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An analysis into how the sporting culture has affected the health and well-being of athletes with particular focus placed on concussions sustained through rugby.



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Chapter One Introduction:

Often it appears that rugby culture devalues the importance of the player's health and well-being, putting the importance of the game above the player. Every time a player continues to play on after sustaining a concussion it could be seen as a failure to change this culture, which has been historically and socially entwined in the rugby game.

The question then to be answered is; how has the sporting culture affected the health and well-being of athletes with particular focus placed on concussions sustained through rugby.

One of the most prominent injuries in rugby is concussion, yet little has been done to address the issue. Sullivan et al (2006) stated how one of the most commonly used reasons for continuing to play after sustaining a concussion is that the player did not see it as serious enough or that they did not realise they were concussed.

As McCrory (2012) simply points out a concussion as an injury to the brain which must be recognised as serious for an individual. Socially players, especially younger players are faced with an element of pressure, they want to follow in the footsteps of those before, a tradition, this pressure on players and their pride may then cloud their judgment when it comes to recognising a concussion, or potentially ignoring one in order to continue playing.

This avoidance is due in part to the culture of rugby in which players have been brought up and shaped into, this avoidance if continued will only allow for more players to sustain unnecessary concussions and cause them difficulties in terms of their health and well-being, emotionally physically and socially.

For many rugby is also about a matter of identity Sullivan et al (2006) in their work 'Rugby culture, ethnicity and concussion' found that for New Zealanders specifically rugby shapes who they are. Many New Zealanders see rugby as a core symbol of their national identity, thus shapes how they see themselves and in turn behave. This shows the socio-historical importance

of the sport to many and in turn highlights how it can be difficult to change such a culture which has been entrenched upon not only the New Zealand national identity but many other countries national identities also.

Society's culture in general can impact upon decisions made on the sporting field. Sport in itself is a socialising force and often this affects the expected social behaviour of a player. It is seen also to be a contradictory subject, if a concussion is sustained medical personnel may follow recommended guidelines and advise the player to leave the field, but the player will often refuse in part due to the rugby culture, they want to play on show the strength, bravery and courage and not be stigmatised or seen as soft. They often defy the medical experts advice as they have been trained to have a high tolerance to pain, therefore it is clear to see how tackling such an issue is complex, as even when protocol and guidelines are but in place often they are ignored because of a cultural system which has survived through the generations.

Historically as Sullivan et al (2008) pointed out rugby culture is rooted with the education system of the 19th Century. Specifically in the British public boys schools, here the rugby culture was centred around the idea of 'muscular Christianity', those who did not take part were considered weak and were often be-littled. In the 19th century sports such as rugby were seen to instil "moral character" of young boys and designed to instil traits of "courage, endurance, assertion, control and self-control" (Dimeo 2002). Therefore one can see how issues facing rugby players today such as concussion can be at times meet with ignorance on the part of not only players but managers and coaches as well. The problem of concussion is becoming more recognised and beginning to gain dominance, but it is clear to see how history and culture of the sport has influenced upon present day behaviour and thinking.

Chapter Two Literature Review:

A huge amount of material most predominantly in recent years has been published on concussions, specifically with regards to sports such as rugby. This research will focus on how the culture of sport has affected the health and well-being of rugby players.

As already mentioned in the introduction rugby is a major sport in Ireland. Therefore it is essential for the players to understand what a concussion is and how it can be managed. Often concussion causes significant problems for players leading them to take a break from sport or consider retirement- rates with regards to concussion in sport are becoming increasing prevalent.

In 2013, increasing concern over the issue lead the IRFU to publish 'stop, inform, rest, return- A guide to concussion'. Within this document they state that a concussion "is a complex process in which forces are transmitted to the brain and result in temporary impairment of brain function" (IRFU, 2013). They also point to the fact that concussions can potentially have negative impacts on the short and long term health of a player if not managed properly.

Eugene Wallace of the 'concussion research interest group' (CRIG) recently stated how concussions are not just sustained through a major hit to the head, but are also sustained if a major impact upon the body causes the brain to shake, a force is then transmitted to the brain. While he also indicated that symptoms may be delayed, such symptoms include blurred vision, loss of memory, loss of balance, it is not simply a case of losing consciousness.

Recently Trinity College Dublin was host to the CRIG along with speakers such as Keith Wood and Fergus Slattery former Irish rugby captains, Eoin McDevitt from the popular podcast called 'second captain', Seamus Callanan the all star Tipperary hurler, the Dublin university football club captain Niamh Byrne, Christina McMahon Boxer and DR. Colin Doherty of St.James Hospital.(O'Donnell,2017) . At the event Dr.Doherty neurologist in St.Jamess hospital stated

that “brain injuries like concussions cause 66,000 deaths in Europe each year” and put roughly 1.6 million in emergency every year (O’Donnell,2017).

