

# Relationships Between Media's Portrayal of Head Injuries and Public Perspective

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## Abstract

*The objective of the following study was to examine the broadcast media's impact on the public perception of head-related injuries in contact sports. An online survey was distributed to Marist College undergraduates, whose ages typically ranged between 18 and 22, during a week-long stretch in March 2018. The survey assessed the correlation between broadcast media's reporting on head injuries in contact sports and the public perspective of such injuries. The findings within our research determined that those who perceive head injuries to be of high frequency also perceive them to be of greater severity. Due to the media's persistent notion that participation in contact sports will result in a head injury of some kind, it was also found that this is likely a predominant cause for a decrease in participation among these sports. The limitations of the study included only reaching the students of Marist College, potentially limiting the generalizability of our research.*

**Keywords:** *Public opinion, concussions, framing, cultivation, priming*

## Introduction

It is difficult to ignore the way contact sports have been significantly altered by the plethora of information pertaining to the risks of head injuries. Perceptions of viewers, readers and athletes are affected because of the context of these injuries. Possibly, the frequency of concussions seen and spoken about in sports moves observers to think differently. Although mainstream media has taken a stronghold on this topic, it is necessary to narrow research to a specific medium, being broadcast media in this case.

Broadcasters seem to place greater emphasis on head injuries during sporting events, primarily due to more knowledge dispersed on the subject. Television personalities seem to intentionally give attention to athletes attaining head injuries, which may impact viewer perceptions. Since the notable symptoms of head injuries are not inherently visible, broadcasters are relied upon to provide commentary on a player's status. Whether an athlete is portrayed as heroic or demasculinized, broadcasts affect public perception (Ku, 2017, p. 32). Conducting further research determined that perspectives are generally altered by this medium.

Concussion awareness has clearly been boosted by the media industry, influencing the opinions of the general public. Past research has demonstrated that the media's portrayal of concussions can affect the public perception of them (Ahmed & Hall, 2016, p. 8). Society is in a current state surrounded by shocking reports on the negative risks of sustaining head injuries in contact sports. The growth of such information illuminates the risks of participation in these sports. Numerous studies have been carried out analyzing the influence that exposure to this material has on public perspective. As a result, critical discussion about head injuries is likely taking a toll on the reputation of contact sports. Because of this shifting mindset, a chain reaction of declining participation may continue in youth sports.

The media is constantly publishing stories to support the abundance of formal research carried out on the severity of concussions. Quite simply, the best strategy for preventing these life-threatening injuries from becoming worse is knowledge. This was highlighted by Gessel et al. (2007): "Developing effective sport-related concussion preventive measures depends upon increasing our knowledge of concussion rates, patterns, and risk factors" (p. 496).

Viewers have been pelleted by the derogatory narrative surrounding head injuries. Today, sports

broadcasts thoroughly discuss scenarios where concussions may have occurred. This study intends to understand the impact that broadcasts impose on public opinion. According to Belson, 2015, “Youth and high school football rates are declining, which may portend future troubles for the league and sport.” As so, possible fluctuations in participation among future generations will be addressed.

## **Literature Review**

### **Cultivation Theory**

The idea behind the cultivation theory is that the more time individuals spend watching television, the more prone one is to believe what is happening from the exact perspective of the networks or broadcasters portraying it. Specifically within the landscape of sports, head injuries are addressed often. This is a relevant theory to understand how watching television can immediately affect viewer perceptions of head injuries, particularly regarding concussions. As additional information is released on the severity and consequences of head injuries, television broadcasters are becoming more likely to discuss concussions in a way that educates audiences about the injuries. Viewers of contact sports will be increasingly exposed to this information and are expected to have their perception directly influenced regarding these types of injuries. Broadcasters strive to express a sense of confidence in understanding the key components of these injuries, leading to an ability to cultivate similar perspectives in observers. According to research conducted by McLellan and McKinley (2011), the intervention of the media’s portrayal of concussions has a profound impact on the effectiveness of diagnosing a concussion. An example given about the 2010 National Rugby League Telstra Premiership indicates that the probable incident rate for concussions was much higher than previously reported and is likely underestimated. This explains that most injured players are shown to continue playing, despite being visibly concussed. The continuation of play against medical suggestion is then reinforced by the commentators (p. 993).

