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USE YOUR HEAD: A FRAME ANALYSIS OF DIGITAL MEDIA ON CONCUSSIONS IN
THE NATIONAL FOOTBALL LEAGUE USING THE HEALTH BELIEF MODEL AND THE
EXTENDED PARALLEL PROCESS MODEL

by

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Advisor: Dr. Yi Zhu

Abstract

Over the past decade, the topic of concussions in the National Football League has increased in discourse as more information about the long term effects of head injuries has come out. The way the media portrays the topic has a significant impact on how the general public perceives the issue, as well as how solutions to the issue are proposed. The purpose of this study is to perform a frame analysis on 30 digital media news articles from 2009-2019. The frames presented in the study are based on elements from the Health Belief Model and the Extended Parallel Process Model. The results show that perceived susceptibility varies in the way it is framed year to year, while perceived severity is framed as high. Also, more fear appeal articles express danger control processes than they do fear control processes. These results suggest that the NFL is likely to take health action in preventing concussions according to the Health Belief Model, and more active approaches to preventing concussions are taken than passive coping strategies. Implications for the study include an existing lack of insight on player perceptions of the issue, as well as digital media being an area for positive promotion in the National Football League. Recommendations for future research are also provided.

Keywords: concussion, football, health communication, sport communication

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CHAPTER I: INTRODUCTION

The sport of football has been a large part of American culture ever since its creation in the early 20th century. Over time, the safety of the players in the National Football League has come into question due to the violent nature of the game. Specifically, there is now stress on the reduction of concussions in the NFL because of the harmful effects that concussions can have on players later in life. The media play a role in this discourse with the frames that they use to discuss the topic. Therefore, with the creation of a safer game relying heavily on the way media outlets portray this topic, it is important to study what types of frames these outlets use when discussing concussions. This chapter will include the purpose as well as the rationales behind the study. Next, a brief background of the history of the NFL will be given, followed by a definition of several key terms. The chapter will conclude with a description of the method used for this study.

Purpose

This study aims to analyze the digital media framing of concussions in the National Football League (NFL). Specifically, the study will examine 13 articles from ESPN.com and 17 articles from abcnews.com between the years 2009 and 2019. Finally, the study will utilize the Health Belief Model and Extended Parallel Process Model to analyze how frames are presented in the articles.

Rationales

This study is valuable because it extends current scholarship on both the Health Belief Model (HBM) and the Extended Parallel Process Model (EPPM) by analyzing the messages through a rhetorical analysis. The vast majority of the existing literature using these models implement a content analysis. For example, Quick (2010) analyzed media frames of steroids in

sports using the Health Belief Model while Jung and Brann (2014) analyzed media frames of texting while driving using both models. However, both studies performed a content analysis. In using a rhetorical approach, this study is able to provide a deeper understanding into why these frames exist rather than focusing on what frames are objectively present.

This study also has scholarly value because it extends the research on the media framing of sports injuries by focusing on concussions. Sanderson (2014) compared the framing of two quarterbacks with similar injuries, and Cassillo (2016) investigated how the media framed the decision of a player who retired from the NFL due to health risks. However, only two studies have focused on concussions (Karimipour, 2017; Mirer & Mederson, 2017). Given the rise of concussions and the high degree of danger they pose, more scholarship needs to be done.

The study also has practical value because it allows people to see how the media can have an effect on their perceptions. Specifically, the way concussions in the NFL are framed in the media impacts how society thinks about the severity of the issue. If scholars generally express concern for the topic, then more people will be likely to react to the issue. Thus, this study helps people to understand what type of frames are being presented for the topic of concussions in the NFL. With a better understanding of how the topic is being discussed, society can then remember these frames when reading articles related to concussions in the NFL and react accordingly.

Theoretically speaking, the current study integrates health communication scholarship with sport journalism together to explore how sport news adopt different media frames with the help of the HBM and EPPM. The results may yield theoretical implications for future health and sport journalism scholarship.

Background

The National Football League was founded in 1920 when it was formerly known as the American Professional Football Association (NFL.com, 2018). The name was changed in 1922, and the NFL was America's premier professional football league until 1960, when the American Football League was created and rivaled the NFL for ten years until the two leagues merged together. Over time, the league has expanded to 32 teams, and has the most watched annual sporting event in the Super Bowl (NFL.com, 2018).

Definitions

Concussion is defined as a "jolt or blow to the head" (Soomro, 2018). Framing is defined as "principles of selection, emphasis, and presentation composed of little or tacit theories about what exists, what happens and what matters" (Matthes, 2009). Traumatic brain injury is defined as a shift in brain function caused by an external force (Menon, 2010).

Description of Methods

The study being conducted will use a rhetorical analysis measuring the digital media framing of concussions in football. Specifically, the method of analysis in this study is frame analysis. The frames produced in this study are based on elements of the Health Belief Model and the Extended Parallel Process Model. Key frames incorporated from the Health Belief Model are perceived susceptibility, perceived severity, perceived benefits, and perceived barriers. Frames from the Extended Parallel Process model include danger control processes and fear control processes.

Conclusion

In summary, this chapter provided an overview of this study. In performing this qualitative study, the goal is to examine digital media in how they frame concussions in the

National Football League. The study has value in that it analyzes the Health Belief Model and Extended Parallel Process Model through a rhetorical lens, adds to previous scholarship on framing of concussions, and also helps people to understand how the media can shape their perceptions with the frames they use. Finally, the chapter described several key definitions of frequently used terms and described the measures of the study.

CHAPTER II: LITERATURE REVIEW

The United States has developed into a country where its civilization relies heavily on the media. Whether media is used to check the weather or to see highlights from a previous sporting event, people are frequently influenced by what the media has to say. In the National Football League, head injuries have become a hot topic of discussion in the media due to the long term effects they can have. However, due to the popularity and violent nature of the game, there have been mixed messages sent from the media to the public about the seriousness of the issue. The way media sources frame concussions in the National Football League is important not only to the players in the league, but to everyone involved in the game whether that be a youth player or simply a fan. Frames used by the media have the power to influence the perceptions of the audience, which then impacts future discourse surrounding the topic. Therefore, this chapter will review the literature produced on various elements of theoretical framework that will be used for this study. Then, it will look at what existing literature has discussed about concussions including the definition and discussion about problems related to repetitive blows to the head. Then, the chapter examines the impact that concussions have in professional football and what has been done about it. The chapter also reviews the HBM and EPPM as well as related studies conducted based on these two theoretical models.

Concussions

Definitions

A concussion is a form of a traumatic brain injury. A traumatic brain injury (TBI) can be defined as a change to the function of the brain, such as loss of memory or change in mental state, due to an external force (Menon, Schwab, Wright, & Maas, 2010). Other common forms of TBI includes brain contusion, second impact syndrome, and injury where an object penetrates the skull and brain (“Spinalcord”, 2018). While traumatic brain injuries as a whole are simple to

define, the definition of a concussion can be quite ambiguous. Medical professionals and academics can make defining a concussion confusing due to their desire to distinguish between sport and non-sport related concussions. However, all definitions come down to concussions being a forceful hit to the head (Soomro, Withall, Cohen, & Turner, 2018). Webmd.com (2018) defines a concussion as a TBI that “happens when your brain is jarred or shaken hard enough to bounce against your skull” (2). Other sources focus strictly on concussions being sport-related, and describe the injury accordingly. An international conference was held in Berlin to discuss concussions in sport, and described a sport-related concussion as an individual showing immediate, short-term symptoms of a TBI (McCory et al., 2017). The literature produced from the conference discusses strictly how athletes deal with concussions, making the definition sport-related.

Causes

In examining what causes a concussion, there is not a single list of events that can result in a concussion. Essentially, any event where a person hits his or her head hard enough and in the right spot can result in brain trauma. Of course, certain activities come with a greater risk of concussion. Participation in sports is one of the leading causes of concussions (O’Connor et al., 2017). Specifically, sports that involve a greater number of collisions to the head in a given game or practice have shown to be directly related to a greater risk of concussions (Powell, 2001). For example, sports such as football, hockey, and men’s and women’s soccer have higher chances of players being struck in the head than baseball, softball, and volleyball. Instances of being struck in the head are not limited to collisions between people, as soccer players who frequently head the ball are three times more likely to express signs of concussions than those who do not (Von Radowitz, 2017).

