



**Post-traumatic stress disorder; an exploration into military veterans' views on the
benefits of sports and physical activity on their mental wellbeing.**

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Abstract

Introduction: Sport and physical activity (PA) has positively influenced military veterans suffering from PTSD. The current research strongly suggests that sport and physical activity has provided veterans with the chance to reconnect, socialise and motivate themselves to achieve.

Methods: Conducted on seven military veterans with PTSD. Data was collected through unstructured interviews. The purpose of these chosen methods was to understand the underlying reasons why they chose to participate.

Results: Results suggested that physical activity had benefited veterans' mental well-being by giving them the chance to get out, maintain fitness levels and focus their minds. The participants all provided in-depth explanations that correlated with previous research findings.

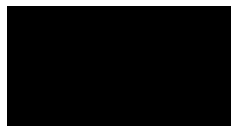
Conclusion: The findings indicate many positive outcomes as to why sport and physical activity can benefit military veterans with PTSD. Therefore, it is important to continually highlight this, as it can be used as a tool in assisting those who are currently suffering from PTSD.

Declaration

I declare that the work in this thesis was carried out in accordance with the regulations of the University of Gloucestershire and is original except where indicated by specific reference in the text. No part of the thesis has been submitted as part of any other academic award. The thesis has not been presented to any other educational institution in the United Kingdom or overseas.

Any views expressed in the thesis are those of the author and in no way represent those of the University.

Signed



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Chapter 1 – Introduction

1.0 - Overview

This research thesis provides scope and understanding of Post-Traumatic Stress Disorder (PTSD) and its links with sport and physical activity. Assessing existing research around how sport and physical activity has improved mental well-being will provide a context for the current study. As the study focuses on military veterans, research surrounding the area of stigma, care provision and treatments will also be discussed. This paper will provide an overview of cultures from World War I to the present day, predominantly looking at historical views surrounding military mental health and soldiers' weaknesses. From there, the benefits of sport and physical activity will be examined, along with the theory underpinning the study. The methodology will provide an overview of what approaches were taken and why. Moving on, results will be presented, discussed and critiqued with current research. Any concluding thoughts will be reviewed in the final chapter.

1.1 - Research questions

1. To explore the experiences of military veterans participating in and accessing sport and physical activity after being diagnosed with PTSD.
2. To explore the motivations behind why military veterans participate in sports and physical activity.

Chapter 2 - Literature review

2.0 – Overview

The following chapter introduces and contextualises the existing research on the background of military mental health. It presents why this area of research has been chosen and provides a brief description of the history of mental health illness within the UK Armed Forces since WWI. Although military mental health problems had been studied prior to WWI, the research from WWI onwards has a more substantial significance to this particular study due to the sheer scale of shell shock that caused key figures such as Dr Charles Myers to take note. Additionally, there will be an examination of the historical views of mental illness and its perceptions during these times.

As the chapter progresses, the current and most recent care provisions for military veterans who have experienced mental health illnesses due to their service are discussed, whether due to war trauma, lack of structure or reintegrating into civilian life. Subsequently, the researcher identifies and presents findings from recent studies highlighting the benefits of sport and physical activity (PA) for military veterans with mental health illnesses. Finally, a description of the theoretical framework underpinning this research thesis and its relevance to the study is presented.

There are already sizeable amounts of research and studies exploring the benefits of specific activities for military veterans with PTSD. The majority of these studies indicated an improvement in the mental health of military veterans with PTSD. This thesis differs by not focusing on particular sports or physical activities. Instead, it aims to understand why sport and physical activity may have been beneficial from the perspective of military veterans with PTSD. Additionally, the thesis does not suggest that sport and physical activity is the best form of therapy or treatment for military veterans with PTSD.

2.1 - Post-traumatic Stress Disorder

The Diagnostic Statistical Manual of Mental Disorders Volume 5 (DSM-5) states that Post-traumatic stress disorder (PTSD) is a result of 'exposure to actual or threatened death, serious injury, or sexual violence, either through direct experience, witnessing, or experiencing repeated or extreme exposure to aversive details of the traumatic events (Al-Saadi, 2014). For those living with PTSD, the brain becomes overly sensitive and triggers easily (Schnurr & Lunney, 2018). Therefore, resulting in memories of an event becoming frozen in time and then returning in the form of intense and disturbing thoughts and emotions that can materialise in the form of flashbacks, nightmares or extreme feelings of sadness (Ehlers & Clark, 2000). Schnurr and Lunney (2018) suggested that other symptoms can include hyperarousal and negative thought patterns such as feelings of guilt or failure. Furthermore, some people living with PTSD have reported feelings of becoming detached or estranged from those they were once close to (Williams & Poijula, 2016; Schnurr & Lunney, 2018). Many who have been diagnosed with PTSD have found themselves avoiding situations or people who may trigger a reminder of a traumatic event; likewise, research has shown that loud noises or accidental touches can also bring back disturbing memories (Williams & Poijula, 2016; Schnurr & Lunney, 2018; Fajarito & Guzman, 2017).

PTSD can also be referred to as an invisible wound, and the term plays a vital role in understanding many aspects of this study (Billings, 2017; Lobban, 2012; El-Baalbaki & Fortin, 2016; Yan, 2016). Firstly, mental health can sometimes be stigmatised and discriminated against. This can occur as mental health illnesses are not visible, while for the general population, it is difficult to identify (Jones et., 2013; Acosta et al., 2014). To gain a deeper understanding of this issue, it is important to introduce two models of disability, as they provide insight into societal attitudes, particularly society's views on people with disabilities (Brittain & Beacom, 2018). The medical model believes that disability results from the individual's physical or mental limitations and places the source of the problem with the impaired person (LoBianco & Sheppard-Jones, 2007; Farre & Repley, 2017, Crane et al., 2018). The social model views disability in a contrasting way, emphasising how society can prevent barriers from becoming a problem (Farre & Repley, 2017; Darcy et al., 2020).

In present times, society has accommodated the needs of many disabilities by providing ramps for wheelchair users or audio-visual descriptions for those visually impaired.

However, the medical model is still prevalent in how society views mental health illnesses (Crane et al., 2018). Therefore, as Williamson et al. (2019) suggest, this can lead to people avoiding certain situations, socialising and help-seeking. It can also affect the individuals' ability to communicate with society as they may be concerned about having a breakdown (Huggett et al., 2018). They are being stigmatised rather than supported as their illness/impairment/disability is not immediately apparent (Huggett et al., 2018). Situations such as these have resulted in mental health illnesses being referred to as hidden or invisible disabilities due to the problem with identifying them (Flink, 2017). As the reader, it is important to refer back to the models of disability throughout the study to understand why issues such as communication, help-seeking, and stigma are still prevalent in society.

2.2 - Military veterans and PTSD

In the United Kingdom (UK), the definition of a military veteran is “anyone who has served for at least one day in Her Majesty’s Armed Forces (Regular or Reserve), or Merchant Mariners who have seen duty on legally defined military operations” (GOV.UK, 2020, para. 3). Deployment for military personnel can have severe consequences on their mental health due to exposure to stressful and hostile situations (Bøg et al., 2018; Fear et al., 2010). The effects can be intensified for those exposed to multiple traumas over a series of tours (Fear et al., 2010). PTSD is a commonly associated illness with military mental health, with concerns still being raised due to the increasing number of military veterans suffering from symptoms of PTSD (Beale, 2020).

While many successfully reintegrate after their time in the military, there is a minority who face difficulty transitioning back into civilian life (Zogas, 2017; Burdett et al., 2012). For these veterans who return emotionally shattered, their combat experiences can result in illnesses from PTSD to survivors’ guilt and can be challenging to manage as they are invisible wounds (Green, 2015; Bannister et al., 2019; Jones, 2006). These illnesses can occur at any time. Therefore, veterans and current serving personnel are at risk of developing symptoms of poor mental health (Hunt et al., 2014). Developing symptoms years after the event is otherwise known as delayed-onset PTSD; with delayed-onset PTSD, military personnel have often been exposed to multiple traumas over time (Frueh, 2009; Friedman, 2013).

The effects of PTSD can trigger physical reactions such as shaking and sweating (Green, 2015, Fox, 2018). It can cause avoidance of anything that triggers them and reminds them of the traumatic event (Green, 2015). A trigger differs from person to person, with a majority of military veterans reporting that it could be the smell of petrol, others the smell of freshly baked bread, a word, an anniversary, it can be the sounds of raised voices, in many cases, any sounds similar to those of gunfire and explosions (Green, 2015). This is due to being reminded of difficult situations they might have been in (Green, 2015). In order to help explain the difficulties many experience with PTSD, the following quotes will describe just that. A former special forces soldier stated, “I can roll my sleeve up, I can pull my pants down, and I can show you seven feet of scars, but I can’t show you the seven hundred feet of scars in my head” (Green, 2015, p. xiii). The quote highlights the struggles many veterans face due to the invisible nature of PTSD (Lobban, 2012).

2.3 - History of military mental ill health and treatment

The earliest accounts of military mental ill health can date back to the Assyrian empire (1300 – 607bc). Then, centuries later, the Iliad, an ancient Greek poem, discussed the emotional distress caused by the Trojan Wars (Green, 2015; Geraci, 2020; Mumford, 1996). Although based on myth, the stories were used to help understand what is now known as PTSD (MacNair, 2005; Green, 2015). With that being said, as previously stated, the sheer scale of shell shock during and after WWI has a significant relation to what is currently recognised as PTSD.

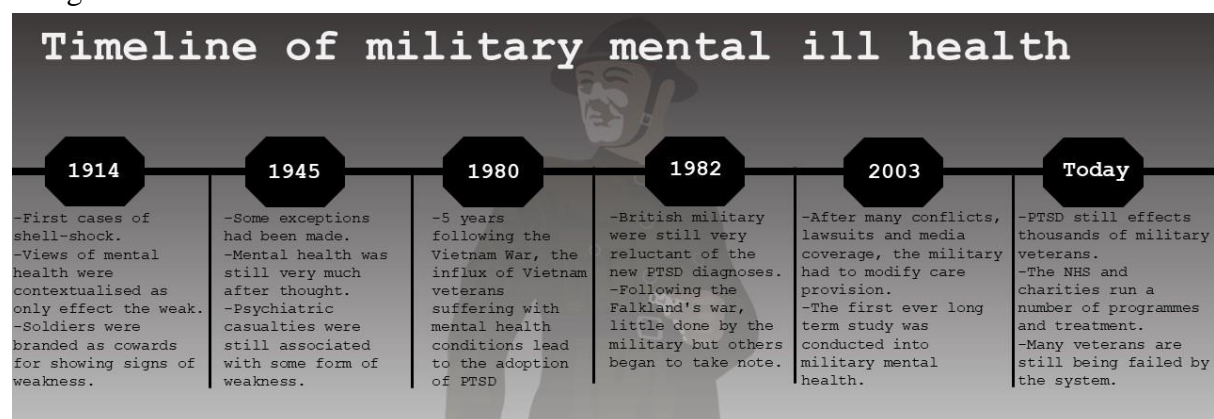


Image 2.1: *Timeline on key dates within military mental ill health.*

2.3.1 - World War I 1914 – 1918

Even though military mental ill health issues have been prevalent for centuries, it is fitting to start the journey of military mental ill health and the coming of PTSD from World War I (WWI). Shell shock started to shift views and perceptions among the military and public due to the number of soldiers returning with psychological injuries (Jones & Wessely, 2014; Greenberg et al., 2017; Leese, 2020; Loughran, 2017). These views were highlighted through the work of military physician Dr Charles Myers. He published an article in the *Lancet* in February 1915 titled 'A Contribution to the Study of Shell Shock' (Myers, 1915). He spoke of a soldier who had lost his sense of taste, smell, and vision due to being caught in a German shelling while on the front line in 1914 (Myers, 1915; Sheehan, 2009; Green, 2015). Myers identified the soldier as 'case one', establishing the controversial question for years to come on what psychological damage war can cause and how best to treat and repair it (Green, 2015). In the early stages of WWI, it had been recorded that many soldiers with no previous signs of mental illness began losing their sense of smell, sight and taste, whilst others experienced symptoms such as palpitations, dizziness, headaches, shortness of breath and twitching fits (Jones & Wessely, 2014; Leese, 2020; Loughran, 2017). Many others were plagued with nightmares of their battlefield experiences and persistent anxiety (Jones & Wessely, 2014; Bowker & Levine, 2016).

As the war progressed, little was understood about military mental ill health, resulting in some soldiers being branded as cowards by all military ranks and, unfortunately, in many cases, members of the general public (Reid & Van Everbroeck, 2014; Morpurgo, 2012). Others believed that the disorder was a form of concussion caused by artillery bombardment or the blasts from exploding weaponry (Jones & Wessely, 2014; Green, 2015). However, research commissioned by the British Expeditionary Force in 1915 stated that there was a questionable link between the symptoms of shell shock and close proximity to an explosion (Green, 2015). Conversely, Myers suggested that there was a psychological explanation, and the symptoms resulted from soldiers repressing memories of traumatic experiences (Myers, 1915). In his view, soldiers had to recall these repressed events to recover and avoid mental breakdowns (Myers, 1915).

Nevertheless, Army commanders were reluctant to acknowledge a psychological cause for shell shock as casualties were required to return to the front line, and a diagnosis would not prevent this (Jones & Wessely, 2014; Green, 2015). Little was done in attempting to treat

shell shock (Howorth, 2000). Myers and others suggested that prompt psychotherapy was necessary if soldiers were expected to return to action (Howorth, 2000; Green, 2015). However, those suffering from shell shock would receive treatments through asylums in the form of massage, rest, dietary regimes, electric shock treatment and hypnosis (Jones, 2010; Roper, 2005).

Shell shock cases were initially conceptualised as only affecting soldiers with hereditary weakness (meaning inherited). As a result, psychiatric casualties were considered preventable through selection, training and leadership (Jones & Wessely, 2014). War was not seen as the cause of psychological breakdown but merely a trigger (Jones & Wessely, 2014; Bourke, 2011). In contradiction to the assumptions that mental ill health was associated with poor selection, research that dates back to 1917 suggests that while the ratio of officers to soldiers in combat was 1:30, for those treated in hospitals specialising in military mental health, the ratio of officers to soldiers was 1:6 (Bourke, 2011). Furthermore, out of the many soldiers that were sent back to Britain to mental hospitals, only a few got better, and even fewer returned to combat (Wessely, 2016). Medical officers soon realised that everyone had a breaking point and whether weak or strong, courageous or cowardly, the war had the potential to mentally affect anyone involved (Bourke, 2011).