Another example to support this is seen through the work of Hackett (2016), who explained that athletes often want to play through injuries, much like center Gregory Campbell of the Boston Bruins did in the 2013 NHL Playoffs. Campbell sustained a broken leg while blocking a slap shot from Pittsburgh Penguins forward Evgeni Malkin. Situations such as these have inspired researchers to study the effects of concussions on athletes before severe injuries are sustained. If this occurs, a toll may be taken on multi-million-dollar players within organizations. While this can be considered beneficial to the health of athletes in many respects, viewers are often malleable in thought and belief. Therefore, broadcasters can easily have an immediate impact on present perceptions about head injuries.

An additional subdivision of the cultivation theory is supported by Gerbner, Gross, Signorielli, Morgan, and Jackson-Beeck (1979), suggesting that heavy television viewing leads viewers to believe the world is a much more dangerous place than it actually may be (p. 193). This can potentially mean that some viewers perceive that what is said by broadcasters minimizes the consequences of head injuries. In some cases, it may be interpreted that violence and injuries in contact sports are actually “sanitary,” (Signorielli, 2003, p. 36) and not always punishable in the context of sports. If this type of broadcasting technique becomes more common, viewer perception may change to reflect this. Cultivation theory suggests that, regarding sports broadcasts, perspectives easily conform to the thoughts of commentators. Moreover, these opinions will generally be accepted by audiences. In the realm of sports broadcasting, head injuries are directly addressed due to the exponential growth in conversation. Thus, public perception of head-related injuries will be influenced by commentary during broadcasts. Ultimately, the increased attention given to head injuries will influence the perception of head injuries in the public eye.

### **Framing Theory**

The framing theory suggests that individual beliefs can be shaped by others’ subjectivity. A study by Littlejohn and Foss (2009) explains how the roots of framing theory are often attributed to sociologist

Erving Goffman, who argued that interpretive designs constitute central elements of cultural belief systems (p. 407). Based on analyzing lifelong morals or ethical standards, framing theory is intended as a guideline that each person can refer to. In many fields of study, framing theory can be used to both solve and explain why something is just so. Especially in sports media, broadcasters and journalists apply framing theory in an attempt to gear the general public toward a narrow-minded style of thinking.

In the world of sports, having access to the most recent updates regarding organizational trades, economical drama and injuries gives broadcast media the opportunity to release information in a way that benefits the outlet. Based on its popularity in the United States, the NFL has national, and even global, audiences craving their product on a weekly basis. As stated in "Concussion," the motion picture released in recent years, "The NFL owns a day of the week. The same day the church used to own, now it's theirs" (Cantillon, 2015). Framing theory is partially responsible for the way broadcast media portrays head injuries in contact sports. Regarding a matter as serious as concussions, the numerous variables embedded within this theory help give the everyday individual a chance to develop his or her own opinions.

Like other journalists, sport reporters have an agenda to disclose truthful information to the public. As stated by Weaver (2007), "Focusing on framing does not necessarily mean discarding the findings of much agenda-setting research that is more concerned with which issues are emphasized (or what is covered) than how such issues are reported and discussed" (p. 142). Relying heavily on the perception of reality, framing theory assists in altering decisions, either for better or worse. When dealing with broadcast media and head injuries, the focus is aimed primarily around human response.

Framing is described as making a perceived reality more salient in a communicating text. This is executed in a way that promotes an interpretation, evaluation or treatment of a particular stimuli (Weaver, 2007, p. 143). Frames can have a direct impact on the way in which individuals live. Sports broadcasters use this notion to affect thought processes. Whether it is positive or negative, framing in general has certain consequences. "On the societal level, frames may contribute to shaping social level processes such as political socialization, decision-making, and collective actions" (De Vreese, 2005, p. 52). In this scenario, the steps that help to establish clear and concise ideas are just as important as the end results.

