



RESEARCH ARTICLE

A Semiotic Analysis of A Sports Medical Drama Movie: Concussion

Çiğdem ÖNER*¹ 

¹Istanbul Rumeli University, Sports Sciences Faculty, Sports Management Department, Istanbul / Turkey

*Corresponding author: esenlik@cigdemoner.com.tr

Abstract

The increasing importance of concussion makes it necessary to read it from different perspectives within its reality. Therefore, this study aimed to comprehensively analyze the documentary film "Concussion" through Dr. Omalu's groundbreaking research lens. The study used semiotic analysis, a qualitative research method, to evaluate signifier-signified-sign and denotation-connotation in data analysis. In this context, The portraits of NFL, forensic pathologists, and team doctors were analyzed semiotically. The antecedents of athlete-rooted concussions and football participants' perceptions of American football were questioned. The study revealed that two phenomena become evident in the NFL's portrait: existential purpose and orientation toward threats. Another study result clarified that three main phenomena formed the portraits of the forensic pathologist and the team doctor: their behavior, mindset, and emotions. Research suggests that competition orientation is a leading factor for player-rooted concussion sequelae, characterized by the traits of war, hit, erase, fierceness, and endurance. Furthermore, American football was found to be depicted as a painful game that demands players' hardiness, winning will, awareness, strength, passion, forcefulness, and vigor. The connotation results maintained that American football is perceived as a battlefield, and a good footballer is interpreted as an assertive, resilient, aggressive, and challenging man overwhelming his opponents in any harsh way. In conclusion, the film invites viewers to consider how concussion affects football players and their families in the context of loss and trauma, how it inevitably exposes them to pain and death, and the struggle of a medical professional to prove a truth he has realized courageously.

Keywords

Athlete Health, Concussion, Mental Health, Soccer, Sport Injury

INTRODUCTION

Sports-related concussion (SRC) is a severe type of sports injury that is receiving increasing attention worldwide. As per its current definition, SCR is a complex and pathophysiological process caused by biomechanical forces in the brain (Akıncı et al., 2021; Turner, 2019). SCR may momentarily disrupt the electrical activity of some brain cells, resulting in a brief cessation of proper brain functioning. This condition can lead to a range of clinical symptoms that may or may not include loss of consciousness (McCrea et al., 2013; McCrory et al., 2009). Considering the clinical effects of concussion, it became clear that

the issue manifests itself as two comprehensive disorders with multiple dimensions. The first is early-phase posttraumatic disorder, which encompasses acute symptoms such as headache, dizziness, fatigue, sleep disruption, impaired cognition, and sensitivity to light and sound. The second is late-phase posttraumatic disorder, which includes somatic, emotional, and cognitive symptoms (Dwyer & Katz, 2018).

Yıldırım et al. (2020) state after sustaining a concussion, individuals typically experience a range of further physical symptoms, including nausea, sensitivity to light and sound, tinnitus, blurred or double vision, seizures, and sometimes even loss of consciousness. Cognitive symptoms

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such as slowed reaction time, difficulty concentrating, memory problems, weakness, and disorientation are also commonly seen. As emotional changes, athletes experience irritability, personality alterations, anxiety, depression, and eating disorders, may also occur. Moreover, sleep-related symptoms, such as insomnia, fatigue, or drowsiness, may be observed.

As [Broshek et al. \(2015\)](#) pointed out, elite athletes may indeed face significant cognitive and psychological effects from multiple concussions. Chronic Traumatic Encephalopathy (CTE) is a condition characterized by progressive neurodegeneration, which has been linked to repetitive concussions ([Stein et al., 2014](#)). Bennet Omalu, a forensic pathologist, discovered this disease in 2009 while performing an autopsy on retired NFL star Mike Webster ([Mez et al., 2013](#)).

The mechanism by which a concussion occurs is the most critical factor determining the injury's severity. The mechanism varies depending on the sport type and the athlete's position. [Seiger et al. \(2015\)](#), in their retrospective study, stated that concussions were most common in American football and football and that concussions resulting from motor vehicle accidents may be more serious injuries than typical concussions that occur during sports.

