant referee (VAR) is a match official, with independent access to match footage, who may assist the referee only in the event of a 'clear and obvious error' or 'serious missed incident' on the field.

The referee must always make decision, i.e. the referee is not permitted to give 'no decision' and then use VAR to make the decision.

The original decision given by the referee will not be changed unless the video review clearly shows that the decision was a 'clear and obvious error'.

Only the referee can initiate a 'review'; VAR (and other match officials) can only recommend a 'review' to the referee.

The final decision is always taken by the referee.

There is no time limit for the review process.

The players and team officials must not surround the referee or attempt to influence if a decision is reviewed, the review process or the final decision.

The referee must remain 'visible' during the review process to ensure transparency.

If play continues after an incident which is then reviewed, any disciplinary action taken/required during the post-incident period is not cancelled, even if the original decision is changed (except a caution/sending-off for stopping or interfering with a promising attack).

If play has stopped and been restarted, the referee may not undertake a review.

The period of play before and after an incident that can be reviewed is determined by the Laws of the Game and VAR protocol.

As VAR will automatically 'check' every situation/decision, there is no need for coaches or players to request a 'review' (FIFA, IFAB 2019: 135,136).

When the review process is completed, the referee must show the 'TV signal and communicate the final decision. The referee will then take/change/rescind any disciplinary action (where appropriate) and restart play in accordance with the Laws of the Game (FIFA, IFAB 2019: 141).

The application of technological or more precisely, IT achievements in sports has been considered worldwide by many experts and scientists for years. Here are some VAR-related research results are opinions:

Footballers' physical effect is particularly diminished in the knockout stage during extra-time after a deadlocked match following the regulation 90 minutes (Lago-Peñas et al., 2015.)

In the event of a football game with multiple stoppages, it seems that 'additional time' results in greater physical stress as well as in deterioration of players' fitness and technical performance (Rampinini et al., 2009.; Winder et al., 2018).

Sports officials realized long time ago that responsibility should be a priority when organizing top-level sports competitions with a fair and transparent approach. (D. R. Mascarenhas, Collins, Mortimer et al., 2005).

There are different examples of using ball tracking cameras in tennis, football and cricket. Such cameras are utilized to check whether the ball has crossed the (goal)line or not. Moreover, basketball and American football officials have been using devices for reviewing controversial situations in a game for quite a long. Technological innovations foster fair decision-making. (Leveaux, 2010.)

The use of technology may improve the decision-making process in situations involving temporal and spatial elements, i.e. position of the ball and player at a particular moment. That is particularly evident in tennis and other sports when ball tracking cameras are used (Kolbinger & Lames, 2017.).

Research shows that even top-level tennis tournaments have seen as much as 27% of bad line calls with the average fault of 33,2 mm. Such errors can be avoided using new technologies such as VAR. (Carboch etc. 2016)

Other studies demonstrate that slow motion can amend a disciplinary sanction and turn a yellow into a red card (Caruso et al., 2016.; J. Spitz et al., 2018).

The IFAB Laws of the Game confine VAR interventions to major incidents such as goals, penalty kicks, direct red cards and mistaken identities. Besides, VAR is invited to intervene only in case of clear and obvious mistakes and errors. Other research indicates that the accuracy of on-field multiple-referee decisions ranges from 64 to 77% (Gilis et al., 2006).

There are studies revealing a growing number of sports officials who take account of the context of a situation to make an assessment. The IFAB Laws of the Game leave some space for interpretation and researchers have even demonstrated that the noise coming from the audience may have effect on the referees (Nevill et al., 2002.).

VAR can intervene when a bad call results from one or several steps in the decision-making process and is based on (a lack of) attention and perception (e.g. when a serious foul occurs within the penalty area or when the referee fails to see that the ball has crossed the goal line). Furthermore, VAR processes and categorizes received information (e.g. when a foul is categorized as an offence implying a yellow instead of a red card) as well as reacts to a decision (for instance, when an offence is well-perceived and categorized, but a yellow card is given to a wrong player). (Plessner & Haar, 2006)

What else has been examined in regard to the VAR technology is the number and duration of VAR interventions per game. (Ryall, 2014.).