By the end of WWI, there had been 80,000 cases of military personnel suffering from symptoms of what is now known as shell shock; it was suggested that one-seventh of all personnel had been discharged for war neuroses and one-third discharged for emotional disorders (Jones et al., 2003; Bourke, 2011). These statistics, even though known at the time, seemed to have had little effect on the traditional views that were previously epitomised during the Edwardian period (1901-1914) (Green, 2015; Greenberg et al., 2011). The Edwardians acknowledged that war was a test of manhood, and in the Royal Navy Medical Corps Training Manual for 1911, 'mental disorder' was categorised as brain damage or insanity (Green, 2015; Greenberg et al., 2011). These traditional views were evident following the conclusion of WWI when the UK military had ignored Myers' extensive work. The official view of shell shock was summed up by Lieutenant Colonel Lord Gort VC, who stated that it was "practically non-existent among first-class divisions and for those who did, it should be considered a form of disgrace. Therefore, these psychiatric casualties represented a regrettable breach, rather than an inevitable consequence of war" (Green, 2015, p. 56). This was the military's overarching view of mental health, where little support was available (Russell et al., 2016).

2.3.2 - World War II 1939 – 1945

Views of cowardness, hereditary weakness and lack of awareness continued into the start of World War II (WWII), when the British Army only had six officers with any degree of psychiatric training (Green, 2015). Furthermore, early in 1940, the Royal Air Force (RAF) stripped hundreds of pilots of their wings, and ‘Lack of Moral Fibres’ was marked on their files as they were too shaken to fly (McCarthy, 1984; Green, 2015). This meant that pilots could not fly and demonstrated how mental health was stigmatised within the RAF. In some cases, higher command had no hesitation in taking these actions as they feared for loss of morale and, in some cases, thought it was contagious (Green, 2015). This further emphasises the military culture surrounding mental health that still exists today (Green, 2015). In the early stages of WWII there was no effort in attempting to implement the forward psychiatric model developed by Myers, which aimed to provide prompt treatment as close to the front line as was possibly safe (Jones & Wessley, 2003; Green, 2015). However, Myers’ principles were unintentionally used in the spring of 1941 by Australian medics when they were urgently required to open a ‘war neurosis clinic’ within close proximity of the fighting and guns at the Siege of Tobruk, an intense 241-day battle that led to a rise in psychiatric casualties (Cooper & Sinclair 1942; Wessely, 2006, Green, 2015). As WWII developed, the British Army made progressive steps and turned to psychiatry to reduce the prevalence of psychological breakdown (Jones et al., 2003). By the end of 1943, important exceptions were acknowledged; it was reluctantly accepted that all soldiers had a breaking point (Greenberg et al., 2011). Many high-ranking officers were referred to psychiatric units suffering from what was then called ‘battle exhaustion’ (Greenberg et al., 2011). As these officers were a minority and expected to return to full health, most psychiatric casualties continued to be associated with pre-existing vulnerabilities, hereditary weaknesses or failures of selection and training (Greenberg et al., 2011; Jones & Wessely, 2014). Military mental health was still very much an afterthought in the years following WWII, with any key breakthroughs having little effect on the traditional views (Pook et al., 2008; Green, 2015). Training in masculinity was also recommended, and patients would be encouraged to face their issues in a manly way (Roper, 2005).

2.3.3 - The turning point in military mental ill health 1980 – onwards

Although the UK military did not officially send any combat troops to the Vietnam War (1955-1975), in the years following, military mental health became more of a prominent

issue among returning US soldiers. Cromie (2006) suggested that almost 19% of soldiers who served in Vietnam returned with what is now known as PTSD. Psychiatrists who worked with Vietnam veterans described their conditions as 'post-Vietnam syndrome.' Five years after the war, in 1980, the American Psychiatric Association adopted a new diagnostic category of PTSD (Raymond, 2011). Before the diagnosis of PTSD, it was suggested that soldiers should never suffer anything more than a temporary collapse, with a stressful event activating a pre-existing vulnerability, defect or damage relating to birth (Jones et al., 2003; Green, 2015). PTSD was the foundation for changing these views, as it was not down to faulty genes or parental neglect. However, the result of trauma and the symptoms were now seen as a natural reaction to experiencing an abnormal event rather than an underlying flaw (Jones et al., 2003; Green, 2015). Many discussed how those who pushed themselves the furthest were most likely to break down (Green, 2015), ultimately suggesting that PTSD was not a sign of weakness but a sign of strength (Green, 2015). Nevertheless, many were concerned with the term 'disorder' as it suggested there could be permanent damage and that drug-based treatments would be preferable over therapy (DiMauro et al., 2014; Green, 2015). Instead, according to Professor Charles Figley (1988), it should have been considered an injury; therefore, it could be managed through rehabilitation, with a full recovery probable (Green, 2015).

Even with the new diagnosis of PTSD, the British military was reluctant and still very dismissive. By suggesting that well-trained members of the British military were not like their American counterparts who were suffering from PTSD and other mental health problems such as alcohol abuse and drug misuse (Jones et al., 2003; Iversen, 2005; Green, 2015). However, two years following the adoption of the term PTSD in America, attitudes in the British military were quickly re-evaluated (O'Brien & Hughes, 1991). Royal Navy medical student Dr Morgan O'Connell sensed worrying signs in the soldiers returning from The Falklands War in 1982 (Green, 2015; Iversen et al., 2005). O'Connell proved to be a key figure in military psychiatry following the aftermath of the Falklands War (Green, 2015; Price, 1984). He treated several psychiatric casualties during the war and believed he was in a unique position as a uniformed psychiatrist to help minimise the risk of long-term mental health problems by helping soldiers confront their feelings immediately after a traumatic event (Green, 2015; Price, 1984). This treatment had many similarities to the forward psychiatric model Myers developed in the early stages of WWI (Green, 2015; Price, 1984).

Following the Falklands War, many veterans began reporting symptoms more complex than bereavement and anxiety disorders (Price, 1984). Subsequently, concerns were raised about the new American diagnosis of PTSD. O'Connell raised these concerns with the Army, whom he quoted as saying, 'there is a problem, but we'd rather not talk about it because it's bad for regimental morale' (Green, 2015, p. 66). O'Connell stated that "The RAF said: Stress?, We call that LMF (Lack of Moral Fibre) and we just kick them out" (Green, 2015, p. 66). The Royal Navy had different views on the subject. They set up a project to create an awareness-raising video which eventually prompted the Army and RAF to accept that there must be something going on for the Navy to take it so seriously (Green, 2015). Dr Morgan O'Connell's work continued, and in 1987 he established Britain's first-ever PTSD treatment programme at a Royal Navy Hospital (Green, 2015). O'Connell's work and others brought military mental health into a new age of treatment, shifting traditional views of cowardness (Green, 2015). Apart from O'Connell, there was Dr Dafydd Alun Jones, whose interest in the subject became prominent after having first-hand experience of working with an airman from WWII who was facing problems of alcoholism and depression after spending years as a prisoner of war (Green, 2015; Kirby, 2010). This kick-started Jones' work with military veterans as he ran several psychiatric clinics across the country (Green, 2015; Kirby, 2010). The clinic, known as Ty Gywn (White House) or 'Last Chance Saloon', served as an effective treatment by restoring a sense of camaraderie (Green, 2015; Kirby, 2010). Patients would go on day-long hikes, fishing trips and bike rides, giving them a chance to reconnect with themselves and others (Green, 2015).

With this being said, the Gulf War (1990-1991) highlighted further concerns, and the UK media began to broadcast much of this content (Huang & Priebe, 2018; Green, 2015). Forbes et al., 2011 suggested that one in five soldiers had been suffering from symptoms of a mental disorder known as 'Gulf war syndrome', which encompassed common symptoms of what is identified now as PTSD (Lee et al., 2002). Many years after this conflict, Gulf war veterans claimed that health experts failed to address the issue of PTSD (Wessely, 2006). In 2001, a large number of veterans began to question the lack of support they had received from the UK military and government regarding their mental health (Green, 2015). At this time, following the aftermath of the Troubles (1968-1998), the Gulf War (1990-1991) and the Bosnian War (1992-1995) (Ciment, 2015), around 2000 military personnel launched a lawsuit against the UK government for failing to meet the basic needs in preventing and treating soldiers diagnosed with PTSD (Green, 2015). Despite the case being

dismissed, the government and military were forced to modify their health care provisions as hearings and media coverage had exposed data on the scale of mental health problems within the British military (Green, 2015; Huang & Priebe, 2018). The Ministry of Defence (MoD) and the British Government were heavily criticised for doing too little too late when funding research into PTSD (Forbes et al., 2011). Therefore, in 2003, during the early stages of the war in Afghanistan (2001) and shortly before the Iraq War (2003), the MoD commissioned the King's Centre for Military Health to conduct the first-ever long-term cohort study to explore the impact of the new conflict on the health of UK Armed Forces personnel (Forbes et al., 2011). By collecting data during, rather than many years following conflicts, researchers aimed to gain a better understanding of the consequences of deployment, as well as to intervene earlier to protect the mental health of military personnel (Forbes et al., 2011; Murphy & Busuttil, 2014).

2.3.4 - Existing care provision

The military currently employs two lines of treatment for serving personnel with PTSD through the Departments of Community Mental Health (DCMH) (Green, 2015). The first of these treatments is cognitive behaviour therapy (CBT), a trauma-focused talk therapy that aims to improve mood by changing or challenging negative patterns in behaviour (Capone, 2018; Fox, 2018; Wilhelm et al., 2020). However, even though research suggests that CBT may work with people who have had minimal exposure to a traumatic event, concerns about its effectiveness in treating personnel and veterans with PTSD have been raised. These events may have been more severe or experienced multiply times, with many being extremely traumatic incidents (Green, 2015).

Corrigan and Hull (2015) questioned the validity of CBT and suggested that it was ineffective in the most serious cases of PTSD. This claim challenged the Ministry of Defence, NHS and Combat Stress as CBT was the cornerstone treatment administered over a six-week course (Green, 2015; Mavranouzouli et al., 2020). The literature surrounding the area supports both of these views. Many have highlighted that through CBT, patients could challenge negative behaviours and reduce the likelihood of panic and trigger responses, particularly when used early (Harvey et al., 2003; Zalta, 2015; Taylor, 2017; Mavranouzouli et al., 2020). Conversely, others have suggested, much like Corrigan and Hull (2015), that for more severe cases, CBT had little effect due to how structured the programming is. The

need to confront negative feelings and memories can also mean that CBT is not always effective (Watts et al., 2015; Norton, 2012).

In a separate study, Corrigan and Hull (2015), 'Recognition of the neurobiological insults imposed by complex trauma and the implications for psychotherapeutic interventions', concluded that in more severe cases of PTSD, individuals should be offered eye movement desensitisation and reprocessing (EMDR). EMDR is a form of psychotherapy designed to reduce the distress associated with traumatic memories (Green, 2015; Fox, 2018; Jeffries & Davis, 2013; Mavranouzouli et al., 2020). The therapy works by processing the frozen memories of PTSD through bilateral stimulation, which facilitates the brain's natural function for re-healing (Shapiro & Brown, 2019). However, Fox (2018, p. 187) stated when talking about EMDR that

"I was learning that most institutions had a square hole, square peg philosophy: they were going to hammer somebody towards their idea of a perfect programme, hoping it might fit, whatever the shape or size of the patient's problem. I knew the military liked things to be cut and dried and almost compartmentalised. They were always big on procedure. Thinking outside the box in a case such as mine wasn't going to happen."

Although particular therapies can work for some and not others, it is important to understand that people respond differently to different forms of treatment. Therefore, various lines of treatment are necessary to ensure the individual has the opportunity to improve their well-being (Wheeler et al., 2020; Sherman et al., 2015; Steenkamp & Litz, 2014).

2.4 - Statistics on military mental health

Government figures have stated that since 2005 5,423 military personnel were medically discharged on the grounds of having 'Mental and behavioural disorders.' (Annual Medical Discharges in the UK Regular Armed Forces, 2020; Annual Medical Discharges in the UK Regular Armed Forces, 2015; Annual Medical Discharges in the UK Regular Armed Forces, 2010). Of these, 1753 were discharged because of PTSD (32% of mental and behaviour disorders discharges) (Annual Medical Discharges in the UK Regular Armed Forces, 2020; Annual Medical Discharges in the UK Regular Armed Forces, 2015; Annual Medical

Discharges in the UK Regular Armed Forces, 2010). To be clear, these figures are only from 2005, so anyone discharged before this time have not been counted towards these figures. Most recent figures collected between April 2019 and March 2020 show that 156 military personnel were discharged because of PTSD (Ministry of Defence, 2021). Figures from the Ministry of Defence (2011) and Ministry of Defence (2015) also states that since 2005 1,753 military personnel have been medically discharged with PTSD. It is important to highlight that these statistics were collected from the War in Afghanistan and the Iraq War onwards. Statistics on conflicts prior to this are not available in this form. However, Ollerton (2021) suggests that one in five veterans who returned from the War in Afghanistan are said to be suffering from PTSD.

The Veterans Factsheet 2020 (Office of Veterans' Affairs, 2020) is the most recent document for statistics on UK military veterans. However, the figures presented as a percentage are over four years old. The document states that the estimated rate of probable PTSD was 6% in 2014/16, which increased from 4% in 2007/09. The document also states that there are 2.4 million veterans in the UK. Therefore, the 6% would accumulate to 144,000 across the UK (Office of Veterans' Affairs, 2020; Stevelink et al., 2018; McKenzie et al., 2020). Also, those who pass through the initial checks and return home with no immediate problems are not counted in the government's statistics. As previously known from earlier in the study, delayed-onset PTSD symptoms can take years to develop (Frueh et al., 2009).

2.5 - Sport and physical activity

Sport and physical activity has become a prominent research topic over recent years as a possible line of treatment for military veterans and personnel (Caddick & Smith, 2014). It is necessary to understand the difference between sport and physical activity at this point in the study. According to the Oxford English Dictionary (2012, p. 1396), the definition of sport is “an activity involving physical exertion and skill in which an individual or team competes against another or others for entertainment.” Physical activity is defined by the World Health Organisation (2020, para. 1) “as any bodily movement produced by skeletal muscles that requires energy expenditure.” For both of these definitions, it is essential to understand how I, as the researcher interpret them: that sport is a game, event or competition against other individuals and teams. In comparison, physical activity is any bodily

movement that uses a significant amount of energy. Due to the differences in these definitions, this will be taken into consideration during the analysis.

Most research has been focused on the effects sport and physical activity have on veterans with PTSD as recorded rates of mental health problems have increased considerably in the past ten years in the aftermath of the Iraq and Afghanistan wars (Hall et al., 2015; Yeung, 2016; Forbes et al., 2011). Brittain and Green (2012) suggest that sport has a long history of rehabilitative use in people's psychological recovery. In 1948, The Stoke Mandeville Games (now the Paralympic Games) were set up to provide veterans with physical/mental disabilities with the chance to compete, train and become successful in different sporting environments (Brittain & Green, 2012). The importance of this event is still recognised today with the introduction of the Invictus Games (Roberts et al., 2020). The Invictus Games were established for many of the same reasons as the Paralympic Games; to help veterans through their recovery journey (Brittain, 2016). Whilst positives can be seen, a degree of caution is needed because Roberts et al. (2019) indicated that veterans had expressed feelings of sadness and emptiness following the game's conclusion. For instance, from initially being motivated and driven to compete in the games, they were left lacking any drive with no goals to strive for, suggesting that more support was needed in the wake of the games (Roberts et al., 2019).