Studies in sports sociology present compelling evidence that psychosocial factors surrounding sports injuries, including concussions, are best understood in the context of sociocultural influences. This is due to the prevalent norms within sports culture that place greater emphasis on an athlete's performance over their well-being, often promoting and rewarding those who endure pain and injury as a means to gain respect ([McGannon et al., 2013](#)). However, [Broshek et al. \(2015\)](#) drew attention to the tendency to downplay the short- and long-term consequences of repeated head trauma.

While a concussion is often trivialized in the media and sporting circles as a “knock” to the head, the 2010 publication of the forensic pathology findings in a series of deceased professional American athletes aged 50 years or younger who died following suicide or after multiple suicide attempts, raised concerns regarding the possibility of long-term severe sequelae of repeated concussions ([Khurana & Kaye, 2012](#)).

In the scenes shown throughout the film, evaluating the events and facts surrounding the concussions experienced by football players playing in the American National Football League from the perspective of the work of Nigerian forensic physician Dr. Bennet Omalu and clarifying the psychosocial contents produced specifically for concussions in athletes constitute the other aims of the study. In line with these purposes, the research focuses on solving the following questions;

1. What is signified in portraying the organization featured in the film?
2. What is signified about the team doctor and the forensic pathologist as the main actors in the film plot?
3. What is intended to be shown about the athlete-rooted causes of concussion?
4. What does the movie produce the meaning of "American Football" through the individuals participating in sports?

The absence of semiotic analyses in existing research on sports-related concussions underscores the necessity for additional literature on narrative analysis. Regarding this necessity, documenting through a biographical sports drama film the signifier-signified-sign system, the system giving meaning to the signs in question, the codes generating the meaning, the intellectual structure, and the sociological implications that the codes reveal underpin this study's originality. The designed research will provide valuable insights to psychosocial experts in sports focusing on concussions, sports managers, scientists specializing in sports medicine and eclectic studies, and new researchers. This study is significant as it will help bridge a critical gap in the existing literature.

MATERIALS AND METHODS

This section provides crucial details regarding the utilized research model, the research unit, a brief overview of the film's content, and an in-depth analysis of the data gathered.

Research Design

This research used semiotic analysis method, one of the qualitative research designs. The study of signs is the subject of semiology, and the study of discourse and meanings is the subject of semantics. The systematic examination of verbal or non-verbal sign systems that constantly

reconstruct meanings is called semiotics (Mutlu, 2017). According to Rifat's (2022) interpretation, semiotics focuses on the form of the content and the elements that create meaning. Various indicators play a vital role in enhancing human communication. These include nonverbal cues like gestures and facial expressions, cultural practices like forms of worship, artistic creations like photographs and paintings, symbols like icons, and language itself. Semiotics focuses on three distinct areas: (a) the sign itself, (b) the codes or systems in which the signs are organized, and (c) the culture in which the signs exist (Fiske, 2010).

Ünal (2014) states that everything material or abstract that surrounds humanity is meant as a sign. As per the researcher, the objects, entities, or tools that are used and interacted with, the letters, words, and phrases used to express these, the terms used to describe various events, situations, and emotions, and the established systems, structures, and processes are telltale signs.

Ferdinand de Saussure argued that the most basic sign is language. His semiotic method emphasized that it consists of the holistic relationship between (a) the signifier and (b) the signified. Signifier is the word order that expresses the sign; the signified refers to the meaning created by this sign in the mind (Çakı et al., 2017; Güngör & Aydın, 2011; Mutlu, 2017). Fırat (2022) states that a sign represents something in any context or capacity. The signifier creates the meaning of the sign, and the interpretation of the signifier is shaped by one's mental understanding of the sign, as explained by Odyakmaz and Odyakmaz Acar (2008). Therefore, semiotics is a complex field encompassing multiple factors, as Akova (2020) noted.

Analyse Unit: A Brief Content of the Film

The severe injuries experienced by American Football players, such as critical head injuries, traumas, and brain injuries, have a tragic dimension that disables them for life. Director Peter Landesman, in his story based on a magazine article, emphasizes how the repetition of such damage affects the athletes and their lives.