In this event many players also gave their views and opinions and experiences of concussion. Keith Wood stated how because of a kick he received in the head during a game, he afterwards could not remember any of the game at all, even though he scored two tries and got man of the match, while also recounting another time he sustained a concussion he described it as being like a smashed mirror, his vision was distracted yet he felt fine (O’Donnell, 2017). Another speaker Niamh Byrne captain of DUFC women told how concussions are often a result of individuals not getting the techniques right during a tackle. While other research carried out by Pollock et al (2016) also pointed out that most concussions in rugby occur during the tackle.

Therefore one can see how concussion as a problem within sport needs to be tackled, more awareness needs to be brought to the players, and the general public in general on the seriousness of concussion.

Notion of Masculinity:

Kahn (2009) argues that masculinity could be defined as a “complex, cognitive, behavioural, emotional, expressive, psychosocial and socio-cultural experience of identity with being male”. Masculinity within sport has become an increasingly researched topic, to be theorised, constructed, de-constructed and questioned. Masculinity historically has been in a constant state of flux, it has been shaped in ways that have a “social and historical specificity” (Whannel,2007).

For rugby, since its beginnings the social practice of school has produced and reproduced the manly or macho culture around the sport. The 19th century British boy’s schools saw rugby as a method of forming masculine identities and produced manliness within the boys. This was embedded through ‘muscular Christianity’ notions. The dominant notions around manliness

and masculinity of the 19th century continue to influence our present day thinking of masculinity. Masculinity at this time was seen as a solid construct, concrete in its meaning, however today we know this is untrue, rather masculinity “exist as a set of lines and stage directions which all males have to learn in order to perform” (Edley and Wetherell .1995p.71). Individuals today continue to allow sport to inform their identity, as a result identities are constantly being shaped and reconfigured, sport is essentially a powerful dynamic, a social and cultural force (Aitchison,2007) . Historically hegemonic masculinity was dominate within rugby and was associated with power, strength, heterosexuality and authority. However, this form of masculinity is increasingly rejected and being replaced by inclusive masculinity. Inclusive masculinity as stated by Anderson (2012) describes the “social process concerning the emergence of an archetype of masculinity that undermines the principles” of hegemonic masculinity.

In terms of rugby the idea of masculinity continues to be a driving force in how the game is played. Players still submit themselves to the historical ideals of the 19th century British boys schools, where rugby was used as a means to shape boys into men, to inform boys on how to be strong, tough, aggressive and physical. Although players may not realise their actions by striving to be strong and aggressive on the pitch beyond their limits they continue to reinforce this ideal that in rugby you have to be strong, almost without sensibility. This masculinity theory then results in players putting their own health and well-being on the back-burner.

It is also important to point out that there is often a stigma attached to concussion. While at the CRIG talk Tipperary hurler Seamus Callanan pointed to the macho aspect, that is prevalent in all sports alike, he stated that if something was not broke and you went off you were seen as soft, Keith Wood also agreed that this macho aspect of sport, while slowly disappearing still needs to be addressed and tackled. Frequently it is this issue of being macho that is at the forefront of this concussion debate. Players and supporters should be aware of the implications

of concussion on their health and well-being and put aside their pride or fear of being seen as soft. Continuation of this macho attitude will only lead to unnecessary impacts on the health and well-being of the players, leading symptoms to go on being ignored or unrecognised. As players are becoming bigger and faster, the hits are becoming tougher and harder to recover from, and concussions are becoming more prominent and players need to recognise and take the advice of professionals and put aside their pride.

This macho theory has been around for far too long, more authoritative and convincing guidance needs to be given to players to get rid of this macho feature. Regularly even if the doctor briefed the player on the field to a suspected concussion, it was usually met with reluctance from the player to come off or be treated off the pitch. Ryan also stated how this has been part of their culture historically, 'to play on', 'to take the pain', 'to man up and get on with it'.

Women vs Sporting Culture:

Socially and historically, sport in general has been a male dominated arena, one in which the ideal hegemonic masculinity has been constantly reinforced and maintained. Rugby in particular since its beginning in the 19th century has been focused on creating men from boys through 'muscular Christianity' thinking. Rugby became viewed as a symbolic representation of masculinity socially in our society. As a result of this cultural and social ideology women then faced marginalization and discrimination once they began to participate in sport, especially contact sports such as rugby. There has been a steady increase of women in sports since the early 1900's, giving rise to research into the position of women athletes in this male dominated turf, generally in the format of gender studies and research. However it should be noted that research on this topic could still be considered remarkably inconsistent.