Chronic Traumatic Encephalopathy

There are also implications for people who receive repetitive instances of head trauma in their lifetimes. One of the most lethal experiences one can have from concussion or head trauma is the development of chronic traumatic encephalopathy in the brain. Chronic traumatic encephalopathy (CTE) can be described as a progressive disorder as a result of repetitive mild traumatic brain injury that causes degeneration in the brain (Lenihan & Jordan, 2015). The disease has recently gained traction in the medical field and the media due to the increase in number of cases found. The first case of CTE was discovered in the brains of several boxers in 1928 when it was known as punch-drunken syndrome (Gaetz, 2017; Lenihan & Jordan, 2015). Since then, the understanding of the disease has developed and has come to be known as chronic traumatic encephalopathy. Many scholars have put forth research to learn more about the disease, but its complexity and symptom similarity to other illnesses such as Alzheimer's disease and frontotemporal dementia make the disease difficult to identify (Hay, Johnson, Smith, & Stewart, 2016; Lenihan & Jordan, 2015). However, the serious implications that the disease presents make it necessary to review.

Similar to concussions, the actual cause of CTE can occur in a variety of ways. CTE is the result of repetitive traumatic brain injuries in a person's lifetime (Hay et al., 2016; McKee et al., 2013). Early scholarship on CTE focused primarily on boxing, but has now expanded to hockey, football, and also has looked into repetitive head trauma that happens in the military (Lenihan & Jordan, 2015; McKee et al., 2015). While football, hockey, and the military have the most reported cases of CTE, the disease has been seen in others sports such as baseball and soccer, and even in people who suffered repetitive domestic abuse ("Concussion legacy," n.d.). Thus, there is not one singular way to develop CTE, but repetitive blows to the head will put

someone at risk for the disease. It has also been noted that it is simply the hits to the head, not necessarily concussions, that cause CTE (Boren, 2018).

Concussions and Pro Football

Injuries

In looking at head injuries in the NFL, the majority of the literature on the matter focuses strictly on concussions. In context with other injuries in the NFL, between the 2012 and 2017 seasons, there was a total of 1,541 concussions, 351 anterior cruciate ligament (ACL) tears, and 886 medial collateral ligament (MCL) tears (Stluka, 2018). A study comparing the number of concussions in consecutive six-year periods showed that there were 0.42 concussions per game between 1996 and 2001, with a 7.6% decrease to 0.38 concussions per game between 2002 and 2007 (Casson, Viano, Powell, & Pellman, 2010). However, there has not been any noted trend in significant increase or decrease in concussions. For example, between the 2010 and 2013 seasons, a total of 871 concussions were observed, giving a rate of 0.658 concussions per game (Clark, Asken, Marshall, & Guskiewicz, 2017). Therefore, the number of head injuries reported over a period of time generally varies and thus has difficulty in finding trends.

With the amount of blows to the players in the NFL take and the risk for head trauma, it is important to look at these players' post-career lives. The majority of the literature provides cause for concern regarding the health of the athletes after they are done playing football. A study that performed autopsies on 111 brains of former NFL players showed that 110 of the brains contained the development of CTE in varying stages (Mez et al., 2017). A different study with 34 brains of former NFL players and 1 former Canadian Football League player revealed similar results, as 34 out of the 35 brains showed some form of brain disease including CTE, Alzheimer's, and Lewy body disease (McKee et al., 2013). While these findings do not suggest

causation between playing football and head injury, they give reason to consider the possibility that the two may be related. Literature has also been produced on former NFL players still alive, finding that regions of the brain in former players had neuroinflammation, or swelling in the brain (Coughlin et al., 2015). However, another study examining the brains of former NFL players between 30 and 60 years old revealed that the majority did not show signs of chronic brain damage (Casson, Viano, Haacke, Kou, & LeStrange, 2014). As stated previously, CTE can only be detected by autopsy and thus could not be seen in these two studies. Thus, while the two studies suggest mixed results, it is impossible to say whether or not the former players in the studies had development of CTE in their brains.

The Mild Traumatic Brain Injury Committee

The NFL has made it publicly known that concussions are part of the game and that they are actively looking into the matter. In 1994, the league created the Mild Traumatic Brain Injury Committee led by Dr. Elliot Pellman in an attempt to put forth research on the topic of head injuries and try to make the game safer (Ezell, 2013; Monette, 2012; Gove, 2012). However, as time went on, the committee would prove to be very controversial. In 1999, Dr. Pellman reported that in four years of tracking head injuries, the number of head injuries has remained and that, in general, these injuries are minor (Pierson, 1999). This was at a time when little scholarship about the matter existed, so nobody questioned the remarks.

Controversy surrounding the committee started to build in the early 2000s. In 2002, an examination of former player Mike Webster's brain showed the first reported instance of CTE in a football player (Ezell, 2013). The study was published in 2005, and revealed serious long-term implications of repetitive head trauma from the NFL (Omalu et al., 2005). However, in 2006, the league committee went as far as to deny the findings in the study, claiming that the evidence

is based on faulty claims (Ezell, 2013). This was not the only case of the committee attempting to discount research revealing the health risks of repetitive brain trauma. In the following year, it was found that retired football players who reported three or more concussions in their careers were three times more likely to suffer from clinical depression (Guskiewicz et al., 2007). The league committee's response to the study was to discredit the findings due to the use of survey data (Schwarz, 2007). The reactions from the committee were an expression of denial that there were any long-term effects of repetitive head trauma caused by playing in the NFL. In fact, it was not until 2009 that league spokesman Greg Aiello publicly recognized that concussions have long-term repercussions (Ezell, 2013). This was the first time anyone from the NFL had come out and addressed the data that supported the idea of lasting effects from concussions. As time would tell, it was too late to save the league from the events to come.

Lawsuit

As the discovery of long-term effects of concussions and repetitive head trauma began to break out, so did the anger from former players who were not aware of the problem. In 2012, over eighty lawsuits including over two thousand former NFL players came together to form one giant case against the league (Harris, 2016). The basis for the claim was that the NFL was conscious of the potential long-term effects of head trauma, but failed to inform the players of these risks and failed to provide proper protocols and rules to aid in prevention of head injuries ("NFL concussion, n.d.). The case went back and forth until both sides reached a settlement in 2015 (Harris, 2016). However, players involved in the lawsuit decided to appeal the decision, so the case was not officially closed until early in 2017 and players involved were finally able to access benefits of the settlement ("NFL concussion, n.d.). One of the problems associated with the case was that numerous players opted out of the settlement with aspirations of future

lawsuits. In 2014, five former NFL players filed a lawsuit against the league based on the lack of information that was provided about the risks of repetitive head trauma (AP, 2014). These are just several of the players who decided to create their own lawsuit, but it was estimated that around 200 players planned to do the same (Harris, 2016). The NFL also severely underestimated the total amount of money they would have to give out. With over five hundred million dollars in claims approved in less than two years, the league is looking at approximately 1.4 billion dollars (AP, 2018). This is close to a half a billion dollars more than the league had initially expected when the settlement was first finalized. Therefore, with payouts currently still being made, only time will tell if this number will change again.

Conceptual Frameworks

Health Belief Model

The Health Belief Model originated in the 1950's by a group of social psychologists in Public Health Services to explain the behaviors of citizens that declined participation in disease detection and prevention services (Rosenstock, 1974). At the time, people were opting out of free or low-cost screenings and tests for life threatening illnesses such as rheumatic fever, polio and influenza (Rosenstock, 1974). The Health Belief Model (HBM) was influenced by both Stimulus Response Theory and Cognitive Theory, and proceeded to evolve into a model for application to general public health concerns (Glanz, Rimer, & Viswanath, 2008). As stated by Janz and Becker (1984), the basis of the HBM involves the value an individual has on a health-related goal, and the individual's interpretation that a certain action will achieve his or her goal. In the context of health concern, there are three main premises of the HBM in order for an individual to take action in preventing or reducing severity of a certain illness or condition: 1) the individual must believe that he or she is personally susceptible to the condition and that the

condition would have severe consequences at some point in his or her lifetime; 2) performing a certain action must be beneficial in reducing either susceptibility or severity of the condition; and 3) the benefits of taking action must outweigh the psychological barriers (Rosenstock, 1974; Glanz, Rimer, & Viswanath, 2008; Janz & Becker, 1984). If an individual exhibits these three elements, he or she is likely to take action.

The HBM has six elements that share different relationships with each other within the model (please see Rosenstock, 1974; Glanz, Rimer, & Viswanath, 2008; Janz & Becker, 1984, for detailed discussions for HBM). One element is *perceived susceptibility*, which refers to an individual's belief about the chances of contracting a certain condition. Another element is *perceived severity*. This refers to an individual's feelings about how serious contracting a medical condition may be as well as the seriousness involved with leaving the condition untreated. This element includes medical consequences such as death or pain as well as social consequences including effects on social relationships and family life. The next element is *perceived benefits*, which refers to an individual's beliefs in the positive outcomes that come from actions that reduce the threat of disease. On the contrary, *perceived barriers* refers to the potential negative outcomes an individual may consider that can occur from a health action. A fourth element is *cues to action* which is the events that trigger an individual to take health action. Finally, *self-efficacy* is the confidence an individual has to perform a health action (Rosenstock, 1974; Glanz, Rimer, & Viswanath, 2008; Janz & Becker, 1984). While not in the original formulations of the HBM, self-efficacy was deemed a necessary addition for further development of behavior change in the model (Glanz, Rimer, & Viswanath, 2008). Essentially, the model begins with factors that can differ from person to person that have an impact on individual beliefs such as age, gender, personality, and general knowledge. These factors all tie

into the individual's beliefs in perceived susceptibility and perceived threat, perceived benefits, perceived benefits, and perceived barriers. The factors previously discussed work together to predict an individual's health behavior, which is also impacted by cues to action (Glanz, Rimer, & Viswanath, 2008).