Within the context of the game, Mike Webster is pointed out as the first player to suffer a concussion. Webster is a Hall of Fame Pittsburgh Steelers center. After his jubilee, he became homeless and led a self-destructive lifestyle. His persistent headaches, vision issues, and auditory hallucinations tested his fortitude, ultimately

leading him down a path of self-destruction and substance abuse.

Before his passing, Webster is paid a visit by former football player Justin Strzelczyk. During this visit, Strzelczyk confides in Webster about his struggles with memory loss, erratic behavior towards his children, and nearly harming his wife. Despite the somber nature of this conversation, Webster responds with an unusual statement, suggesting that "all we have to do is to finish the game."

Bennet Omalu, a forensic pathologist in Pennsylvania, performed Webster's autopsy. Omalu closely examines microscope slides of his brain, wondering how a healthy man could be so damaged. On this examination, he finds evidence of austere neurotrauma. Omalu decided that Webster passed away as a result of the prolonged effects of repetitive beats to the head, a disorder he calls chronic traumatic encephalopathy (CTE).

Assisted by esteemed neurologists Julian Bailes, Steven DeKosky, and county coroner Cyril Wecht, Omalu shares his research in Neurosurgery, which the NFL swiftly disregards. Over time, Omalu uncovers that Strzelczyk, Terry Long, and Andre Waters, all deceased NFL players, displayed comparable symptoms to Webster.

After convincing newly appointed NFL commissioner Roger Goodell to allow him to present his findings before a player safety committee, Omalu was dismayed to find himself barred from attending the meeting. As a result, former NFL employee Bailes delivered the presentation on his behalf. Despite the gravity of the findings, the NFL dismissed them and denied any connection between head trauma and football. Former NFL Players Association executive Dave Duerson even went so far as to angrily confront Omalu, telling him to "go back to Africa."

Football is a widely beloved sport in Pittsburgh, providing jobs and college opportunities to players. Although, facing immense pressure, Omalu remained steadfast in his efforts to shed light on the dangers of football and refused to back down from his mission to uncover the truth. Wecht faces corruption charges due to political motives, while Omalu risks deportation and prison time for damaging the NFL's reputation. Prema, Omalu's wife, suffers an abortion after being chased in her car. The Omalus

are forced to leave their dream home outside Pittsburgh, relocating to Lodi, California, where he finds a job with the San Joaquin County coroner's office.

Prema, Omalu's wife, was exposed to an abortion after being chased in her car. The Omalu family is conceded to move their home outside Pittsburgh to settle in Lodi, California, where the doctor finds a job.

After three years, Omalu is justified when Duerson attempts to kill himself because he is unable to cope with worsening cognitive function. Duerson, in his suicide letter, clarified that Omalu was right and donated his brain for future research. Dr. Omalu has been extended an invitation to deliver a keynote speech on the subject of concussions and CTE at an NFLPA conference. During his address, he candidly reveals that there was a time he regretted ever knowing Mike Webster. Nevertheless, he recognizes that his connection with the late NFL player has instilled

in him a duty to educate athletes about the perils of football. Dr. Omalu makes it clear that he bears no ill will towards the NFL and imparts on them to absolve themselves and seek inner harmony.

Throughout residual inspection from Congress, the NFL was compelled to give weight to the concussion issue. In 2011, NFL players indicted the league for not appropriately enlightening against the risks of CTE. Dr. Omalu was proposed for the job of Chief Medical Examiner for the District of Columbia. However, Omalu declined the offer to stay with his family in Lodi, becoming naturalized as a U.S. citizen in February 2015. A final fiction demonstrates reports of Junior Seau's suicide in 2012 and consecutive lawsuits brought against the NFL by thousands of former soccer players.

Descriptive Items of the Film as Research Unit

Table 1 provides the descriptive items of the movie 'Concussion'.

