

The Effect of Fan Behavior on the Mental Health of A Sports Official

A Synthesis Project

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The Effect of Fan Behavior on the Mental Health of A Sports Official

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Abstract

Sports officials often times hear verbal abuse that can cause them to second guess themselves because of the reactions they receive from spectators. If it is from fans, coaches or even players officials have a tremendous amount of pressure in order to get the call correct. This can lead to stress that could greatly impact the mental health of an official. The purpose of this synthesis was to review the literature on the impact of fan behavior on an official's mental health.

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Chapter 1 – Introduction

Throughout sporting events officials experience many quick decisions that could determine the outcome of a game. They promote effective implementation of competition rules, and they are the main subject to make the game from getting out of control and keep operation in a fair condition (Xiaoping, 2015). A common challenge for officials is the need to process incomplete, intentionally deceptive and fast-paced information under time pressure (MacMahon & Mildenhall, 2012). Referees are an important aspect in sport that allows sporting events whether played or watched to take place. Anshel, Kang and Jubenville (2013) noted that sports officials often experience various forms of acute stress during a single contest after making an error in their call or when an error is committed by their partner. In addition, referees may have to contend with verbal abuse from players, coaches and spectators which can also result in undue stress. Fans will often blame officials for making an incorrect call which will force officials to question whether or not they should continue to do this job. The mere survival of sports is dependent upon strategies to successfully retain individuals in the refereeing of sporting events (Warner et al., 2013). Research on referees has focused primarily on the on-court experience and has highlighted on-court experiences of abuse and psychological reactions, which have been assumed to lead to referee's choosing to not officiate sports (Warner et al., 2013). In these competitive and high-pressure situations, sports officials are more prone to commit errors (Ritchie et al., 2017). Referees as facilitators or conductors of every game play an extremely critical role in sports because they are one of the most important elements in providing pleasant and fair experiences to participants, spectators, and others in sporting

events (Cuskelly & Hoye, 2013; Grunski, 2002). Yet, the toll it takes on their mental health causes officials to experience a lot of different variables such as stress, lack of job satisfaction, and burnout (Wann et al., 2017).

Statement of the Problem

It is evident that over the years officials have become the target of abusive behavior and have been forced to take the blame of the outcome of the game, regardless of how well the game was called. The psychological effects of abusive behaviors by fans can have a negative impact on the mental health of these officials leading to burn out and quitting the profession.

Purpose of the Study

The purpose of this synthesis project is to review the literature on the effect of fan behavior on the mental health of sport officials.

Operational Definitions

1. **Sports Officials-** Referee refers to the person who evaluates scores, the outcome and ranking of athletes (team) according to competition rules in sports competition process. (Xiaoping, 2015)
2. **Mental Health-** A persons, emotional, behavioral and cognitive wellbeing.

Research Questions

1. What is the relationship between fan behavior and the impact it has on an official during a game?
2. What is the effect of fan behavior on the mental health of officials?

Delimitations

1. All articles were published between 2009 and 2020

2. All articles were peer reviewed
3. All articles examined the effect of fan behavior on the mental health of sports officials.

Chapter 2 – Methods

The purpose of this chapter is to review the methods used to review the literature on the effect of fan behavior on the mental health of sport officials. The studies collected for this synthesis were located using the EBSCO database from The College at Brockport's Drake Library. Within the EBSCO database the following databases were searched: SPORTDiscus and Academic Search Complete. Within these databases a total number of 10 articles met the criteria for inclusion as part of the critical mass within this literature review. In order for an article to meet the criteria for selection in this synthesis it must have been published between 2009-present, this will provide the synthesis with the most up to date and current information available. Other criteria for selection included scholarly and peer reviewed articles that were full-text. Having scholarly and peer reviewed articles provides more validity within the articles and better overall quality. Other articles or sources selected as part of this literature review provided context about the topic, background information and supplemental information to complete the review. All articles and sources are appropriately cited in the reference section of this paper.