The HBM has been used as a model for various different health related issues. Several studies have used the HBM to analyze thoughts on drugs and alcohol use (Mona, Mahmoud, Amal, & Mahmoud, 2014, 843; Mercincagave, Saddleson, & Strasser, 2017, 143). Also, since the origins of the HBM was built on disease prevention, it would make sense that there is a vast amount of literature that looks at health beliefs related to diseases. Specifically, studies tend to focus people's views on and willingness to receive vaccinations for various diseases (Adams, Hall, & Fulgham, 2014, 393; Chen et al., 2018, 3430; Vidourek, King, Rosen, & Fehr, 2015, 187).

Extended Parallel Process Model

A similar but slightly more complex model that addresses fear appeal in media messages is the Extended Parallel Process Model. The creator of the model, Kim Witte, defined fear appeal as "persuasive messages designed to scare people by describing the terrible things that will happen to them if they do not do what the message recommends" (Witte, 1992, 329). Witte designed the Extended Parallel Process Model (EPPM) due to the lack of consistency in previous fear appeal literature and identified three main reasons why these studies lack similar results. First, there was a lack of consistency in the definitions used in key terms such as threat, fear, and efficacy. Also, the EPPM aids in understanding when and why fear appeals both fail and are successful, compared to previous literature that primarily focused on message rejection in fear

appeals. Finally, there was a lack of representation in the interaction between threat and efficacy from previous literature on fear appeals (Witte, 1992, 329-330).

As stated earlier, the EPPM is a similar but slightly more complex model to the Health Belief Model. The EPPM is a model largely composed from the fear-as-acquired model, parallel process model, and the protection motivation theory (Popova, 2012, 455). The EPPM flows beginning with external stimuli, followed by message processing, outcomes, and ending with one of two control processes (Witt, 1992, 338). The four components of external stimuli are self-efficacy, response efficacy, susceptibility, and severity. The stimuli are external threats that an individual perceives which are then evaluated in message processing as perceived threat and perceived efficacy. Perceived efficacy is associated with self-efficacy and response efficacy, while perceived threat is associated with susceptibility and severity (Witte, 1992, 338). The EPPM is based upon whether or not the threat message being portrayed causes the individual to have fear (Maloney, Lapinski, & Witte, 2011, 208). If the individual perceives the threat as high, they will experience fear which causes them to go into one of the two message processing appraisals. The first appraisal is self-efficacy in which the individual determines whether or not they are able to avoid the threat. If the individual believes he or she has the ability, or efficacy, to prevent the threat, the person will engage in danger control processes which include behavior and attitude changes. If the individual believes he or she has no efficacy to prevent the threat, the person will then engage in fear control processes such as coping mechanisms of avoidance and denial (Maloney, Lapinski, & Witte, 2011, 208). The final element of the EPPM is one in which the threat message evokes a low or nonexistent sense of fear in the individual. In this case, there is no response at all by the individual (Maloney, Lapinski, & Witte, 2011, 208; Witte, 1992, 338).

When taking a look at the current existing scholarship that implements the EPPM, the vast majority of work involves fear appeals about health related issues. Several studies involved fear messages relating to physical activity and exercise (Bassett-Gunter, Latimer-Cheung, Martin, & Castelhana, 2014, 676; Jensen et al., 2018, 245). Other studies have focused on other elements of physical health such as one's diet and smoking habits (LaVoie & Quick, 2013, 53; Napper, Harris, & Klein, 2014, 610). An interesting element to all of these studies is the fact that they all focused on media messages that have fear appeals in them such as advertisements.

Conclusion

This chapter has discussed a multitude of information about concussions and the impact that they have on the sport of football. While many people have heard about concussions and may have a general idea of what they are, the definition of a concussion in literature can vary between different scholars. Concussions can occur in a variety of ways, with the only commonality being an event that causes the brain to move about in the skull. However, there are activities such as sports that have an increased risk in receiving a concussion, specifically in contact sports such as football. While it may not be associated directly with concussions, a serious disease as a result of repetitive head trauma is chronic traumatic encephalopathy. Also, because repetitive head trauma is common in the game of football, scholars have put forth research about both head injuries and general injuries in the NFL. Specifically, the league created the Mild Traumatic Brain Injury Committee in 1994 to conduct research on the effects of concussions. However, the committee failed to provide true evidence about long-term effects of concussions and did not create rules or regulations to prevent head injuries, so former NFL players sued the league. The lawsuit is set to cost the league close to 1.4 billion dollars in payouts to former players and families. With the current state surrounding concussions in the

NFL, the media has a great impact on society's perceptions of the issue. Therefore, the frames used by the media must be researched in order to understand the discourse that they cause. The HBM and EPPM are two models that will provide a framework for this analysis.

CHAPTER III: METHOD

In order to analyze the digital media framing of concussions in the National Football League, I chose the method of rhetorical analysis, specifically frame analysis. I use this method to examine articles from abcnews.com and ESPN.com using frames based upon the Health Belief Model and Extended Parallel Process Model. Particularly, I develop frames from the articles based on the conceptual elements of the two theoretical models. In this chapter, I provide a justification of the method I selected. I then explain the artifacts I will be analyzing, and conclude with an overview of the methodological steps performed to conduct this study.

Justification of Method

As humans, we inherently create expectations such as stereotypes, attitudes, and biases based on our social lives. In 1974, Erving Goffman developed frame analysis, which is the "systematic account of how we use expectations to make sense of the everyday-life situations and the people in them" (Baran & Davis 317). Essentially, frame analysis is the process of identifying "frames" for different situations and assessing why these frames are being presented. In this context, a frame is defined as "a specific set of expectations used to make sense of a social situation at a given point in time" (Baran & Davis 317). Goffman believed we constantly change the way we define various situations, actions, and the people in them and thus created frame analysis to interpret human actions through the development of frames.

In order to better understand the process of developing frames, there are several key elements of frame analysis that must be addressed. First, frames are constantly changing on a spectrum ranging in the level of seriousness the situation has. The process of moving between serious and less serious frames in a given situation is called upshifting or downshifting (Baran & Davis 318). Upshifting refers to frames becoming less serious, whereas downshifting refers to

frames becoming more serious. For example, the National Football League likely had a downshift in coverage of head injuries after star ex-linebacker Junior Seau committed suicide as a result of head trauma from his playing career. An upshift in coverage may occur in articles discussing concussions in a less serious manner, such as reports about a league-wide decrease in concussions.

Another element involved in frame analysis are social cues, which can be defined as "information in the environment that signals a shift or change of action" (Baran & Davis 319). Social cues allow us the ability to constantly shift our expectations and react accordingly to various different situations. An increase in head injuries may be a social cue for the NFL to take preventative action on the issue.

Media play a key role in the framing of current events. The frames that the media create have a great influence on how we interpret different situations. Hyperritualized representations are "media content constructed to highlight only the most meaningful actions" (Baran & Davis 320). Thus, media can use frames to build upon and reinforce dominant societal views. It is for this reason that it is important to recognize the types of frames that the media create.

Frame analysis is a useful method for my study for several reasons. First, frame analysis is specifically applicable when analyzing news articles. An underlying implication of frame analysis is that it challenges the idea that journalism is objective and rather assumes journalists carefully construct stories to shed light on certain topics while blinding readers to other realities. Therefore, by looking through news articles on concussions in the NFL, I will be able to identify how these stories are being framed and come to conclusions about why these frames exist.

Also, media messages can often times be ambiguous and misleading. A strength of frame analysis is that it is highly flexible and open-ended. Thus, the method can be applied to

numerous different scenarios that all may have different frames. With the controversial issue of concussions in the NFL including long term safety of players, there are a variety of ways a journalist can go about presenting information on the topic. Therefore, using frame analysis will allow me to have adjustability for different representations of information so I will be able to assess the implications of the different frames.

Artifact

The artifacts chosen for this study are online news articles from espn.com and abcnews.go.com. Specifically, there are seventeen articles from abcnews.go.com and thirteen articles from espn.com. These articles range in date from 2009-2019. [Espn.com](http://espn.com) is a website that reports on nearly every professional sporting event, as well as several collegiate sports. [Abcnews.go.com](http://abcnews.go.com) is a website that reports on a much broader range of topics such as politics, business, and sports. While both of these websites are designed differently, ESPN and ABC News are both owned by Disney. Therefore, the articles each company produces are overseen by the same parent company.

