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# The Battle of the Little Bighorn Gunshot Trauma Analysis: Suicide Prevalence Among the Soldiers of the 7th Cavalry

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**THE BATTLE OF THE LITTLE BIGHORN GUNSHOT TRAUMA ANALYSIS:  
SUICIDE PREVALENCE AMONG THE SOLDIERS OF THE 7<sup>TH</sup> CAVALRY**

By

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B.A. Anthropology, Northern Arizona University, Flagstaff, Arizona, 2016

Thesis

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## **ABSTRACT**

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The Battle of the Little Bighorn Gunshot Trauma Analysis: Suicide Prevalence Among the Soldiers of the 7<sup>th</sup> Cavalry

Chairperson: Randall Skelton

The Battle of the Little Bighorn has been widely studied by historians, archaeologists, and military personnel, among others. Although this battle is a popular topic among researchers of all fields there has not been much analysis done on suicide among the soldiers of the 7<sup>th</sup> Cavalry. The Battle of the Little Bighorn cost the U.S. army 268 men, who included the entirety of General Custer's men and just over 1% of the men enlisted in the army at that time. The question of what happened and why the 7<sup>th</sup> Cavalry lost so many soldiers in comparison to the pointedly less Native American casualties is something that has not been fully answered. One possible explanation, in accordance with many other factors, is that of mass suicide among the soldiers of the 7<sup>th</sup> Cavalry caused by a culture of fear associated with mutilation and torture at the hands of Native American warriors. This study investigates the suicide question through an analysis of gunshot trauma and mutilation of osteological specimens and first hand historical accounts of suicide on the battlefield. The use of historical and forensic methods were integrated to examine the possible causes of the mass casualties suffered by the U.S. 7<sup>th</sup> Cavalry during the Battle of the Little Bighorn. Access to skeletons was not possible due to reburial and so an analysis of skeletal material is based upon two archaeological excavations conducted in 1983/1984 and 1992 provided by the State Historic Preservation Office. The topic of suicide today is something of a taboo, especially among active and veteran military members even though it is a prevalent problem. Through this discussion of suicide among military members, whether in 1876 or 2018, this research is expected to demonstrate how exploring the past can spark discussion and awareness of this ubiquitous issue in military history.

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## Chapter 1

*The last man of Custer's command took his own life. ...this man could have saved himself but that, maddened by what had taken place and not realizing his opportunity, or being unwilling to take it, raised the gun and fired a shot through his temple*

*Helen H. Blish (Hardorff 1999:64).*

### **INTRODUCTION**

Suicide among military personnel has been a growing problem in recent years and yet seems to be a taboo topic among the general public as well as military personnel. PTSD in particular seems to be a topic not normally discussed in the U.S. military. Whitworth (2008) argues that the military's masculine ideology leads it to deny the prevalence of PTSD among its soldiers. Traumatized soldiers are stigmatized and feminized within their units if they were to admit to having PTSD (Whitworth 2008). Soldiers are trained to internalize emotion and trauma, which may in turn contribute to suicide rates.

In 2008 the Centers for Disease Control and Prevention (CDC) reported that the U.S. Army experiences 20.2 deaths per 100,000 people resulting from suicide, which is double the civilian rate (Sukel 2015). Army suicides have risen steadily since 2002, and in 2009 the suicide rate increased to 21.7 per 100,000, a record high (Braswell and Kushner 2010). A study conducted by the CDC in conjunction with the National Institute of Mental Health, found that approximately one-third of Army suicide attempts were linked to mental disorders that existed prior to a soldier's enlistment (Sukel 2015). Although there

is a link between preexisting mental disorders and suicide among soldiers, the socio-cultural environment of the military itself can also play a role.

The impact of social events on individual behavior is determined by the meaning that individuals give to those events (Douglas 1967). In terms of military suicide this meaning is always mediated by a combination of individual reaction and the socio-cultural contexts in which they take place (Braswell and Kushner 2010). The military has consistently through time emphasized cohesion among its members because a strong unit produces strong results. This social cohesion is meant to combat feelings of alienation and create support among soldiers by forming one large group of likeminded individuals. Research has shown that there is a strong relationship between cohesion, soldiers' level of morale, and combat efficiency (Stewart 1991:17). Cohesion starts in basic training where men from different backgrounds are molded into a unit with the idea that each and every one of them would give his life for his group (Braswell and Kushner 2010). Essentially each individual is stripped of their personal identity and taught to conform to the ideas of the group and how the group functions. As a result, each individual is taught to gain control over emotions and any emotional or situational flexibility is discouraged. There is a culture of masculinity within the military and along with masculinity a suppression of emotion because of the idea that emotions equate femininity (Braswell and Kushner 2010). When you have a situation in which all ranks are broken and cohesion is lost, everything taught in training may disappear and panic may overtake the individual (Marquis 1976). It is hypothesized this is what happened during the Battle of the Little Bighorn in 1876. That is not to say that a direct comparison can be drawn between a battle fought in 1876 and modern wars in the 21<sup>st</sup> century, but military culture seems to have