Serving as a filter or a basis, priming is an idea that researchers have often affiliated with framing theory. Priming deals with how certain topics of interest, head injuries for instance, are handled when one identifies the origin. This forces one to decide whether the news they are being fed is being released in the most appropriate fashion. According to Scheufele (2000), "The theoretical foundation of agenda-setting and priming can be traced back to psychological concepts of priming in work on cognitive processing of semantic information" (p. 299). Priming an audience to believe that head injuries are, or are not, as serious as one may think is a direct influence. "The individual tries to infer underlying causal relations from sensory information" (Scheufele, 2000, p. 300). Subconsciously, individuals make inferences based on information presented. Previous studies have shown that when certain primes are given attention, reactions and decisions made on the displayed content are facilitated (Tipper, 1985, p. 573).

For the most part, sports broadcasting is subjective. Head injuries have been hidden by the media for years, but an increase in technology makes them difficult to dissect. Along with introducing the correlation between framing, priming and sports broadcasting, the field of communication in its entirety plays a role. The influx of media coverage has caused these theories to be reintroduced. For the longest time, head injuries were something that severely lacked attention, even more so in the realm of contact sports. Today, medical research has caused media outlets to reevaluate how this information is displayed. The processes of how conclusions are drawn, in regard to justifying social norms, is rapidly changing. Now that information regarding head injuries is more relevant in society, broadcasters use it to their advantage to instill a priming effect upon viewers. As coverage of head injuries increases within the broadcasting landscape, audiences will be led down a certain path when beliefs are primed.

## **Media Reporting**

Media reporting is an essential, and influential, piece of how the public consumes information. This also is an important factor in determining behavior within individuals. For example, "Concussion"

exemplified how extensive research uncovered Chronic Traumatic Encephalopathy (CTE) from head-related injuries in the National Football League (Concussion, 2015). Major media outlets publicized the report and it received serious attention, eventually leading to head-related injury reform throughout the sport of football at all organized levels. Media's delivery of the information was critical in raising awareness and effecting change within local and national communities. Additionally, the movie itself spread awareness about the relevancy of CTE, and the effect it was having on those diagnosed with concussions and similar injuries. The content that the media decides to report on has an immediate effect on those who consume that media. When several major organizations report on a topic as severe as head-related injuries, the impact within a community can be substantial (Cusimano et al., 2013, p. 1).

A study conducted by Karimipour and Hull (2017) analyzed articles from ESPN.com to evaluate the website's reporting of head injuries within stories pertaining to the NFL. The study found that the media's mention of concussions was integrated with mention of other common injuries, including pulled muscles and broken bones (p. 45). The results of the study showed that widespread knowledge of concussions, and their frequency within the league, have led to higher rates of concussion identification. Thus, related reports among major sports media organizations occur at a higher rate. Information and education on concussions, including symptoms and treatment, has led to an above average understanding of concussions and diagnosis procedures.

When members of the sports media landscape discuss concussions, there are several different categorizations of stories. An analysis of articles regarding National Hockey League standout Sidney Crosby's 2011 concussion found numerous categories for the language used in each article referring to the head injury. The study found that the stories revolved mostly around the idea of sports being a culture of risk and the impact it has on the athletes involved (McGannon, Cunningham, & Schinke, 2013, p. 894). This analysis of the media's reporting shows how concussions have a sociocultural impact on sports and the audience consuming it regularly. From the analysis of these articles within the conducted research, it can be concluded that written and broadcast media has an immense influence on viewer perspectives of head injuries. When writing about Crosby's concussion, media outlets spoke on the impact of the concussion for Crosby and other athletes, rather than simply reporting that the injury was sustained. This culture of responsibility for media outlets is a direct result of concussion awareness; not just within the NFL, but also in contact sports. The trickle-down effect of the media's role in concussion awareness will continue to impact generations of younger athletes.