The messages that I examined on espn.com and abcnews.go.com focused on concussions in the National Football League. Specifically, I went into the search bar on each website and used "NFL concussion" as a key phrase. I then browsed the array of articles that appeared to identify which articles would be useful for my study. Common themes in these articles were reports on specific players receiving concussions, stories about rule changes in the NFL meant to reduce concussions, as well as reports about increases and decreases in concussions on yearly basis. These themes provided a variety of different elements that are discussed about concussions in the NFL. This allowed me to cover all aspects of the topic in my analysis.

Methodological Steps

In order to carry out this study, I performed the following methodological steps. First, I gathered background information on previous literature regarding concussions, chronic traumatic encephalopathy, as well as the history of head injuries in the NFL. I then identified my theoretical frameworks in the Health Belief Model and the Extended Parallel Process Model. After this, I performed my analysis on the digital media framing of concussions in the NFL.

I browsed through and selected my articles on two different dates to ensure I had adequate messages to analyze. Specifically, I chose articles that contained sufficient content for analysis. The Health Belief Model and Extended Parallel Process Model were two models I used to develop my frames for the articles. For example, I used elements such as "perceived severity" and "perceived barriers" from both models as frames for my study. In my analysis, I identified which frames existed in the articles and discussed the implications of these frames. Specifically, I developed pre-analysis questions that I hoped to answer in my analysis (See Appendix A). I used the components of both the HBM and EPPM to develop these questions. The HBM proposes unique concepts to determine whether or not a person will take action, so an example of a question related to this model is "How does the media frame the perceived severity if a player gets a concussion or has already had multiple previous concussions?". The EPPM focuses on fear appeal messages to determine which type of action a person takes to control the threat message, so an example question for this model is "How does the media frame/discuss damage control processes of concussions in the NFL? What are the implications of these processes?". These questions allowed me to fully develop reason behind each frame and aided in guiding my analysis. After this process was complete, I wrote up my analysis.

Conclusion

This chapter has provided a justification for the method of my study, described the artifacts that are analyzed, and explained the specific methodological steps that were performed. I used the method of frame analysis to carry out the study of digital media framing of concussions in the NFL. I developed my research question to provide a guideline for my analysis. I then followed the methodological steps to perform the frame analysis. I searched for online articles from abcnews.go.com and espn.com that covered themes of reports on specific players receiving concussions, stories about rule changes in the NFL meant to reduce concussions, as well as reports about increases and decreases in concussions on yearly bases. Following the collection of articles, the Health Belief Model and Extended Parallel Process Model provided frames to identify in my analysis. This study aimed to identify and explain the digital media framing of concussions in the NFL and to explore how health communication scholarship can be integrated with sport journalism.

CHAPTER IV: ANALYSIS

Throughout my research I focused on online news articles from abcnews.go.com and espn.com from December 4, 2009 through November 3, 2019. I chose this time period due to the rise in awareness surrounding head injuries in the National Football League and the negative repercussions that can occur from repetitive head trauma. Specifically, the launch of a massive lawsuit against the NFL by former players as well the suicide of former star linebacker Junior Seau both occurred in 2012. The focus of my study is to analyze the frames presented in these articles through elements of the Health Belief Model and the Extended Parallel Process Model. I will first provide a description of the frames and how the Health Belief Model and Extended Parallel Process Model were used. I will then provide the results of my frame analysis which focuses on the prominent frames presented in the articles

Description of Frames

The Health Belief Model and Extended Parallel Process Model are two theoretical frameworks that are used to guide my frame analysis. The Health Belief Model is a model in which several elements are taken into account to determine if a person is likely to take action against a health risk. The Extended Parallel Process Model is a similar model, except it examines fear appeal messages to determine if a person is likely to engage in either more active danger control processes, or passive fear control processes. The EPPM also discusses self and response efficacy, which refers to the confidence and ability one has to overcome a fear appeal. The elements in these two models provide lenses for the frames presented in this study.

In the Health Belief Model, the key frames presented are perceived susceptibility, perceived severity, perceived benefits, and perceived barriers. Perceived susceptibility looks at how the media portrays the vulnerability of players in getting concussions. Another frame is

perceived severity, which examines how the media discusses the seriousness of concussions. The frames of perceived benefits and perceived barriers look at the advantages and disadvantages of taking action to prevent concussions. Specifically, these frames look at the impact that taking action has on players, fans, and the NFL itself. The Extended Parallel Process Model has very similar elements but explicitly looks at messages that are associated with fear appeals. The two elements from the model that are used in this study are danger control processes and fear control processes. Danger control processes illicit behavior and attitude changes, while fear control processes illicit passive coping methods of avoidance and denial. These elements are used in articles that provide fear appeals and how the NFL and players are discussed in them.

Observed Themes

Inconsistency in concussions. In examining abcnews.go.com and espn.com articles through these theoretical lenses, I noticed several patterns. First, there are several inconsistencies in how the concussion controversy is portrayed. One inconsistency is in the number of concussions that occur every year and how the NFL reacts to them. There are articles written nearly every year about the number of concussions that occurred in the previous season and how that number compares to other years. In 2013, the number of concussions decreased by thirteen percent from the previous year, which league commissioner Roger Goodell commented on saying "the game is safer and better than it ever has been" ("NFL: Concussions Down", 2014). Then, four years later in the 2017 season, there was a record number of diagnosed concussions since the NFL began tracking data in 2012 (Seifert, "According to NFL", 2018). Now, it is unreasonable to think that the rate of concussions that occur every year can have a linear decrease regardless of rules and regulations put in place to prevent concussions. However,

it is also naive of the NFL to imply that a year of reduced concussions has great significance in the grand scheme of the controversy. This type of inconsistent news coverage implies that the perceptions of concussions in the NFL potentially vary from year to year.

Another inconsistency across the articles is the differences in player opinions on concussions. Clearly, the health risks associated with head injuries have been studied and thus make concussions tricky and frightening injuries. However, the extent to which a player can suffer head trauma and still keep his playing career alive seems to be at the decision of the player himself and not medical advice. T.J Lang, a pro bowl left guard for the Detroit Lions, suffered a fifth diagnosed concussion in 2018 and was told he would be safe to continue playing by several medical professionals (Rothstein, 2018). On the other hand, former star linebacker Chris Borland decided to retire at the age of 24 because of the risk of severe head trauma (Neporent, 2015). The article on Borland discussed how, even though he retired at such a young age, the possibility of long-term effects on the brain still exists from his playing career prior to the NFL. Football players clearly must always be aware of the risks that come with playing such a violent game. The number of head injuries that some are willing to take may not be consistent with others. It is interesting to note this difference, and how both players made different choices after doing their own research on safety.

Rule Changes and Protocol. A second pattern that I noticed was the strategic use of rule changes and protocols by the NFL. Specifically, when a player is mentioned of having a concussion in an article, there is always a discussion of the NFL's "concussion protocol" put in place as a guideline for players and medical staff workers to use. Essentially, the concussion protocol is a formality for all players with concussions that must be used properly and fully before a player to be cleared to return to play. While it is certainly beneficial for the NFL to

have a procedure put in place for concussions especially given the rise in attention, the discussion of the protocol almost seems to function as a cover for liabilities against the league. There is a constant theme in the articles mentioning either that a player is currently in the concussion protocol, or that he was cleared from the concussion protocol to return to play. The problem with the protocol is that there are several flaws in it that seem to be overlooked. Particularly, players still ultimately have the final say in whether or not they will sit out due to a concussion. The Super Bowl, which is the championship game for the NFL, is one of the most viewed sporting events every year. In a poll of 320 NFL players, 85 percent of them said they would play in the Super Bowl with a concussion (Keim, 2014). While these players may not be thinking long term about the harmful effects of playing with a concussion, these decisions are understandable given the competitive nature of many professional athletes. Also, in the 2014 playoffs two players were diagnosed with concussions and did not follow proper protocol with one player entering the game after his diagnosis ("NFL: Two Violated", 2014). Since then, the NFL has designed a new policy for punishing teams that violate the league's game-day protocol with monetary fines ("NFL Teams Now", 2016). The fact still remains that players are much more likely to hide symptoms and play through them if the game has playoff implications. However, as long as the NFL has the protocol in place, it is difficult to point the blame at the league itself.

A second issue with the protocol and search for players with concussion-like symptoms is that we still see numerous players go undiagnosed, specifically in games. The NFL has taken a variety of measures to ensure that there is a sufficient amount of health care providers and practitioners watching for players who may be experiencing symptoms of a concussion. However, this has not stopped the reports of players who suffer concussions and stay in games.