Table 1. Descriptive items of the film

Descriptive Criterion	Details
Director	Peter Landesman
Story	Peter Landesman
Based on	"Game Brain" by Jeanne Marie Laskas
Producer	Ridley Scott, Giannina Facio, David Wolthoff, Larry Shuman, Elizabeth Cantillon
Cinematography	Salvatore Totino
Edited by	William Goldenberg
Music	James Newton Howard
Starring	Will Smith, Alec Baldwin, Gugu Mbatha-Raw, Arliss Howard, Paul Reiser, Luke Wilson, Adewale Akinnuoye-Agbaje, David Morse, Albert Brooks
Production	Columbia Pictures, LStar Capital, Village Roadshow Pictures, Scott Free Productions
Distributed by	Sony Pictures Releasing
Type	Sport Drama
Language	English
Released Date	2015
Running time	122 minutes
Country	United States

Data Analysis

According to Kaplan and Terek Ünal (2011), a text may analyzed at three levels: Discourse analysis, narrative analysis, and basic structure (logical-semantic structure) analysis. This study employed narrative analysis and discourse analysis methods. Narrative analysis investigates how the

text content is organized; in other words, how people function in the plot and how these functions are articulated by creating a narrative. It also examines initial and final situations and the person and their actions that transform these two situations (Rifat, 2022). In analyzing the narrative of cinematic signs, the difference between "main

meaning and connotation" is essential, as Kaplan and Terek Ünal (2011) mentioned. In movies, actional relationship processes only sometimes go towards an end; occasionally, they are interrupted and continue by listing the same values without following a specific development. In other words, events progress in an episodic juxtaposition, as Sözen (2008) described. As Barthes (2023) states, what grounds the text is not a closed internal structure that can be foreseen but the point at which the text opens to other texts, codes, and signs. What makes a text is the intertextual relationships. Discourse analysis examines how a text is communicated linguistically, as well as its rhetorical dimension, which is concerned with the context in which the text is produced, including the time, space, and people involved (Kaplan & Terek Ünal, 2011).

This study carefully selected the sports medical drama movie "Concussion" as the research unit. The viewing experience was facilitated by the innovative online streaming platform Netflix, a renowned American technology and media services provider and production company headquartered in California. In order to fully comprehend the content of the film, a thorough and uninterrupted first viewing was conducted. This allowed for the creation of preliminary notes taken during the second and third viewings to address specific scenes in greater detail. In the next phase, the dialogues featured in the movie were transcribed and evaluated by a joint review of the recorded content and film footage. Following this iteration of the procedure, scenes that had been previously noted were carefully re-assessed and expanded. After careful consideration, the final decision was taken about which scenes illuminate the psychosocial

processes experienced by American football athletes due to concussion, the managerial stance of the relevant league organization, the unique qualities of the team doctor and forensic pathologist playing pivotal roles in the plot, as well as another final decision was conducted about how the meaning of American Football is produced through individual sports players. Afterward, the analyzed expressions were meticulously subjected to a coding process. Finally, the determined codes were transferred to the study's thematic pattern as a signifier, signified, and signifier concept in the semiotic analysis and as the denotation-connotation construct in the narrative analysis.

Ethics Statement

This study was performed by adhering to the Helsinki Declaration. Ethical approval of the study was obtained from Istanbul Rumeli University Ethics Committee at the board meeting dated 17/01/2024 and numbered 2024/01-16.

RESULTS

This section provides research findings that align with this study's main and sub purposes.

The Sign-Signifier and Signed Trio

In accordance with the subject matter at hand, items have been unearthed and subsequently presented in tables. Each table outlines a detailed account of the items, providing a comprehensive overview of their respective attributes.

Semiotic analyses of the portrayal of NFL

The analyses showed to main topics about NFL, one is it's existential purpose, and the other it's orientation towards threats.

Table 2 indicates the semiotics NFL's existential purpose, while Table 3 highlights NFL's orientation towards threats.

Table 2. Semiotics of National Football League's Existential Purpose

Sign	Signifier	Signified
National Football League	NFL Managers	Power
National Football League	NFL Managers	Rule Maker
National Football League	NFL Managers	Confidentiality
National Football League	NFL Managers	Assertiveness
National Football League	NFL Managers	Harmony
National Football League	NFL Managers	Collaboration

The underlying essence and significance of the NFL's existence through the lens of semiotics can be portrayed through six phenomenon,

respectively; power, rule maker, confidentiality, assertiveness, harmony, and collaboration.