In order to gather valuable articles for this synthesis certain keywords and phrases were used when searching the data-base. The first search was sports officiating and definition. A total number of 18 articles were found and 1 of those articles was used. This was the term that was searched because it would allow a better understanding of what a key terms could be used in order to find the correct data. The next search term was sports officiating this resulted in a total of 386 articles. The next search the key term, stress management was added. This resulted in a total of 3 articles and 2 were used. These

terms were used because it directly relates to the purpose statement with regarding sports officials. The term stress management was used because it would specify a specific feeling that a sports official would have. On the second search the terms, “Sports Officials” and Mental Health was used. This resulted in a total of 3 articles that were presented and out of these articles one journal was used. With the key term “Sports Officials”, Personnel was added. This resulted in a total of 15 articles and a total of 2 articles were used. With key terms being seen in this article, the term performance was added to the previous and this resulted in 2 articles and 1 was used. This key term was added due to the fact officials are judged by the performance that they have during the sporting event they’re officiating. The next search that was used was Sports officials, and Job Stress. This resulted in 3 articles and a total of 2 articles were used. The final search used the key terms, Sports officiating, competition and fans. This resulted in only 1 article. This article directly related to all of the key terms in my purpose statement.

Articles that were selected for use in this synthesis were scholarly and peer reviewed articles that were full-text. Also when selecting articles for use in this synthesis it was important that each article selected had valuable information related to the impact of fan behavior has on an official’s mental health.

Specific criteria were used in order to be a part of the literature review. All of the articles selected were based on the impact of fan behavior and how it impacts an official’s mental health. Participants in the studies reviewed were officials of many different sports that consisted of many different age groups when conducting these studies. Also these studies were done in different ways to find out different information on how this issue has impacted the mental health of officials. These test were conducted

through a variety of different sports that consisted of, Badminton, Basketball, Fencing, Gymnastics, Handball, Rugby, Swimming, Soccer, Taekwondo, Tennis, Track and Field, Volleyball. These consisted of males and females from the ages of 18-60 that have officiated before at any level of sport.

For this synthesis a total number of 10 articles were used to compile data on the topic of the impact of fan behavior on an official's mental health. Articles came from a variety of journals including, International Journal of Sport and Society, Journal of Sport Behavior, Journal of International for The investigation of Stress, Journal of Sport Management, Journal of Sport Sciences, Psychology of Sport and Exercise, International Journal of Sport Management, Journal of Physical Culture and Tourism, and Journal of Physical Education and Sport.

The critical mass for this synthesis is comprised of 3,658. Within the 10 articles used for the literature review there was a total of 3,122 males and 336 were females and 200 were not identified.

Data were analyzed using the following methodologies for the studies under review, stress tests, surveys, and evaluation of goals that were set. The most common way of testing was the use of evaluation of the official's mental state before and after a contest. When testing these behaviors officials were asked a series of questions that helped create a baseline of their behaviors.

Chapter 3: Review of Literature

The purpose of this synthesis project is to present a review of the literature on the effect of fan behavior on the mental health of sport officials. Negative fan behavior such as verbal aggression and physical abuse can have an impact on stress levels of referees and effect the overall performance of an official throughout the competition. These types of behaviors will be more fully explored in this synthesis. Specific topics to be reviewed include stress, verbal and physical abuse and motivation of officials.

Stress

Officials in high pressure situations often experience increased stress levels due to the interactions they have with coaches, players, and fans. With the increase in violations during the game, it increase the probability of an incorrect call which enhances fear of failure and increase stress levels (Ritchie et al., 2017). Ritchie (2017) examined the effects of perceived pressure situations on officials stress levels. There were a total of 108 participants, 102 male and 6 female basketball officials that were handpicked. The average age of these participants was 51 and ranged from 20-70 years old. The questionnaire was measured by Stress Appraisal Measure (SAM). The SAM test consisted of conceptualization of stress based on the two cognitive appraisals primary and secondary. It consisted of seven four-item subscales for a total of 28 items. Primary appraisal has three dimensions: threat, challenge, and centrality. Secondary appraisal consists of three dimensions: controllable-by-self, controllable-by-others, and uncontrollable-by-anyone. A final subscale was an overall stressfulness measure. The

SAM uses a Likert-type scale ranging from one (not at all) to five (extremely). Means were calculated for each subscale to obtain a scores from 1–5. The research was initiated by a survey that was sent out which required the participants to look over the agreement. Then participants were asked to fill out the demographics before beginning the series of situations that would be presented and the SAM test. Participants were also asked to fill out the level of the most important games that they have officiated during their careers, this was asked because most officials are asked to official lower games then their certification presents them with and would be asked about stressful situations. Participants then read a hypothetical situation which varied in only in score differential and time of game. After reading each situation they were then asked to fill out the SAM report.