Aside from professional leagues, the rise in reporting of adolescent concussions speaks to the smooth flow of information throughout the public. This information easily makes its way down to the parents of children participating in youth sports that are at risk for head injuries. Further, the identification of head-related injuries is rising in the adolescent population (Zhang, Sing, Rugg, Feeley, & Senter, 2016, p. 2). Due to the continuous flow of information, coaches, doctors and officials can accurately diagnose a concussion. Immediate diagnosis at a young age can help an athlete receive the proper time to heal and prevent further damage from occurring. The awareness of rising rates among adolescents is partially due to an understanding of the risks athletes face when participating in a sport with a high risk for head injuries. Due to rising reports of emergency room visits for head-related instances, participation in youth sports such as football and ice hockey has declined (Mitka, 2010, p. 1775). Naturally, the rise in concussions equates to a decrease in active athletes. However, awareness of serious issues like this also underlines precautions athletes at risk for a head-related injury must pursue.

Evidence suggests that a rise in reports related to head injuries has a significant impact on communities. Coaches have generally taken an initiative to protect athletes by monitoring concussion symptoms more closely. Since writers and broadcasters draw more attention to the risks of head injuries, there is a greater understanding by the public. This leads to a cautious mindset among athletes and parents of adolescents. It can be said that the impact of media reporting has been substantial in the context of properly identifying concussions and preventing a percentage of head injuries in the future. On top of broadcasters altering the public's perception of head injuries, media attention given to the subject changes the evaluation and treatment tendencies of sports personnel.

## Hypotheses

Hypothesis 1: A perceived rise in the frequency of head injuries is positively associated with a perceived increase in severity.

Hypothesis 2: Head trauma will be viewed as far more severe than other injuries sustained in contact sports.

Hypothesis 3: Broadcast media's narrative that participation in contact sports will lead to head injuries is a primary reason for declining involvement.

## Method

### Design

This study utilized a cross-sectional survey design, meaning that participants were measured a single time. This was chosen because it allowed for a limited sample to provide an accurate representation of an entire population. A longitudinal survey would not have been beneficial because information had to be collected over a short timeframe. Although both types are quantitative, this allowed for participants to offer initial, uninfluenced reactions. Further, surveys created online were easily distributed. Although content analysis and focus groups are beneficial research methods as well, these would not have been advantageous alternatives for the purposes of this study. Decreasing external influences enhanced understanding of the effects that broadcast media has on perception toward head injuries. Ultimately, a cross-section survey helped to justify or refute the given hypotheses.

### Sample

The survey link was posted in the "Marist Class of 2018, 2019, etc." Facebook pages, each including roughly 1,000 students. A minimal amount of recruiting was necessary because the pages include many accounts in a single space. These demographics were likely familiar with the topic of head injuries and had existing opinions. This sample was chosen because it is comprised of a diverse group. Marist College is an academic environment that is primarily white, demographically speaking. The largest ethnicities within the student body are 73.5% white and 8.7% Hispanic or Latino. In terms of gender, 59.1% of the campus population is female, while 40.9% is male. Students reside in 33 different states, with the majority from the Tri-State region. An estimated 305 international students from 29 different countries are also within the sample that was surveyed. The sampling method utilized was convenience sampling because surveys were distributed directly to Marist College students. The sampling procedure involved administering the questionnaire through SurveyMonkey.com. After data was gathered, results were compiled to compare to the originally posed hypotheses.

### Procedure

For this study, a survey was created for Marist College undergraduates regarding the perception of head injuries (see Appendix for the distributed survey). These questions were framed around the three stated themes, focusing on cultivation theory, framing theory and media reporting. The survey was formatted through SurveyMonkey.com and posted on Facebook. Once responses were received over a week, the survey was terminated and results were recorded.

### Measurements

Survey questions were created based on the stated hypotheses. The hypotheses were structured to measure two variables each. The breakdown of question types was primarily composed of Likert-type

scales. Additionally, dichotomous questions were listed, along with questions completed by choosing an option in an answer bank. For questions regarding age and hours spent consuming sports programming, participants were filled in a number value. This variety of question types allowed for conclusive results.