VAR may, for example, indicate a misjudgement concerning the position of the ball. Such a practice can be applied in other sports too where limited human perception is to be blamed for various misjudgements and omissions; for instance, whether the ball has hit a player's leg in field hockey or if a player was in an offside position when the ball was passed to him. (Myint, 2015).

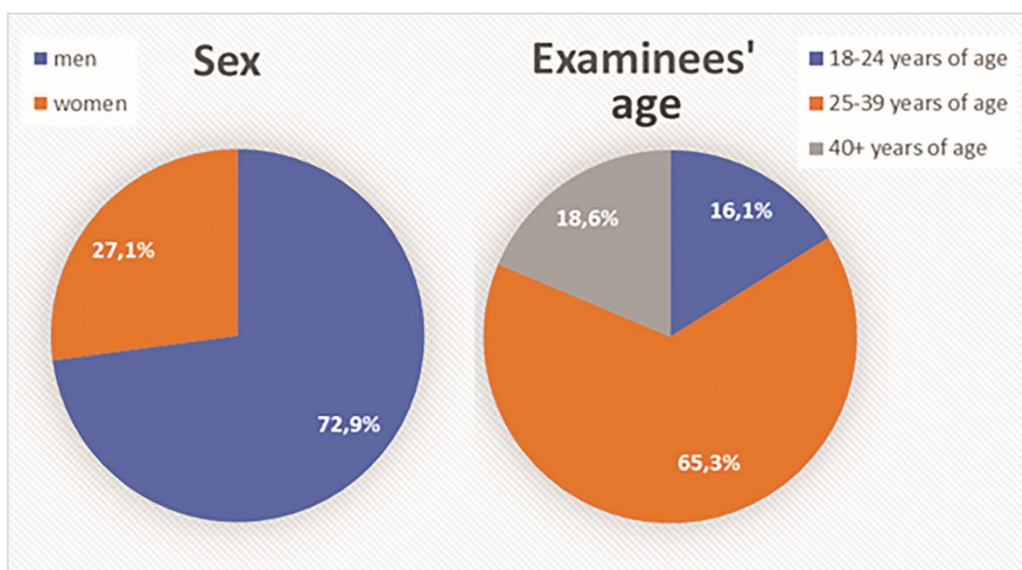
The above studies and conclusions prove that further VAR-related research is necessary to improve the refereeing decision-making and -monitoring process as well as to improve the quality of sports in general.

Survey

In order to investigate the public and media feedback to the use of the VAR technology, a questionnaire-based survey was conducted. More precisely, what do people think about the application of VAR in sports, primarily in football? The questionnaire was filled out by 118 examinees and the answers, which were based on watching games of the First Croatian Football League, varied considerably.

The first three questions of the questionnaire relate to the general information about the sex and age of examinees and whether they watch football games in their free time or not. Among 118 examinees, there were 86 men and 32 women. Percentagewise, there were 72.9% of male and 27.1% of female examinees. The prevailing number of male respondents is no surprise since men are generally more interested in football than women and hence know more about VAR than women do. As many as 77 examinees (65.3%) were aged between 25 and 39, 22 respondents were over 40, which makes 18.6% of the total examinees, and in the 18-24 age group, there were 19 persons or 16.1% of the total examinees.