Table 3. Semiotics of National Football League’s Orientation Towards Threats

Sign	Signifier	Signified
National Football League	NFL Managers	Conservatism
National Football League	NFL Managers	Resistance to change
National Football League	NFL Managers	Loss of resistance
National Football League	NFL Managers	Acceptance
National Football League	NFL Managers	Harmony
National Football League	NFL Managers	Collaboration

Interpreting the NFL's orientation towards threats through semiotics brought light on six phenomena: conservatism, resistance to change,

loss of resistance, acceptance, harmony, and collaboration.

The analyses showed three main topics about the team doctor: his behaviors, mindset, and

Semiotic analyses of the team doctor’s portrayal emotions. Table 4 presents the semiotics trio of the team doctor's portrait.

Table 4. Semiotics of team doctor’s portrait

Sign	Signifier	Signified
Team Doctor’s behaviors	Team Doctor	Team cohesion
Team Doctor’s behaviors	Team Doctor	Commitment
Team Doctor’s behaviors	Team Doctor	Discreet
Team Doctor’s behaviors	Team Doctor	Social support
Team Doctor’s mindset	Team Doctor	Inquisitive
Team Doctor’s mindset	Team Doctor	Self-reflective
Team Doctor’s mindset	Team Doctor	Collaborative
Team Doctor’s mindset	Team Doctor	Embracive
Team Doctor’s emotions	Team Doctor	Helplessness
Team Doctor’s emotions	Team Doctor	Astonishment
Team Doctor’s emotions	Team Doctor	Sadness
Team Doctor’s emotions	Team Doctor	Remorse

Upon analyzing the portrait of the team doctor, three significant aspects were identified as signs: his behavior, mentality, and emotional state, each pertained to four distinct subtopics. His behavior indicated a strong sense of team cohesion, commitment, discretion, and social support, while his mentality encompassed inquisitive, self-reflective, collaborative, and embracive tendencies. Furthermore, his emotions

conveyed helplessness, astonishment, sadness, and remorse.

Semiotic analyses of the forensic pathologist’s portrayal

The analyses mounted three main topics about the forensic pathologist: his behaviors, mindset, and emotions. Table 5 displays the semiotics trio of the forensic pathologist's portrait.

Table 5. Semiotics of forensic pathologist’s portrait

Sign	Signifier	Signified
Forensic pathologist’s behaviors	Forensic pathologist	Respectful even to dead people
Forensic pathologist’s behaviors	Forensic pathologist	Commitment
Forensic pathologist’s behaviors	Forensic pathologist	Discreet
Forensic pathologist’s behaviors	Forensic pathologist	Inquisitive
Forensic pathologist’s behaviors	Forensic pathologist	Fair
Forensic pathologist’s mindset	Forensic pathologist	Interrogant
Forensic pathologist’s mindset	Forensic pathologist	Self-reflective
Forensic pathologist’s mindset	Forensic pathologist	Collaborative
Forensic pathologist’s mindset	Forensic pathologist	Embracive
Forensic pathologist’s mindset	Forensic pathologist	Uncommon
Forensic pathologist emotions	Forensic pathologist	Helpfull
Forensic pathologist emotions	Forensic pathologist	Impassioned
Forensic pathologist emotions	Forensic pathologist	Wise-hearted
Forensic pathologist emotions	Forensic pathologist	Calm
Forensic pathologist emotions	Forensic pathologist	Satisfied

By scrutinizing the portrait of the forensic pathologist, three significant aspects emerged as signs: his behavior, mentality, and emotional state, each concerned with five distinct subtopics. His behavior underlined a respectful orientation even to dead people, commitment, discretion, inquisitiveness, and fairness, while his mentality showed interrogative, self-reflective, collaborative, embracive, and uncommon tendencies. Furthermore, his emotions reflected

helpfulness, patience, wise-heartedness, calmness, and satisfaction.