As already stated the 1900s saw rise to female participation particularly in the areas of wrestling, boxing, ice-hockey and bobsled both in recreational and professional terms. However, it still

remains that basic assumptions regarding women still exist even in our ever-changing society where gender construction takes a wide variety of frames (Kleindienst-Cachay and Heckemeyer 2008). This is not a consequence men mostly engaging in this overruling male sport, but rather due to the fact that the structures of these sports remain to be defined by the specific criteria that is attached to old-fashioned male stereotypes such as ferociousness or toughness. Therefore women taking part in these sports need to rise above traditional gender boundaries (Kleindienst-Cachay and Heckemeyer 2008). Women continually come into conflict due to the fact that they are rejecting the dominant image of what it is to be 'female', facing negative judgment and labelling. Essentially "Women's penetration into a male domain challenges the domain itself and threatens clearly defined areas and situations for the social formation of masculinity" (Kleindienst-Cachay and Heckemeyer 2008:2)

Specifically with regards to rugby women began to partake in this sport in the 1970's, now a significant number of women play the game across the globe including Britain, Ireland, North America and Australasia. Due to the increase in female participation many might feel that this would lead to the ensuing end to masculinity that traditionally has been maintained in rugby, however this is a mistaken assumption as historical and social ideals of masculinity continue to be reinforced, even today (Carle and Nauright 1999). Consequently, women still face strong social opposition regardless of their increased dominance and achievements due to historical, physical, and social perceptions. Carle and Nauright (1999) state that sport is the last true bastion of the male domain, however it should be noted that female athletes continued partaking in rugby may lead to the gradual but eventual dissolution of socially accepted gender norms and boundaries.

Management:

As already mentioned the IRFU produced a document called 'A Guide to Concussion in Rugby union', this could be seen as a step in the right direction. In this document they outline why

concussion should be taken seriously, they give a brief of what concussion is and have a section on the elements of what may cause a concussion to occur, “a direct blow to the head or body and whiplash type movements of the head and neck that can occur when a player is tackled or collides with another player or the ground” (IRFU, 2013). They also include a list of clues of when to suspect a concussion, if a player is slow to get up, lying on the ground not moving, unsteady on feet, is having problems with balance, is holding his or her head, appears dazed or has a vacant look in their eyes, is confused, has lost consciousness or has a decreased lack of responsiveness, all these are systematic of having a concussion. The key message in this IRFU document is to recognise and remove the player from play or training even if they have one of the above symptoms. The question then of delayed symptoms is relevant, what if on time of impact the player shows no signs of concussion and plays on, but may in fact later on be symptomatic, has their well-being been further compromised by continuing to play on? Such a situation begs to question whether the current guidelines are adequate.

The IRFU also set out return to play guidelines after sustaining a concussion, under6-under20s it is a 14 day minimum for rest and a minimum time out of 3 weeks. Adult guidelines is 14 days minimum rest and 2 weeks minimum time out, players should also not return until graduated return to play protocol has been followed, which can be only carried out once the player is symptom free for over 24 hours. Overall in this document the key message is to “stop, inform, rest and return”

The National rugby league (NRL) also produced a document on “the Management of concussion in Rugby league’ after the international conference on concussion in sport 2012 was held. The focus in their document is placed on player welfare. They define concussion as a “disturbance in brain function resulting from trauma that is transmitted to the brain either directly or indirectly”. The rugby league have three important features, first is suspecting a diagnoses if the player is showing symptoms, second is to refer the player for medical

evaluation and finally the player must get medical clearance before being allowed to return to play . If ignored several complications, as the NRL has clearly indicated can occur such as depression, brain swelling and long term brain malfunction (NRL, 2012).

The above two documents are a step in the right direction in terms of recognition of concussions and the responsibilities of not only the player but off the coach, management, healthcare professionals and parents.

Other studies have been published on concussion by the American academy of neurology called 'Concussion treatment and management' (2016). They found that along with hockey and football, rugby as a sport holds great risk of sustaining a concussion during play. Management in the area of concussion has improved, however concussions are still being sustained and the common recommended treatment is rest and absence from play, this seems a little inadequate, more should be done to prevent concussion in the first place, isn't prevention better than cure.

Short and long term effects:

Pollock et al (2016) stated that repeat concussions are linked with depression, mild cognitive impairment, poorer memory, reduced verbal fluency and electrophysiological abnormalities in later life. They also point to findings which show prevalence of chronic traumatic encephalopathy (CTE) in the autopsies of ex rugby players, similar to ex boxers, ice-hockey players and military veterans. While one of the most concerning impacts with regards to concussion is that children are more at risk than adults and also take longer to recover, potentially having negative consequences such as poorer cognitive function. Usually mild traumatic brain injuries like concussions resolve between one to six weeks, however some people have long term effects and suffer with post-concussion syndrome (PCS) such as headaches, irritability and reduced lack of concentration, emotional distress depression and

long term memory loss (Pollock et al 2016) . Effects from a concussion are not only physical but also emotional and cognitive. While short term effects then include being lightheaded, having tinnitus, blurred vision, being dazed and having nausea or vomiting, mood swings, suffer with anxiety, frustration and loss of concentration (Pollock et al 2016) .