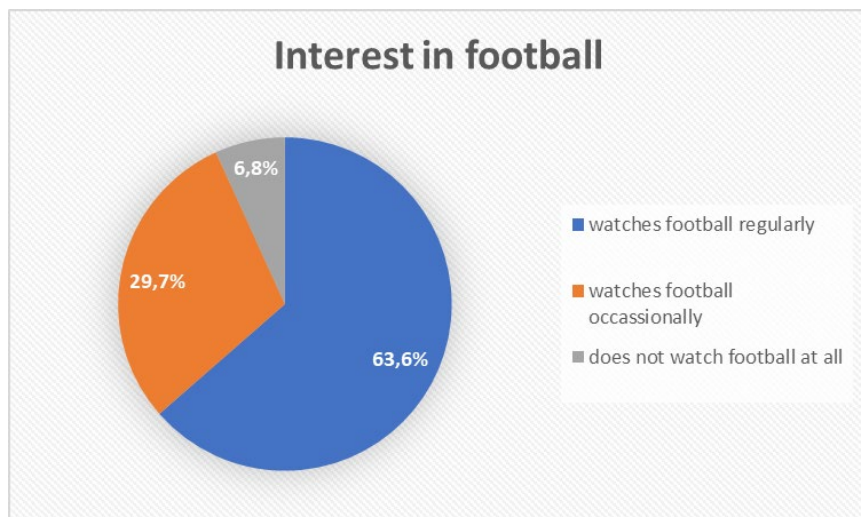
Pie chart 1: Sex and age of examinees



Source: Author's personal files

In terms of evaluation of the examinees' interest in football, 75 examinees (63.6%) claim that they watch football regularly, 35 persons (29.7%) stated that they watch football occasionally and eight respondents (6.7%) asserted that they have no interest in football at all.

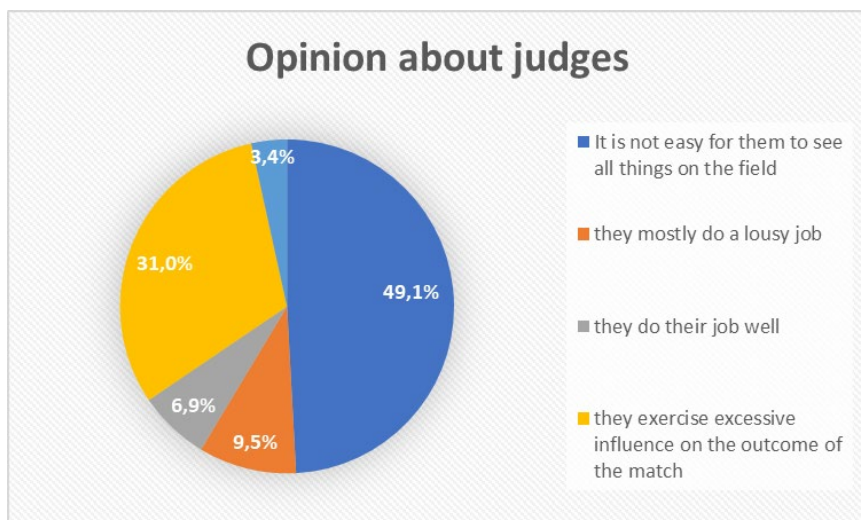
Pie chart 2: Do the examinees watch football?



Source: Author's personal files

The subsequent question required from the examinees to express their opinion about football referees. The examinees could choose among the following answers: "It is not easy for them to see all things on the field", "they mostly do a lousy job", "they do their job well", "they exercise excessive influence on the outcome of the match". They could also formulate their views about this issue independently.