Semiotics of player-rooted sequelae antecedents

The analysis of the film flow has revealed some critical insights into the possible causes of brain concussion initiated by player-rooted orientations. The conclusive findings of the analysis have been meticulously presented in Table 6.

Table 6. Semiotics of Contesting Orientation

Sign	Signifier	Signified
Contesting Orientation	NFL Soccer Players	War
Contesting Orientation	NFL Soccer Players	Hit
Contesting Orientation	NFL Soccer Players	Erase
Contesting Orientation	NFL Soccer Players	Fierceness
Contesting Orientation	NFL Soccer Players	Endurance

Table 6 indicates that the player-rooted antecedents of concussion sequelae can be succinctly summarized as "contesting orientation,"

which is characterized by the traits of war, hit, erase, fierceness, and endurance.

Analyses of narrative discourses

Denotaion-conotations of American Football

Throughout the film, utmost care was taken to reflect the literal and connotative meanings of the statements contributed by various individuals

about American football. The findings are summarized and comprehensively presented in Table 7.

Table 7. Analyses of narrative discourses

Sayer/Signifier	Narrative Discourse	Denotation	Conotation
Former Player MW	Playing football can be very painful. To train twice a day under the sun and go head-to-head in that heat is not normal.	Football is a painful game due to difficult conditions.	Football is challenging for human health.
Former Player MW	All we have to do is finish the match; if we finish, we win.	Completing the match is winning.	Quitting the match is being a loser.
NFL Member	Do you want to weaken this country by softening football?	Hardness is strength.	Softness is weakness.
Coach A	This is an awareness game.	Football is awareness.	A footballer is an aware person.
Coach A	This is a game of passion.	Football is a passion.	A footballer is a passionate one.
Coach A	When I blow this whistle, find a teammate. No matter who it is fight!	Football is collision!	A footballer is a man who constantly collides!
Coach A	Be Tough!	Football players must be tough.	A footballer is a tough man.
Coach A	Be Aggressive!	Football players must be aggressive.	A footballer is an aggressive man.
Coach B	If you want to get rid of your opponent, you grab him by the throat and squeeze him. Squeeze him until he pees his pants.	In order to get rid of an opponent, it is necessary to strangle him so that he feels the big scare near his death.	Frightening an opponent is crucial to overwhelming them, so much so that they know they cannot stand a chance.
Commentator	You always have to be ready for big hits in American football!	Delivering hard hits is a fundamental aspect of the American football game.	American football is a battlefield.

According to narratives denotations in Table 7, American football is a painful game that demands players' hardiness, winning will, awareness, strength, passion, forcefulness, and vigor. The same table demonstrates the connotations as well. According to this connotation, American football is challenging for human health. To play a role in this game, a man should accept that softness is a weakness; American football is a battlefield, and a good footballer is an assertive, resilient, aggressive, and challenging man who also overwhelms his opponents in any harsh way.

DISCUSSION

Sport is inherently intertwined with socio-political context, embodying a sense of competition rooted in dominance and inter-group conflict dynamics. It is impossible to separate sports from these fundamental elements, which makes them a powerful arena for exploring and understanding complex societal issues (Guschwan, 2013).

Throughout history, sports have taken shape in the form of competitive activities and specialized training for sports-related professions. The purpose of these activities is to challenge individuals and enhance their physical capabilities.

As such, the criteria for such challenges require a clear definition and symbolic representation within the context of sports (Saraf, 1977). This study aimed a semiotic analysis of a sports medical drama movie: Concussion.

The objective of this research was to conduct a semiotic analysis of the sports medical drama movie, Concussion. The study aimed to examine the signs, symbols, and meanings depicted in the movie, with a focus on how they contribute to the overall message and themes conveyed by the film. By analyzing the film from a semiotic perspective, this study sought to provide insights into the movie's cultural significance and its representation of sports-related injuries and their impact on athletes.