Further commentary on sports effectiveness was discussed as early as the 1970s when neurologist Ludwig Guttmann (1976) proposed that sport could provide a means of social re-integration through restoring fitness, strength, coordination and offer psychologically valuable experiences (Brittain & Green, 2012). It was recognised that through sport, people feel more confident expressing themselves elsewhere, encouraging social re-integration (Brittain & Green, 2012). Many veterans have argued that sport has enabled them to better cope with managing their injuries, whether physical or psychological (Caddick & Smith, 2014). Sport has encouraged them to focus positively on their injuries (Brittain & Green, 2012). Furthermore, sport and PA is familiar to veterans, given the physical nature of the armed forces (Whitworth & Ciccolo, 2016). Barriers such as treatment costs, scheduling, or transportation issues can also be limited as many sports and physical activities can be done at little to no cost, and for those that are not, individuals are paying for something they are passionate about (Whitworth & Ciccolo, 2016; Hefferon et al., 2013; Carless et al., 2013).

Nevertheless, studies from Mills et al. (2019), Doherty et al. (2016) and Schuring et al. (2017) have highlighted that sport does not always provide positive benefits to an individual's mental health. These studies suggested that those who rely heavily on sports to assist with their mental well-being could find themselves in a more vulnerable position if an injury ever affects their participation (Mills et al., 2019; Wolanin et al., 2015; Lichtenstein et al., 2019). Other negative factors include anxiety and depression, particularly when participating in competitive sports, where individuals may pressure themselves to meet near-impossible standards (Doherty et al., 2015). Also, feelings of depression can be common for those who are unable to compete at the level they once could (Schuring et al., 2017).

Conversely, there has been growing research and evidence that suggest sport and PA can have positive outcomes on military veterans with mental ill health (Caddick & Smith, 2017; Caddick, 2014; Caddick & Smith, 2014; Caddick et al., 2015; Carless et al., 2013; Carless, 2014; Hefferon et al., 2013). Studies have examined the psycho-social and well-being elements of recovery in military veterans with traumatic brain injuries, and others have produced systematic evidence that sport and PA can be beneficial in the general population and veterans specifically (Caddick & Smith, 2017; Caddick, 2014; Caddick & Smith 2014; Caddick et al., 2015; Carless et al., 2013; Carless, 2014; Hefferon et al., 2013). The research has revealed several ways these activities can improve veterans' mental health and play a vital role in treating PTSD and other mental health disorders (Carless, 2014; Caddick & Smith, 2017; Smith & Sparkes, 2009). Currently, programmes and charities such as Surf Action, Battle Back and the Invictus Games have provided the scope for research into sport as a form of treatment for mental health (Caddick, 2014). These programmes are not based on strict treatment guidelines but instead allow veterans to socialise, set targets and build confidence (Caddick, 2014). Sport and PA give people the freedom to do this (Caddick, 2014; Dalton et al., 2018; Smith & Sparkes, 2009).

Caddick (2014) and Caddick et al. (2015) conducted studies on how sport and physical activity could help veterans. The study used surfing as a form of PA to highlight how the natural environment can also benefit well-being (Caddick and Smith, 2017). For the veterans who participated in a combination of this activity within the natural environment, the findings presented substantial benefits as some participants stated that they felt PTSD had 'washed out of their system' (Caddick & Smith, 2017, p.3). Others quoted 'you can almost change your mood immediately' (Caddick et al., 2015, p. 81) and 'Yay, only two more sleeps and it's surfing day' (Caddick et al., 2015, p. 82). This highlights the meaning

sport had for the veterans who engaged in these sports and how it helps them get through day-to-day life. Carless et al. (2013) support these views as the study explains how participating in an adventurous training course helped restore a purpose in life. This was a 5-day residential course which included inclusive sports such as wheelchair basketball, wheelchair badminton, seated volleyball, archery and adventurous training such as indoor rock climbing, caving, clay pigeon shooting, and kayaking (Carless et al., 2013). A study conducted by Dustin et al. (2011) further highlights the therapeutic benefits of nature and its inherent healing properties as results showed reduced rates of re-experiencing (re-living events from the past) and hyper-arousal (consistently irritable, angry, and paranoid) in military veterans with PTSD. Wheeler et al. (2020) continue to suggest that outdoor activities reduce symptoms of PTSD, depression and anxiety, which increased participants' social functioning and psychological growth.

Caddick and Smith (2014) conducted a study identifying the type of sports and physical activities used to promote well-being. The study examined the impact of sport and physical activity on combat veterans' subjective and psychological well-being after physical or psychological trauma. A systematic review was conducted using 11 articles, and the findings, much like the previous study, highlighted how sport and PA had benefitted these veterans. The findings were categorised into sub-headings such as improving both 'quality of life' and 'psychological and social well-being' (Caddick & Smith, 2014). Findings also suggested that sport was a source of motivation, not just within the activity but in life (Caddick & Smith, 2014). Wheeler et al. (2020) further highlights the previous statements. The study presents findings on how outdoor recreational activity can improve the well-being of military veterans and how it could be used as a viable treatment option (Wheeler et al., 2020). Through a two-week course, veterans showed an improvement in depression, anxiety, and stress relating to their PTSD due to their experience (Wheeler, 2020).

Furthermore, evidence regarding the general population also highlights the overall benefits of sport and PA for improved mental well-being (Soundy et al., 2015; Vella, 2019; Dalton et al., 2018). The benefits from the research correlate with what has already been stated throughout the study and underline how improved physical health has a sizable advantage on improved mental health (Stubbs et al., 2018; Chekroud et al., 2018). 'Be-active' is also one of the 5-ways to well-being that is being taught throughout the country. It focuses on how being active is associated with lower rates of depression and anxiety (Mackay et al., 2019).

2.6 – Erving Goffman: Presentation of self

Underpinning a research study is vital for shaping the research design and explaining theoretical approaches (Jackson, 2013). As the research questions seek to explore the motivations and experiences of military veterans with PTSD, the researcher will focus on the work of Erving Goffman's 'The Presentation of Self in Everyday Life' (1959) to underpin the study (Goffman, 1959). Goffman discusses the importance of human social interaction through using the imagery of theatre. He argued that individuals display a series of masks to others depending on the situation they find themselves in (Goffman, 1959). Simply put, we change how we act depending on the environment or who we are with to present ourselves in the best possible light. The reason for selecting this theory in relation to the study is to possibly develop an understanding of participants motivations for participating in sport and PA and whether this is to present the best possible version of themselves to others. Alternatively, are participants able to just be themselves when participating in sport and PA and is this due to their previous experiences. Therefore, are they putting on a front in their daily life and is sport their chance to be themselves.

2.7 – Summary

The chapter overviewed the historical routes of PTSD within the military. Starting with WWI and the introduction of shell shock, then later in the century, how Post-Vietnam syndrome and Gulf War syndrome paved the way for the new diagnosis of PTSD. More specifically, an examination of what treatments were available and how these changed over the years - also the perceptions of military mental ill health and its possible links with issues in help-seeking. Moving through the chapter, the benefits of sport and PA were discussed, and it is clear that there were many positive benefits for military veterans with PTSD. Several studies highlighted that sport gives veterans a chance to socialise, set targets, challenge themselves and build confidence.

The introduction of Goffman's work Presentation of Self in Everyday life will be adopted to understand the motivations and experiences of the military veterans within this study. When implementing a theory such as this, the methodology must be carefully selected to provide the researcher with the best procedure to answer the research question.

Chapter 3 – Methodology

3.0 - Overview

The aim of the following chapter is to articulate the approach taken towards answering the research question. Firstly, Crotty's (1998) research process which includes 4 elements of epistemology, theoretical perspective, methodology and methods will be explained in how they guide the research. Each element selected will justify and inform every aspect of the methodology. Where necessary, justifications of the chosen positions and stances will also be presented to provide a clear and concise rationale as to exactly why they have been selected over other perspectives. Following this, an overview as to why qualitative research design is the preferred method of enquiry rather than quantitative research. Moving through the chapter, a description of the data collection procedure will be introduced including the participants, pilot study and sampling. Finally, this section will finish off with the analysis of data and how the chosen methodology was applied in attempting to answer the research questions.

3.1 - Crotty

The study follows Crotty's (1998) research process. Initially, with the research process, a researcher adopts a particular stance towards the nature of knowledge (Crotty, 1998). This stance, known as the epistemology will underpin the whole research procedure and informs the particular theoretical perspective selected (Walliman, 2006). The theoretical perspective will then guide the choice of methodology (Crotty, 1998). Finally, the methodology will in turn dictate the methods chosen (Crotty, 1998). (Table 3.1) shows how each element informs the next and these elements will be discussed in more detail shortly (Crotty, 1998).

	Definition	Selected	Rationale
Epistemology	Theory of knowledge	Social constructionism - <i>Knowledge is constructed through humans' interactions and interpretations.</i>	To understand how participants meanings of a subject has been constructed.
Theoretical perspective	Philosophy that informs methodology	Symbolic interactionism – <i>the meanings people assign to phenomena</i>	To understand the meanings assigned to the subject through interactions.
Methodology	Design connecting methods to outcomes	<i>Case study – to closely examine data within a specific context.</i>	To examine particular feelings participants have towards sport.
Methods	Implementation of methodology	Life history interviews - <i>to gather information about an individual's past and present lived experiences</i>	To conduct interviews in a manner to learn about the participant's experiences.

Table 3.1 *Crotty's framework explanation* (adapted from Crotty, 1998)

3.1.1 - Epistemology

Crotty (1998, p8) defines an epistemology as the '*nature of knowledge, its possibility, scope and general basis*'. This, in short should describe the understanding of how we know what we know (Crotty, 1998; Al-Saadi, 2014; Walliman, 2006). Therefore, the epistemology provides a logical grounding of what types of knowledge is possible and how it can be justified as legitimate (Crotty, 1998; Walliman, 2006; Denscombe, 2017). This is why it is important to identify and explain the epistemological stance chosen (Carter & Little, 2007). The epistemology is referred to as the theory

of knowledge, so it is the way of looking at the world and making sense of it (Crotty, 1998; Caddick & Smith, 2017). Epistemology can be more easily understood by asking the following questions:

What do we know?

How do we know what we know?

How can we be sure that what we know is true?

Although these questions may not make complete sense, to begin with, the chosen epistemological stance should answer these questions and provide more meaningful knowledge (Crotty, 1998). Therefore, the chosen epistemological stance for this particular research study is social constructionism. Social constructionism has been developed from the perspective of constructionism (Crotty, 1998). The social constructionist perspective is the view that all knowledge and meaningful reality is built upon human experiences, that have been constructed out of interactions between human beings and the world they live in, and then how these interactions are developed within a social context (Crotty, 1998). According to the social constructionist view, meaning is not discovered but rather it is constructed by the individual (Crotty, 1998). An object does not have a meaning until a consciousness engages with it (Crotty, 1998). The same object can have a different meaning for different people, depending on their culture, environment, or beliefs (Crotty, 1998; Burr, 2015). Social constructionists believe that before there was consciousness on earth, the world held no meaningful existence, suggesting that all meaningful reality has been socially constructed (Crotty, 1998). With social constructionism, we view the world through a lens that is presented to us by our culture (Crotty, 1998; Burr, 2015). Our culture creates context for the way we view things and the meanings they hold for us (Crotty, 1998; Burr, 2015). It is important to note that social constructionism is an extremely broad concept, and it must be considered that people see things differently and place different meanings on things (Andrews, 2015; Crotty, 1998; Burr, 2015). To provide a small summary and context in a real-life setting, we may have different experiences of sports due to the culture we are brought up in, our parents and other family members who may play and love sport. Therefore, we follow in the same fashion and our views are constructed from the environment that has been created for us. Furthermore, these views for us and others are continually evolving depending on our social interactions as social constructionism suggests that the social world is interpreted by human experiences (Crotty, 1998). The following study seeks to discover the possible benefits of sport and physical activity for military veterans with PTSD, therefore we must aim to interpret and understand the meanings behind sport and physical.

3.1.2 - Theoretical perspective

Crotty (1998, p. 8) states that the theoretical perspective is the ‘*view of the human world and social life within the world; therefore, the assumptions are grounded.*’ The theoretical perspective is defined by Crotty (1998, p. 8) as ‘*the philosophical stance informing the methodology*’. The theoretical

perspective should be directly influenced by the epistemology and provide context for the methodological approach adopted (Crotty, 1998). However, there can be many complications when explaining the chosen theoretical perspective and how it differs from the epistemology (Crotty, 1998). Therefore, when we look at a social constructionist epistemology, we must remember that it is about knowing and how meaning is constructed (Crotty, 1998). The theoretical perspective differs in the respect that now we must understand that humans act towards phenomena based on the meanings they have constructed as a result of social interactions and encounters (Walliman, 2006). Also, it is important to understand that people act in different ways depending on the situation (Crotty, 1998; Walliman, 2006). When we look at theoretical perspectives according to Crotty, there are three major stances within an interpretivism theoretical perspective (Crotty, 1998). An interpretivism theoretical perspective is founded on the belief that reality is socially constructed and this is different for each individual. The interpretivism theoretical perspectives include symbolic interactionism, phenomenology and hermeneutics. Symbolic interactionism sits beneath the umbrella of an interpretivism theoretical perspective and this stance examines individuals interpretations of social interactions and encounters (Crotty, 1998). Crotty argues that it is based upon the meanings people give to different situations and why they act in certain ways (Crotty, 1998). Symbolic interactionism emphasises the need to understand the unique insight of particular individuals and groups as it allows researchers to qualitatively grasp an understanding of what the data means (Crotty, 1998). Crotty suggests that knowledge relies on interpretations of the meanings that humans attach to their actions (Crotty, 1998). As a theoretical perspective, symbolic interactionism is concerned with the most basic social interactions and how people act towards different things based on the meanings, they have of them (Crotty, 1998). The theoretical perspective has been selected to gain an understanding of why people may act differently towards sport based on their previously constructed meanings (Crotty, 1998). Therefore, it links in with the epistemology as an extension of social constructionism, in providing more detailed insights into the way people act towards sports based on their experiences (Crotty, 1998).