Tackle:

Across Ireland and other countries tens of thousands of individuals who play rugby are injured annually and end up in A&E. in the UK, Pollock (2016) found concussion was the most frequently reported injury in the professional game between 2011-2012 and 2014-2015. Pollock (2016) also wrote in an article that on average there is one concussion per match and two thirds of these concussions occur during the tackle.

The risk of concussion is due to the high amounts of collisions, with most concussions occurring during the tackle. Many like Allyson Pollock and world rugby's chief medical officer Martin Rafferty say that the laws of the game, particularly the tackle will have to change to reduce the risk of concussion (Pollock, 2016).

In America the national football league had a one billion dollar settlement for concussion related brain injuries to 18,000 retired players (Pollock, 2016). The guidelines by the IRFU and the NRL need to be taken more seriously by all, players, coaches, parents and healthcare professionals. Not doing so can have detrimental impacts like it had on fourteen year old Benjamin Robinson who died due to double impact syndrome, a repeat concussion he sustained because he played on after receiving an initial first concussion.

The question then being asked with regards to rugby in schools and under age is if the tackled should be eliminated completely or replaced by touch. Although this is met with controversy, Dr Jackson of the FSEM suggests that there is not enough sufficient evidence to justify removing tackling from school rugby (Pollock et al 2016) . However this statement made by

Jackson himself has nothing to hold it up, compared to the uncontroversial evidence collected on injuries sustained during collision and tackles.

Kirkwood et al (2016) carried out research on injuries sustained by under 21 rugby players and found that in the rugby union the probability of a player getting injured during a season ranged from 6% to 90%, meanwhile in the rugby leagues this figure was greater falling between 68%-69%. In terms of concussion rates between male and female athletes there is a significant difference in the pattern, Peck et al (2013) found that overall the rate of injury in intercollegiate rugby was 30% higher among male players than female players. They also found variation in terms of injury patterns, women appeared to sustain a higher proportion of injuries to the lower physique while men were more prone to injuries of the head, neck, face and AC joint. In terms of concussion then, the incidence of player concussion in this study was at 8.7% for men and 15% for women (Peck et al 2013).

There is also evidence to suggest that injuries such as concussion are more common among rugby playing children and adolescents than it is among adult players. Youth players are also more at risk of experiencing 'second impact syndrome', a fatal phenomenon that has taken the lives of many. Kirkwood (2016) found in surveys conducted a high prevalence of young rugby union players had prior history of sustaining a concussion, with 48.1 % of 133 in Ireland alone. These figures then suggest that action needs to be taken with regards to tackling in rugby, whether it is banning it, changing the technique or replacing it.

Education programmes:

A number of investigations suggest that the failure of athletes to report their injuries is due to a lack of knowledge about their injuries, such as concussions and the risk involved if left unmanaged or ignored.

Lack of knowledge however does not only affect the players but also the parents, coaches, trainers and medical personnel. This all in turn is detrimental on the impact of management and detection of concussions. Providenza et al (2013) states that knowledge translation, such as through education is necessary in order to prevent injuries, and effectively impact knowledge of attitudes and beliefs about concussion.

Rugby injury prevention programmes have been developed in several countries such as the rugbySMART programmes in New Zealand. The programme was developed in 2001 by the New Zealand Rugby union, and is placed across all levels of the game.. With this programme provincial unions facilitate mandatory rugbySMART injury prevention courses for all rugby coaches and referees of grades over under13 level. While coaches of players aged 12 years and younger have to attend compulsory small blacks coaching courses, which includes rugbySMART as an element. (NZRU,2016). Essentially the programme aims to reduce the number of severe injuries at across all levels of the game; they do this by providing adequate resources and education to coaches and referees on injury prevention strategies through the rugbySMART programme (Frass and Burchell, 2016).

Quarrie et al (2007) found such programmes to be successful as it reduced the number of severe injuries, especially a reduction of spinal injuries during scrum. Other countries such as South Africa have followed suit and adopted similar programmes. The South African programmes 'Boksmarts national rugby safety programme' has reduce serious head, neck and spinal injuries by 14.6% at amateur level and 23.9% at school level (Patricious, 2014).

Therefore it could be argued that providing adequate education on severe injuries, specifically concussions could be the way forward for all. If governments, rugby unions and rugby leagues put in place a mandatory educational programmes like that of New Zealand and South Africa's then it could see a significant decrease in the numbers of concussions and other major injuries.

Conclusion:

This literature review has established that while awareness for the affect and impact of concussion is being increased, there is still a multitude to do to tackle the issue sufficiently and reduce the number of concussions sustained by players of all levels. However it is possible through methods of adequate management, changes in the game and sufficient education that the high number of incidences can be reduced. The lack of knowledge around concussion in the past may have contributed to more concussions being sustained by players as there were no adequate guidelines or protocol in place. Issues regarding the culture of sport also need to be tackled, socialising forces within our societies for generations lead players to believe they could not come off the pitch unless a bone was broken, this element of masculinity pride within rugby is still prominent today, the idea of keeping ones pride rather than securing ones well-being is not only present among male players but also among women and youth players. Therefore one can see how by increasing awareness, building better management programmes and providing essential education to not only the players but to trainers, coaches, medical personnel and parents alike will likely result in the reduction of concussion rates and lead to more understanding societal views on the issue, thus meaning stigma around concussion will also be reduced.