Pie chart 3: Opinion about football referees

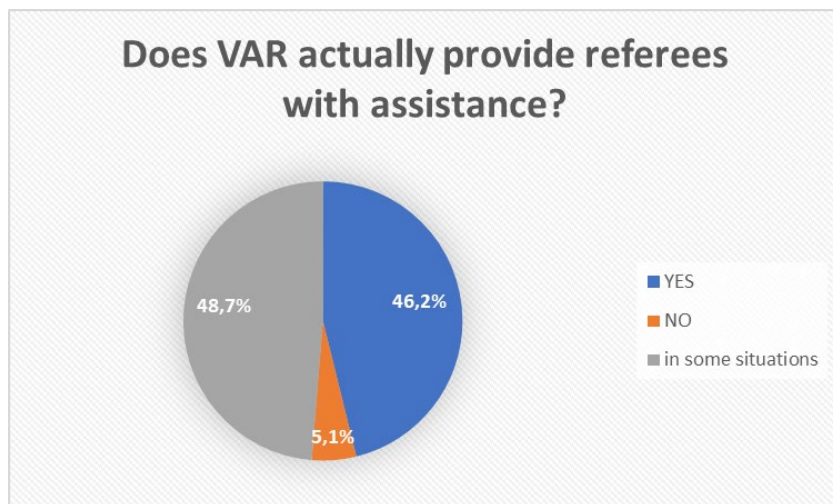


Source: Author's personal files

Most examinees agree that football referees have an exceptionally hard and demanding job. As many as 57 respondents opted for the following answer: “it is not easy for them to see all things on the field”, which makes 49.1% of the total examinees. A further 31% of them or 36 persons chose the fourth answer (“they exercise excessive influence on the outcome of the match”). The rest of the examinees picked either the second (“they mostly do a lousy job”, 11 examinees, 9.5%) or the third answer (“they do their job well”, eight examinees, 6.9%). Among individually formulated answers, the following ones deserve to be singled out: “It is impossible to see all, they have an extremely hard and demanding job, but some confusing mistakes still happen, despite the use of VAR”, “VAR should be used more often”, and “VAR usage depends on who is playing against whom”. These answers imply that in spite of the recognition of the complexity of football refereeing, there is some kind of aversion to football referees. Moreover, the answer also entails that the examinees are not convinced of football referees’ integrity.

The next question was simpler and thus no examinee provided their own answer. The question reads as follows: “Do you think that the introduction of VAR has helped referees in doing their job?”.

Pie chart 4: Does VAR actually provide referees with assistance?

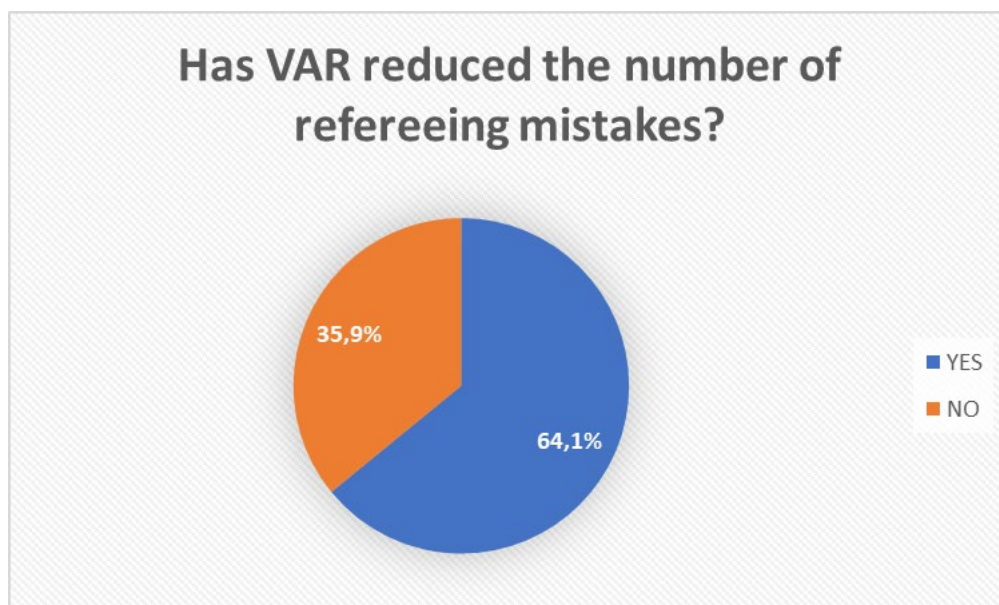


Source: Author's personal files

The greatest share (57, 48.7%) of examinees chose the third answer (“in some situations”). Then, 46.2% of them or 54 persons opted for the first answer (“yes”) whereas only six examinees (5.1%) thought that there is no use of VAR. This simple question enables us to realize that the examinees do believe in VAR efficiency and despite its flaws in certain situations, it for the most part serves as an aid available to referees.

The question which did not result in individually formulated answers as well, was “do you think that the introduction of VAR has reduced the number of refereeing mistakes or errors”. It required only yes or no answers? As many as 75 persons or 64.1% of the total examinees held that VAR do correct refereeing mistakes while 42 respondents (35.9%) had a different opinion. It is interesting that in a certain way, this question is in contradiction with the previous one since despite trust in VAR, some examinees still believe that many calls still reflect subjective referee impressions.