3.1.3 - Methodology

The methodology refers to the 'plan of action' and as the epistemology and theoretical perspective inform this element, the available methodological approaches available are ethnography and case study (Crotty, 1998). However, as the research was being conducted while COVID-19 restrictions were in place, ethnography was not an option as it would have involved travel and close contact with participants. Therefore, a case study approach has been selected and still offers a great deal as its aim is to focus on a particular topic with the view of providing in-depth insights into events and experiences (Crotty, 1998; Denscombe, 2017). The case study approach is extensively used within social research as it provides a broader and more comprehensive investigation, and therefore, does not dictate what methods are used (Denscombe, 2017). This is a strength of the case study approach as it allows for

variety in the methods depending on the circumstances and does not just refer to an individual case but can refer to a number of cases, known as ‘collective cases’ (Denscombe, 2017; Hyett, 2014). The intention of this approach is to investigate and analyse individual cases as a collective to discover the relationship of social processes within social settings and if they have wider implications (Meyer, 2001; Hyett, 2014). A case study approach can be used in a number of ways and for a number of purposes, allowing the researcher to explore situations in order to describe things in detail, compare views and even allow for cases to inform each other (Denscombe, 2017; Meyer, 2001). Meyer (2001) suggests that when using the case study approach, the researcher deliberately makes a choice on what the case is and these are not randomly selected. In some cases this can lead to bias, however for the purpose of this study, participants would not easily be found in the general population. Discovering information is at the forefront of the case study approach and this information can be used as it is for what is said; for what it suggests in terms of areas to investigate, or for what it explains with regards to interlinking cases (Denscombe, 2017; Hyett, 2014). However, difficulties can arise with the case study approach as it can be time-consuming, it can become difficult to present and generalise findings, and sample sizes are generally a lot smaller. With that being said, the researcher has selected this approach as it still allows for flexibility in collecting and analysing data, which is important when each case can differ greatly.

3.1.4 - Methods

As this element is dictated by the methodology, the preferred method to adopt is life history interviews (Crotty, 1998). The selected methods have been directly influenced by the methodology, and the case study approach advocated this selection due to versatility in conducting and analysing research. The life history interviews will allow the researcher to explore the finer details of what has been said and compare the interviews with each other. The method was also selected as it encourages participants to discuss their lived experiences.

3.2 - Qualitative Research

The selected epistemology, theoretical perspective, methodology and methods have led to the adoption of a qualitative research approach. Qualitative research seeks to gain a deeper understanding of a specific subject and enables us to make sense of the social reality of individuals, groups, and cultures through identifying, understanding and interpreting (Sutton & Austin, 2015; Walliman, 2006). This form of research technique relies on language and meanings (Sutton & Austin, 2015). Therefore, qualitative data collections tend to be conducted in the way of interviews, focus groups and case studies (Sutton & Austin, 2015; Bryman, 2012). It allows the researcher to develop more of an insight into people’s thinking and can eliminate the potential for bias within data, as questions are usually open-ended and participants are allowed to talk freely with flexibility rather than having to choose

from a list of predetermined answers (Walliman, 2006; Bryman, 2012). However, researchers can still influence data through the language used when questioning. Loftus and Palmer (1974) conveyed this in a study concerning influencing participants' answers. Participants watched videos of cars crashing and were asked how fast the cars were going. The participants were influenced when asked whether the cars bumped or smashed. When asked if the cars had bumped, the participants guessed that the cars were going slower. The study highlights how the smallest change in language can influence a participant's answer. However, as long as the researcher can make a conscious effort to avoid any bias, qualitative research provides true meaning and rich useable data (Walliman, 2006; Barrett & Twycross, 2018). Conversely, it can be argued that qualitative data has its limitations due to smaller sample sizes being used as a result of the lengthy interviews, data collection and analysis process. It is possible that the interviewee can also be led by the interviewer's subtle cues, even if this is done subconsciously on the interviewer's part (Knapik, 2006). The participant may also feel obliged to give what they feel is the most desirable answer, possibly reducing the validity of the findings (Knapik, 2006).

Questionnaires are used in the data collection process but that did not constitute the study following a mixed methods approach. The questionnaires were primarily used as a prelude to the following interviews and provide some context behind how the participant felt towards sport.

3.3 - Participants and recruitment

The participants were $n=7$ male military veterans aged between 25 and 50 who had been diagnosed with PTSD as a result of their service. A military veteran is defined as "anyone who has served for at least one day in Her Majesty's Armed Forces (Regular or Reserve), or Merchant Mariners who have seen duty on legally defined military operations" (GOV.UK, 2020, para. 3). Their sporting and physical activity experience only needed to be from after their service. The study aims to gain an understanding of the potential benefits of sport and physical activity, in which their chosen sport, ability and competitive level did not matter. The sport, level, amount, whether it is competitive, and if their experiences are good or bad did not matter as the study aims to gain an understanding of the potential benefits of sport and physical activity. It is important to discover all views, and not just the positive ones that fit the narrative of the study. Participants were either contacted directly or through a gatekeeper. In the case of this study, the gatekeepers were charities, specifically, PTSD Resolution, Supporting Wounded Veterans, Combat Stress and the Veterans & Families Research Hub, other participants were recruited through friends and colleagues.

3.3.1 - Sampling

Sampling is vital for the stages of analysis as it is near to impossible to select everyone and everything (Miles and Huberman, 1994). The procedure can be difficult as one needs to determine who they are

going to talk with, where it is going to be conducted, when it will take place and what is going to be discussed. When discussing sampling, there are a number of routes that a researcher can take (Gratton & Jones, 2004). For this study non-probability sampling was selected as the participants are war veterans with PTSD, therefore these participants would not be consistently found within a population. Nonprobability sampling provides the researcher with a number of other sampling options (Neuman, 1994). The type of Nonprobability sampling option selected for this study is purposive sampling, purposive sampling was chosen as the researcher is attempting to find a sample within a target population based upon their experiences and knowledge. Purposive sampling can be seen as negative due to its' bias towards certain subgroups and its lack of inclusion with the general population (leans findings in a certain way). However, this study aims to exclusively focus on military veterans and specifically those with PTSD. Therefore, they would not be found easily within the general population and had to be selected in a different more direct way.

3.4 - Procedure

The procedure began by gaining approval from the University of Gloucestershire's – Research Ethics Committee Panel (see Appendix A - ethics approval and Appendix B – ethics approval form). An email was sent out to gatekeepers which included charities and work colleagues who had contact with the desired sample (see Appendix C – email example), the email also included the following attachments: ethics approval and information/consent form (see Appendix D).

3.4.1 - Questionnaires

When designing the questionnaires, there were no pre-validated questionnaires related to the topic or any that could be adapted to answer the research question. Therefore, the questionnaires were designed by the researcher using a Likert scale format. The Likert scale is a series of questions with the answers ranging from 1 to 5, with one extreme attitude to another. For example, 1 being strongly disagree to 5 strongly agree. The questionnaire consisted of 19 questions, taking around 10 – 15 minutes to complete and was designed on Microsoft Word. The aim was to gather information on the frequency and the duration they participated in sport/physical activity, as well as the level and intensity they trained at. The final questions were based around the motivation and enjoyment when participating in sports/physical activity. This information was used as an initial form of data collection to provide the researcher with some idea of what the participants currently did (see appendix E – questionnaire).

3.4.2 - Interviews

The interviews followed an un-structured approach to encourage participants to speak freely about their experiences with sport/physical activity. Although unstructured, interviews followed 3 key stages that were based around the participants motives towards sport/physical activity before, during and

after their military experience. The interviews were conducted over Zoom or Skype and took between 20 to 60 minutes. The interviews were the main a source of gathering data. They were later transcribed and analysed (appendix F – interview structure).

3.4.3 - Pilot study

A pilot study is a small test to check the methods used in the research designs are adequate and can identify any issues that may affect the results. They are also important for developing any areas of improvement with the data collection process (Lancaster, et al. 2004 & Cargan, 2007). Within this study the researcher used one pilot study as an initial run through to ensure for a smoother more detailed and valid data collection process. In doing it, ensured that any mistakes were avoided and necessary improvements could be made, such as the types of questions and interactions with the participants (see appendix H – Pilot study questionnaire and interview transcript). The participant in this case was known to the researcher so was contacted via email and consent was granted through the information/consent form. The questionnaire was returned as being fit for purpose. However, changes were made to the interview structure. The improvements made are summarised after a conversation with the pilot study:

- Defining sport at the start makes it feel a lot more formal, they should know the difference and if they don't they can ask.
- Start with asking what sports/physical activity they did growing up and before the military.
- Make it far less formal and ask questions as if it's just a chat. Rather than letting them speak for ages with no input. Need to show an interest in what they did and ask questions about it as they may not be as willing enough to just speak about themselves.
- An interview structure of before, during and after will flow a lot better.
- Talk about some of the sports you do and maybe why you do them, this should help them talk about their motivations too.
- Relate to their sports as everyone loves to talk about similar things and will help them talk more freely.
- Talk about why and how sport helps you if needed.

The structure of the interview process was adapted following these suggestions.

3.5 - Data Collection

The data collection process consists of gathering data from relevant sources to find answers to the research question. The data collection process for this study took 5/6 months from November 2020

and March 2021/April 2021. Data collection was a combination of questionnaires and interviews based on the types of sports and physical activities participants partake in. Furthermore, the frequency, duration, level, their enjoyment and motivation behind playing/participating in sport/physical activity (see appendix E and F).

3.5.1 - Questionnaires

A questionnaire is a research tool that consists of a series of questions with the aim of gathering information. Data can be collected very quickly at a relatively cheap cost and provide large amounts of information from a particular sample. However, questionnaires can cause bias due to the researchers' influence the questions can be leading and asked in a certain manner to get desired answers. It is also hard to provide true meanings and feelings in answers. Therefore, for this research study, the questionnaires were used as an initial form of data collection for the interviews. Questionnaires were sent out to participants following confirmed consent and before the interview process (see Appendix C). This meant the researcher could prepare for different participants depending on the sports they did, who they played with, how long they had been doing it etc. The questionnaires were sent out prior to the interview and were completed without the researcher being present, and then returned via email or post.

3.5.2 - Interviews

The interview is an important data gathering technique within qualitative research, particularly when obtaining thoughts, feelings and opinions on a subject. Once consent was granted by the participant, an interview date was agreed upon by the participant and the researcher. The interview was unstructured but still followed 3 key stages as suggested by the pilot study, which included earliest memories/growing up with sport, then sport during and after service. Prior to the interview, the participants were told about these key themes in order to prepare and familiarise themselves with the content. The questions were all largely open-ended questions, apart from a small number of close questions dependent on what the participant said. For example. 'Oh that sounds good, how old were you then sorry? when you were doing that?'

PTSD is a very sensitive subject for many veterans to talk about. Therefore, during the interview, no questions regarding the participants' PTSD or events surrounding it were asked. Also, participants were made aware that if at any point they felt uneasy they were able to ask to stop the interview. The interviews were recorded on Skype and Zoom and then transferred to a password protected file on a password protected computer.

3.6 - Data analysis

Data analysis is the process of interpreting raw data and presenting useful information in a manner that can be understood by the reader (Bryman, 2004, Walliman, 2006). For this study, the data was analysed from both questionnaires and interviews using thematic analysis. The procedure of analysis will be explained in the following sections.

3.6.1 - Questionnaires

Once questionnaires were returned, the data was inputted into Microsoft excel, then formatted into tables to present as useable data.

3.6.2 - Interviews

Following the interview process, the data was transcribed, coded and analysed. The process of transcribing the interviews can help the researcher to gain more understanding of the subject from repeatedly listening to and reading the interviews. The main advantage of recording and transcribing interviews is that it makes it easier to check exactly what was said. Transcription is a lengthy process. Bryman (2004) estimates that for every hour of speech equates to around 5 to 6 hours of transcribing. Coding the data began once the data was fully transcribed. Coding is the process of labelling and organising your qualitative data. Due to the nature of the methodology and the adoption of a qualitative research approach the data was coded using a thematic analysis approach. This approach was selected as it aims to discover common themes across data. Thematic analysis begins with familiarising yourself with the data through reading and re-reading. Each set of transcripts is then coded and key themes are selected across all. Following this, the themes were re-analysed to search for any deeper more meaningful data and to ensure the themes fit in with the research questions. The themes were then given relevant names, written up and presented in the research as an interpretation of what the researcher believes, along with quotations from the interviews to back up any assumptions. The key themes included a focus, getting out, achievement and satisfaction, maintaining physical fitness, independence and freedom of choice, the feeling, camaraderie/banter/friends, and improvement.

3.7 - Ethical considerations

Before any data collection was possible, ethical clearance was necessary. Research ethics has become of much greater concern in recent years, with many universities and research funders requiring the research receiver's ethical approval before it is carried out (Sapsford and Jupp, 2006). Ethical clearance was gained through the University of Gloucestershire's Faculty Research Ethics Panel (see Appendix A). As the participants within this study had PTSD; a form of mental illness -they are classed as a vulnerable population. Therefore, location, time and how the interview was conducted were decided upon in consultation with the participant and they were also provided with a phone number to

an appropriate support system, decided on in the initial discussion between researcher and participant. Participants were informed of the procedure and right to withdraw from the study at any time and this was stated in the consent form.

This will allow them to contact a suitable person/group should any adverse effects arise after questioning. Moreover, participants will also be signposted to generic catch-all organisations, such as Combat Stress and Samaritans. Informed consent was achieved before the data collection process had started as participants were sent and signed the consent form (see appendix E). Anonymity was ensured as all participants' names were coded as numbers and no personal details were recorded. Confidentiality was achieved as interviews were recorded on a password-locked recording device and then transferred to a password-locked computer and stored within a password-locked file to meet the requirements of the General Data Protection Regulation (GDPR) 2018 (see Appendix C).

3.8 Summary

The chapter discussed the methodological approach adopted by the researcher in order to best answer the research questions. The chosen approaches allowed the researcher to conduct the process as desired. However, I feel that a larger sample size would have been more advantageous to bolster the data and to hear different perspectives on the benefits of sport and PA. During the interview process, it was also clear that I was a reasonably inexperienced interviewer and could not always articulate questions correctly based on the answers given. Furthermore, due to the sensitive nature of PTSD, there were times during the interviews when I did not feel confident directly asking questions regarding why participants thought sport and PA was benefitting their PTSD. I try to avoid any mention of their PTSD and focus on their experiences with sport and PA. With more experience, I would have been more confident in asking these slightly more sensitive questions. However, I feel I was still able to gather good useable data that will be discussed in the next chapter.

Chapter 4 - Results and Discussion

4.0 – Overview

The following chapter will draw upon the data from both the questionnaire and interview process. The questionnaire results are displayed as three figures and their relevance to the study is to be explained in due course. The results of the interview process are presented as key themes. The themes emerged depending on their occurrence throughout all the interviews and will be introduced as sub-headings. Due to the nature of the study, the participants will only be introduced as numbers with a brief overview of the sports and physical activities they have participated in throughout their lifetime.

4.1 – Participants

Participants were coded by numbers 33, 44, 55, 66, 77, 88 and 99.

33 – played 1 sport growing up and enjoyed it for socialising and team aspects. Participated in numerous physical activities to get into the military. Got involved in a number of sports in the military. Doesn't play sport anymore but keeps very active.

44 – played football for a club and at school. Also, participated in athletics. Did a variety of sports during service. Physical activity levels have dropped off since then but understands how it has benefited them.

55 – played lots of sports growing up and was very active. Was inactive after the military for a number of years and struggled, then start training again and improved their mindset.

66 – participated at a high level in a sport growing up. Took up a similar sport in the military and enjoyed it. Now keeps active by cycling and going to the gym.