Chapter Three Methodology:

The research methodology used for this study is qualitative and the method used is a documentary analysis. Documentary analysis as stated by Ellit et al (2016) is “the comparative analysis of a range of related texts by extracting relevant information from each and grouping it into other and the context in which they were produced”. While O’Leary (2014) stated documentary analysis is a method of “collection, review, interrogation and analysis of various

forms or written text as a primary source of research data”. Sources collected for this research study were all secondary sources. Documentary analysis essentially allows the researcher to interpret the texts collected and gives voice and meaning to the topic being researched. One of the main reasons for choosing documentary analysis was due to time restraints, using interviews as a method would have been more time consuming as getting access to the relevant sources would have proven difficult.

Study sample:

The documents selected related directly to rugby and concussions sustained through sport. These documents collected then formed the basis of the research. However before beginning to collect the data related to the topic it was crucial to develop ones research question. Following much deliberation over possible considerations, a central question was created; ‘*How has the sporting culture affected the health and well-being of athletes with particular focus placed on concussions sustained through rugby?*’

This gave the research study its direction and motivation. As already stated the method used is documentary analysis. Articles, books, papers and various other documents were collected via online database searching, performing cited references sources and hand searching the library. The online databases of NUIM library, MEDline, SportDiscuss, and others were searched using key terms such as ;rugby’, ‘rugby union’ ‘league’, ‘education’ in combination with ‘concussion’, ‘sport concussion’ ‘MTBI’ (mild traumatic brain injury),’double impact syndrome’, ‘head injury’ and ‘brain injury’.

Following the retrieval of a number of sources the reference list of these documents were then searched to see if any other relevant documents for inclusion were found. Once a number of documents were found, the eligibility of each was then accessed.

Ethical considerations:

With all research comes ethical issues to be considered, however not all research involves data being collected directly from the participants. New and existing data can be analysed for research purposes. While data analysis poses less ethical issues than other methods, there are still a few to be contemplated. When carrying out documentary analysis one responsibility as a researcher is to ensure that the original participants remain anonymised and unrecognisable by any particular features or traits.

Another consideration is bias, while analysing documents I had to make sure that they were factual, correct, impartial and credible enough to be used. In order to successfully gather adequate and trustworthy documents, peer-reviewed articles, and sources by reliable theorists and authors were used. Likewise when analysing and reading the relevant documents I had to ensure that I did not generate any bias thoughts.

Analysis of data:

After collecting all the relevant documents needed I then had to begin the process of examining each of them. This was done by interrogating each text and incorporating my question into the analysis of it to determine its importance.

A thematic analysis was used in order to trace and document the themes or patterns that occurred within the data collected. Once the themes were sorted I then began to investigate them. The themes which occurred most frequently were management, macho theory, the effects of concussion, the tackle and educational programmes. Using a thematic analysis allowed me to access the most prominent subjects which were brought up the most throughout the data collected.

Limitations:

For this research I initially intended to carry out interviews of a semi-structured nature, however as time progressed it became evident that this would not be possible due to time restraints and gaining access to the relevant personnel to interview. Semi-structured interviews would have been a flexible and reliable method and would have offered a more person centred analysis as people's views and opinions would have offered varied responses and added to my analysis of the documents. If I were to carry out future research on such a topic with no time restraints I would conduct interviews with players, parents, managers and healthcare professionals across all levels of rugby as well as conducting a documentary analysis.

Chapter Four: Findings and Discussion

When conducting my documentary analysis several themes emerged. These themes included the aspect of perceived masculinity in rugby culture, the management of concussion among players, the long and short-term health effects, the education of all stakeholders in rugby i.e. players, parents, coaches and management and finally the tackle, and how it is a key determinant of sustaining a concussion.

Notion of Masculinity:

Throughout my literature review a topic that arose frequently was that of masculinity. It was evident that players faced a challenge with regards to the macho culture in which rugby has been historically immersed. This challenge was with regards to their perceived manliness, in many regards this ideal of being a hardy man often influenced their personal decision making around injuries they sustained, particularly with concussions. It is evident that this way of

thinking was developed through 'muscular Christianity' in the 19th century. Since the 19th century it is evident across western society in general that there has been an erosion of previous masculine virtues, as Mac Innes (1998) argues there is a "broad contemporary consensus which urges men to abandon what is imagined to be traditional masculinity in order to get in touch with their feelings and develop emotional articulacy". However, throughout my readings I have found that this new wave of thinking about masculinity has been slow to merge into the sporting arena, especially in rugby. Men in rugby have struggled to renegotiate their masculinity because of competing traditional ideals (Stephenson 2012).