remained constant throughout the ages. Although suicide among members of the military has spiked in recent years, for decades historians and researchers have debated whether mass suicide during the Battle of the Little Bighorn caused massive numbers of casualties suffered by General Custer and the 7<sup>th</sup> Cavalry (Marquis 1976; Stephens 1983; Braswell and Kushner 2010).

The Battle of the Little Bighorn resulted in mass casualties of U.S. 7<sup>th</sup> Cavalrymen during the Indian Wars of the 1870s. There has always been the question of what exactly happened during the battle to cause the greatest defeat suffered by the U.S. government in the duration of the Indian Wars (Stephens 1983). The Battle of the Little Bighorn cost the army 268 men, which accounted for just over one percent of its entirety of men whereas Native American casualties numbered fewer than 100 (Scott et al. 2002:12; Stephens 1983). The question of why such a disproportionate number of cavalry troopers were killed in action compared to Native American is something that historians, archaeologists, and researchers alike have tried to answer.

The suggestion that mass suicide played a role in the defeat of the 7<sup>th</sup> Cavalry has been proposed by few, but can be explored as a viable answer to the question of mass casualties. There were 7<sup>th</sup> Cavalry survivors in the Custer battle, which was the second battle during the Battle of the Little Bighorn, and so it has been suggested that Custer and his men committed suicide en masse after being surrounded by Native Americans (Stephens 1983). A multitude of accounts provided by Native Americans and surviving soldiers corroborate that suicide occurred during the battle (Hardorff 1999, Marquis 1976). Dr. Thomas Marquis, being the most well known person discussing the suicide theory, spent time with the Cheyenne recounting their stories from the battle and ultimately

concluding that suicide was a large factor in the demise of Custer and his men, among others (Marquis 1976). Marquis (1976) also suggests that fear of mutilation and torture at the hands of Native American warriors may have influenced the soldiers' decisions to kill themselves. As the title of Marquis' book proposes, the soldiers kept the last bullet for themselves in case of capture.

Stephens (1983) suggests that with the techniques of modern forensic science, it would be possible to substantiate the suicide theory if the skeletons could be examined. Not only would individuals who committed suicide with a firearm shoot themselves in the head, which would be seen in the skulls, the muzzle of the weapon would be in contact or loose contact with the head causing distinctive powder and fracture patterns (Stephens 1983). Of course if someone was to hold a firearm to the cranium it is more than likely that it would be a pistol of some kind rather than a rifle, therefore it would be expected that the individuals exhibiting gunshot wounds to the head would display characteristics of pistol caliber bullets (Druid 1997). However, access to the skeletons is impossible now because they have since been reburied.

Archaeological investigations were conducted in 1983/1984 and 1992 following the discovery of skeletons at surface level (Snow and Fitzpatrick 1983, Willey and Scott 1997). For the purposes of this study the skeletons recovered during these investigations are analyzed for evidence of suicide through the archaeological reports provided by the Montana State Historic Preservation Office. In conjunction with osteological evidence, historical accounts are used in an attempt to corroborate the skeletons with names of soldiers who are said to have committed suicide on the battlefield. Analyses of gunshot

and other perimortem trauma, such as mutilation, are expected to provide forensic inspired data that can inform the question of suicide and fear of mutilation.