The participants were presented an in game situation that they had to read over and respond to a questionnaire about how they would react in the various situations. They were presented 9 different score combinations and time remaining in the game. Three temporal phases were used: early first 2 minutes of the game, last 2 min in first half, and last 2 min in second half. Additionally, three score differentials were introduced: tie game, close game or routed game (Ritchie et al., 2017).

The stress level were tested by using the temporal phases and score differential within the participants factors. Comparisons were used to compare the stress levels with the different scenarios presented. Additionally, interactions were further analyzed using a t-test between perceived stress levels and challenges of the game. The data resulted in the support of the hypothesis which consisted of stress level increasing as time of game

expired. The stress levels of each individual was significantly higher at the end of the second half compared to the start of the game. Also the data confirmed that the differential of score was a main effect of the stress level with the participants.

As demonstrated, sports officiating can be a very stressful occupation and thus, sport officials can suffer from numerous illnesses due to the stress they experience (Voight, 2009). Voight (2009) investigated the acute stressors that officials have experienced and the coping strategies they have used to manage their stress levels. The goal was to, gather information regarding types of situations that forced officials into stressful situations. Participants included 191 soccer officials that attended a training program across 11 different regions in the United States. That participants consisted of 184 males and 7 female officials. The average age of these officials was 40 years old and consisted of 3 to 34 years of experience of officiating. The questions that were asked were modified from a previous study that used the Basketball's Official's Sources of Stress Inventory (BOSSI). Seven additional questions were added to this list of 15 to attempt to create a more comprehensive list of potential stressors for officials. These questions were examined by a group of experienced officials to determine if these questions were clear and comprehensive. Participants were given 22 different stressor scenarios and asked to circle a number from 1-15 to acknowledge the level of stress that they had experienced during the situation. An example of this was an official calls a red card and receives verbal abuse by one of the following: coaches, players and/or spectators. Another version of 48 questions was given to the participants to learn the coping strategies that they used for the stressor. Officials who reported to have moderate

or high level of stress towards the 22 stressors reported were asked to complete the next set of questions being asked. For each of the reported stressor the participants identified the particular coping strategy used and indicated how much they used this strategy. 1 being not often, 5 being a high level of usage.

Of the 191 participants, 150 officials expressed at least 1 out of the 22 stressors that was presented to a very high extent. The highest level of stressor from this resulted in conflict that an official received after making a controversial call. The highest coping strategy for this stressor was communicating to other officials explaining the situation that they were in and how they would handle the stressor. This coping strategy was cited 44 times by the officials that answered the questionnaire (Voight, 2009).

Similarly, Anshel, Kang and Jubenville (2013) aimed to reveal acute stressor that officials experience during a game related situation. They explain that acute stressors such as making an error, receiving verbal abuse from coaches, athletes, or spectators, and being evaluated by a supervisor may affect the official's emotional well-being, job satisfaction, and performance. Anshel, Kang and Jubenville (2013) used the Rasch Model to develop and calibrate the sources of acute stress items among the population of sports officials.

Participants were registered sports officials in a state located in the southeastern United States. The total number of participants included 3300 of which 2,970 were males and 330 were females who represented high school, collegiate, and professional athletic associations throughout the United States. Sports represented included basketball,

football, baseball, softball, volleyball, soccer, track, swimming, lacrosse, ice hockey, gymnastics, cheerleading, and bowling. 1,650 of the participants indicated they had officiated in multiple sports.

Surveys were sent to each individual official and consisted of 13 situations of acute stressors that they experienced during a game-related situation. They were asked to rate the intensity of each situation. The survey was based on a Likert scale ranging from 1 not stressful to 5 very stressful situations. The Rasch Model was then used to analysis the data. This consisted of two-facet model which included the level of difficulty of each acute stress item and the intensity of each item. Results indicated that two items in this test were high in the statistically category. These consisted of an official saying he was sexual harassed and they received threats of physical abuse when officiating.