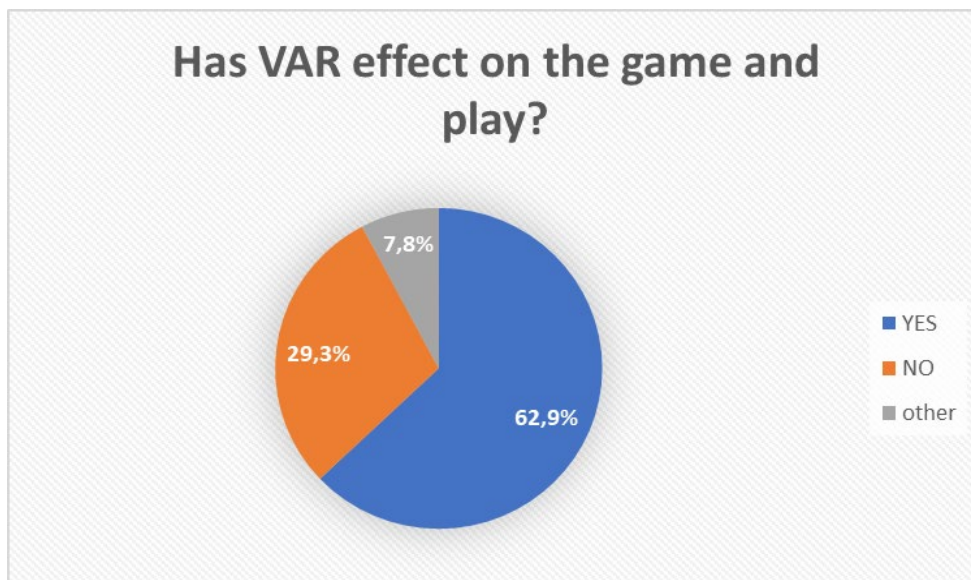
Pie chart 5: Has VAR reduced the number of refereeing mistakes?



Source: Author's personal files

The seventh question reads as follows: “Do you think that VAR has effect on play?” The examinees could choose between the following two answers: “Yes, it slows down play” and “No”. Also, the respondents were offered the possibility to formulate their answers themselves.

Pie chart 6: Has VAR effect on the game and play?

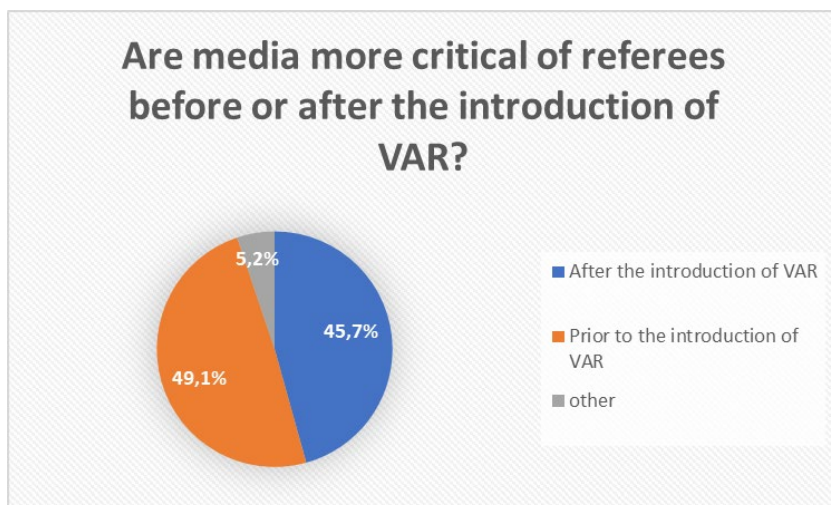


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A total of 62.9% examinees (73 persons) think that VAR slows down play while 34 respondents (29.3%) hold that it exercises no influence on play. Here are some individually formulated answers: "When there was no VAR, refereeing mistakes had even greater impact on the game", "it is its clumsy application that slows down play, sometimes it happens that the ball is kept in play for two, three minutes and then it comes to a VAR check which lasts for additional three, four minutes and is not good and definitively has influence on play. Goal celebration is a similar situation. It lasts a couple of minutes and then comes VAR and its check, which takes additional three minute. Generally, VAR is an excellent technology for eliminating refereeing mistakes, but its application can be disastrous", "yes, it changes the score and reduces mistakes to the minimum", "it has effect on the players (their behaviour)", "it kills the magic of the game" and "it improves the quality of the game". The answers suggest that the examinees believe that VAR does have effect on the game and play, but mostly due to referees.