My hypothesis is that by looking through the lens of soldiers positioned on the battlefield by means of firearms analysis, establishing criteria for determining suicide versus homicide, and exploring the demographics of the soldiers some evidence of suicide will become evident. Through the use of Dr. Thomas Marquis' (1976) theory of mass suicide in conjunction with the osteological data, it is expected that suicide may not have occurred on such a large scale, but that it did, indeed, occur in some instances. An extensive literature review of the types of weapons used during battle, as well as the effect of firearms on bone and characteristic markers of suicide versus homicide on the skeleton will be integral to the research of suicide on the battlefield during the Battle of the Little Bighorn. Although the topic of suicide is not one that is explored as readily as some, there is extensive work done on the reconstruction of the battlefield through firearms analysis (Fox and Scott 1991). It is important to note the demographics and health history of the soldiers fighting with the 7<sup>th</sup> Cavalry. Preexisting conditions that may be seen as risk factors of suicide can play a role in how soldiers coped with the chaos that ensued unexpectedly on the battlefield.

In the coming chapters of this analysis an extensive literature review will provide an overview of the main themes used to conduct this research. A discussion of the gunshot trauma and mutilation markers found on the skeletal remains of the 7<sup>th</sup> Cavalry will also be provided to support or reject Marquis' (1976) theory of mass suicide from fear of mutilation. Ultimately a conclusion of whether or not suicide was prevalent among the soldiers of the 7<sup>th</sup> Cavalry during the Battle of the Little Bighorn, and the implications of

that conclusion may change the narrative of what is now known about this widely studied part of American history.

## Chapter 2

*A white man capturing an enemy usually spares his life but if captured by hostile Indians,  
his days are numbered and he is known of men on earth no more*

*Peter Thompson (Magnussen 1974:201).*

### **MATERIALS AND METHODS**

#### **Samples**

The samples used in this study come from two excavation reports of skeletal materials, the first being from *Osteological Analysis of Human Skeletons Excavated from the Custer National Cemetery* by Willey and Scott (1997) and the second being from *Archaeological Perspectives on the Battle of the Little Bighorn* by Snow and Fitzpatrick (1983). These reports included descriptions of a total of 32 individuals and multiple fragmentary elements. These reports were provided by the State Historic Preservation Office (SHPO) for the state of Montana in order to conduct this analysis. Access to the skeletal collections was impossible due to reburial after the 1997 excavation done by P. Willey and Douglas Scott.

The reports examined are comprised of descriptions of each individual found in situ including a thorough examination of trauma, pathology, and taphonomic alterations. For the purposes of this study gunshot trauma, as well as indicators of mutilation, were noted and examined. Figure 1 shows the specific burial as named by the individuals conducting excavations as well as the specifics of the individuals located in that burial, the number of gunshot wounds, the location of the gunshot wound(s), and general skeletal trauma including indicators of mutilation. All gunshot wounds were taken into account, including cranial and postcranial. For those individuals found during the 1992 excavation

conducted by P. Willey and Douglas Scott, there are possible identities provided based upon historical reports of wounds, medical records, and location on the battlefield.

The report by Snow and Fitzpatrick (1983) provides descriptions of skeletal elements from museum collections as well as from two separate excavations that took place in 1983 and 1984. Descriptions of the individual as well as locations and types of trauma and pathological indicators are also provided. The samples included in these reports consist of some complete skeletons as well as small fragments of individual elements and so there some samples included in the report that will not be included here.

In addition to the skeletal evidence, this study also uses historical accounts of suicide in order to potentially corroborate some of the skeletal trauma to individuals talked about in historical transcriptions. Hardorff (1999) provides a detailed compilation of first hand accounts from soldiers and Native Americans as well as families to account for suicide on the battlefield. As seen in Figure 2 the names of the soldiers who committed the act, names of witnesses who saw the act occur, the publication the account came from, and the description of the events is provided. Some accounts recall the name of the soldier who committed suicide and therefore the corroboration between historical accounts and skeletal data may be possible seeing as possible identities are also provided within the excavation reports.

From these samples basic frequencies will be presented to show statistically significant results. This will be achieved through creating percentages based on the number of individuals found to have sustained gunshot wounds and those that did not. From there the individuals who exhibited gunshot wounds will be narrowed down to those

who exhibit gunshot wounds to the cranium as per a criteria for suicide for assessing potential markers of suicide with the best possible accuracy.