As already stated modern perspectives of masculinity continue to challenge the traditionally defined masculine role, nevertheless hegemonic masculinities have been engraved in our unconscious historically and therefore are not easily defeated, and are often met with resistance. As mentioned throughout my literature review rugby emphasises values like aggression, toughness and strength, while constantly being linked with the notion of endurance of pain. Looking at the CRIG talk various players of multiple sporting backgrounds expressed their concern of the macho culture which has dominated the rugby culture. While many of the athletes such as Keith Wood recognised that this macho culture is being tackled he pointed to the fact that more needs to be done in order to eradicate this insufficient outdated way of thinking.

It could be argued that this ideal hegemonic masculinity is continually being reinforced by coaches and manager who have a more 'orthodox' perception of masculinity. However, players are beginning to reject this view and adapt to a more inclusive view of masculinity.

This masculine culture has affected the player's mind-set when it comes to injuries, often not wanting to express concern for fear of being perceived as soft or un-manly. Historically as already stated rugby players have been associated with power, endurance and courage. Therefore one can see how either intentionally or un-intentionally ones perceived notion of

masculinity can hamper their health and well-being as they continue to ignore the pain and play on. Rory O'Connell stated that "the concussion or the blood injury is seen as a badge of honour", here O'Connell demonstrate perfectly this macho culture and how no injury was to great up against one's manliness, O'Connell states that it is this way of thinking that needs to be changed, and that ones' welfare should come before one's masculinity (O'Donnell 2017).

Recently, in April 2017, a rugby match between Ospreys and Leinster was played and concerns arose regarding player welfare and concussions, and they were once again brought to the fore. Osprey's player Dan Biggar stated that the reason he missed the last shot penalty was due to the fact that he was dazed; "I can't really remember much of the last 10 minutes, to be honest, I was a little bit dazed" (Southcombe,2017). Biggar had been involved in a collision which resulted in a clashing of heads, shortly after Biggar was taken off expectantly for a Head Injury Assessment (HIA), returning minutes later with a bandage around is head apparently fit to play on. However, after further inspection it was suggested that Biggar in fact had not undertaken the HIA, but instead was simply bandaged for a graze received during the collision. However, Osprey's boss denied this by stating "Dan went through the HIA, he passed all the tests". Controversy remains around the issue but sparks many questions, if Dan had in fact took a HIA and was deemed fit to return the play, the system with regards to inspection needs improvement as it would have evidently failed the player if this was the case. While, if Biggar did not in fact receive a HIA inspection after being involved in a major head collision this then points to faults in protocol and policy with regards to potential concussion. Not only this but the situation as a whole once again highlights the issue of players striving to play on during pain, thus reinforcing masculine ideals. Biggar went back onto the pitch knowing he still remained dazed after the tackle, but consciously ignored this potentially putting his welfare at risk, for the sake of the team.

Women vs Sporting Culture:

As already stated in the literature review, women face many boundaries when it comes to participating in predominantly male dominated sport, especial contact sports. They are continually met with socially reinforced negative experiences, due to their participation in sport especially in rugby. Joncheray and Tlili (2013) highlight the social and historical thinking behind these negative perceptions by quoting the French Minister of sports (1969) who stated “rugby is inappropriate for girls or women for obvious psychological reasons. It is dangerous, both physically and morally. That is why I urge you not to help women’s rugby”. Likewise Pringle and Markula (2005) suggest that sport has long been a valued practice to build and form the character of the ideal man, a practice apparently not ‘feminine appropriate’.

As it stands however in Ireland 1 in every 155 women play rugby, while Tonga tops the list having a remarkable figure of 1 in every 8 playing rugby (Birch 2016). Ireland is surprisingly 5th in the world when it comes to overall female participant numbers when it comes to rugby (Birch 2015). A significant gap between top place USA and Ireland remains, with their level of female participation rising above the 520,000 mark, while Ireland slags behind at just above 22,000 (Birch 2015). However, it should be noted that their rates differ so dramatically because of population difference, when in actual fact only 1 in every 2,951 women play rugby in the United States, compared to the already stated 1 in every 155 in Ireland. Worldwide in 2015 the number of female registered players rose by 6% (Birch 2015).

This then highlights a gradual change occurring within the realm of female participation in socially accepted ‘masculine appropriate’ games. However, continued recognition of women in rugby needs to be given in order to eradicate the social ideal that seems to have power in our society.

Management:

Without doubt there has been an increasing concern around the management of concussions among players. Nevertheless, regardless of this increase in knowledge and research dedicated to sport related concussion it remains one of the most complex injuries which can be sustained by an athlete. Although, with the IRFU and the NRL producing guidelines for the management of concussion once sustained by a player, typically a prolonged period of rest of between two to three weeks is recommended with players only being allowed to return the play once they get a medical clearance, such guidelines help to control the management of concussions.