Hypothesis 1 was addressed through consecutive five-point Likert-type frequency scales concerning the occurrence and seriousness of head injuries in contact sports. Hypothesis 2 was directly assessed by a five-point Likert-type agreement statement comparing the severity of concussions and related head trauma to other injuries sustained in contact sports. Hypothesis 3 was evaluated by five-point Likert-type scale questions regarding the inevitability of acquiring a head injury in contact sports and the declining rates of adolescent participation in youth sports due to media’s coverage of head trauma.

## Results

Within the survey that was distributed, respondents were primarily made up of college students. Examination of the survey responses indicated that a total of 152 participants took the survey posted on SurveyMonkey before results were analyzed. Among the individuals surveyed, 59% were males (n = 79) and 41% were females (n = 55). The mean age of those surveyed was 21.93. The largest age group of respondents was from the intended demographic, college-aged students. Ages 20-23 made up 67.1% of respondents (n = 102). Outside of this age group, 17- to 19-year-olds accounted for 11.2% (n = 22) and 8.7% (n = 13) were ages 24-55. While the ages of participants consisted of one large group, ethnicity did as well. White/Caucasian individuals made up 82.9% (n = 128). The remaining total was composed of small percentages of African-American, Hispanic/Latino, Asian-American/Pacific-Islander, and other ethnicities. Because the target population was college-aged students, demographic information was also broken down by class standing. The largest group within this measurement was seniors, with 34.9% (n = 53). Further, 25.7% (n = 39) were juniors, 7.2% (n = 11) were sophomores, and 3.9% (n = 6) were freshmen. Because the survey was occasionally distributed by word of mouth or shared outside the intended groups, class standing did not pertain to 16.4% (n = 25) of participants (Table 1).

**Table 1.** Survey Participant Demographics

	Frequency	Percentage (%)
N	152	100.00
Gender		
Male	79	59.0
Female	55	41.0
Age (Mean = 21.93)		
17-19	17	11.2
20-23	102	67.1
24-55	13	8.7
Ethnicity		
White/Caucasian	128	82.9
African-American	1	0.7
Hispanic/Latino	4	2.6
Asian-American	2	1.3
Other	1	0.7
Class Standing		
Freshman	6	3.9
Sophomore	11	7.2
Junior	39	25.7
Senior	53	34.9
Other	25	16.4

The first hypothesis described a correlation between viewer perception of the frequency and seriousness of head injuries. We predicted that as viewers saw an increase in frequency, they would also see an increase in severity. Participants were asked about how often they think head injuries occur in contact sports (Figure 1a), along with the seriousness of such injuries (Figure 1b). These questions were answered similarly by a majority of participants, indicating that they think head injuries occur, and are serious, often or very often. A Pearson product-moment correlation was run to determine the relationship between viewer perception of the frequency and seriousness of head injuries. There was a strong, positive correlation between frequency and seriousness, which was statistically significant ( $r = .478, p = .000$ ).