Jacksonville Jaguars' Bernard Pierce was diagnosed with a concussion after a game in 2015, but not before he was seen blocking his own player instead of tackling the ball carrier (Dirocco, 2015). Interestingly enough, it remains unsure when he actually received the blow that ultimately left him concussed. Also, in a 2017 interview with star New England Patriots quarterback Tom Brady's wife, she stated that Brady had sustained a concussion in the previous year and implied that he has had several before in his career (Thorbecke, 2017). However, the NFL issued a statement later saying they had no record of Brady suffering a concussion in the previous season. Clearly, her statement is only subjective in that there is no actual evidence or proof of Brady's concussions. However, it does make you consider how effective the league's protocol is and whether or not it is simply a cover for liabilities.

Analysis

I previously just described the lenses that the frames for this study will be looked at, as well as a brief discussion of several themes throughout the articles. These themes are some very general observations I made after reading through the articles. However, they are applicable to the specific frames that are analyzed in the Health Belief Model and the Extended Parallel Process Model. I will now begin my analysis where I discuss the elements from the two models as frames of concussions in the NFL. Specifically, I begin by discussing HBM elements of *perceived susceptibility*, *perceived severity*, *perceived benefits*, and *perceived barriers*. I will then discuss elements of the EPPM which particularly focus on the *danger control processes* and *fear control processes* present in fear appeals from the articles. Finally, I conclude with a discussion of several other aspects of the articles, including how espn.com and abcnews.go.com potentially differ in how they frame stories, as well as how different characteristics of players

impact the frames portrayed in the articles such as age, race, and overall skill level and notability.

Health Belief Model

In discussion of the HBM, the four frames I identified within the news articles are perceived susceptibility, perceived severity, perceived benefits, and perceived barriers. I will now discuss the ways in which each of these frames are presented in the artifacts as well as draw several links between the four elements.

Perceived Susceptibility. There are three main points of emphasis on the perceived susceptibility of a player suffering a concussion. First, the perception seems to vary on a yearly basis simply based on how many total concussions are reported in a given year. However, even in reports of an increase in concussions, the increase in susceptibility is framed as a positive for the NFL. In an article discussing a near thirty-two percent increase in concussions in the 2015 season, NFL senior vice president of health and safety policy Jeff Miller attributed the increase to "unprecedented levels of players reporting signs and signals of concussions" (Seifert, 2016). This is just one of the ways that the NFL always seems to be framed in a positive light when on the hot seat for concussions. Two years before this spike in concussions, the league total was down thirteen percent in the 2013 season compared to the total in the 2012 season. With this decrease, the NFL commissioner Roger Goodell was quoted on a sports radio talk show saying "the game is safer and better than it ever has been" ("NFL: Concussions down", 2014). A statement like this implies an upshift in the frame up susceptibility, which means the frame becomes less serious (Baran & Davis, 318). In hindsight, it begs the question of whether the game is actually becoming safer, or if the NFL is simply scrambling to find an actual solution to

the issue. Regardless, audience perceptions of susceptibility of suffering a concussion are likely low due to the way these articles are framed.

The highest recorded number of concussions to date came in the 2017 season. Following this, the NFL implemented a "call to action" with a focus on reducing concussions in the league. The "call to action" made two specific changes to the game: an increase in use of more updated helmets that were deemed safer by the NFL, and work with football operations to make improvements to gameplay such as adjustments to the kickoff (Seifert, 2018). The following season, the league saw close to a twenty-four percent decrease in concussions (Seifert "According to NFL", 2019). After the drastic decrease in concussions, NFL spokesmen gave credit to the league changes, stating "we feel like this decrease is not a random variance but a reflection that the data-driven approach has made an impact" (Seifert, "According to NFL", 2019). Clearly, after the sequence of events that unfolded in the 2017 and 2018 seasons, the perceived susceptibility of concussions is framed as significantly lower than what it previously had been. However, the trap that this data may cause the audience to fall into is that, after a league-wide "call to action" followed by a decrease in concussions, there will now be a steady decrease in concussions every year. The fact of the matter is that concussions are all but impossible to eliminate from the sport of football. There will always be some level of susceptibility to concussions. The NFL has stated that it remains committed to reducing concussions in claims that it is "an ongoing commitment on our part to drive down injuries, not only concussions but also other parts of the body" (Seifert, "According to NFL", 2019). Only time will tell if these new rule changes have a lasting impact on the reduction of concussions. For now, perceived susceptibility remains an element of concussions that varies from year to year, with upshifts and downshifts in the frame also occurring on an annual basis.

Another point of discussion on perceived susceptibility is that, while the NFL accounts for concussions in annual injury reports, the actual number of concussions that occur is frequently covered up by players in the league. Thus, perceived susceptibility based on media frames may be much less than actual susceptibility. There were several instances in the articles that expressed how players are able to hide concussions in order to stay on the field. One example of this was with star quarterback Tom Brady in the 2016 season. His wife, Gisele Bundchen, spoke on "CBS This Morning" stating "He had a concussion last year... He has concussions pretty much every... I mean, we don't talk about it. He does have concussions." (Reiss, 2017). However, Brady was never documented with a concussion in the 2016 season, nor has he ever been diagnosed with a concussion in his career. Brady is known as one of the greatest quarterbacks to ever play in the NFL. This news certainly causes question about the reliability of the reports the NFL releases annually. Also, even when it appears the NFL attempts to upshift the frame, content such as this interview then downshifts the frame on concussions.

Another article quoted another high level NFL quarterback, Ben Roethlisberger, saying "there were many times that I've said that I haven't told anybody that I had been dinged or had a concussion" (Fowler, 2016). Similar to Brady, Roethlisberger is highly touted as one of the better quarterbacks of his generation. It seems to be more than a mere coincidence that two of the top quarterbacks in the NFL have been able to cheat the concussion protocol in order to stay in the game. Also, one must also consider the extent which less notable players will go to stay in the game in order to keep their jobs.

Along with the examples of these two quarterbacks, there were other instances where susceptibility was not properly reported in the league. An ABC News article in 2010 explained how the NFL started to hang posters in team locker rooms to draw attention toward head injuries,

as the posters read "A Must Read for All NFL Players... Let's Take Brain Injuries Out of Play" (Gever, 2010). The article appears to frame perceived susceptibility in a positive note.

However, the article later discusses how a survey of 160 players was given out, and 30 of the players stated they "had hidden or played down the effects of a concussion at some point in their careers" (Gever, 2010). With so many instances of players hiding head injuries in order to stay on the field, there must be a question to the reliability of the total concussions released by the NFL. While perceived susceptibility is framed at a lower threshold, the reality is we as an audience must realize that the actual level of susceptibility may in fact be much greater.

Finally, in my analysis of the articles I noticed another specific example of faulty reporting on susceptibility. In 2019, Kevin Seifert wrote an article covering how the number of concussions in the preseason rose forty-four percent from the previous year. In the explanation of this, it was noted that "rookies and players who ultimately did not make a final roster, and are the least familiar with NFL rules designed to minimize such hits, represented roughly two-thirds of the concussion victims" (Seifert, "Preseason game", 2019). For anyone who is unaware of the rules in NCAA college football, this reasoning would make sense. However, the NCAA had already established a penalty for targeting, or "above the shoulder hits on defenseless players", long before the 2019 preseason (Johnson, 2013). In fact, in 2013 the NCAA increased the punishment for such penalty from just an advancement of fifteen yards to an automatic ejection for the player who made the hit as well (Johnson, 2013). Currently, there is not even an automatic ejection for the same penalty in the NFL, leaving college players entering the league without a justifiable excuse in this scenario.

This exemplifies how perceptions of susceptibility on concussions can be skewed by media presentation of facts. Seifert currently owns the title of national NFL writer on espn.com,

which makes this occurrence even more worrisome. The article also continued to downplay the susceptibility of concussions, both in notes on how specific drills where concussion numbers decreased as well as an increase in the number of safer helmets that were worn around the league (Seifert, "Preseason game", 2019). It is interesting how, in an article about a significant increase in the number of preseason concussions, the perceived susceptibility is depicted as low due to the way the media framed the story. This displays an upshift in the frame, even though one would think an increase would cause the issue to become more serious. It is certainly something to keep in mind as the concussion debate furthers over time.

Perceived Severity. In the context of this study, perceived severity is defined as the audience thoughts on the seriousness of players suffering concussions in the NFL based on the depiction of the issue in the articles. There are several themes presented that impact the frame of perceived severity, with the first being that the number of concussions a player suffers in his career has little influence on the frame. Rather, the value that individual players have on the severity of concussions has a strong impact on the perceptions of the public. In 2015, linebacker Chris Borland decided to retire after playing only one season in the NFL due to his own personal fears of future head trauma. Borland was not diagnosed with a concussion in his rookie season, but did disclose he "sustained two significant concussions while playing sports in high school and college" (Neporent, 2015). The article also states that Dr. Alison Cernich, the director of the National Center for Medical Rehabilitation Research, believes "lasting damage to the brain likely occurs long before an athlete signs on with the pro leagues" (Neporent, 2015). Research presented in other articles backs up these findings as well. Specifically, a study of forty retired NFL players who had a special, more advanced form of MRI brain screening found traumatic brain injury in approximately twelve percent more players than with a normal MRI screening

(Mohney & Barzilay, 2016). The article also stated that each player in the study had an average of 8.1 concussions over their lifetime.