Looking again at the research thesis question on how the sporting culture affects athletes specifically rugby player's health and well-being in terms of concussions in particular. Schofield (2015) highlighted how the rate of concussion per 1000 of player hours had increased from 6.7 in the 2012/2013 season to 10.5 in the 2013/2014 season in the English Rugby Football Union, although it is important that this may be due to the fact that awareness had increased. It can be difficult to fully grasp the rates of concussion as often they go unreported, whether intentionally or un-intentionally.

There have been a number of studies which have tried to establish the rate of concussion in rugby, in English rugby it was found that approximately 25% of injuries sustained during play are head injuries (RFU, 2013). It was also evident throughout my readings that the level of play is a significant factor in the rate of concussions received by a player. In professional rugby concussions were found to occur at a rate of 3.9 per 1000 player hours, while at amateur level this figure was at a rate of 1.2 per 1000 player hours (RFU,2013).

Therefore it is evident that the management of concussion is a necessary aspect which should become engraved into rugby culture. Through sufficient management and awareness of concussion, not only the player's knowledge but also the parents, coaches and managers

knowledge will be improved. If initiatives like the IRFU's 'guide to concussion in rugby union' and the NRL's 'management of concussion in rugby league' continue to be improved and updated then the overall faring of concussions in rugby will be reduced. Historically it could be argued that professional rugby bodies have tried to hide the dangerous aspects of the sport such as concussions. In American the NFL had to finalise settlements to over 4,000 players worth one billion dollars for hiding the dangerous of sustaining head related injuries (Schofield,2015). However, in recent times this effort to hide has decreased and instead has been replaced with a determination to increase awareness around head related injuries, specifically concussions.

Looking at the management side one can see how in the past little concern was given to player well-being, there was no measures in place to protect against concussion, however times are changing and moving forward, more effort is being established around the management of concussion.

Health effects of rugby participation:

Throughout the literature review it was found that while short term effects of rugby such as memory loss, dizziness and unconsciousness were addressed, most of the focus was placed on the long term effects of concussion, for this reason my own focus here will be placed specifically on the long term effects of rugby. Croke (2017) of 'The Irish Times' found that 59% of rugby players participating in the game are concerned about the long term effects that concussion might bring.

The Irish rugby union players association (IRUPA) carried out a survey to reveal what professional rugby players in Ireland worried about with regards to their rugby life (Roach 2017). As already stated almost 60% worry about the long term effects of concussion on their health. Although importantly to note 97% of players felt they received adequate support with

regards to this issue, and 95% found that the head injury assessment protocol was of good standard (Roach 2017).

Rugby as a Collision sport holds the highest risk of sustaining a concussion, Burger et al (2016) found that due to the high risk of concussion in rugby, players “may be at risk of developing long-term alterations in brain function and subsequent neurodegenerative complications, such as chronic traumatic encephalopathy” (CTE).

CTE can occur as a result of residual damage to the brain caused by a single or multiple traumatic brain injury (TBI) , associated with this is “cognitive dysfunction, behavioural changes, memory loss, changes in personality, early onset dementia and motor neuron disease” (Burger et al 2016). The difficulty then with diagnoses of this is that it can only be identified post death, in a post-mortem.

It is important to note that Burger et al (2016) state that while there is inconclusive evidence to support a direct link between head injury and long term neurodegenerative disease development, what is known by fact is that between “40-50% of athletes who experience a moderate to severe TBI are likely to experience acute neurological deficits and the manifestation of neurodegenerative complications”.

Therefore, even by examining the long term effects of concussions on rugby players one can see how it can affect their health and well-being significantly. Not only at the time of sustaining the concussion but also into the future post rugby career. It is then essential to establish a way of play which reduces the likelihood of sustaining a concussion, as we shall examine in the next section, one way to do this may be through changing the form of the tackle in rugby or eliminating it from the game completely.

Tackle:

The rules regarding tackling in rugby are pretty simplistic, and can be outlined in four main points. First, you cannot attack the ball carrier without attempting to grasp the player with your hands or arms. Second, you cannot tackle too high .i.e. tackling around the neck or head is not allowed tackles must be below the shoulders. Thirdly, you cannot tackle a player if their feet are not on the ground and finally no lifting or driving a ball carrier onto the ground (TedTalk 2016). However even with these strict tackle rules high amounts of concussions still occur, the world rugby officials are considering a change in tackle technique due to the high amounts of concussions sustained during tackle. Recent research by Quarrie (2008) found that 72% of injuries are sustained during a tackle, and more surprisingly it was found that 76% of the injuries were to the player making the tackle not on the player carrying the ball.

Quarrie (2008) announced that tackling should be brought down to waist level in an effort to reduce the amount of head injuries, recommending a trial at junior level first to establish its viability. Quarrie established this idea when conducting a research study on 470,000 rugby injury insurance claims in New Zealand.