Verbal and Physical Aggression:

The violent and aggressive actions of spectators at sporting events has been a known problem that has impacted sports greatly. The game of rugby has significantly advanced and has developed during the course of its history. With this advancement it has resulted in a high number of incidences of abuse to the officials in matches. Rayner (2016) explored the forms of abuse experienced by rugby officials in the rugby union. There was a total of 106 participates, in which 104 were male and 2 were female. They represented active officials in one of the four county unions under investigation, representing the five categories of referee level: Society, Federation, Regional Group, National panel and Elite. (Rayner et al., 2016) These officials ranged in age between 18-

54 years old. A survey was sent by email to find out from the referees to explain the forms of abuse they have received while officiating.

The survey included multiple choice, Likert scale and free text format questions. The questionnaire empathized qualitative data within the design because it allowed more of an opportunity for the referees to comment on the type of abuse that they have been subjected too.

The referees department disseminated the questionnaire to the participating unions and the referees registered using their email addresses. The referees were informed that the questionnaire was only available for completion within a nine week timeframe to ensure that the project would be current. The survey itself was administered through Google Survey. Referees identified players, coaches and spectators as the individuals from which they receive abuse.

Those referees that stated that they received some form of abuse were subsequently asked the form of abuse, with referees permitted to select more than one form of abuse. Referees identified spectators were reported as being the main source of abuse accounting for 28.8% of all abuse reported, the predominant form of this abuse was of a verbal nature making up 88.8 % of all reported abuse (Rayner et al., 2016).

Aggression is generally a purposeful behavior displayed in order to humiliate or hurt others, and aggressive behavior can be defined as deliberate and conscious behavior aimed to harm another person (Heydarinejad & Gholami, 2012). Heydarinejad, and Gholami (2012) attempted to identify the factors of aggression among soccer spectators

in Khuzestan. The participants included Esteghlal Ahvaz and Foolad Khuzestan football clubs. Each of the participants were supporters of one of the soccer clubs. The total number of participants were 6,500 football fans with 4,000 Foolad Khuzestan fans and 2,500 Esteghlal Ahvaz fans. Data were collected with the use of a questionnaire that included two sections. Section A consisted of respondent's personal data. Section B contained 30 items graded on a 5-degree Likert scale. The items were grouped in four factor ranges related to stadium safety and hygiene, refereeing, the media, and management and planning (Heydarinejad & Gholami, 2012).

The most significant findings were the aggression towards officials. These results consisted of an official giving a player a yellow or red card, the unfairness towards a player or the stoppage of an official. The results found that 79% of those taking the survey displayed aggressive behavior towards an official when the spectator thought an official made an incorrect call.

Countless and varied instances of fan behavior have been reported that consist of intimidation of rival fans, riotous behaviors, insult of officials, and disrespect of event staff. Smith and Lord (2017) highlighted the interactions of sport fans and the behaviors they display during a sporting event. The purpose was to examine whether the questionable fan behavior could be perceived as problematic.

The participants consisted of 151 undergraduate and graduate students that were enrolled in universities in the five largest cities and media markets in the United States. Also these cities needed to host several professional sports teams. There was a total of 99

males and 52 females used as participants. The participants, after giving consent, completed a self-administered questionnaire that included questions about demographics, ethical positions, and their reactions as sports fans. Participants provided data about their individual ethical ideologies using the Ethics Positions Questionnaire (EPQ). The EPQ is comprised of two separate 10-item scales, which measure ethical idealism (deontological) and ethical relativism (teleological), respectively (Lord & Smith, 2017). They indicated their agreement with each item using the 5-point Likert scale then these scores were computed by totaling its 10 respective items. The Likert scale consisted of 1 being very low interest and 5 being very high interest.

The participants were given 4 different scenarios that would capture their moral reactions, these scenarios gave examples of fan behavior such as shouting at players or coaches, taunting of officials, and expressing hatred towards players or coaches and officials. The results were determined by the reactions of participants to each scenario. These results provided valuable insight regarding reactions to questionable sport behavior. The results confirmed that ethical ideologies have a significant effect on the perceptions and intentions regarding the sports fan.

