

Sara Jones

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1. Why do you think Dr. Omalu was met with such disdain for his work?

Dr. Omalu was met with such disdain for his work largely due to how much football means to Americans. In America, football is by far the biggest and most popular sport. It is something in this world that brings families, friends, and even strangers together. Whether they cheer for the same or competing teams, it is a topic for bonding and relationships. It is also something to look forward to for many people, being a thing of comfort and enjoyment that can make someone's day. When Dr. Omalu shared his findings with America, he reported them in a way that talked negatively of football and told Americans it should no longer be played. What he didn't understand is that he was asking these Americans to give up something that means so much to them and has been a part in many different memories, occasions, and relationships. To an American, this is giving up a large part of who they are. They saw an outsider, a man who wasn't born in America and never experienced the joy football brought, that was coming into their home and telling them what to do and how to live. I believe if Dr. Omalu had understood this and reported his findings in a different way, such as he did at the end of the movie, America would have been more inclined to really listen and understand the importance of his findings. There was also the obstacle of the NFL itself because of the power and money they wanted to continue to hold and make. The NFL knew that if Dr. Omalu's work had been proven after his initial report that warned people away from football, they would lose just that. Mothers would prevent their kids from signing up at a young age and some players would not want to risk continuing to play due to the fear of CTE. This would cause a significant decrease in the number of players and therefore, the number of players to draft into the NFL. It could also lead to a decrease in the number of viewers because some people may decide not to support a sport that can cause so much harm in the long run. This would significantly damage the income of the NFL and change many Americans' views on the importance of football.

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2. Should Dr. Omalu have tried to go about his discovery reporting in a different way, and if so, in what way should he have reported the information?

I believe that Dr. Omalu should definitely have gone about reporting his research in a different way. While it was important for him to share his findings even if he only had minimal research behind it at the time, I think the way he went about reporting the information to the public was the main reason they initially didn't want to believe him. Instead of presenting his findings while saying that football is a dangerous sport and should not be played, he should have presented it as more of a warning that football players should have before continuing to play. Football is the most popular sport in the U.S. and is a large part of many people's lives. For someone who wasn't born in the U.S. and has never understood football to tell a country the game should be stopped was viewed as an outsider trying to tell Americans how to live. If he presented his research as he did towards the end of the movie, such as acknowledging the importance of football to Americans and introducing his information as a warning that should be considered by football players and their families, Americans would have been more likely to accept or want to learn more about CTE. I also think it would have been beneficial to Omalu if he showed his findings to the National Football League (NFL) before publishing his research just to make them aware of the situation and prepare for how to handle it. The NFL played a big role in the negative response of Americans towards Dr. Omalu. Not only did they give out their own statements that questioned Omalu's credibility and emphasized that he was not American, but they turned the public against him for talking about football in a negative way. I believe that if Dr. Omalu had presented his work to the NFL to provide them with the information in an attempt to convince them to make sure football players were informed and also as a warning before

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going public with this information, they would have been more willing to listen. In my opinion, if Dr. Omalu had gone through different steps in his research such as those mentioned above the public would have been more likely to accept his findings.

3. Summarize 2 peer-reviewed research articles, written within the past 3 years, that describe any aspect of research related to CTE.

The first article chosen is titled *Concussions and contracts: the national football league's limitations to protecting its players from chronic traumatic encephalopathy*, which was written in 2019 by Julia Wolpert. Wolpert begins by describing what happens with the tau proteins when head injuries continue to occur multiple times, both concussive and non-concussive. She then emphasized that until recently, the National Football League (NFL) did not acknowledge brain injuries and how they were being misdiagnosed in order to get football players back onto the field at any cost. They only began to acknowledge this when a group of NFL players filed a lawsuit against them regarding the mishandling of these injuries. Due to this lawsuit, the NFL began using the players' contracts to provide health protections and are slowly becoming more aware of head injuries that occur on the field. Wolpert goes on to name specific players who were diagnosed with Chronic Traumatic Encephalopathy (CTE) after death, which has led to a decrease in football participation in younger populations. She summarizes Dr. Omalu's work before explaining how changes are being made to NFL contracts that will lead to punishments if proper concussion protocol is not followed. There are new plans and article revisions that are working towards providing care for players if certain things such as neurodegenerative diseases or retirement after a certain amount of time playing in the NFL. These plans include the 88 plan and Article 65 which have their limitations to helping those with brain injuries as well as loopholes, but are a step in the right direction. Wolpert also mentions how there are little to no preventative measures in football against head injuries and that although there are certain

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concussion protocols, many times they are not followed or they are not taken seriously. When attempting to find solutions it is very difficult as hits are a large part of the game; however, there are some new rules such as the “head targeting rule” being created. Rules such as these may be a step in the right direction, but may also end up changing the game too much. Players have difficulties accepting these new rules due to the thought of changing the game too much and are also largely responsible for the lack of concussion acknowledgement. This is largely due to the fact that they don’t want to lose money by not being able to play in the game and will try to hide their symptoms. Overall, Wolpert argues that the NFL should be putting the players first and making accommodations so these head injuries can be identified and taken seriously by both players and their team doctors.