The World Rugby found when conducting their own investigation that if a player is bent at the waist you were less likely to sustain a concussion, as a result a panel of experts were asked to establish a way to make players bend at the waist during play, key recommendations were then given to which the World Rugby are now debating (The Irish Times 2016).

Essentially, it is important that the improvement of the rugby tackle technique is continued in order to create a new way of play which is less likely to have the same consequences as the present day tackling technique. Without doubt if a change of technique is established by the World Rugby it will be met with resistance, however it is important to surpass this and drive towards a game which has greater consideration for the welfare of its players.

As Quarrie (2008) said “when we started to introduce these welfare changes around 15 years ago we faced significant resistance, there was a fear that we were trying to make players soft”, here he talks about the change in play to 23 players and injury replacements, no longer was it “heroic to carry on when injured, but selfish, because you were pulling the team’s performance down”. At first this change of play was met with resistance due to a fear of being seen as soft, but once the focus was placed on team performance, rather than on the player resistance reduced. Therefore, research and developments must continue to be conducted despite resistance as more than likely in time these changes will contribute to a greater standard of play which has its player’s health and well-being at the centre of the game.

Education:

In a study by McCrea et al (2014) on concussion, they found that players showed limited knowledge regarding the signs and symptoms of concussion, only 50% of high school athletes had knowledge on the symptoms. Sefton et al (2004) found that in terms of collegiate athletes 70% of them had a limited knowledge on concussion symptoms.

Education is a primary way to reduce rates of concussion sustained during play and training, it should be an essential part of athlete’s criteria, especially in terms of youth rugby so that they know how to detect a concussion. If more initiatives like that of the New Zealand ‘rugbysmart’ programme and the South African ‘boksmart national rugby safety programme’ were to be established in every rugby union and league it would greatly increase the management of concussions and other head injuries, thus reducing their prevalence.

One of the main reasons for the un-reporting of concussion is that players are not aware of the signs and symptoms, as well as this it has also been identified that players also have limited knowledge when it comes to post concussion management (Sullivan and McCrory 2006).

One can see why education is a necessary tool to increase player awareness of concussion, Sullivan and McCrory (2006) found that 25% of athletes believed a loss of consciousness was required for a concussion to be sustained.

It is also necessary to point out the need of concussion education and awareness among coaches, parents and trainers as often the player themselves may not recognise the symptoms so it is important that all relevant personnel relating to rugby have obtained the essential information regarding the detection and management of concussions. McCrory (2012) states the various “methods to improve education including web-based resources, educational videos and international outreach programmes are important in delivering the message”. As well as this vital progress by the international rugby group must continue to be pursued vigorously by coaches, parents and managers as they play an important part in ensuring that such protocols and education are implemented on and off the field of play.

Chapter five: Conclusion and Recommendations

Conclusion:

The themes above, masculinity, management, tackle, effects and education outline how rugby can effect a player’s welfare. The themes of masculinity and health effects show how there is a need for a change of culture surrounding rugby, one which denies the notion of masculinity within the rugby world, one that allows a player to put their own welfare above the team.

While the themes of management, tackle and education highlight how in the past little has been done to address the issue, however it also shows the efforts being made at present to improve player quality of life through improving player quality of play, training and education.

Therefore it is evident that the sporting culture encompassing rugby has in the past effected and continues today to effect player health and well-being. While in the past it has effected the players negatively in terms of their welfare, and without doubt continues to do so today, it has become evident throughout my research that there is increasing concern and more action being taken regarding the issue. If the necessary research and awareness strategy's proceed to place more focus on the issue with time a change in this macho, aggressive and violent culture will occur. A change which puts player welfare above the game, this change is arguable already in progress today, one simply has to look at the amount of research and initiatives by rugby organisations to see it is becoming a progressively more prominent issue to be tackled, nevertheless it remains an issue, one that without question still needs to be challenged and confronted.

Recommendations:

There are many recommendations, which came were developed throughout my research. Key recommendations include a review of all concussion policies and practices at the start of each new season by trainers, coaches, players and parents at all levels of play. This should be a requirement specifically for players before they can start to play in the new season. Another recommendation is to have annual evaluations of player who are at high risk of concussions, specifically among youth as the have the highest rates of concussions.

In terms of management, a vital recommendation would be to maintain the continuation and improvement of medical professional training with regards to concussion detection. This is essential as more often than not it is the medical professional at the side of the field who are first to examine a player , therefore it is a necessity that they are aware of the signs and symptoms and know how to detect and manage a concussion.

Looking specifically at tackling I find that the World Rugby should go ahead with bringing tackling down to the waist as it would reduce the risk of concussion. While in terms of education, if the vital and essential education is given to players, coaches, trainers, management and parents overall reduction of concussion would occur. Education is the most imperative action to be taken from these recommendation, if education is improved all other factors including the management, long term effects and tackling will be effected positively.

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