The comprehensive analysis conducted on the perception of American football among the participants of the sport revealed intriguing insights. The findings indicate that the players consider American football to be a challenging and demanding game that requires a combination of physical and mental traits. These traits include a strong will to win, heightened awareness, exceptional strength, robustness, and passion for the sport. The players must remain alert and resilient throughout the game, which can be physically exhausting due to the need for tremendous stamina and endurance. In a different

study, [Michailidis et al. \(2014\)](#) corroborates the results of this study, revealing how football, particularly as a grassroots sport, is a tool for social actors involved in creating teams, the game itself, and watching and experiencing sporting events to manage their passions. Overall, American football is a game that requires a combination of various attributes and skills to succeed and emerge victoriously.

Based on contextual implications, American football can lead to detrimental impacts on human health. To participate in this sport, an individual must have an unwavering belief that vulnerability is a significant setback. American football is similar to a battlefield, where a player's success relies heavily on determination, persistence, aggression, and perseverance. A player must be able to overpower their opponents through any means necessary, making this sport a physically and mentally demanding activity. In their study, [Varlıgürer and Dönmez \(2016\)](#) confirmed this research's results, stating that football functions as an area where the male-dominated discourse is dominated and recreated, with all layers of football being involved both as a spectator and a player. The researcher also underlines that sports are based on physical strength, endurance, aggression, competition, and race, making it associated with masculinity in almost every society.

This study has delved deeper into the underlying essence and significance of the National Football League's (NFL) existence, and has identified six key phenomena that depict the essence of NFL through semiotics. These phenomena include power, rule-making, confidentiality, assertiveness, harmony, and collaboration. The results suggest that the NFL's existence is not just limited to its popularity as a sport, but it also represents a manifestation of these six phenomena. The conducted analyses further suggest that these phenomena play a crucial role in shaping the NFL's culture and values, which are reflected in the league's policies, practices, and interactions with its stakeholders. The power, one of this six phenomena, refers to the ability of NFL to dominate the sports industry and shape the cultural zeitgeist. Rule-making signifies NFL's ability to set the standards and guidelines for how the sport is played and managed. Confidentiality refers to the league's ability to keep certain information and decision-making processes private, which contributes to its overall mystique.

Assertiveness speaks to NFL's confidence and assertive approach to decision-making. Harmony denotes the league's ability to balance the interests of various stakeholders, including players, owners, and fans. Finally, collaboration highlights the league's ability to work with various partners and stakeholders to achieve shared goals and objectives.

Highlighting the gravity of the CTE crisis is the fact that it poses a threat to a deeply ingrained American cultural institution and an immensely lucrative industry. With over a hundred million fans spanning across the United States and a steadily expanding global following, the NFL's response to concussions is crucially important. Therefore, comprehending the reactions of diverse segments of the public to this issue is paramount for the NFL to adopt the most effective approach ([Associated Press, 2014; Wilbur & Myers, 2016](#)).

The study also questioned the National Football League's (NFL) approach to the threat of chronic traumatic encephalopathy (CTE). This neurodegenerative disease has been linked to repeated head injuries. The semiotic analyses brought six different phenomena related to this topic to light. These phenomena were conservatism, which refers to the tendency to maintain traditional beliefs and values; resistance to change, which denotes an unwillingness to accept new ideas or approaches; loss of resistance, which implies a gradual erosion of previous opposition to change; acceptance, which signifies a willingness to embrace new ideas or approaches; harmony, which refers to the peaceful coexistence of different viewpoints; and collaboration, which denotes a joint effort towards achieving a common goal. Through these analyses, the study aimed to shed light on the NFL's stance on this critical issue and provide insights into how different organizations can deal with similar challenges constructively and effectively.