The eight question was "do you think that media address referees now more than prior to the introduction of VAR" and the examinees could choose between the following two answers: "In my opinion, media are now more critical of referees than before the introduction of VAR" and "in my opinion, media were more critical of referees prior to the introduction of VAR than now". Almost 49.1% of examinees or 57 persons chose the latter answer and the former one was a little less popular (53 respondents, 45.7%). The rest of the examinees provided their own answers disclosing that they did not keep up with media articles about referees.

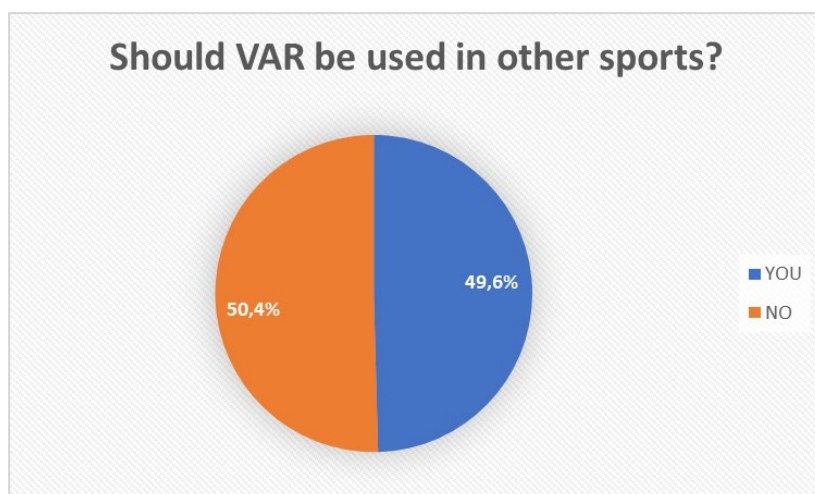
Pie chart 7: Addressing referees by media



Author's personal files

The last three questions required from the examinees to offer their own attitude towards VAR. The examinees were not unanimous at all regarding the answers to the following question: "Do you think that VAR should be used in all sports?". Half of them (59 respondents, 50.4%) provided a negative and half of them (58 respondents, 49.6%) an affirmative answer.

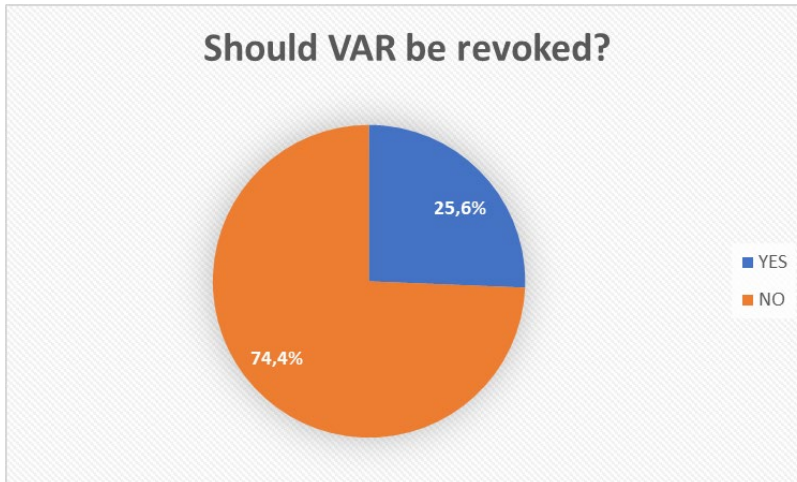
Pie chart 8: Should VAR be used in other sports?



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The question “should VAR be revoked” brought 87 negative answers (74.4%) while the rest of the respondents (30 persons) hold that VAR should be no longer used. It is rather intriguing since the survey reveals that VAR decisions are not univocally embraced, but despite that, the examinees are willing to give this system more time to show its efficiency.