Team identification is commonly defined as the extent to which a fan feels a psychological connection with a team (Wann et al., 2017). Wann et. al., (2017) studied the effect of team identification on verbal aggression of fans during a college basketball game. Participants consisted of, 89 spectators that attended a men's basketball game 34 male, 52 female and 2 not reporting gender. Participants had a mean age of 31 years of age. These participants were seated all over the arena, to give different perspectives on

their surroundings. Participants were approached at different locations within the basketball arena prior to the start of the contest. They were provided with general information and asked if they would be willing to participate. They were told that there would be multiple testing sessions, one occurring prior to the contest and one occurring immediately after the conclusion of the game. After agreeing to participate, the participants were then handed the pregame questionnaire. The pre-game questionnaire contained three sections. Section 1 contained demographic items assessing age, gender, and the last four digits of their social security number. The four digit number was used to be able to compare pre and post responses. The next portion of the pre-game packet contained the Dysfunctional Fandom Questionnaire. The DFQ contains five Likert-scale items assessing dysfunction as a fan, for example, confrontation and complaining. Response options to the DFQ ranged from 1 low dysfunction to 10 high dysfunction. Thus, higher numbers reflected greater levels of dysfunction as a fan. The final section of the pre-game form contained the Sport Spectator Identification Scale (SSIS). The SSIS contains seven Likert-scale items with response options ranging from 1 low to 8 high identification (Wann et al., 2017).

The participants were then given the instructions on where to meet after the contest to complete the study. The first section of the post-game survey contained two informational items. Participants were asked to indicate the last four digits of their social security number and to indicate if they had been seated in the upper deck or lower deck when watching the game. Next, they completed the Hostile and Instrumental Aggression in Sport Questionnaire (HIASQ). The HIASQ is an eight-item Likert-scale inventory

designed to assess the extent to which spectators were verbally aggressive toward opposing players and game officials. Scores ranged from 1 not at all to 8 a great deal. Participants were debriefed and excused from the testing session. The authors determined that team identification was a significant predictor of overall aggression toward both officials and opponents. Also, fans who were more dysfunctional had a higher aggression of hostile and instrumental aggression towards officials and opponents.

Similarly Zelyyrt, and Atacocugu (2017) revealed that 93% of Turkish officials had experienced some form of verbal or physical abuse while officiating. The objective was to find out the most dominant social stress elements on the referees. The research contained two sections, the first section was the review of literature about the profession of referees in Turkey, and the second section was in-depth interviews conducted about the experiences of these referee's. The survey's formed applied to 55 male referees of 5 classifications during referee trainings in Istanbul. The survey included questions that aimed to reveal whether referees had ever experienced any kind of verbal or physical assault by the fans, players, coaches and the club managers.

The results showed that 29 of the participants had been exposed to swearing, 21 of them had been exposed to both swearing and physical assault; 2 participants had been exposed to physical assault; and 3 of the participants had experienced neither physical nor verbal assault.

Referee Motivation

Psychological violence and pressure are variables that affect the development in a work place negatively. These factors also impact the atmosphere of the work place, the performance and it can also create negative attitudes and behaviors amongst workers. Ercan, Ugur, Birol (2017) explored the violence and pressure faced by soccer referees.

The research was carried out in Turkey with 17 referees aged between 28 - 36 years old who worked in different levels in Turkish Football (Soccer) Federation in 2013-2014. Four of 17 participant soccer referees worked as National referees, 7 of them work as Regional referees, and 5 of them work as Provincial referees. The participants also had at least a 10 years of football refereeing experience. In the interviews formed, there was two warm-up questions that include personal information aimed to prepare the interviewer for the interview, followed by two main questions regarding the internal environment and external environment of the workplace. The interviews were carried out by applying the focus group method. By using this format, the researchers wanted to know the more personal experiences each referee had. Interviews were made with 4 different groups, including approximately four people for each. All the interviews were performed on a volunteer basis on the desired day, time, and place having appointments with the people who wanted to participate in the research. The interviews were recorded by a digital tape recorder with consents of the participants. The interviews lasted approximately 50 minutes to 80 minutes, and the total interview period was 4 hours, 10 minutes.

Descriptive analysis was used in the analyzes of the data. Data were transformed into texts by the researchers and tables were formed by listing the answers of the

participants for the same questions. Data were then summarized and interpreted in descriptive analysis and made ready for the content analysis. Content analysis is a method used for characterizing and comparing the findings of the records of the documents and interviews (Polat et al., 2017). Following the content analysis data was formed into themes. The codes used to analyze data were created separately by two researchers and were compared to ensure that consistency was achieved. Letter coding was used in order to determine which focus group the interview notes belonged to and the codes were formed by giving numbers to the individuals included in each focus group (Polat et al., 2017). Results showed some psychological violence and pressure factors in the external environment of the workplace of the referees. These external factors included: the audience (fans), coaches, players, media, and sports club managers.