The Borland article certainly raises perceptions on the severity of concussions, especially since he himself never suffered a concussion in his professional career. On the other hand, several players have continued their careers with multiple concussions and have been deemed safe to continue. Buffalo Bills center Mitch Morse suffered a fourth concussion in his professional career in the summer of 2019. This prompted him to consult medical professionals to examine the current state of his brain and what that held for his future. Morse is quoted in the article stating "I've talked to every expert known to man... And we've done all the tests you can freaking think of. And every one was just tip top, and all the specialists said I'm going to be just fine" (Associate Press, 2019). Similarly, Detroit Lions right guard T.J Lang suffered what was at least the fifth concussion in his professional career in September of 2018, which also caused him to consult with medical professionals on the status of his head. After clearing the NFL's concussion protocol, Lang stated "That gave me a lot of comfort knowing that, hey, when this thing is all settled and gone, then basically hit the reset button and continue to play" (Rothstein, 2018). These articles present a much different frame on perceived severity than the Borland article. Essentially, these articles imply that NFL players can suffer numerous concussions in their professional careers and continue on as if nothing happened. This both lowers the overall frame of perceived severity, and also contradicts previous articles that present a much higher level of severity for players who suffer concussions.

The case of Chris Borland is also interesting because of just how young he was when he retired. Particularly, another theme presented in the articles on perceived severity is that the age of the player, as well as the talk about life after football impacts the frame. Understandably so,

many players who were in the middle of their careers at the times of the articles seemed to lack thought about the long-term severity of concussions. In 2013, 23-year-old wide receiver Randall Cobb fractured his fibula, an injury that takes at least six weeks to heal. This sparked a conversation about whether hitting a player below the waist in attempts to avoid head injuries is actually better or worse for the players. In fact, a Houston Texans safety stated "A concussion, you be back in a couple of weeks... Leg injury, you can't come back from that" (Moisse, 2013). While a statement like this is concerning, it is also understandable to hear from the younger generations of players who have no clue what the future holds. However, one worrisome quote from the article was from former Chicago Bears head coach Mike Ditka, who stated "What do you have on your knee? Unless you wear a brace, you've got nothing... I'd rather get hit in the head, I'm sorry guys" (Moisse, 2013). The general consensus from retired players goes against Ditka's statements, but it certainly raises eye brows to hear something like that from an NFL Hall of Fame player.

While articles that discuss players who were currently in the NFL generally frame perceived severity as low, the articles that touch base with players out of the league share a different side of the discussion: the lasting impacts of concussions. In 2009, tight end Ben Utecht suffered a career ending concussion that left him with eight months of recovery time, as well as a fading memory. An ABC article in 2014 shared a story of how Utecht began to fear losing his memory completely (Lupkin, 2014). Utecht told the story of how he could not remember being at a friend's wedding when looking through pictures of the event, stating "Seeing myself in numerous pictures, as a groomsman and singing for them a song. To this day, I still have no memory of that event" (Lupkin, 2014). Memory loss is one of the long term side effects of repetitive head trauma. Another article on ESPN covered former NFL player Steve

Hendrickson, who said he had fifteen blackout concussions in his professional career (Keown, 2013). While this is a somewhat extreme case due to the number of severe concussions he sustained, it still important as Hendrickson is now permanently disable according to the Social Security Administration (Keown, 2013). Both of these stories increase the frame of perceived severity because they demonstrate what the long term effects of repetitive head trauma.

Of course, it is important to have articles covering the current climate of players who players who suffer concussions and how the NFL reacts. However, the personal anecdotes displayed are also crucial because they allow the audience to have a reality check into life after these coveted athletes are done playing the sport. In fact, along with memory loss, there are other severe repercussions for repetitive head trauma. An ESPN article told the story of Tom McHale, an ex-NFL player who died at the age of 45 from a prescription drug overdose (Barr, nd). A study conducted through phone interviews of 644 former NFL players found that eighty-one percent of these players had suffered an undiagnosed concussion in their careers. Among the players who had an undiagnosed concussion, "98 percent said they suffered from undiagnosed concussions" (Barr, nd). This data shows the importance of life after football when considering the severity of concussions, and how the frame of perceived severity can be skewed if articles only focus on the current climate of concussions.

Aside from factors discussed earlier such as the number of concussions a player suffered and the period of life players discussed are at, articles do seem to frame the NFL as taking the issue seriously. Specifically, everyone around the league has started to step up and recognize that concussions should not be taken lightly. In 2009, the NFL made adjustments to their concussion protocol, which included "the requirement for teams to have an independent neurologist" (Neale, 2009). In 2011, the NFL began training referees to spot players who may be

suffering from concussion symptoms so they can prevent players from continuing activity (Mortensen, 2011). These improvements demonstrate the increased stress on the seriousness of the issue, which downshifts the frame of perceived severity. Along with improvements to medical personnel on the field and officiating crews becoming more aware, coaches have also started to take initiative in spotting signs for concussions. In 2014, a neurological consultant on the sideline of a preseason game was approached by a team position coach to examine a player for a possible concussion ("NFL: Concussions down", 2014). This is a key event because it shows that, even though coaches want success and to win games, they also have their players' best interest in mind. With the increased emphasis on the severity of concussions, the issue may also be coming to a normalization of players taking the time to recover from the injury as well. In 2019, New York Giants wide receiver Sterling Shepard was cleared from the NFL's concussion protocol, but reported continued symptoms which placed him back in the protocol ("Giants' Sterling Shepard", 2019). It is important to also note the article stated that Shepard "was the Giants' leading receiver before the injury" ("Giants' Sterling Shepard", 2019). Clearly, the team would like to have their best wide receiver playing. However, this demonstrates that even high profile players in the league are starting to take the issue seriously enough to allow time for full recovery. Also, it is evidence that players feel they have the efficacy to address concussions themselves.

Perceived Benefits. This study defines perceived benefits as the perceived advantages of taking health action to prevent concussions in the NFL. Obviously, in such a violent sport like football, it is realistically impossible to completely eliminate concussions in the game without losing significant interest from fans. However, as discussed earlier, there are examples of ways the NFL has taken action in attempting to reduce the overall number of concussions around the

league. For the frame of perceived benefits, the general advantage to taking health action is that players will come out of the NFL with a healthier brain, thus able to continue living a normal and healthy life. In presenting this frame, there are several aspects that are discussed in the articles that aid in showing the benefits of taking health action. In general, the NFL has changed its views on concussions, with one ESPN article stating "A player once "dinged" is now "concussed"" (Brandt, 2012). An example of this was when, in the opening game of the 2016, quarterback Cam Newton was hit on two different occasions in what looked like potentially concussive blows (Hayden, 2016). The article mentions that, after the second hit made on Newton, "familiar discussions percolated on social media about chronic traumatic encephalopathy (CTE), a disease believed to cause disorientation, headaches, memory loss, and erratic behavior in players" (Hayden, 2016). The end of the article also mentions two notable former NFL players who committed suicide before their brains were found to have the degenerative brain disease (Hayden, 2016). The notes on CTE in the article demonstrate one of the perceived benefits in taking health action to reduce concussions. Although concussions do not correlate to an increased likelihood that one will develop CTE, a stress on reducing hits to the head in the NFL will, in turn, reduce the likelihood that all players will have brain disease after their careers are over. Thus, players benefit specifically from taking health action to prevent concussions in that the chances of developing CTE are likely to be reduced as a result.

Along with discussion about CTE, the NFL itself has also taken measures to show the league is bought in for the benefits of reducing concussions. In 2015, the NFL hired its first health and medical adviser. Also, the league invested thirty million dollars "to fund research at the National Institutes of Health, focusing on detection of brain injury and protecting the brain" (Kirsch, 2015). This demonstrates that the NFL is both focused on making the current game

safer, as well as looking into what can happen to players after their careers are over. The article quotes the new health and medical adviser, Elizabeth Nabel, as stating "we're developing a culture of health and safety, and that has to be balanced against the culture of competition" (Kirsch, 2015). Thus, the perceived benefits of taking health action started to become recognized as an important element of the game compared to the previous notions about letting the game be violent for fan entertainment. Similarly, Pro Football Hall of Fame quarterback Joe Namath helped raise ten million dollars for hyperbaric oxygen therapy, which helps stimulate healing in the brain (Schabner, 2015). This is not only a benefit for current players, but also former players like Namath who have already finished their careers in time periods where there was not a stress on reducing blows to the head. Discussion about investing in the future of brain health for football players also raises awareness about the benefits of taking health action to the general public. Clearly, there is a focus on making the game safer, and the fact that the NFL along with former players are investing in the quality of life for players after their careers are over shows they believe there are advantages to taking health action. Thus, perceived benefits of taking health action to reduce concussions and improve player health later in life is framed as high.