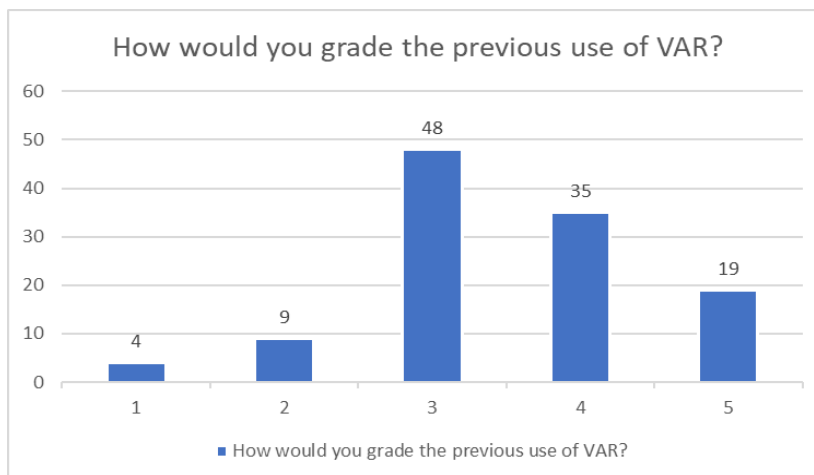
Pie chart 9: Should VAR be revoked?



Author's personal files

The last question related to grading VAR. The examinees could give it marks from 1 to 5, wherein 1 was the poorest and 5 the best mark.

Pie chart 9: How do you grade VAR?



Author's personal files

The most frequent mark was 3, the so-called happy medium, which was to be expected. Pursuant to the aforementioned, there is an impression that VAR is perceived as a useful technology, but its application has not reached an adequate level yet or in other words, there are still too many refereeing mistakes and the referees are not objective as they should be.

Discussion

In terms of its representativeness, the conducted survey has met the respective requirements since 63.6% of respondents regularly watch football and 29.7% of them do that occasionally. Moreover, 65.3% of examinees are in their most productive years. As far as the hypotheses are concerned, the survey results support them to a reasonable extent. With respect to the first hypothesis, pie chart 7 shows that 49.2% of respondents believe that media were more critical of referees before the introduction of VAR. This implies that the first hypothesis has been partially denied. Besides, the survey discloses that media still tend to criticize VAR. In regard to the second hypothesis, pie chart 4 reveals that 94.9% of respondents hold that VAR do provide referees with assistance. Considering the third hypothesis, 62.9% of examinees think that VAR definitely has impact on the dynamics of play since it slows down the game and destroys its imaginativeness. Pie chart 8 unveils that 50.4% of examinees shares the opinion that transparent criteria should be defined in every sport first and then gradually, VAR can be introduced to the game, which confirms the fourth hypothesis. The last hypothesis deals with the issue whether VAR should be abolished or not. Pie chart 9 provides an answer to this question, according to which a great majority of examinees (74.4%) feel that its usage should continue, but it requires constant improvements.

Conclusion

The conducted survey, analysis and discussion help us draw the conclusion that spectators or in our case, respondents support the introduction of VAR in sports, but they do not agree with all VAR-related refereeing decisions. With respect to VAR influence on media, the survey has proved that there was more criticism of referees before the introduction of VAR, though media are still pretty critical of refereeing decisions, so the situation has not changed significantly comparing to the pre-VAR period. In fact, the laws of the football game have become even more confusing. In order to fully refute the set hypotheses, more comprehensive research of media attitude is required.

As demonstrated in the survey, most respondents find sports refereeing pretty demanding. Although most of them are aware of refereeing mistakes occurring after the introduction of VAR, they hold that this technology is needed in football. VAR is expected to advance by the time and referees will probably learn how to take advantage of video technology, so it is likely that the number of refereeing mistakes will decrease. Almost 75% of examinees asserted that the VAR technology should not be revoked despite the feeling that VAR is not embraced by many. Even though many problems are obvious in professional football, even to fans, the dominant opinion is that the VAR technology should be applied in all professional sports.

The fact is that VAR has not still reached an adequate level, but it has been here with us for only a couple of years. VAR is a complex and challenging technology which was developed for years and it will take years and years for VAR to become a tool wanted by the fans. There are certain drawbacks to draw a general conclusion about this issue. Therefore, this technology is subject to further improvements as to ensure the objectivity of sports results. In this sense, VAR should be applied and adapted to all sorts of sports. Only after such prerequisites are fulfilled and thorough analyses performed, one will be able to draw reliable conclusions about the usage of VAR. VAR can certainly contribute to better organization and management of sports events.

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