Motivation is a complex process that influences individuals to pursue and persist in an activity (Bernal et al., 2012). Bernal et al., (2012) examined sport officials' motivation and passion to become and remain a referee in today's sport climate. They surveyed 25 basketball officials at the high school and collegiate level. The survey attempted to find out the perception of the official before, during and after the game. One hour prior to game time, officials were administered the Competitive State Anxiety Inventory –which measures cognitive state anxiety, somatic state anxiety, and confidence, and the Sport Competition Anxiety Test which requires them to assess how they “generally” feel when they are involved in sports (Bernal et al., 2012). Within 30 minutes of the start of the game, the officials responded to a questionnaire requiring them to list their three primary reasons for becoming a basketball official. The results of this

showed that officials felt less anxious once the game started and that officials mentioned that they only officiate for the love of the game. Other reasons that the participants decided to officiate consisted of money, excitement, and the experiences of the game.

Summary

The purpose of this chapter was to review the literature on the effect of fan behavior on the mental health of a sports official. The first aspect reviewed was the stress that an official can experience during a sporting event and how to cope. Stress levels impact the ability an official has to perform their jobs to the best they can. Next, was the aggression of fan behavior, officials experienced many different forms of abuses such as verbal and physical and both of these aspects can impact an official in many different ways. Finally, articles were reviewed if motivation was an impact on official's mental health during a game Officials will experience many different emotions and these emotions can be either positive or negative. Collectively, these articles reviewed the aspects of three crucial impacts on an officials mental health, it can be concluded that fan behavior does have an effect on the mental health of a sports official.

Chapter 4

Results, Discussion and Recommendations for Future Research

The purpose of this chapter is to present the results of the review of literature on the effect of fan behavior on the mental health of sport officials and how these results align with the research questions which guided this synthesis project. In addition, recommendations for future research as it relates to the impacts of fan behavior and the effect of an officials mental health are presented.

The results of this review of literature revealed that fan behavior can have an impact on an official's mental health. Especially when it comes to an official being harassed before, during or after the game. A correlation exists on when the official is being harassed. In addition, officials who have experienced inappropriate fan behaviors has led to a decrease in officials due to stress and burn out. Those officials that have continued being an official have demonstrated great resilience and indicated that they continue to work in this capacity predominately for the love of the game (Bernal et al., 2012).

Discussion

Interpretations

As part of this literature review, several research questions were posed. The first research question examined was, what is the relationship between fan behavior and the impact it has on an official during a game? The results showed that there is a relationship

between the impacts of fan behavior on an official during a game. Rayner et al., (2016), found that referees identified players, coaches and spectators as the individuals from which they receive abuse. Specifically, referees identified spectators as being the main source of abuse. With verbal abuse in mind, other researchers had found similar results. Polat et al, (2017), found that officials hear swears and threats that are towards them. These behaviors put unwanted pressure and psychological issues on an official during the game that make the decisions they need to make very difficult.

The other research question that was studied was, what is the effect of fan behavior on the mental health of officials? The results from the research suggest that officials feel unwanted stress levels when it comes to being an official. Ritchie et al, (2017), found that the level of stress for an official went up as the time of the game increased. Similar to this, Anshel et al, (2013), found that making an error as an official and receiving verbal abuse from either a coach, a player, or spectator showed that these behaviors impacted an official's well-being and performance.

Implications

When it comes to previous research done on an officials mental health there is agreement that verbal abuse and threatening behaviors makes an impact on their health. Researchers recognize the need for officials to develop coping strategies that can be used in order to help improve their health and well-being. If verbal abuse and physical threats continue by coaches, players and fans the number of officials that are impacted by these

actions will rise, so having ways to offset the impact of these behaviors and reducing or eliminating inappropriate fan behavior needs to continue to be explored.

While verbal abuse on officials can impact their mental health, Anshel, Kang and Jubenville (2013) reported that what impacted the stress and mental health of officials most was making an incorrect call as they know their calls can affect the outcome of the game. They felt the coping strategies that these officials used to deal with verbal abuse regarding coaches, players and fans were the reason that this wasn't the highest stressor.