Upon thoroughly examining the team doctor's portrait, the results discerned several noteworthy elements that offer valuable insights into his character and personality. These elements can be divided into three broad categories: conduct, mindset, and emotional condition, subdivided into four distinct subcategories. Firstly, in terms of conduct, the doctor's portrait suggests that he possesses a robust sense of team unity, dedication, discretion, and interpersonal support. This means he is committed to fostering a strong

sense of teamwork and camaraderie among the team members and is willing to go above and beyond to ensure the team succeeds. He is also very discreet and respectful of his colleagues' privacy and is always there to offer emotional support and guidance whenever needed. Secondly, the doctor's portrait reveals a curious, introspective, cooperative, and inclusive mindset. This means that he is always eager to learn and explore new ideas and perspectives and is willing to collaborate with others to achieve common goals. He is also very introspective, constantly reflecting on his thoughts and actions to improve himself. Finally, he is very inclusive and open-minded and is always willing to listen to others and consider their opinions and viewpoints. Finally, the doctor's emotional condition can be described as a mix of powerlessness, amazement, sorrow, and regret. This suggests that he is deeply affected by life's emotional ups and downs and is not afraid to show his vulnerability and humanity. He is often amazed by the beauty and complexity of the world around him but is also deeply saddened by the pain and suffering he sees. At the same time, he is not afraid to take risks and make mistakes and is willing to learn from his failures to grow and improve.

As another result, this study depicted that the forensic pathologist's portrait reflects three significant aspects that create a holistic picture of the individual: behavior, mentality, and emotional state. Each component signified five subtopics, providing a more detailed understanding of the forensic pathologist's personality.

The forensic pathologist's behavior is characterized by a respectful orientation, even towards deceased individuals. His two basic statements that reveal this orientation stand out in the film. The first is framed with the words, "I am a doctor. The dead are my patients. I utmost respect them." The other is woven with words, "If I know how they live, I know how they die." Another indication of Omalu's respect for the people he performed autopsies on was the conversations he had with each dead person before the autopsy. In one of these conversations, he tells Webster, "Mike, they are saying bad things about you. There is something wrong. However, I cannot solve this alone. I need your help to tell the world what happened." His respect is accompanied by a solid commitment to the profession, discretion in handling sensitive information, inquisitiveness in

the pursuit of knowledge, and fairness in executing duties.

The mentality of a forensic pathologist is marked by several distinct tendencies essential for the successful execution of their responsibilities. These include an interrogative nature that is always seeking to uncover the truth, a self-reflective approach that enables the pathologist to learn and grow, a collaborative mindset that fosters teamwork and effective communication, an embracing attitude towards diversity and difference, and an uncommon perspective that allows for creative and innovative problem-solving. In one of his statements that shed light on these aspects of him, Omalu said: "Nowhere, neither in a book nor in a medical meeting. There has never been a case where a healthy man went crazy like this without any visible abnormality in his brain." In another response, he reveals his will with his words.: "People do not go crazy for no reason; I will continue investigating!"

Finally, the emotional state of a forensic pathologist is characterized by several desirable qualities that contribute to their effectiveness and well-being. These include helpfulness, a willingness to assist others, patience in dealing with challenging situations, wise-heartedness that allows for compassion and empathy, calmness in the face of stress and pressure, and satisfaction in their work.

Taken together, the findings of this study provide a comprehensive and detailed understanding of the forensic pathologist's portrait, highlighting the many qualities that make them such an essential and valued member of the medical profession.

This study has some limitations. First of all, this study is limited to the editing of the film analyzed. Another limitation of the research is that it focuses on the basic textures that become evident in fiction. Accordingly, NFL executives, the forensic doctor, and the former team doctor stand out as actors subjected to semantic analysis in the fiction. Other vital facts focused on in the research are the meaning of American football for its participants and, in addition, the scope of research on the CTE risks arising from the actions of football players.

Several limitations to this study warrant consideration. Firstly, it is confined to editing the specific film under analysis. Additionally, the research is oriented toward uncovering

fundamental themes that emerge in works of fiction. As a result, NFL executives, forensic doctors, and former team doctors are the primary subjects of semantic analysis within the work of fiction. The study also examines the significance of American football for its participants. It delves into the extent of research on the risks of CTE resulting from the actions of football players.

Conflict of interest:

The author declared no conflict of interest.

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Author Contribution:

In this study, the contribution rate of the sole author was 100%.

Ethics Statements

This study was performed by adhering to the Helsinki Declaration. Ethical approval of the study was obtained from Istanbul Rumeli University Ethics Committee at the board meeting dated 17.01.2024 and numbered 2024/01-16.

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