Figure 1a. Perceived Frequency of Head Injuries

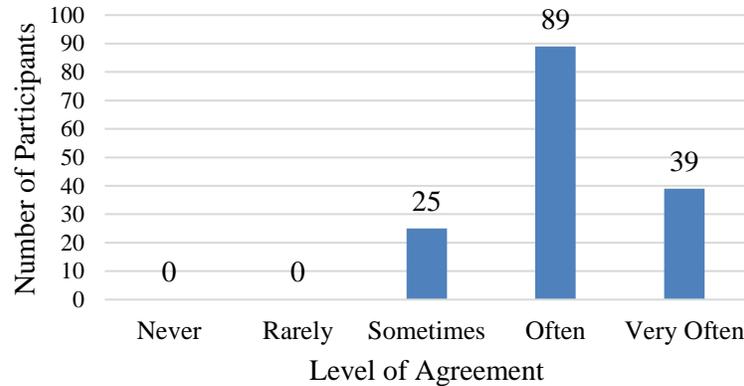
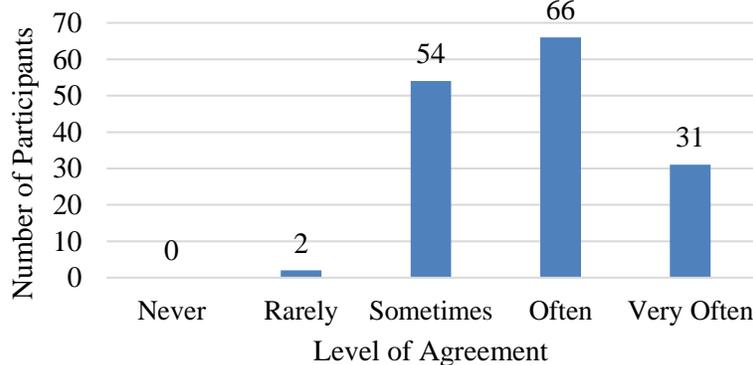
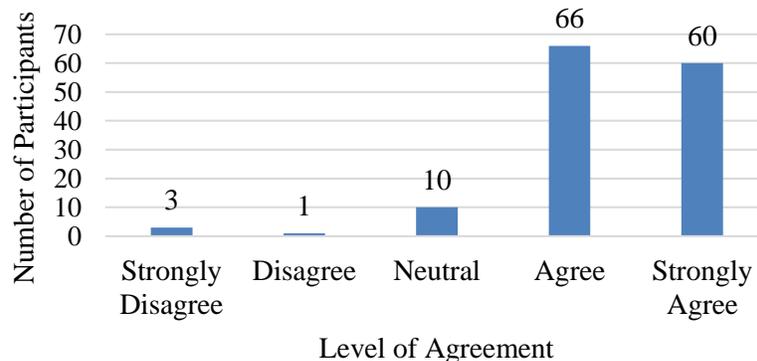


Figure 1b. Perceived Seriousness of Head Injuries



The second hypothesis was related to the severity levels of head injuries, compared to other possible injuries sustained in contact sports. In general, it was predicted that respondents would observe head injuries as very severe. As was illustrated by Figure 2, results indicated that the majority, or 89.9% (125), agreed or strongly agreed that concussions and head trauma are more severe than other injuries in contact sports. Few participants disagreed with the statement, which strongly supported the hypothesis that viewers perceive head injuries as severe in relation to other potential injuries.

Figure 2. Perceived Comparative Head Injury Severity



The third hypothesis drew a correlation between declining rate of adolescent participation in contact sports, and the media's notion that head injuries inevitably occur in these sports. Because media coverage has emphasized that head injuries will be sustained at some point when engaging in contact sports, it was predicted that rates of participation have declined as a result of this notion. A Pearson product-moment correlation was run in an effort to determine the relationship between the declining levels of adolescent participation rates in contact sports and the media's perception that any level of participation in contact sports would eventually result in some type of head injury. There was a strong, positive correlation between these sets of data, which was statistically significant ( $r = .203, p = .019$ ).

### **Additional Analyses**

According to our results, it can be reasoned that broadcasts have a powerful impact on viewer's perception of head injuries. As a result of this, it is believed that head injuries are a much more serious injury than other injuries sustained in contact sports. Because of the immense information on head injuries, we suspected that the participation rates of adolescents in contact sports would decrease and our findings were statistically significant to support that belief.

Additionally, we found a positive correlation that was statistically significant between professional sport league's efforts to treat head injuries and adolescent participation rates declining in contact sports ( $r = .181, p = 0.019$ ). This finding indicated that a result of broadcasts showing proper treatment to players sustaining head related injuries is adolescent participation in contact sports will be reduced. Another correlation that was discovered showed that people who believe playing in contact sports will result in head injuries also think that movies such as "Concussion" will make them a much more believable injury ( $r = 0.245, p = 0.004$ ).