77 – played and enjoyed sports growing up, played with friends on the street and at school, also played other sports at school. Played rugby and squash during service and did a lot of physical activity. Took up horse riding during service.

88 – very physically active growing and was aware of how to train from a young age. Tried a variety of sports during service and enjoyed them. Very active now with activities they had participated in growing up.

99 – played a variety of sports growing up and was heavily influenced by older siblings. Enjoyed their sport and competed it a high standard in some. Learnt to ski in the army and still really enjoys that, as well as that, keeps active by attending the gym.

4.2 - Questionnaire results

The 5 returned questionnaires provided statistical insights into the reasons behind why participants participated in sport and physical activity. The following figures are presented on certain questions within the questionnaires.

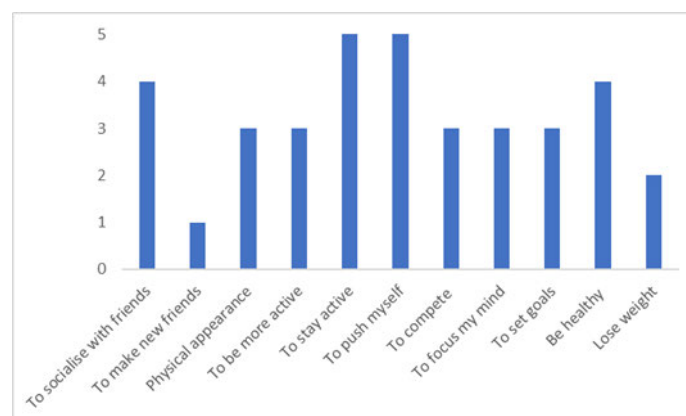


Figure 4.1 *Motivation for participating in sport/physical activity.*

Figure 4.1 indicates that all participants participate in sports to stay active and push themselves. This corresponds with a Burke and Utley (2013) study exploring the response of military veterans after climbing Mount Kilimanjaro. The response was one of determination and inner strength, in which every participant took part in order to challenge themselves.

There are a number of studies and pieces of evidence that indicate how being active can have positive effects on mental well-being (Caddick & Smith, 2013; Carless et al., 2013). The second most frequent statistical data suggests that socialising with friends and being healthy

is also extremely beneficial for mental well-being. Socialising has been at the forefront of most research around mental health for a number of years and its benefits have been linked with building connections based on shared experiences (Caddick & Smith, 2014; Carless et al., 2013). In studies conducted by Caddick (2014) and Brittain & Green (2012), it is suggested that socialising gave military veterans a chance to socially re-integrate and become more confident in different environments. Statistically, over half of the participants were motivated to participate in sport and physical activity by their physical appearance, to be more active, to compete, to focus their mind and set goals (Caddick & Smith, 2013; Carless et al., 2013).

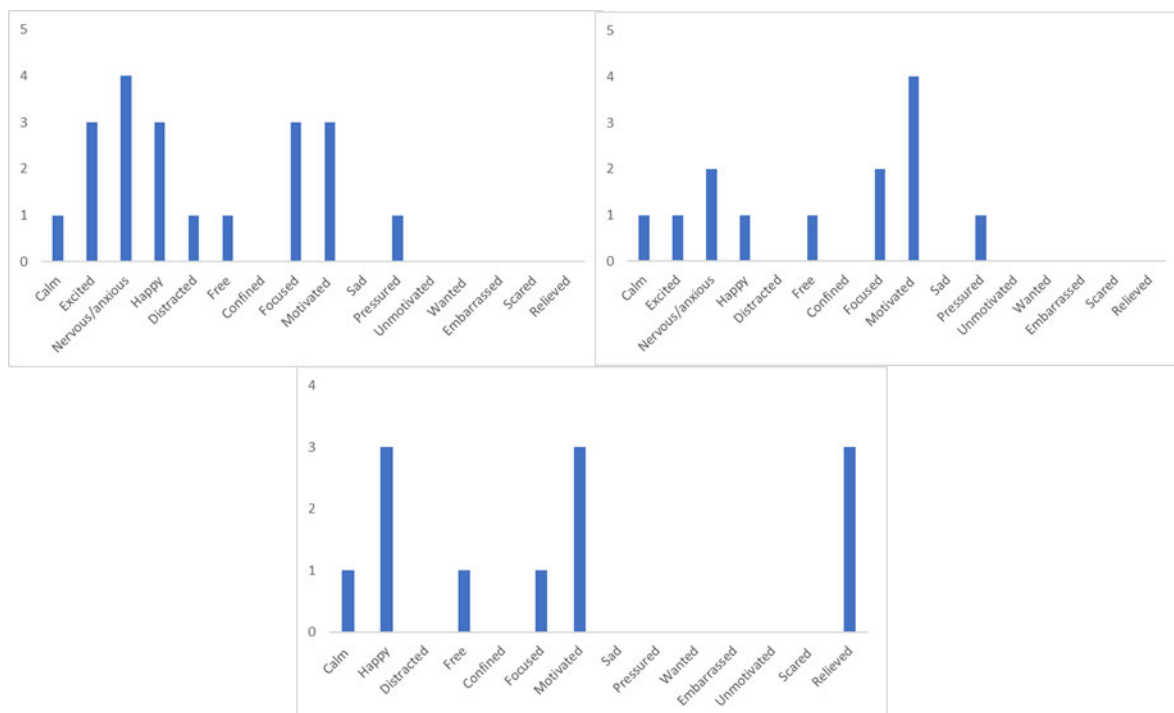


Figure 4.2 *How individuals feel before, during and after sport and physical activity when participating individually.*

The statistical data from figure 4.2 presents findings on participants' feelings towards sports and physical activity when participating by themselves. The key statistic that scores highest throughout the three tables within figure 4.2 was 'motivated.' Knowing they were about to, or during, or just finished physical activity gave the participants a feeling of being motivated. A study conducted by Caddick & Smith (2017) discussed that becoming physically active after time off had motivated them to increase the amount of exercise they did. It was also apparent that participants were more motivated to do daily tasks as a result (Caddick & Smith, 2017).

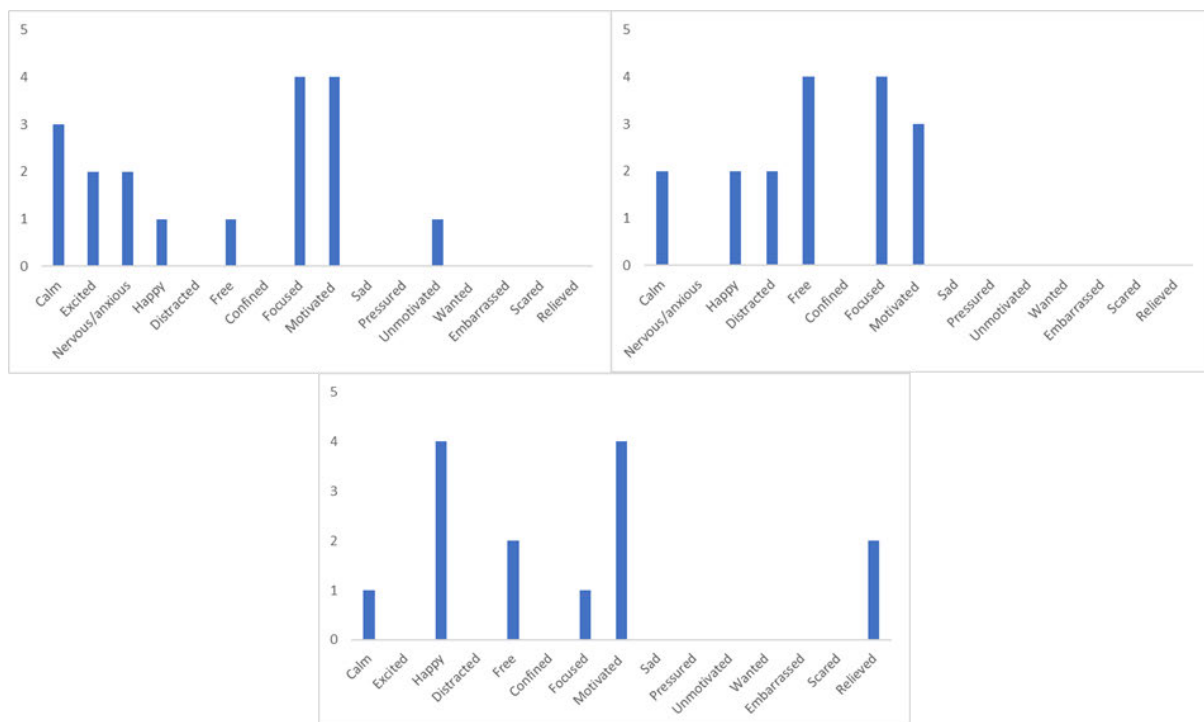


Figure 4.3 *How individuals feel before during and after sport and physical activity when in a team.*

Similarly in figure 4.2, there is a reoccurring theme with ‘motivated’ in figure 4.3. Focused is another prominent feeling within this figure. Giving military veterans with mental health illnesses a focus has been a key topic that has appeared in numerous studies in the literature review (Caddick & Smith, 2017; Caddick, 2014; Brittain & Green, 2012). This will be discussed later in the interview results section as it was a key theme that arose during the interviews.

4.3 – Interview results

As previously stated, the interviews were transcribed and analysed into key themes. The purpose of the following section is to describe why each theme has proven to be beneficial for the military veterans in this study with PTSD. For some, there were only a few reasons and for others there were many. The rationale for analysing the data in this way was to determine what the reoccurring themes were. Not all shared precisely the same views but the following section will highlight and articulate the most popular. All participants played sports and participated in physical activity as children, through their teen years and during their time in the military. Therefore, before any data has been presented, it is important to highlight this

fact as it could well be a contributing factor to why sport and physical activity has been beneficial for them.

Prior to presenting the key themes, it was noted by many of the participants that there is science behind physical activity, such as releasing endorphins and the effect it has on improved mental well-being. When physically active the brain releases chemicals such as dopamine, serotonin and endorphin which are contributed to feelings of happiness, pleasure and exhilaration (Swanson et al., 2022). Even though an important topic, this was not deemed to be a key theme as many of the participants were not concerned about it and had their own reasons for participating in sport and PA. Furthermore, this science will not be counted as a key theme as it is not a true reflection of the participants' feelings towards sport and physical activity. However, what they said will be included below as it is beneficial to provide some context of their views on this:

'I think, now, now I know a bit more about endorphins and stuff like that and I think, you know my body, body sort type started to change, you start to lose weight got a bit more confident and I started to become so of almost reliant on that endorphin boost that I got from running. Does that make sense?'

(Participant 33)

'Yeah, I mean it's all, I know it's all chemicals and the endorphins being released and all that good stuff. And it there's definitely no doubt there's evidence and science behind that but I don't really care what its called and that, I just know that I response really, really well to that and yeah.'

(Participant 44)

4.3.1 – A focus

Three of the participants felt that sport and physical activity had given them a focus or something to focus their minds on. Having a focus allowed many of the participants a chance to think, plan, concentrate on developing skills and provide an opportunity to focus on the process of doing something. Caddick & Smith (2017) suggested that by focusing on present experiences, participants were not dwelling on traumatic memories hidden in their past. One

participant described how being active made him more productive because it helped him to focus:

'it makes you more productive because you sort of, you sort of focus'

(Participant 33)

Participant 33 spoke about how running helped him feel more free and gave him a chance to focus his mind on anything that he may have needed to, as he went on to say:

'You know you think about stuff, you know I put music on, I listen to music and just zone out. And then usually, anything that's on my mind, the answers will come to it or I'll let go or whatever, there is definitely a mental thing for me.'

(Participant 33)

Another participant noted how focusing ensured they stayed on task and completed their objective, when they described climbing as if it were a puzzle:

'just getting to that final pitch is, is great, it's a really good feeling and then even within each pitch, you're breaking down the various moves, you've got to do to get from that bit to that bit to that bit so it's like a big puzzle'

(Participant 88)

Furthermore, participant 88 discusses the focus it requires when climbing:

'You're always, you're always constantly replaying scenarios in your head, although if you've looked at it a lot and you've sussed it out, you've still got to apply yourself and just focus because it's not natural to be hanging off stuff (laughs).'

(Participant 88)

'I would then say climbing is still, still a big one for me, because of the, the focus it requires. Obviously when you're, well any form of climbing is dangerous but I prefer trad climbing, which if anything is slightly more edgy and it requires a lot more focus and a lot more consideration to get from A to B.'

(Participant 88)

Participant 99 added that working out gives them an opportunity to focus on the process and has helped assist in maintaining a positive mindset.

'but it certainly assists in doing something active and proactive and beneficial with my time, a good focus. Yes, I struggle if I can't go to the gym I would struggle so if the gym is way too close again, I would, I would struggle.'

(Participant 99)

Additionally, participant 99 stated that the focus it required when skiing provided a time where he did not need to think about other things in his life but just to concentrate on the skill of skiing. This could also be seen as an avoidance strategy as the participant is able to focus on something rather than think about their negative experiences. However, it is suggested by Caddick (2014) that it is positive to focus on something that can provide respite from traumatic memories. 99 continues to describe what much of his focus and attention on skiing involves:

'There's also the skill of avoiding obstacles and people in particular. So, you know, when you're concentrating so much because you're skiing so fast and trying not to fall over, because you need to concentrate you know I'm not such a great quality skier, I can ski sort of unconsciously, it demands a lot of my attention and when it is demanding a lot of my attention. I'm very much in the moment, rather than ruminating about other things in my life that are going so well.'

(Participant 99)

To some degree, this backs up what Brittain & Green (2012) said about how sport had allowed veterans to focus on their strengths or become better at certain activities, as opposed to worrying about their limitations. Sport can construct positive mindsets by challenging participants physically as they are able to achieve targets and goals they may have not even considered possible (Brittain & Green, 2012; Caddick & Smith, 2014).

4.3.2 – Getting out

The key theme 'Getting out' refers to being out in the natural environment, with a particular focus on therapeutic activities that take place in the countryside, in open water or in the hills. There has already been positive research conducted by Caddick & Smith (2014), Carless (2014) and Caddick et al. (2017) that highlights a number of positive benefits around this and the participants' views provide some stunning insights:

" went for a nice, hour and a half dog walk on the hills before this, so fresh air, it's a lovely morning. And I always respond well after doing some form of exercise or walk or whatever so, but that hardest step is that first step out the door"

(Participant 44)

Participant 44 noted that the hardest step for him was the first step out of the door but highlights the difference it makes to his mood once he gets out into the natural environment as he went on to say:

'Well I go up the hills so umm nothings flat, just up hills and downhills and your own path, there's not a set path so you're kinda just free. Yeah, just to carve your own path and get quite high, good views always stop at the top and take in clear my thoughts. Yeah, I definitely enjoyed doing all my own.'