Perceived Barriers. The frame of perceived barriers is defined as the awareness of the obstacles that are present in taking health action to prevent concussions in the NFL. The main barrier that is presented in the articles is the players themselves. Specifically, the players in the NFL must adapt to the changes that have been made around the league in order for the culture to change. The concussion protocol in place can only impact the players so much, with an example being in 2014 when David Bakhtiari went back in for a play after being declared ineligible with a concussion ("NFL: Two Violated", 2014). In 2015, Bernard Pierce suffered a concussion and

kept it a secret until after the game (Dirocco, 2015). These cases demonstrate how players constantly strive to stay on the field and contribute for their respective teams, which comes as a barrier to making the game safer. Similarly, lines from an ABC News article stated "In an NFL Nation anonymous survey, 85 percent of the 320 players polled said they would play in the Super Bowl with a concussion" (Keim, 2014). While the season championship game is a bit different, this statistic further demonstrates how the players become barriers to their own safety. As more research is conducted, it is hard to believe players will continue to have these attitudes toward concussions. Therefore, the frame of perceived barriers is low and certainly surmountable by the perceived benefits of taking health action.

Extended Parallel Process Model

After covering elements of the Health Belief Model and how they are framed, I will now transition to analysis of the Extended Parallel Process Model. To review, the EPPM is a model that is used to predict health related behaviors based on reactions from fear appeal messages. Similar to the Health Belief Model, susceptibility and severity are two elements that impact the EPPM. Essentially, if susceptibility and severity are perceived as high and the individual feels he or she has the self-efficacy to take health action that would reduce or prevent the health risk, then the individual will go into danger control processes. In the case of concussions, danger control responses involve actively pursuing options to control the issue such as the NFL concussion protocol. On the other hand, if susceptibility and severity are perceived as high but the individual feels his or her efficacy to control the health issue is low, then the individual will go into fear control processes which include coping strategies of avoidance and ignoring the issue all together. An example of this in the case of concussions is an instance where a key player suffered a concussion, and the article simply mentions the player who went in for him.

In my analysis of the articles, I found that six articles appeared to use fear appeals about concussions. Specifically, four articles demonstrated danger control process responses and two articles expressed fear control process responses. I will now discuss these two elements of the EPPM and the points of discussion from the articles that produce these frames.

Danger Control Processes. To reiterate, danger control processes present a frame in which we have the ability to prevent or reduce concussions. Also included in this frame is the ways in which we are able to aid in recovery for former players in the NFL who already have damage to their brains. In the ABC News article discussing several hits on quarterback Cam Newton for the Carolina Panthers, fear appeal was presented in several ways. The article described one of the hits in which "Brandon Marshall appeared to purposefully drive his helmet into Newton's, which seemed to cause the quarterback's neck to snap back from the force of the blow" (Hayden, 2016). Also, the article displayed a picture of Junior Seau, a former NFL star who was found to have CTE after committing suicide. With susceptibility and severity framed as high, the danger control process discussed is the proper use of the NFL concussion protocol. Specifically, to ensure the protocol was properly used, a league spokesman stated "we have decided to initiate a review of the medical team's response to the Cam Newton tackle" (Hayden, 2016). This demonstrates an active action made in which the NFL ensured that the protocol put in place was used effectively in order to prevent concussions and further head trauma.

Another ABC News article evoked fear appeal by explaining how advanced MRI technology revealed more brain damage in former players than normal MRI scans, downshifting perceptions of susceptibility and severity. The article frames the threat evoked from the fear appeal with danger control processes because it allows players to be analyzed for head trauma more accurately than before, thus identifying potential issues. Specifically, neurologist Gayatri

Devi stated "this study has some value in terms of alerting us to the idea that players who may have normal MRIs, and even perhaps those who don't have clear concussions ... may be at risk of some kind of brain injury" (Mahoney & Barzilay, 2016). Therefore, with the information presented in the article, we have the ability moving forward to identify head trauma potentially earlier and take steps to prevent numerous concussions in the future.

Finally, several danger control process frames present ways in which impacts from repetitive head trauma can be aided after one's playing career is over. An ABC News article discussing how NFL Hall of Fame Quarterback Joe Namath would not play football knowing now what he does about concussions evoked fear simply hearing that from someone of his notoriety. The fear appeal is framed with danger control processes as the article discusses how Namath invested in clinical trials for oxygen therapy for damaged areas of the brain (Schabner, 2015). In fact, Namath himself used the therapy and stated "the scans are beautiful. And I really feel like I've gotten sharper" (Schabner, 2015). This exemplifies how, even after head trauma has occurred, there is still active pursuit of healing for the brain and that there is the efficacy to do so. Another article from ESPN tells the heartbreaking story of a former NFL player who died from a drug overdose likely caused by brain damage (Barr, n.d). The story evokes fear by how personal the story is and how scary it can be for people in that situation. It presents danger control processes in that the wife of the former football player began working for an organization that promotes concussion prevention awareness after her husband's death (Barr, n.d). This demonstrates an active response that promotes efficacy to preventing concussions, rather than avoiding or denying the overarching issues surrounding them.

Fear Control Processes. The frame of fear control processes is one in which a fear appeal is framed in a way where susceptibility and severity of concussions are high, but the

audience feels that self-efficacy and response efficacy to reduce concussions is not possible. Thus, the reaction is passive and often ignores or hides the issue. Former tight end Ben Utecht suffered from concussion symptoms for eight months after his fifth career concussion before retiring (Lupkin, 2014). After retiring, Utecht began to experience memory loss, and stated his biggest fear in life is "to be trapped inside the coffin of my mind. To wake up one morning and not remember the faces and names of the people I cherish the most" (Lupkin, 2014). The article discussing Utecht in his post-career life was a sad story of his fading memory, but it framed the lasting symptoms of concussions as something that many players now retired simply have to deal with. Utecht's efficacy to move forward unfortunately seemed to be too late, and all he is able to do now is deal with the situation he is given.

Another fear control process displayed in the media is a simple replacement of a player who suffered a concussion. An ESPN article covered the concussion of quarterback Mason Rudolph, and described teammate reactions stating how one wide receiver "crumpled backward upon seeing Rudolph laying on the ground" (Pryor, 2019). Rudolph laid on the field for several minutes before standing and walking off with assistance. The article discusses the incident in detail, and ends mentioning the quarterback that replaced Rudolph and his performance in relief (Pryor, 2019). While it is implied that teams have the ability to respond to injuries by replacing players with backups, the article also implies that teams must move on in the moment and continue trying to win the game. Clearly, the league would not stop the game completely before it is over because a player suffered a scary concussion. However, the lack of response presented in the article besides simply replacing Rudolph demonstrates that, sometimes, the only option the league has is to almost ignore the problem and keep playing.

Conclusion

Audience perceptions on concussions in the National Football League are important to consider when analyzing the issue. My analysis of digital media news articles showed that, as a whole, the NFL as well as professional football consumers are taking initiative to reduce concussions around the league. Thoughts about susceptibility of receiving concussions can vary depending on the article, while perceived severity downshifts the frames overall. When facing a fear appeal message, articles generally display actions of danger control processes. Therefore, the Health Belief Model and the Extended Parallel Process Model both show consistent findings in that the audience is likely to pursue proactive health action in reducing concussions.

CHAPTER V: CONCLUSIONS AND RECOMMENDATIONS

The 2010s was a decade that had a significant impact on the sport of football and, specifically, the National Football League. Throughout this point in time, increased awareness about long terms effects of head injuries sparked discourse about concussions in football and how the NFL deals with this issue. The purpose of this study was to analyze the digital media framing of concussions in the NFL between 2009 and 2019. This chapter contains the major conclusions that the results of this study yielded. After this, I will discuss the study's implications, the limitations of this study, and recommendations for future research.

Major Conclusions

After completing my analysis of digital media news articles from abcnews.go.com and espn.com, I have reached several major conclusions. First, using the Health Belief Model to analyze media portrayal of concussions in the NFL, the audience is likely to take health action in the future to reduce concussions in the game. The HBM follows the premise that, if perceived susceptibility and severity are high, and the perceived benefits to taking health action outweighs the perceived barriers, then the audience is likely to take health action in reducing concussions. Perceived susceptibility had several factors that impacted the frame such as the number of concussions reported annually and the fact that players continue to hide injuries in an attempt to stay on the field. Overall, the amount of discussion around the topic suggested that players in the NFL are very susceptible to concussions, which causes audience perceptions of susceptibility to be high. Perceived severity was framed as high, especially in articles that mentioned the long term effects of repetitive head trauma. Players who were currently in their careers occasionally differed in their views on the issue. However, as the decade progressed, there seemed to be little question about the severity of concussions.