### **Discussion**

The goal of this study was to evaluate the influences that the broadcast media's portrayal of head injuries has on public perception. This included whether or not viewers observe head injuries to be more severe or prevalent due to the input of broadcasters. Additionally, the viewing habits of sports programming and recent concussion-related media was analyzed to determine if future participation in contact sports will result in a decline, as a result of consumption of this content. A survey distributed online yielded several interesting results relating to the hypotheses initially posed.

This study revealed that there was a positive correlation between individual thoughts that head injuries are both prevalent and serious when they occur in contact sports. Further, there was not a single respondent that indicated that head injuries were not severe to some extent. Additionally, the research concluded that participants believed participation is declining in contact sports, due to the perception that head injuries occur in contact sports.

The first hypothesis suggested that people perceived seriousness and frequency of head injuries to be positively correlated. This is important to note because in years past, head injuries were not reported as frequently because they were not evaluated as seriously as they are in current sports leagues. All 152 participants believed that head injuries are serious to some extent. We expected these results prior to distributing the survey because commentary on head injuries has been expanded as a result of increased research on head trauma in sports. To our knowledge, no other research has been conducted that has disputed these findings. However, other research suggests that "concussion knowledge and attitudes both play a role in concussion-reporting behaviors" (Register-Mihalik et al., 2013, p. 651). This means that increased research on head injuries have impacted how frequently, and how seriously, the public perceives them.

The second hypothesis posed in the study questioned if individuals would view head injuries as more severe than other injuries sustained in contact sports. Collected data indicated that head-related trauma is viewed as an extremely severe form of injury compared to others. Exemplified in our data

collection, 89.9% of respondents agreed that concussions are more severe than other injuries in contact sports. This statistic has suggested that the second hypothesis was heavily supported.

The third hypothesis predicted that the media has subjected people into thinking that adolescent participation was reduced due to increased information on head injuries. A correlation test was run to determine if the population believed that adolescent participation was reduced due to the media. Based on the collected data, our hypothesis was supported. A similar study looked for head-related injuries in children that participated in contact sports, finding that a concussive head injury was six times more likely to have resulted from a child participating in a sport than any other leisure activity (Browne, 2006, p. 165). The study analyzed instances of concussions in 592 participants over a three-year period, finding a significant relationship between participating in a sport as a child and having a head-related injury. This data combined with our findings could conclude that most adolescent athletes are at high risk for being diagnosed with a head injury. Therefore, a continuous pattern will occur as fewer parents and adolescents advocate for participation in contact sports.

### **Limitations**

Limitations to this study include a narrow age range of participants involved in the study. Convenience sampling was utilized to acquire responses from the student body at Marist College. Offering results on a wider age group would have increased the generalizability of our findings. These demographics also lacked diversity in age and ethnicity. Condensing the field of participants to college students provided a true representation of young adults, but potentially neglects the perspective of other generations. This study also did not account for responses given in relation to the amount of sports programming consumed. Further analysis was needed to relate the two variables, which could have offered additional findings for the sake of our research.

### **Future Research**

In terms of future implications, this research could be utilized in studies that focus on how broadcast media plays a role in both the public knowledge, and overall perception, of head injuries in contact sports. Though this may be a niche topic of interest, the indicated results would be critical in understanding the effects on public opinion. To expand upon the research carried out in this study, it would also be vital to incorporate perspectives of a wider demographic, particularly age and geographic location. Generalizability may be a concern if an accurate representation of the entire United States population is desired. Nonetheless, this study could remain valuable to future research pertaining to head injuries and sports media.

### **Conclusions**

This study provided insight about the public's view of head injuries in relation to broadcasters' portrayal of them within contact sports. Since previous research has indicated that head trauma is severe, this idea has been embraced by the general public. We analyzed public opinion about a topic that could have a major impact on the future landscape of contact sports. The results of our study not only gauged how broadcasters may alter public perception of head injuries, but it also gathered a sense of how fans think the phenomenon of head trauma may cause a decline in future participation rates in contact sports. Previous studies have indicated that head injuries are perceived to be a severe injury, but there is a lack of extensive research examining how broadcast media impacts viewer perspective. Thus, our findings can contribute to filling existing gaps regarding how reporting strategies alter public perception.