(Participant 44)

The second quote from participant 44 emphasises how he is able to go where he pleases and it is a good opportunity for him to think and clear his head of things that had been bothering him. It was also a good time to think clearly about the day to come, rather than being sat at home dwelling on bad feelings. More was said about the positivity of being active within the natural environment:

'Your skin goes to rats because of the chlorine, there's always somebody who's going faster or somebody slower in front of you so you've, you've got that consideration plus the noise factor and it's, it's boring, it really is boring. But you put the wetsuit on and you go outside and you just get in at one end of the loch, and you swim to the other end and swim back again. You've got the mountains to your side, you can look down you can see the shaft of light coming through the water. You can see the peat, you can see fish, every time you breathe in or, I breath

bilaterally so you've got a view over there and a view there it's, It's just a completely different sensation. It really is. It's quite cathartic.'

(Participant 88)

'it's just lovely to get out and just sometimes I'll just put the head down and if I want a speed session and just really go for it and other times I will just slow it down and concentrate on the form of running which I have to sometimes just really enjoy the scenery and just think about the process. It's almost meditative in a way.'

(Participant 88)

'It's just good to get out to get that sense of a move on, you can see the destination. You can see the path just, just move on.'

(Participant 88)

Each of these statements further suggests what effect the natural environment can have on a positive shift in mental well-being, particularly its advantages when compared to its closed environment counterpart. Again, the benefits of getting out is backed up by participant 99 who stated:

'Certainly skiing. Because it's, it's the the whole being out in fresh air, good mountain air, the scenery so often is just breathtakingly beautiful'

(Participant 99)

Participants who take the chance to participate in their chosen activity whilst taking in the views and scenery of the natural environment should find it extremely valuable if they are trying to clear their head space. Caddick (2014) describes how being in the natural environment evoked feelings of being free, which in turn pushed PTSD into the background of their lives. These experiences protected the veterans' well-being against some of the more serious problems that can be associated with PTSD (Caddick, 2014). A final quote backs up the proceeding ones in its own way.

'I think I enjoy just going out.'

(Participant 66)

The key theme also corresponds with previous research and this is highlighted in a Dustin et al., (2011) study titled ‘The Promise of River Running as a Therapeutic Medium for Veterans Coping with Post-Traumatic Stress Disorder.’ As previously mentioned in the literature review, evidence from this study highlighted the benefits of being in nature and how it had contributed to the rehabilitation of military veterans coping with PTSD.

4.3.3 – Achievement and satisfaction

A number of the participants noted that participating in sport or physical activity gave them a great sense of achievement and satisfaction. They also said it had given them a good feeling of getting the job done:

‘Yeah so if I haven’t been for a run in a while I’ll, you know the physical bits I’ll see a decrease with all that sort of stuff but mentally, if I don’t do, I’ve identified that if I don’t do fitness my mental health suffers more than it normally does and I don’t know why that is, everyone says you know movement is good for your mental and it’s good to get a get fresh air and get moving. I guess that’s all part of it I suppose but I do feel pretty once I’ve, once I’ve done a small sense of achievement for the day, for the day so you sort of feel like oh yeah alright I’ve done that now you know.’

(Participant 33)

Participant 33 continued to discuss how physical activity has provided him with a chance to achieve:

‘Anything about that sort of physical, that physical bit that gets, gets our blood pumping and it gives you that same feeling of accomplishment.’

(Participant 33)

With these two quotes, the achievements that have been set are not long term goals such as training and running a marathon but rather a daily task to keep on top of his mental well-being. Additionally, when speaking about why he runs, participant 55 said:

'It's not about like you getting your name in lights and all that, well it isn't for me anyway it's. For me it's a good feeling I get out of it and the sense of achievement.'

(Participant 55)

Furthermore, participant 55 accentuates the importance of physical activity as it provides him with a good feeling and sense of achievement. The next participant highlighted this on a number of occasions:

'and especially if the wife is climbing with me, then I've got to think well I've got to do this for her and it's easy for her to come up behind me etc but I climb a slightly higher grade than her still, so I'd say kind of gives me a lot more satisfaction.'

(Participant 88)

'the climbing is more of a sense of achievement'

(Participant 88)

So you've got to just, just keep everything about and just, just keep, keep in that little moment, just keep moving you know, but it's good fun. It really is a fantastic achievement. It's a good sense of achievement.'

(Participant 88)

'if you're multi-pitching and I go up and then someone comes up and doing this all the way out. You're breaking each pitch down and it's great when you've got to this pitch and there's a sort of sense of achievement there and then there's another one when you get to the next one and so on and then eventually when you top out'

(Participant 88)

Each of these quotes explains why participant 88 gets a great sense of achievement and satisfaction from climbing. In the first quote he explains how by doing it with his wife gives him a satisfaction of working together. The latter quotes explains how the achievement comes through working hard to complete the climb. Moreover, participant 99 supports the comments of participant 88 with the following statement:

'the satisfaction when you look up the mountain and realise you've just skied all the way down it, you know it's a great sense of achievement'

(Participant 99)

Even with the changing of sports and physical activities, the key theme proved to have a similar effect on each participant. The feeling of satisfaction and achievement was accomplished through an element of hard work or just the ability to complete a task. Moreover, Brittain & Green (2012) suggested that by playing sport, veterans felt a strong sense of achievement. The study highlighted that through the process of achieving sporting goals, the well-being of veterans was significantly improved (Brittain & Green, 2012). This meant veterans may begin to develop a sense of purpose in life and the feeling of progressing towards their potential (Brittain & Green, 2012; Brittain, 2016).

4.3.4 – Maintain physical fitness

As for many ex-military personnel maintaining good levels of physical fitness is of a high importance. This is highlighted by the participants within this study:

'there's a weird edge to it where you know, you talk to yourself in your head when you running and you, you know, you start slowing down, you sort of subconsciously call yourself, weak and egging yourself on to keep pushing and it's just like that constantly and I think in most, most soldiers that I know that I've served with, they've all said sort of similar thing.'

(Participant 33)

'I just preferred to be out moving, running, putting myself in a bit of a, bit of a pain cave really, just speed and speed and movement.'

(Participant 33)

'Yeah I still have it now. I still get that feeling now where I run and I suppose because the job I do now is very similar, it's you know taking personal responsibility for being fit enough to do what you put your name on, on the list to do.'

(Participant 33)

In each of participant 33's first two quotes, he discusses how he pushes himself when participating in physical activities. In quote two he also discusses how he puts himself in a pain cave which can be seen as an avoidance strategy, however, the benefits of not thinking about PTSD and traumatic memories have been discussed earlier on in the chapter by Caddick (2014). Also from a personal point of view, my understanding from the interview was that he wanted to do this as it gave him a positive feeling once he had completed it, knowing that he was maintaining good levels of physical fitness. Then in quote three, he speaks about how he takes responsibility for being fit enough to be able to perform daily tasks and job roles to the best of his ability. More of the participants proceeded to discuss similar views:

'but if I make a promise to myself, it could be about anything. Like if I say I'm not, I can't get off his bike until I've done my 30 minutes even if I'm dying, I have to do that 30 mins. Like, I made a promise to myself'

(Participant 44)

'I set myself a target doing every other day'

(Participant 44)

Participant 44's emphasises how much he focuses on completing a certain form of physical activity to ensure he is able to maintain a level of fitness he feels is suitable and highlights this further in his second quote when he speaks about how often he tries to do it. When making these statements, 44 discussed how he set himself these specific targets so he was able to maintain a good standard of physical fitness. The next quote provides a rather different view on why maintaining a good level of physical fitness can be important when comparing yourself to others:

'But again, it might sound quite bad but I look at someone in a peer group and so I'm 56 now. And I've got some in my peer group exactly the same age as me. And just because they've been inactive I've seen their bodies go to wrack and ruin. And it's quite sad to see guys who were extremely competitive, have just gone, got old and I would rather just keep myself going'

(Participant 88)

'Healthy mind, healthy bodies, I've lived, I've always lived by that and it's something I want to keep doing for as long as I can keep going, and if something breaks, I'll find something else.'

(Participant 88)

Participant 88 touches upon the fact that he has seen what the affect of being inactive has done for his peers and wants to avoid this happening to him. To be clear with this point, participant 88 is not competitive about being in better or worse shape than someone else but aims to keep fit for physical health reasons and this in turn positively benefits both his mental and physical well-being. This was highlighted later on in the interview when he quoted the Physical Training Instructors' moto of 'Mens sana in corpore sano' which translates to a healthy mind in a healthy body. The next quotes continue along a similar path:

'Now my goals are very much, just trying to keep really on the right side of my age, really, you know, try and gain some muscle definition, not carry too much body fat, to keep it to a level of, of, of endurance and intensity that that that seems to me like sensible'

(Participant 99)

'Yeah, very much so. Yeah, you know, and I think also there's a degree of vanity now you know that I'm not getting any younger. I've gone through, well still going through divorce and I don't want to be appealing to the opposite sex you know without being a fat bastard.'

(Participant 99)

Participant 99 has a different perspective on this and is looking to maintain a good level of physical fitness with the intent of visually looking appealing. In regards to the theory adopted in underpinning the study, this is the first credible link as 99 wants to present himself in the best possible light for the opposite sex. Even though the reasons behind maintaining physical fitness differ throughout this theme, they all still provide a purpose or a goal for the participants which in turn positively benefits their mental well-being. As clearly stated by 88, he lives by the words of healthy minds in healthy bodies and understands how keeping fit and active benefits his mental well-being. This is backed up further by Carless (2014) and Hall et

al. (2015) who suggest that poor physical health is directly linked to poor mental health, thus highlighting the importance of maintaining good levels of physical fitness. This point is highlighted with the final quote of the section when discussing with 99 how he felt when dealing with being unable to attend the gym during lockdown:

‘Certainly the during the first lockdown. For several months I was doing lots of press ups, and then a few dumbbell weights, weights too and, and abb work, which is about as much as I could really do here, you know with, with one set of dumbbells, abs and press ups. That after several months of the first really long lockdown that then started to pitter off, you know, and I think it coincided with umm, I think I started drinking again quite heavily. I was depressed obviously you I had a bad sort of PTSD head, and I think that starts to be really difficult to then motivate myself to do much physical fitness. So each time there's been a forced locked down here and I can't get into the gym, I find it very difficult because in some ways it's the gym, that, that helps me keep because it doesn't keep me on top of my mental health because it's more complicated than that, but it's certainly assists in doing something active and proactive and beneficial with my time, a good focus.’

(Participant 99)

4.3.5 – Independence and freedom of choice

This key theme was one of the most reoccurring amongst the participants. The freedom of going out and doing things by themselves as they please with no structure is clearly a positive benefit to sport and more so physical activity. The participants all had similar views on this:

‘I don't programme, I don't plan it, I just whenever I feel the need to go out and do some fitness I'll just go out and do it.’

(Participant 33)

Straight away participant 33 explains how he does not look to programme or plan and will exercise on his own accord. The freedom of being able to go when he pleases has obviously proven beneficial for him as it has for many more. Brymer and Schweitzer (2013) support this point in a paper titled ‘The search for freedom in extreme sports: A phenomenological

exploration' where they suggest that the freedom of extreme sports served as a release from the constraints of normal daily existence. This is also clear to see in the following statements:

'But yeah, it's just, just about getting out, taking a different route.'

(Participant 44)

'just about getting off the beaten track.'

(Participant 44)

Participant 44 adds that for him it is about creating his own path and not complying with the norm of walking or running a particular route. Brymer and Schweitzer (2013) also suggest that through freedom of choice, a sense of individuality is achieved, something that can be lost during struggles with PTSD as individuals can become reliant on different things such as other people, alcohol or drugs. Gaining a sense of individuality through sport and physical activity helps veterans better understand and manage their needs (Brymer and Schweitzer, 2013). The next participant further highlights this point:

'You can literally go at any time and have any sort of session you like, and I'd like that flexibility I guess of it'

(Participant 66)

'I can cycle to wherever I need to go'

(Participant 66)

'It's I suppose that the freedom element of it, which I really take in'

(Participant 66)

Going wherever and whenever means that participant 66 does not need to be at a certain place at a certain time which has allowed him to participate in physical activity with no pressure. 88 speaks a great deal more on this subject:

'But now I do it because I want to do it and I'm doing it on my terms, which is, which is great you know. I can go as fast as I want, as slow as I want. And I can

go where I want you know, there is no fixed routine and saying I've got to do this way'

(Participant 88)

'just sometimes I'll just put the head down and if I want a speed session and just really go for it and other times I will just slow it down and concentrate on the form of running which I have to sometimes'

(Participant 88)

4.3.6 – The feeling

When conducting the interviews, many of the participants spoke of a feeling they got when participating in sport and PA. One described it as 'euphoric,' another a 'release' and another a 'buzz,' then some were unable to describe the feeling. Therefore, the researcher made no attempt to try to influence what was being said and link this in with any other key themes. The fact that many were unable to explain this feeling made it all the more unique:

Yeah, I mean, you're almost euphoric when you're, when you're getting towards the end of the run, and then all of a sudden you stop,'

(Participant 33)

'I just know that I response really, really well to that and yeah.'

(Participants 44)

The first two quotes highlight how sport and physical activity delivers to benefit these participants without them really knowing exactly how. The following quotes are all from the same participant and put emphasis on the positive 'feeling' you can get out of physical activity:

'I put me trainers back on again, after that two-year absence. I ran out the door. Oh my god, the rush! The feeling was just unbelievable like, you know, and then it turned into really like a drug and an obsession. You know I wanted more of it because I felt better by doing it, you know.'

(Participant 55)

'I found sport again, I fell in love with sport again, it just changed my life completely.'

(Participant 55)

'I love it, I love everything about it, you know like I was saying to you previously the euphoria you get from it, it's just like, if you could bottle that up and sell it, you'd be a millionaire'

(Participant 55)

'A lot of the time when I'm running I feel no pain whatsoever. No, I'm completely in that zone and I'm getting this great feeling you know it's, it's, it's really difficult to explain and, and it's, it's difficult for other people who don't get that to understand. You know, it's, it's like, it's some sort of fix, some crazy fix. Nice and legal, you're not hurting yourself you're not doing anything illegal'

(Participant 55)

In the first and fourth quotes, 55 speaks with great enthusiasm about the feeling of sport being almost like a drug or medicine to positively boost his mental well-being. It is quite possible that this feeling could be linked to what was previously mentioned in the chapter about dopamine, serotonin and endorphin. However, the aim of this study was to explore the experiences and motivations behind participation, not delve into the science of chemical releases in the brain. Participant 66 discusses this theme in more detail:

'obviously the feeling healthy and feeling stronger does come with it, I think that's good.'

(Participant 66)

'but for the feeling strong and feeling healthy and feeling fitter'

(Participant 66)

These similar quotes explain how the feeling of being healthier, stronger and fitter was beneficial in giving him a more positive outlook on things. The final quote describes the feeling as being a release which allowed the participant in this case to go swimming as a means of clearing his head:

'Whereas, the swimming is just a, it's a release,'

(Participant 88)

4.3.7 – Camaraderie/banter/friends

It comes as no surprise that for some of the participants, sport and physical activity provided an opportunity to socialise, create new friendships and rely on others. Previous research has already highlighted many benefits and this is evident earlier on in the literature review when discussing how it had given veterans a chance to reconnect through the work of Dr Dafydd Alun Jones. The upcoming quotes emphasise this point:

'And, and I'm now I've gone back now and I'm now the team UK coach for the middle and long distances. So the next lot of Invictus athletes are coming through and I'm looking after them there.'