### **Criteria for Suicide**

For the purposes of this study the definition of suicide is “the act or an instance of taking one’s own life voluntarily and intentionally” (Merriam-Webster 2018). Given this definition of suicide, it is necessary to set in place criteria for suicide when conducting this analysis of gunshot trauma to ensure the best possible accuracy in identifying potential markers of suicide. These criteria will consist of the: positioning of the bullet entrance wound; location of the entrance wound in relation to the skeleton; evidence of other injuries; and whether or not the bullet was fired at close range or contact. By using these criteria, the expected markers of suicide will be a gunshot wound positioned in the parietal and/or temporal region of the cranium, a location on the cranium of the individual; evidence of other injuries including gunshot trauma elsewhere may indicate another cause of death, and potential markers indicating the bullet was fired at or near the cranium. When possible the assessment of whether or not the gunshot wound was caused by a pistol or rifle will be necessary, as it is more than likely soldiers committing suicide will do so with a pistol rather than a rifle. The skeletons will also be assessed for potential markers of mutilation, including scalping and dismemberment, to corroborate stories of the fear soldiers faced of being tortured by Native Americans and as a product of this fear take their own lives rather than be captured (Marquis 1976).

### **Mutilation**

Along with gunshot wounds (GSWs) the skeletons in both the Willey and Scott (1997) sample and the Snow and Fitzpatrick 1983 and 1984 samples will be assessed for

markers of mutilation. For the purposes of this study markers of mutilation will include cut marks indicative of dismemberment, stabbing and scalping, as well as any fracture patterns consistent with blunt force trauma not associated with GSWs. Fear of torture and mutilation at the hands of Native Americans was a large part of the formation of the theory of suicide as coined by Marquis (1976). When recovering the dead after the battle it was said by returning soldiers that missing soldiers “if found, they could not be recognized owing to the horrible manner in which they were mutilated” (Magnussen 1974:263). Finding and seeing comrades mutilated perpetuated this culture of fear and potentially aided in the taking of one’s life; therefore characteristic marks of mutilation will also be assessed to corroborate historical accounts.

Basic frequencies will also be reported for marks characteristic of mutilation and percentages given for the overall sample. The percentages will first be broken down into those with marks of mutilation and those without. From those percentages individuals who do exhibit marks of mutilation will be further broken down into separate frequencies of cut marks characteristic of dismemberment, scalping, and blunt force trauma. Those frequencies of mutilation markers will then be compared against those of suicide to assess the notion that Native Americans tend not to touch those known to have died of suicide because of the cultural taboo. In the Native American cultures of those who fought during the Battle of the Little Bighorn, a suicide would not have been regarded as brave and the body of an individual who was known to have taken their own life would have been shunned (Pennington 2001:170). The body of a soldier could only be shunned if the person carrying out the mutilation witnessed the suicide, otherwise soldiers who committed suicide unknowingly may still have been mutilated. Therefore in the samples it

would be expected that those suspected of committing suicide would not exhibit marks characteristic of mutilation.

### **Difficulties and Potential Sample Bias**

The difficulty in assessing suicide in skeletal samples is the varied effects bullets can have on bone. Of course the criteria set in place is to try and eliminate as much bias as possible, but the ways in which bullets can produce wounds is varied greatly and so all aspects of the skeletal data and historical data will be taken into account. The samples used in this analysis are also highly fragmented due to taphonomic alterations and so some gunshot related trauma may be hidden by the broken nature of the skeletons.

The fact of the matter is there was no access to the physical remains throughout the duration of this study and so the most thorough of assessments was not possible. That being said, the analysis provided here can be improved upon if any other skeletal material was to be uncovered from the Battle of the Little Bighorn and allowed to be studied. There has not been a lot done on skeletal specimens from the battle because almost all of the soldiers were buried immediately following, it is only due to taphonomic processes that these excavation reports were produced.

The use of legacy data must also be approached with caution because of the possible interpretations of the data from that excavation may be different according to forensic standards now. The excavations done in 1983 and 1984 by Snow and Fitzpatrick includes skeletons used in this analysis, which seem to have been recorded differently than current forensic reports or lacking in some explanation of certain traumatic markers. Almost all of the skeletons included in the sample exhibit blunt force trauma as explained through fracture patterns on the cranium, but there is a lack of GSWs reported. It is

possible that this blunt force trauma being seen is a result of projectile trauma and it was not recorded as such because recording standards were different during this excavation. It cannot be said for certain whether or not this is the case, but it is important to keep in mind the potential bias different recording styles can incur.