From the results found within the research, it appears that results confirmed the existing theories on the impact of fan behavior on the mental health of officials. Research shows how the abuse impacts an official and the best ways of coping with the stress they receive from it. It shows that it can force an official to question themselves if they made the correct call at any point of the game. Verbal abuse can lead to work-related pressure, unsatisfying work places, fear of failure, and increase stress levels (Polat et al., 2017). With an increase of knowledge regarding different coping strategies used by officials, it will allow for reduced stress levels when they receive abuse from spectators.

Recommendations for Future Research

In reviewing the data based on the effect of fan behavior on an official's mental health, the following limitations were noted regarding the studies. The lack of knowledge that an official may experience on social media. Another limitation to think about is, an official answering questions on a questionnaire rather than having them answer questions

face to face. The lack of asking questions to an official directly after a game, where their emotions are directly related to the event they just experienced.

Based on these limitations and other insights related to the literature the following recommendations for future research should be considered:

1. Further research on the effect of social media on the mental health of officials.
2. Research on the emotions of officials directly following the sporting event as opposed to survey related to scenarios.
3. Strategies to promote coping mechanisms for officials when confronted with outside stressors as a result of fan behavior.
4. Strategies to reduce unacceptable fan behavior to totally eliminate this type of stress on officials.

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Appendix A

Author	Title	Source	Purpose	Methods & Procedures	Analysis	Findings	Discussion/ Recommendations Research Notes – Commonalities/Differences
Jason Ritchiea , Itay Basevitchb , Ryan Rodenberg and Gershon Tenenbauma	The effect of situation criticality on officials' stress levels	Journal of Sports Science	Examine the effects of perceived pressure situations on officials' stress levels.	Obtained a survey of multiple game situations. These situations involved score, and time remaining in the game.	That high intensity game situations, effect referees stress levels	That stress can have a serious impact on referees during the game and they need to learn how to manage their stress levels by a possible rule change.	Stress was determined by intensity of the game. Related to other articles that linked stress with game situation. Correlation between stress level, and the impact of the score.
Mike Voight	Sources of Stress and Coping strategies of US Soccer Officials	Journal of International Society For The Investigation of Stress.	Investigate the acute stressors that officials have experienced and the coping strategies they have used to manage stress levels.	200 soccer officials complete and questionnaire that were attending a workshop. Rate situations 1-10 from stress levels.	Data analyses consisted of statistics on the major sources of stress.	Of those sampled, 150 of them Experienced at least one stressor.	This provides information that stress can have an impact on an official. Although all officials might not experience the same level of stress.
Mark H. Anshel, Minsoo Kang and Colby Jubenville.	Sources of acute sport stress scale for sports officials: Rasch calibration	Journal of Psychology and Sport	The purpose of this study was to develop and calibrate the sources of acute sport stress items among the neglected population of sports officials using the Rasch model.	3300 participants with valid data, 90% were males, ranging in age from 20 to 58 years old 3-24 Years of Officiating.	Self-reported student over 13 sports officials across the country.	That a majority of officials are under control besides in certain situations they can have high stress.	That all of the stress levels were normal besides when the referee said "I made an incorrect call" or "I was out of position".
Mike Rayner, Tom Webb & Hayley Webb	The Occurrence of Referee Abuse in Rugby Union: Evidence and Measures Through and Online Survey	International Journal of Sport Management	To explore the concept of abuse within rugby union from a referee's perspective and evaluate whether the core values of teamwork, respect, enjoyment, discipline and sportsmanship	A total of one hundred and six referees responded to the questionnaire of which 104 were male and 2 were female. The majority of respondents fell within the 45-54 age bracket. Those falling in the under 18, 18-	Initial themes and ideas that emerged relating to the experiences were noted by each researcher. Data was then studied again and the preliminary themes were amended, developed,	Referees identified players, coaches and spectators as the individuals from which they received abuse. In total, 71 referees reported receiving abuse 35 referees	Although in this article there are reports of no abuse. The researcher found that a majority of these officials received abuse in some way. Verbal abuse is a big thing that influences mental health with officials.