(Participant 55)

'you know, team sports stuff like that camaraderie all those great types of things that we love doing as humans, you know, so yeah it's, it's amazing.'

(Participant 55)

'you know, some of the, some of the best people I've met is through sport as well'

(Participant 55)

'to get that sense of feeling and belonging, you know that'

(Participant 55)

Participant 55 spoke at great length throughout the interview of the friendships he had made during his time participating in sport and physical activity. In his last quote, he discusses the feeling of belonging he gets from it and how this is sometimes lost after military service as previously mentioned in the study. More on this was spoken about in the interview process:

'and it was quite sociable, coz you could have a shoot and then you go back, have a bacon sandwich and then go for another shoot, by which time it would be almost over, it was that kind of thing.'

(Participant 77)

'Sometimes there's a couple of routes I'll repeat quite regular. For example, Glen Turret, I run up loch Turret, go up to Ben Chonzie and around that, that's a 10 mile loop, but it's just lovely to be up there, and you meet a lot of people on the way.'

(Participant 88)

'We're all really reliable, we are there most days and it's quite nice to have that bit of banter with them.'

(Participant 99)

'it's the camaraderie that the guys there.'

(Participant 99)

Each of these participants speak of the social element they encountered when participating in physical activities and the positive effects it has had on them. Furthermore, this is discussed by Stubbs et al. (2018) who highlights that there are many social benefits to exercise.

4.3.8 – Improvement

The final key theme is all about how the participants were still in the mindset of wanting to improve. Whether that is to beat personal goals such as times, distances or physical appearances. Also, there is an element of improving to ensure you are competing with others. The first quote highlights the want to improve for personal goals:

'So for me personally I, I constantly want to beat my own time'

(Participant 33)

The point made by participant 33 of wanting to beat his own time is a common one amongst previous research and within this study (Caddick & Smith, 2013). Participant 55 continues on this point and adds some more detail around the theme of improvement:

'urm you know, moving up the ladder and jumping in those footsteps getting better and better. You actually want more of it, you know you want more all the time'

(Participant 55)

'Yeah, it's great and even better sometimes if you get close to it because then you go right I want another go at that. You know I've done that lots of times where I've gone for a time in a certain event and I've literally got within either minutes or seconds of it. Yes I felt disappointed but immediately said to myself, right, I'm going to do that again.'

(Participant 55)

When speaking about moving up the ladder, participant 55 is referring to improving and measuring himself up against others so that he progresses up the standings. Then much like 33 he is looking to beat his own personal times and uses this as a source of motivation.

'I suppose the results you see that it was the turnout, I was seeing results fairly quick'

(Participant 66)

For participant 66, the improvement was made through visual physical changes and then personal goals of lifting heavier weights. Improvement in both these areas meant that 66 had positive feelings of feeling stronger, healthier and fitter.

'I loved the process of learning how to do it'

(Participant 99)

'I think that there's something about the technical skill the learning that being in tune with your body and the satisfaction when you look up the mountain and realise you've just skied all the way down it, you know it's a great sense of achievement, particularly when you're new to skiing and when you look down the mountains you think bloody hell I'm not going to throw myself off that, and then do it and you look back and you just see just how steep the mountain has, you've come down. You know, it's a real sense of achievement, you know, I love it.'

(Participant 99)

There are many key themes when breaking down the final quotes. Although, solely delving into their own improvement, it is clear that participant 99 got a great sense of satisfaction from the improvement he achieved through skiing. The first of the two quotes highlights how 99 loves the process of learning and improving his ability to ski.

4.4 Summary

After analysing and presenting all of the key themes, the researcher was able to discover a breadth of knowledge on the subject area chosen to research. From the military veterans' perspectives, sport and physical activity had been beneficial for them in managing their PTSD. The first point the researcher will draw upon is that physical activity was referred to most by the veterans when discussing the benefits it had on their mental health. During the literature review, definitions of both sport and physical activity were presented and this played a significant role. To remind the reader, sport was defined 'as any form of game, competition or event where individuals compete against others' and 'physical activity any form of bodily movement that uses significant energy.' It is clear that in accordance with these definitions, veterans participated in physical activities more than sport. Participants spoke of participating in physical activities such as running, cycling, swimming, climbing and gym workouts. Much of the data gathered has strong links with the existing research evaluated in the literature review and introduced in this chapter. From the interviews, it was also noted that participating in sport and PA could be avoidance facing their PTSD. However, as Caddick & Smith (2014) suggested that having the opportunity to not think about their PTSD had positive benefits on mental well-being. Also, as previously stated, asking questions on whether they thought they participating in sport and PA to avoid thinking about their PTSD was not a question I was comfortable asking.

In terms of underpinning the study, the researcher selected Erving Goffman's Presentation of Self in Everyday Life as the chosen theory as they predicted it would have a reoccurring role throughout the analysis. When analysing the results, the researcher adopted the approach of reading the data and seeing what emerged, rather than going into the process with pre-determined ideas related to the theories. Ultimately this meant that the researcher had little influence on the results, ensuring that the data had greater validity. When applying the works of Goffman during the analysis it became apparent that many of the themes did not link with the selected theory apart from a possible link with the theme of 'Maintain physical fitness.' The relationship between Presentation of Self and maintain physical fitness can be linked to

how the participants ensure they stay in good physical condition to present best possible version of themselves to others. This version of themselves is would be strong, powerful individuals. However, out of all the participants, there was only one who explicitly said anything related to this. In regards to applying the theory to sport and PA allowing them to be themselves, only two participants vaguely mentioned this and there were no discussions regarding putting on a front n their day-to-day lives. Therefore, it can not be used as a suitable link with Presentation of Self.

Chapter 5 – Conclusion

5.0 – Overview

The following chapter will evaluate the initial research questions of the thesis, review the findings and discuss the implications of the data collected. The findings from both the Literature Review and Results and Discussion chapters will be examined. Finally, the chapter will highlight the limitations and suggest any areas for future recommendations.

5.1 – Initial research questions

The purpose of this thesis was to explore the views military veterans with a diagnosis of PTSD have towards sport and physical activity. Furthermore, to discover their experiences and motivations towards such activities and what effect it had on their overall lifestyle, not just when participating in the sport or physical activity. In order to do this, seven military veterans with PTSD were interviewed, 5 of which completed pre-interview questionnaires. Much of the previous research in this area has selected a qualitative research approach based on interviews and participant observations. Therefore, qualitative methods were employed for this study with the intent of providing more in-depth, detailed usable results. Results from questionnaires were still analysed and presented. However, due to the amount of data and the direction the study aimed to take, mixed methods were not employed. Exploring experiences and motivations are better understood through qualitative research.

5.2 Conclusions of the study

A literature review was conducted in Chapter 2 which was then followed by questionnaires and interviews, the results of which are contained in Chapter 4.

The literature review examined previous studies in the area of military mental health, sport and physical activity. Other areas of research included the history of military mental health and how military culture dating back years can affect help-seeking. Moreover, what treatments and support is already available, whether it be through charities, NHS or private health care.

The purpose of conducting interviews was to gather, analyse and present primary data on questions specific to this research thesis. Questionnaires were used as a prelude to interviews and were conducted to develop a better understanding of the participants before interview.

Key findings from the literature review suggested that sport, physical activity and exercise were beneficial for a number of reasons. These included having an improved attitude and more positive outlook on life, socially interacting with others, experiencing new things, and having a source of motivation. The results of the questionnaires and interviews provided many similarities to those from the literature review, which was expected. The key themes that emerged from the questionnaires were *to socialise, to stay active, to push themselves and to be healthy*. After analysing the interviews, the most common themes throughout that suggested sport and physically activity was beneficial for military veterans were:

- A focus
- Getting out
- Achievement and satisfaction
- Maintain physical fitness
- Independence and freedom of choice
- The feeling
- Camaraderie/banter/friendship
- Improvement

The research questions stated at the beginning of the study were answered throughout the study. The first question ‘To explore the experiences of military veterans participating in and accessing sport and physical activity after being diagnosed with PTSD’ was answered in great detail in the interviews as all of the veterans had participated in different physical activities after subsequently being diagnosed with PTSD. The majority of participants had accessed individual activities such as cycling, running, swimming and weight training. Their

experiences differed as some found it hard to get back into physical activity but understood what difference it made to them when they did, while others had always used PA as a way of promoting positive well-being.

The second question ‘To explore the motivations behind why military veterans participate in sport and physical activity’ was answered within the literature review, questionnaires and interviews. The literature review highlighted this through the works of Caddick, Smith, Carless, Brittain and Green in numerous studies they had conducted. The questionnaires clearly stated that the main motivations behind participating in sport and physical activity were *to socialise, to stay active, to push themselves and to be healthy*. The interviews differed slightly as a more in depth analysis was conducted, allowing for key themes and motivations to be discovered. These motivations included giving them a focus, a chance to achieve, to socialise, an opportunity to go outdoors and to improve mental well-being.

5.3 Limitations

Despite the fact the research study answered the initial questions, there were still some unavoidable limitations. Firstly, due to the COVID-19 restrictions, face-to-face meetings and interviews were unable to take place as originally planned. That being said, the researcher was satisfied with the content collected through the interviews. However, initial informal meetings would have given the researcher a wider breadth of knowledge about the participants, allowing for more detailed and in-depth interviews about the participant’s feelings towards sport and PA. Building on this, the researcher also believes that having follow up interviews could have allowed for both the participant and researcher to build a stronger rapport. Ultimately, this could have allowed the participant to speak more freely.

5.4 Future recommendations

Even though a pilot study was conducted during the data collection process, the researcher feels that in order to collect more detailed data, it would have been useful to conduct more pilot study studies to gain more confidence in the process. Furthermore, seven participants were used for this study. In future, the researcher feels that around ten to twelve participants would provide broader and more comprehensive results. For future research in this area, I feel that there is more capacity to explore military veterans’ motivations and feelings towards sport and PA. Despite some previous research which highlights the benefits of the natural

environment, I still believe that there is more scope for research in this area, as it clearly has a positive benefit on veterans' mental well-being, as said in many of the interviews. Furthermore, with this study focusing on experiences and motivations, I feel these could be split into separate studies to explore the benefits of sport and PA in more depth. Finally, I feel that working in a team would have enhanced the quality of the study through combining varying points of view and ideas.

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Appendices:

Appendix A – Ethics approval

Via email

Dominic Jones
[REDACTED]

Friday 9 October 2020



UNIVERSITY OF
GLOUCESTERSHIRE

Dr Emily Ryall
Research Ethics Committee Chair
Reader in Applied Philosophy

Oxstalls Campus,
Longlevens, Gloucester, GL2 9HW

Tel: [REDACTED]
Email: [REDACTED]

Dear Dominic

Thank you for your application for ethical approval.

I am pleased to confirm ethical clearance for your research following ethical review by the University of Gloucestershire – Research Ethics Committee (REC)'s Panel.

Please keep a record of this letter as a confirmation of your ethical approval.

Project Title:	'Post-traumatic stress disorder; military veterans views on the benefits of sports / physical activity on their mental wellbeing.'
Start Date:	13 July 2020
Projected Completion Date:	31 May 2021
REC Approval Code:	REC.20.96.1b

If you have any questions about ethical clearance please feel free to contact me. Please use your REC Approval Code in any future correspondence regarding this study.

Good luck with your research project.

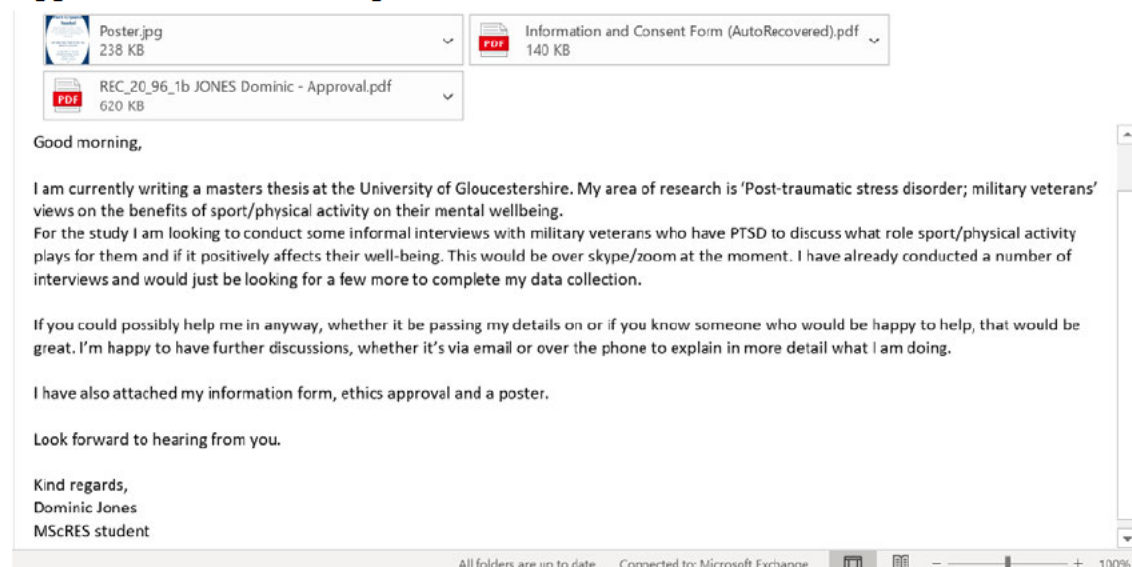
Regards,
[REDACTED]