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## Appendix

### Survey regarding public perspective of head injuries

Welcome, and thank you for your time! In an effort to understand how commentary provided by broadcasters of contact sports impacts public perspective of head injuries, a survey has been created to gauge viewer perceptions of the subject. Responses provided will remain confidential and be used to generate conclusions on the relationship between the commentary regarding head injuries and the perception of such injuries. The questions included in the survey should take no longer than 10 minutes to complete. Participation is voluntary and can be stopped at any time. If you agree to complete the survey and confirm consent to use the feedback provided in further research, please proceed to the questionnaire. Thank you for your thoughtful responses.

Questions or comments regarding the survey and research topic can be directed to the following researchers:

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**On average, how many hours of sports programming do you consume on a weekly basis?**

\_\_\_\_\_ Hours

**Please rate the following questions on the provided scale.**

\*How often do you think head injuries occur in contact sports?

Never            Rarely            Sometimes            Often            Very often

\*How often do you think head injuries are serious in contact sports?

Never            Rarely            Sometimes            Often            Very often

**Please rate the following questions on the provided scale.**

\*Do you think head injuries are addressed/discussed by sports broadcasters or commentators when they occur?

Yes            Somewhat            No            Unsure

\*Do you believe broadcast commentary related to head injuries is educational?

Yes            Somewhat            No            Unsure

\*Do you, personally, have interest in participating in contact sports for recreation?

Yes            Somewhat            No            Unsure

**Please rate the following questions on the provided scale.**

\*Has an increase in technological advancements impacted the way you perceive sports coverage?

Yes            Somewhat            No

\*Based on your prior knowledge, do you believe sports broadcasters are telling the truth in its entirety when commenting on head injuries?

Yes            Somewhat            No

**To what extent do you agree with the following statements?**

\*Broadcasters fabricate stories to make headlines, instead of presenting information supported by informed sources.

Strongly disagree            Disagree            Neutral            Agree            Strongly agree

\*Broadcasters downplay the severity of head injuries during gameplay.

Strongly disagree      Disagree      Neutral      Agree      Strongly agree

\*Your knowledge of concussions and similar head injuries has been increased by the input of broadcasters.

Strongly disagree      Disagree      Neutral      Agree      Strongly agree

\*Compared to other possible injuries sustained in contact sports, concussions are a severe sports-related injury.

Strongly disagree      Disagree      Neutral      Agree      Strongly agree

\*Participation in contact sports, at any age, will result in some type of head injury.

Strongly disagree      Disagree      Neutral      Agree      Strongly agree

**What is your primary method of consuming sports programming?**

Television      Online      Social Media      Other

**How often have you seen sports injury-related movies, such as the 2015 movie "Concussion?"**

Never      Rarely      Sometimes      Often      Very often

**To what extent do you agree with the following statements?**

\*The popularity of sports injury movies such as "Concussion" has had an impact on reporting and broadcasting strategies toward head injuries in contact sports.

Strongly disagree      Disagree      Neutral      Agree      Strongly agree

\*There is a noticeable increase in concussion awareness and news coverage since the release of "Concussion" in recent years.

Strongly disagree      Disagree      Neutral      Agree      Strongly agree

\*Professional contact sports leagues, including the NFL and NHL, have made increased efforts to address and treat head-related injuries in athletes.

Strongly disagree      Disagree      Neutral      Agree      Strongly agree

\*Rates of adolescent participation in contact sports has declined, primarily due to a rise in media coverage surrounding head-related injuries.

Strongly disagree      Disagree      Neutral      Agree      Strongly agree

**Would you let your child participate in a contact sport, namely football and hockey?**

Yes      No

**Gender**

Male      Female      Other

**Age**      \_\_\_\_\_

**Ethnicity**

White/Caucasian      African-American      Hispanic/Latino      Asian-American/Pacific-Islander      Other

**Class Standing**

Freshman      Sophomore      Junior      Senior      Other