				24 and 65+ age groups were the least represented in the questionnaire	refined by the research team	reported that they had received no form of abuse.	
Sedighe Heydarinejad, and Sajad Gholami.	Identification of factors of aggression incidence among football spectators in Khuzestan.	Journal-Physical Culture and Tourism	The purpose of this research was to identify factors affecting the incidence of aggression among fans of two Iranian league football teams from Khuzestan.	The statistical material was a population of 6,500 spectators of two Iranian league teams. The random study sample consisted of 354 respondents. Data was gathered using a two-part questionnaire that included respondents' personal data and 30 questions on a 5-degree Likert scale.	The questionnaire validity was confirmed by 15 physical education experts. The reliability of questionnaire was calculated at Descriptive and inferential statistics were used in the analysis.	The most significant factors in this area that lead to spectator aggression included referee's excessive use of yellow and red cards, unfairness towards players, and stopping play frequently.	This article showed reasons why spectators show aggressive behavior towards an official. Related to another study with results showing officials calls is a reason of aggression of fans.

Smith, Brent; Lord, John B	Bracketed Morality and Ethical Ideologies of Sport Fans	Sport in Society	The purpose was to understand how individuals values manifest in their ethical positions and basic reactions to scenarios related to sport fan experiences.	One hundred fifty-one undergraduate and graduate students completed a self-administered questionnaire. The questionnaire included questions about demographics, ethical positions and reactions to sport fan behaviors.	Data was analyzed in different scenarios that were presented during the questionnaire. Each of the data was separated by the scenario.	The spectator behavior has a significant influence on an official during a game.	This compares to the other articles that officials can be impacted by fan behavior. Scenarios presented were different from other articles and who the questionnaire was done by.
Daniel L. Wann, Paula J. Waddill, Danielle Bono, Holly Scheuchner and Kristen Ruga	Sport Spectator Verbal Aggression: The Impact of Team Identification and Fan Dysfunction on Fans' Abuse of	Journal of Sport Behavior	The effect of team identification on verbal aggression of fans during a college basketball game	Participants were 89 spectators (34 male, 52 female; 2 not reporting gender) attending a university men's basketball	Data was charted by the aggression level of the spectators. Also used Standard deviation to determine the average of the	That fan identification was a very high factor when it came to determining the aggression towards an official.	This showed similar results of studies before that fan has aggression towards official. Team identification play a contributing factor when determining aggression.

	Opponents and Officials			game between two NCAA Division I conference rivals.	aggression of the spectator.		Verbal Aggression was higher than physical aggression.
Mert Kerem Zelyyrt, and Muazzez Şasmaz Atacocugu	Social pressure factors aimed at football referees in Turkey: a study on the 2nd league, 3rd league and amateur league referees	Journal of Physical Education and Sport	Objective of the study is to find out the most dominant social stress elements on the referees of the two minor Professional leagues and the Amateur league.	Surveys were sent out to 194 soccer officials of all levels in Istanbul. Questions included if received any physical or verbal abuse from a spectator. A total of 64 Participants responded to the study.	Data was analyzed by the researchers and grouped together in sections of abuse.	29 of the subjects had been exposed to swearing, 21 of them have been exposed to both swearing and physical assault; 2 of them have been exposed to physical assault.	This study showed new signs of physical abuse. Also correlated with previous studies that verbal abuse has been used by spectator towards the officials.
Polat Ercan, Sonmezoglu Ugur, and Yalcin Hasan Birol	Psychological Violence and Pressure Activities Experienced by Football Referees.	Sport Journal	To determine the psychological violence and pressure faced by football referees.	17 Turkish referees between the ages of 28-36. Who worked in different levels of Soccer. With 10-15 years of	The categorized the interviews. These included codes that resulted in similar data	That there were findings of psychological violence and pressure factors while officiating.	Psychological and pressure factors had a major impact on officials. This revealed the pressures that officials have, this is the first article that has this related to the study.

				experience. This study was examined by questionnaire and interviews.	during each part of the methods.		
J.C. Bernal Charles Nix Douglas Boatwright	Sport Officials' Longevity: Motivation and Passion for the Sport	International Journal of Sport Management.	The purpose of this review was to examine sport officials' motivation and passion to become and remain a referee in today's sport climate.	25 male high school college basketball officials	A Survey was conducted to investigate their perceptions before, during, and after a basketball game	That they felt less anxious after the game then before the game. Officials felt less cognitive anxiety after a contest as compared to before	Officials are under a great amount of stress before, during and after the game. These can influence officials to quit the job they love because it impact their health a great amount. Related to other articles with stress due to a concept of asking similar questions regarding, before, during and after the game.