Dr Emily Ryall
Chair of Research Ethics Committee



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Appendix C – Email example



Appendix D – Information/consent form

University of Gloucestershire Oxstalls Campus, Oxstalls Lane, Gloucestershire, GL2 2BQ Tel: 01452 733222 Fax: 01452 733231 http://www.glos.ac.uk/									
Principal Investigator Dominic Jones, University of Gloucestershire, Master of Science by Research School of Sport and Exercise, Oxstalls Campus, Oxstalls Lane, Gloucestershire, GL2 2BQ Email: [redacted]									
Post-traumatic stress disorder; military veterans views on the benefits of sport/physical activity on their mental wellbeing.									
Dear participant, I am an MRes student at the University of Gloucestershire and I would like to invite you to take part in a research study. The study is voluntary and you will only be included if you provide your permission. Post-traumatic stress disorder; military veterans views on the benefits of sport/physical activity on their mental wellbeing. I would like to invite you to participate in an informal interview which will be based on the kinds of sport/physical activity that you have taken part in before and since your time in the military. The interview will be led by you and at no point will you be asked to recall events relating to your PTSD. This interview is strictly to find out your relationship with sport and its impact on your mental well-being. The interview will last anywhere between 20 minutes up to an hour and you will be able to end the interview or your involvement in the study at whatever stage you wish. I will immediately effect by notifying the interviewer. If you decide to withdraw from the study, at any point during the process, you can do so by contacting the researcher via [redacted]. This can be done up to two weeks after your interview date. All of the information that you provide will be kept private and I will be the only person to have access to it. Once I have finished the study I will present the findings in a written thesis (a summary of which will be available to you) which may be presented at conferences and published in academic journals. When findings are published, participants will not be identifiable by name. The study has been approved by the University of Gloucestershire's Research Ethics Committee. However, if you have any questions or concerns please do feel free to contact Dr Emily Ryall Chair of the Research Ethics Committee University of Gloucestershire (Tel: [redacted] Email: [redacted]). Dr Ryall has no direct involvement in the study. There will be two signed copies of the consent form, one to be kept by the researcher and the other by the participant. If you would like to participate in this study, please read and sign the informed consent form and return. Kind regards, Dominic Jones 08/09/2020									
Informed consent form <table border="1"> <tr> <td>Title of Project:</td> <td>Post-traumatic stress disorder; military veterans views on the benefits of sport/physical activity on their mental wellbeing.</td> </tr> <tr> <td>Principal Investigator:</td> <td>Dominic Jones University of Gloucestershire, Master of Science by Research School of Sport and Exercise, Oxstalls Campus, Oxstalls Lane, Gloucestershire, GL2 2BQ Email: [redacted]</td> </tr> <tr> <td colspan="2"> Do you understand why we have asked you to participate in this research study? Have you received and read the information letter? Do you understand the benefits and risks involved in taking part in this research study? Do you understand that you are free to refuse participation, or withdraw from the study at any time, without consequence, and that your information can be withdrawn at your request? Do you understand that all data collected will be kept confidential? Do you understand who will have access to your information? </td> </tr> <tr> <td colspan="2"> I agree to take part in this study: Printed Name: _____ Signature: _____ Date: _____ Contact number: _____ E-mail: _____ Researcher signature: _____ Date: _____ </td> </tr> </table> There will be two signed copies, one for the participant and one for the researcher. 08/09/2020		Title of Project:	Post-traumatic stress disorder; military veterans views on the benefits of sport/physical activity on their mental wellbeing.	Principal Investigator:	Dominic Jones University of Gloucestershire, Master of Science by Research School of Sport and Exercise, Oxstalls Campus, Oxstalls Lane, Gloucestershire, GL2 2BQ Email: [redacted]	Do you understand why we have asked you to participate in this research study? Have you received and read the information letter? Do you understand the benefits and risks involved in taking part in this research study? Do you understand that you are free to refuse participation, or withdraw from the study at any time, without consequence, and that your information can be withdrawn at your request? Do you understand that all data collected will be kept confidential? Do you understand who will have access to your information?		I agree to take part in this study: Printed Name: _____ Signature: _____ Date: _____ Contact number: _____ E-mail: _____ Researcher signature: _____ Date: _____	
Title of Project:	Post-traumatic stress disorder; military veterans views on the benefits of sport/physical activity on their mental wellbeing.								
Principal Investigator:	Dominic Jones University of Gloucestershire, Master of Science by Research School of Sport and Exercise, Oxstalls Campus, Oxstalls Lane, Gloucestershire, GL2 2BQ Email: [redacted]								
Do you understand why we have asked you to participate in this research study? Have you received and read the information letter? Do you understand the benefits and risks involved in taking part in this research study? Do you understand that you are free to refuse participation, or withdraw from the study at any time, without consequence, and that your information can be withdrawn at your request? Do you understand that all data collected will be kept confidential? Do you understand who will have access to your information?									
I agree to take part in this study: Printed Name: _____ Signature: _____ Date: _____ Contact number: _____ E-mail: _____ Researcher signature: _____ Date: _____									

Appendix E – Questionnaire

SPORT PHYSICAL ACTIVITY AND MENTAL WELLBEING QUESTIONNAIRE

Please answer all the questions and be honest with your answers.
This questionnaire will take approximately 15 minutes to complete.

Part A: Sport/physical activity (Please tick (✓) your answer in the appropriate box)

1. How frequently do you participate in sport/physical activity each week?

Once	2-3 times	4-5 times	6-7 times	8+ times
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. On average, how many hours of sport/physical activity do you undertake each week?

Less than 1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8+
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. On a scale of 1 to 5, with 1 being not at all and 5 being extremely, on average, how intense is the sport/physical activity you undertake each week?

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. At what level do you participate in sport/physical activity? (Tick all that apply)

Recreational	Club	County	National	Semi-Professional	Professional
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. What importance does sport/physical activity have in your life?

Not at all	Somewhat	Neutral	Quite	Very	Extremely
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. How much do you enjoy participating in sport/physical activity?

Not at all	Somewhat	Neutral	Quite	Very	Extremely
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. How do you prefer to participate in sport/physical activity?

Alone	With 1 - 4 others	Small team (5-10 others)	Larger team (11+)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. What is your motivation for participating in sport/physical activity? (Tick all that apply)

To socialise with friends	To make new friends	To improve appearance	To become active	To stay active
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. How competitive are you against others when participating in sport/physical activity?

Not at all	Somewhat	Neutral	Quite	Very	Extremely
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. How competitive are you against yourself when participating in sport/physical activity?

Not at all	Somewhat	Neutral	Quite	Very	Extremely
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part B: Mental wellbeing (Please tick (✓) your answer in the appropriate box)

1. How would you rate your mental wellbeing most of the time?

Very poor	Poor	Neutral	Good	Very good
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. How would you rate your mental wellbeing after participating in sport/physical activity?

Very poor	Poor	Neutral	Good	Very good
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. How much do you think sport/physical activity contributes to your mental wellbeing?

Not at all	Somewhat	Neutral	Quite	Extremely
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. How do you feel before participating in sport/physical activity by yourself?

Calm	Excited	Nervous/anxious	Happy	Distressed	Frustrated	Confused	Focused	Motivated
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. How do you feel after participating in sport/physical activity by yourself?

Calm	Excited	Nervous/anxious	Happy	Distressed	Frustrated	Confused	Focused	Motivated
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. How do you feel before participating in sport/physical activity with other people?

Calm	Excited	Nervous/anxious	Happy	Distressed	Frustrated	Confused	Focused	Motivated
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. How do you feel after participating in sport/physical activity with other people?

Calm	Excited	Nervous/anxious	Happy	Distressed	Frustrated	Confused	Focused	Motivated
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. How do you feel when participating in sport/physical activity with other people?

Calm	Excited	Nervous/anxious	Happy	Distressed	Frustrated	Confused	Focused	Motivated
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. How do you feel after participating in sport/physical activity with other people?

Calm	Excited	Nervous/anxious	Happy	Distressed	Frustrated	Confused	Focused	Motivated
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix F – Interview structure

Interview structure:

Phase 1

- Sport/PA participated in growing up and before military service?
- Thoughts and feelings towards them and why did them?
- Any influences on why you did them?

Phase 2

- Sport/PA during military service? Did it change?
- Thoughts and feelings towards them and why did them? Did it change?

Phase 3

- Sport/PA you do now? Has it changed?
- Did you continue to participate when you left the military?
- Thoughts and feelings towards them and why did them? Have they changed from Phase 1 and 2?

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to see from mine and my mate's perspective we used to hang along to watch him after school actually, it was the same usual three of us would watch him play and we'd give him some talk on the side and send him up a bit but he was just so good it didn't really bother him. We catches the bats & balls and you'd be surprised if he didn't run the length and end up there and most of the time he was very quick and a bit quicker than I was, I don't know how he managed to get that quick but yeah, he was so, he was very talented and he sure playing 2 years above in a younger league than me massively but it was so good for us to watch. We all really supported him. Even when we went into secondary school we still had our same group of mates and we all looked out for each other because I wasn't particularly into school. Obviously I helped because we played a lot of sport and people play away from us, but you still have to be careful and particularly for Dicky because he was friendly with us but in our year group. That sometimes meant you'd get a bit of crap off the kids in his year group, so it was good when he just started outperforming them all in rugby, it was fantastic to see but yeah that was always a good laugh. The club stuff probably wasn't as fun as the school stuff I don't know why but I don't know there's something about the school being around the same time every day and then sort of going to play with them was, was a bit better. Our school side was a bit better than our club I don't know why, we had most of the same players and then most of the schools would be, would be the same at the club to be honest but we always just did that much better for the school. Maybe it's because the we had the best there watching, we had the young girls watching us, I don't know if we tried to put in a bit more than but yeah, it was. It was good, I enjoy, enjoyed the matches. Certainly not as much as just making around us with the boys after school but it was still it was still good to just give a bit of a boost.

Interviewer – So when did you decide that you were going into the military? While growing up or did you never really think about work or anything really?
I did a lot of work growing up sort of where we were. I'd have to do my bit around the house and in the garden, I was always sort of doing stuff like that, didn't mind, wasn't it wasn't horrible. I was still doing, I was still being quite active. I'd watch, watch my dad's van when it needed to be done, well both of us would myself and Dicky, I did a bit of work when I was sort of 13/14 with a, with a neighbour just sort of when he was building things I was helping move the bricks and mix cement and again that was that was quite good. Um I don't know the military was always sort of there, I remember in school we, we'd get people come in and talk about careers and things and it never really, never really bothered me. I thought something would just come up and then it was my science teacher. Well you science and PE he, he was Military, I can't remember what but he was so military and used to be looking us, especially sort of my class with me and my mates. There were some good bats and athletes in there I suppose but we would go to the gym or do fitness. We were just, we had got ourselves through it. You know the only way we knew how and he just always used to say, 'You'll make some good soldiers some day or something like that. I think it was more of a motivation for some of us to push up a bit further in the exponent and then I think did it make. So just before we left school we basically started training for the army. We had to get rid of the bats and stuff. So when we went up to mates, I trained with my mates and we just did a lot of running, push ups, sit ups. There were periods close to us we used to practice pull ups, my younger brother joined in as well, so it made him fitter. But yeah, we just worked really hard to make sure we were in a good condition to join the military and then that was it. I remember being in the fitness and medical forms and then having my medical test before I was sent away for basic training. And that was it really. There were sort of established up until I joined the military.

Interviewer – Did your mates join up with you?

Yeah, they did, we were. We got mixed up along the way and sent off to different areas. But we always managed to sort of stay with each other, come to the end of it type thing. But yeah, it was good going in with those because it was good to know some familiar faces. But yes, I didn't always see them. But you see them across the yards and things like that, sometimes it was good to see how they were getting on as well. And then my cousin brother, he ended up he went a different route. He ended up going into the, into the Navy. But I think he was pushed towards that, he was just, he was slightly more physical and could do a lot more. I guess, because he had those two years. Or sort of not those two years, but he was matching himself up against people who were older than him and he was he was keeping up with us. By the time he was 15/16. And then he obviously just developed those two extra years he had and he went on to very different things.

Interviewer – So what was the physical training like when you first got into the military?
Yeah, not too bad. It was fairly, I could have made it easy, but I obviously wanted to push myself as much as possible. So I'd done what some of the people had done then I probably would have. I probably would have come out very unfit compared to what I was but I just constantly pushed myself. I was, I was always leading the group and all of the physical exercises I was enjoying. I, I definitely got fitter as well because I was getting pushed a load there, was a few other lads. It was one of my mates, I was actually with the other one was off into a different battalion but I was lucky to keep one of my mates. But I don't know I suppose I never wanted him to overtake me. I suppose he didn't want to come to we stayed in a very similar level but when you sort of getting pushed out to do things you always get one extra, one extra push and a couple of extra eggs, and your legs move a bit more when you're running, so yeah, the those side of it was very, I couldn't see very but it could have been. I obviously pushed myself to make it harder and to develop quicker but it was more the way in which things were done. What you were wearing, I remember I had terrible boots that I'd be given that were absolutely awful for me but you sort of running with the weights on your back. I adapted pretty well to that. The hardest thing just sort of surprise exercise, sort of you're not really thinking about it and then you suddenly have to go and run a mile and a half in a certain amount of time. I'd always, I'd always be pretty good at that. Yeah, that was sort of training and physical training that that we did. We just pushed to push each other really hard. Sometimes too hard. I remember I was out for a couple of weeks because I, I don't know what I'd done my leg and my knee, I just wasn't very good so I have to get back up to where I was. Good thing was at the point I couldn't do anything with my life. So I have to do a lot with my arms. So I actually got strong in my upper body. I remember I managed to get my pull ups up to at least I think it was 15. In year, I'd get stronger than anyone. But yeah, that was physical training we did and then in the military we did sport so you had a choice of what you want to play, I think it was I remember correctly, it was more of just a general idea and you just signed up to what you wanted. So obviously just down for rugby I got put down for swimming or something I wasn't, I wasn't very good at swimming. So I just wanted to be more. But again we did a bit of that in the physical training anyway, so I'd get better at it. But yeah, can't remember the other stuff I did. There was loads to be honest lots of sports.

Interviewer – After your time in the military, what were your thoughts and feelings towards sport and physical activity?
I completely stopped really, I was unfit. I was working 9 hours shift and doing overtime so missed everything in the evenings and didn't do much in the mornings because I'd be sleeping or a lot of the time 'burger'. I would drink after work most nights, I wasn't in a good place and drinking was my way out which wasn't good for me. I didn't last long like that though, was only after a few of months that I got agreed off and help. I didn't like that.

Interviewer – I see, umm, when did sport come back into it for you?

Quite soon after that really, it had been suggested and I'd spoke to Dicky who was doing well, he was surprised at how inactive I was. I was reluctant at first but Dicky used to talk about the good times we had as kids so I got motivated.

Interviewer – What did you do?

I started off walking in the mornings which was but, but I also wasn't walking or drinking at this time either. I progressed onto more physical fitness and workouts after that yeah.

Interviewer – How did that help you?

It was just good to work up a sweat, I would get myself challenge workouts that meant achieve something, it was good. I'd be long on the floor trackside but I knew I'd complete it, it made me happy, it made me want to be happy too especially if I wasn't feeling great. I also started to play golf then as well which gave me a different focus. I had to be patient and be a different skill, couldn't go head first into it like with my workouts. I had to think about and that was really good for me too.

Interviewer – Are those things you still do now?

Yeah still do both. But as then in the evenings now I'm on the morning shift, I'd be the garage gym after work a minimum of 3 times a week and probably golf the same in the summer. And doesn't like it too much but see can see what it does for me.

Interviewer – I know you said you got a happy feeling from the gym and the golf but is there anything else you can add on that?

I guess just want I add about the gym, I think I like to think that I'm in good enough condition that if was need to complete a random task, I could do it, it that makes sense. The golf as well, it was also great to go on the golf on some evening and have in the views as well as the dogs, the dog, the dog or Sunday morning. There's also some good times I've met through it and a couple of others play or work so its good to talk with them about it.

Interviewer – That sounds really good, really good. I think that's all really, yeah nothing else from me, I'll just stop recording.

Cool.