In terms of perceived benefits and barriers, the benefits in taking health action to reduce concussions outweighed potential barriers in reaching that goal. There was a clear message in the news articles that player safety in relation to head injuries is something that cannot be overcome by any amount of barriers. As long as players follow the concussion protocol put in place by the NFL, the long term benefits in striving to reduce concussions surpass the barriers that come with taking health action. Therefore, by following the Health Belief Model on the topic of concussions in the National Football League, the audience is likely to take health action to reduce concussions.

Another major conclusion of my study is that, in relation to the Extended Parallel Process Model, the articles demonstrated more danger control processes than they did fear control processes. The EPPM focuses on fear appeal messages and whether or not the audience responding feels they have the efficacy to take health action in preventing the issue. If efficacy is high, then people will perform danger control processes such as correctly performing the concussion protocol or discovering ways to heal the brain after injury has already occurred (Hayden, 2016; Schanber, 2015). If efficacy is low, people will perform fear control processes of denial or avoidance that the problem exists (Pryor, 2019). Overall, the articles demonstrated the NFL community taking a proactive approach reducing concussions when faced with fear appeal messages. Therefore, the general findings indicate that, when faced with fear appeals about concussions, people perceive they have the ability to take health action to prevent concussions.

Implications

The first implication for this study is that, even though this study demonstrates reader perceptions of concussions in the NFL, the overall perceptions of players from around the league

remain somewhat of a mystery. Essentially, I have analyzed the Health Belief Model and the Extended Parallel Process Model on the issue of concussions in the NFL, but with the readers of the articles as the subjects perceiving the elements of susceptibility, severity, and so on.

However, the players are the subjects who actually are susceptible to concussions and must deal with the severity if they suffer a concussion. It is still uncertain whether the players themselves will actively pursue taking health action to prevent concussions or how they perceive the issue as a whole. It is a good sign that readers of the articles are likely to pursue health action because, regardless of player perceptions, there will be an increase in overall awareness moving forward. Yet, there still remains the question of how these articles impact player perceptions of the issue and what actions they continue to take in preventing concussions, if at all.

The second implication for this study is that digital media news articles are a great platform for the National Football League to improve its image. Even at times when it appeared the NFL may have been in the wrong or could have been more proactive to prevent concussions, the media always framed their actions in a positive manner. When annual concussion totals are down, it was clearly a positive sign of the issue going in the right direction. The NFL capitalized on this with a statement by the commissioner stating "the game is safer and better than it ever has been" ("NFL: Concussions Down", 2014). Then, when annual concussion totals showed an increase, the league was still framed in a positive manner by deflecting the increase onto other factors. An example of this is when the league placed emphasis on an "unprecedented levels of players reporting signs and signals of concussions" following an increase in total concussions (Seifert, 2016). There was never a time when the articles framed the NFL in a negative manner, which can be a positive for league moving forward.

Limitations

This study, like all other studies, had several limitations. First, this study only looked at digital media news articles. There are numerous different media outlets where consumers can receive information, with examples being social media and print media articles. Therefore, I was limited to the perceptions given based on digital media news articles alone, while other sources of media may differ.

Another limitation to this study is that ABC and ESPN are both owned by the same mother company, Disney. Several of the articles on abcnews.go.com were from the same writers seen on espn.com. Thus, even though I was analyzing articles from two different websites, it is likely that the information line up with the views of Disney and may not be generalizable to the views of other large corporations.

Recommendations

The results of this study have created room for recommendations on future research that could help the scholarly knowledge on this topic. One recommendation is to look into the framing of other injuries in the NFL and see how it lines up with the framing of concussions. Only one of the articles analyzed in this study mentioned leg injuries compared to concussions, but it was quite a controversial piece. It would be interesting to investigate how injuries other than concussions are framed to see how severe these injuries are perceived as and even how susceptible players are to different injuries. This idea for future research would also aid in strengthening the findings in this study because it would provide more research on injuries in NFL in general, thus supplying information on how concussions are framed versus other injuries.

Another recommendation for future research is to focus on the players as the audience in this study and to see how they perceive elements of the Health Belief Model and the Extended

Parallel Process Model. This research could be conducted with interviews or surveys targeting players and NFL representatives. Essentially, the goal of this would be to close the gap between how the general population perceives issues with concussions and how actual players perceive the issue. This research would be beneficial moving forward with the problem of concussions in the NFL because it would provide insight into the minds of players to see if they actually see concussions as an issue or not. Also, specifically with the EPPM, it would provide valuable knowledge as to whether or not players perceive threats from head injuries. At times, the articles in this study have implied that current players do not think about the long term repercussions of repetitive head trauma. Therefore, future research can provide answers to these questions which would be beneficial moving forward on the issue.

Finally, my last recommendation for future research is to look into different types of media outlets and see how they frame concussions in the NFL. There is a vast amount of media outlets, both online and print, where consumers receive information from. It would be interesting to see how outlets such as social media or even other digital media compare to the results yielded from this study. Again, this research would present a more holistic view on how concussions are framed and what information consumers are receiving.

Final Thoughts

As I come to the end of this study, there is quite a bit of information to break down. Over the past year working on this project, I have learned so much. Sports have always been a passion of mine, which is why I chose a topic related to sports. Specifically, I have been a fan of the Denver Broncos and thus have watched their games for as long as I can remember. Also, through my consumption of NFL football, I have always been interested with the topic of concussions in the league because I frequently would hear differing opinions on the severity of

the injury. I personally have suffered two concussions in my lifetime, and have always had the impression that it can be quite a serious injury. It was really interesting to learn about how NFL players deal with concussions and overcome them throughout their careers. It was also interesting to learn about the specific rules set in place by the NFL and what the concussion protocol actually does. Before, the protocol was a mystery to me even though it frequently circulated the media. After conducting this study, I am much more comfortable in my understanding of the rules and regulations put in place by the NFL.

I also learned quite a bit about the science behind concussions and brain trauma as a whole. Science and, specifically, the biology of the body has never been one of my strong suits in school. I felt that stepping out of my comfort zone and taking the time to analyze scientific literature about concussions really allowed me to grow as a person. I was able to immerse myself in a realm that I had very little prior knowledge about and see how it impacts a realm that I am passionate about. I believe the Senior Independent Study is a perfect time to step out of your comfort zone and really buy into a topic that interests you.

Finally, performing this study has made a significant impact on my life. As previously stated, I was able to step out of my comfort zone during this process, as well as go through the ups and downs of performing a research project. This study also allowed me to gain valuable knowledge for my future endeavors. I have always wanted a job in the world of sports, and performing this study has given me the opportunity to look into sports journalism and how writers choose to place emphasis on certain aspects of an issue. I also became very interested in health communication and how different health issues are portrayed in the media. In the future, I hope to continue to grow in my knowledge of both health and sports communication and use the lessons I have learned while performing this project.

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Appendix A

Pre-Analysis Questions

Health Belief Model

- How does the media frame the perceived susceptibility of contracting a concussion?
- How does the media frame the perceived severity if a player gets a concussion or has already had multiple previous concussions?
- How/does the media mention perceived benefits in making the game safer so concussions are reduced?
- How/does the media mention perceived barriers in making the game safer so concussions are reduced?
- Is there a difference in the notes of perceived benefits versus perceived barriers? What are the implications of this?
- What are some cues to action that the media mentions in reference to players getting concussions?
- How does the media frame a player's self-efficacy in reducing concussions in the game?
- Is there a particular aspect of the HBM that is more prevalent in media frames than others? What are the implications of this?
- Is there a particular aspect or aspects of the HBM that is neglected in media frames? What are the implications of this?
- 10. How to ESPN and ABC differ in their frames? What are the implications of this?
- How do aspects of a player's identity such as age, race, and notability impact the frames created in regard to the HBM? What are the implications of this?

Extended Parallel Process Model

- How are fear appeals implemented in frames of self-efficacy and response efficacy in the EPPM?
- How are fear appeals implemented in frames of susceptibility and severity?
- How does the media frame/discuss damage control processes of concussions in the NFL? What are the implications of these processes?
- How does the media frame/discuss fear control processes of concussions in the NFL? What are the implications of these processes?
- How frequently are media frames of concussions presented with low enough threat that no response is initiated? What are the implications of this?
- What are the differences in threat versus fear appeals in media frames of concussions? What are the implications of this?
- How do aspects of a player's identity such as age, race, and notability impact the frames created in regard to the EPPM? What are the implications of this?
- How do ESPN and ABC differ in their frames? What are the implications of this?