The second article reviewed was titled *Association between contact sports participation and chronic traumatic encephalopathy: a retrospective cohort study*. The article was published in June of 2019. The researchers compiled a group of three hundred former athletes who played contact sports in high school, college, or professional league. They also compiled a group of 450 non-athletes for their control group. For each individual, they screened neocortical tissue for the protein tau. This resulted in a sample population of 750 individuals. The researchers were unaware of the individual’s past exposure and demographic information. They found that forty-two individuals had CTE, twenty-seven of those being athletes and fifteen being non-athletes. They also found that all but one of these cases were in male patients. The researchers also compared which contact-sport was most likely to produce head trauma that caused CTE. They found that American football had the highest cases of CTE. This was an important finding in the research of CTE. While the study does state that there are limitations

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due to the low amount of females used in the study, they attribute that to football being a very popular, primarily male sport.

4. How much responsibility for damage stemming from head trauma should rest on the NFL players? How much should the NFL be held responsible for?

When it comes to the responsibility for damage stemming from head trauma, both the players and the NFL hold their own set of responsibilities. For the players themselves, they hold the responsibility of choosing to play football regardless of their knowledge of CTE. If it is a risk they are willing to take, then they are responsible for themselves and putting themselves into the possibility of that risk. It can also be argued that football players should try and pay attention to the type of tackles they are conducting and how they are hitting the opposing players. However, this can be extremely difficult as hits are a huge part of the game and when one is in motion it can be hard to control where or how you are hitting your opponent. This is why the biggest responsibility held by the NFL players are making the decision to play as well as educating themselves on the risks. When going into any sport, it is important to understand any risks one may encounter especially in a contact sport such as football. Doing research on these risks can not only save a player from harm but also prepare them and their families for how to handle it. While the individual players hold some responsibility in the education of CTE, so do the NFL themselves. The biggest responsibility of the NFL is acknowledging this risk and making sure to provide players with the information to learn more about it instead of trying to hide it like they did when CTE first came about. By acknowledging it and making the information known to the public and players, they are warning players of the risk they will take by continuing to play throughout their lives. This also allows families of the players to be able to identify what CTE may look like and save them a lot of confusion. Overall the responsibilities held by these two groups, acknowledgement and acceptance, are extremely important.

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5. [What questions still need to be answered about CTE? In other words, what additional research is needed in this area?](#)

Chronic Traumatic Encephalopathy (CTE) is a brain disease that researchers know very little about. As of right now, CTE is only able to be diagnosed post-mortem as it can not be seen in brain scans and can only be identified by cutting open the brain. There is a lot of additional research needed in this area including more about what causes it, how to diagnose it before death, and treatments that may slow the progression. We currently know that repetitive blows to the head, both concussive and subconcussive, are one of the causes of CTE. What we don't know is any biological or lifestyle factors that could increase the chance of acquiring it. According to Dallmeier et al. (2019), there are advancements being made in neuroimaging techniques and finding biomarkers that may be able to help with the detection of CTE before death. Although we are making progress on discovering early detection techniques, there is still a great deal of research that needs to be done before we can confidently use them to diagnose CTE pre-mortem. One of the reasons that these advancements are so important in the diagnosis is because the symptoms of CTE are extremely similar to multiple other brain diseases and can easily be mistaken for them (Dallmeier et al., 2019). Without the help of brain imaging to identify CTE it is easier to diagnose a patient with a disease that we know more about. Due to the lack of knowledge on identifying the causes of CTE as well as the disease itself, it is hard to create treatments. However, there is research emerging about possible treatments we can use when we are able to identify it in a living person. According to Breen and Krishnan (2020), immunotherapy, specifically monoclonal antibody therapy, is the most promising possible treatment for CTE because it can target the tau protein accumulation. Overall, research will

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continue to be done on CTE and eventually lead to confident diagnoses and treatments that will save lives.

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