There is also the inaccuracy of eyewitness accounts to take into consideration throughout the discussion of historical data. While having a witness to an event is an added bonus, it should be taken with a grain of salt. A lot of the eyewitness accounts taken by Marquis (1976) were transcribed from a Cheyenne warrior named Wooden Leg. It is known that after telling Marquis of the stories that occurred, Wooden Leg recounted some of his testimonial (Hatch 1997). There is also the fact that how some Native Americans recount the stories is not necessarily the way someone else would tell the story. Some stories told have also been found to have some discrepancies based on mismatched overlapping accounts. For instance a story told by Wooden Leg recounts a trooper stopping and killing himself and then another Cheyenne warrior, Big Beaver, coming and taking the gun. Big Beaver describes the story differently; he took the gun from a Lakota who was shot in the head (Michno 1997:256). These types of discrepancies are not restricted to Native American accounts. Any first hand account given about a battle where chaos ensued as readily as it did during the Battle of the Little Bighorn can be skewed simply due to unreliable human memory.

While almost all of the historical accounts presented in this paper are from Native American eyewitnesses it is important to take into account interpretation bias as well. Someone such as Marquis, or other researchers transcribing material from interviews with Native American warriors, the way in which they tell the story may not be the way

researchers interpret it as being. Where someone may use “I” statements to describe an event making it seem as though they were present for the event, it is actually just a way in which they recant stories and were not necessarily present. While some use the word “I” to describe an event, making it seem as though they are the ones who witnessed the event, it is actually just the way in which some Native Americans describe traditions or stories told from others (Michno 1997).

## Chapter 3

*In the end, many Indians had been killed and wounded, but not one soldier came off the battlefield alive. They were all killed where they lay*

*Turtle Rib (Michno 1997:276).*

### **LITERATURE REVIEW**

#### **The Battle of the Little Bighorn: An Overview**

In the years following the U.S. Civil War, westward expansion on indigenous homelands in the West prompted conflict and what has been described as an ‘Indian problem.’ Despite several attempts at pacifying and relocating the Native Americans to reservations through failed treaties, parts of several tribes remained firm in their dedication to traditional subsistence and mobility across vast regions (Willey et al. 1996:17). After the Civil War the U.S. Army was reorganized in 1866 by congressional action. The U.S. 7<sup>th</sup> Cavalry was created as part of the 1866 reorganization and in the spring of 1867 the regiment launched their first campaign against Native Americans as a means of eliminating Indian depredations against white settlers in central and western Kansas (Scott et al. 2002:13). The purpose of the U.S. Army’s campaign was to disarm, dismount, and force the nomadic Northern Cheyenne and Sioux from the hunting territories of the Northwest Great Plains and onto adjacent reservations (Willey et al. 1996:17).

By January of 1876 relations with the Sioux and Northern Cheyenne tribes had deteriorated and a three-pronged offensive was planned against them (Scott et al. 2002:16). On June 25, 1876, Lt. Col. George Armstrong Custer moved the 7<sup>th</sup> Cavalry into the Little Bighorn River valley and divided his command into three groups. Captain

Thomas McDougall, Captain Fredrick Benteen, and Custer headed the three divisions in the hopes of cutting off escape routes and with the intent of charging into the Native American encampment. Custer then split his company into three groups one under the command of Major Marcus Reno; they were ordered to attack the village from the opposite side of the river (Scott et al. 2002:17). Once the attack ensued, Major Reno's company encountered heavy opposition, and in the ensuing mayhem and confusion, scattered into the nearby woods (Scott et al. 2002:19). The men from all of Custer's divisions became disorganized and scattered, unclear of where to go once fighting started. The chaos ensued until June 27<sup>th</sup> when the allied Lakota, Northern Cheyenne, and Arapahoe retreated and the Crow and Shoshone scouting party for the 7<sup>th</sup> Cavalry announced that Custer and his men were killed in battle (Scott et al. 2002:21).

During this time, as well as the period that preceded the Indian Wars of the late 19<sup>th</sup> century, there was much propaganda concerning the cultural values of the Native Americans during war that contributed to a culture of fear amongst the 7<sup>th</sup> Cavalrymen in regards to being captured and tortured. Abler (1992) discusses the conflicting cultural values in war between the Native Americans and Europeans in eastern North America during the 17<sup>th</sup> and 18<sup>th</sup> centuries. Abler outlined several different war tactics, including scalping, torture, cannibalism, and rape, that had become ingrained in European sentiments about the Native American war culture and vice versa.

Scalping was generally most often done to the enemy dead in some Native American cultures, and initially was seen as a deviant practice in the eyes of the Europeans. Eventually Europeans began adopting the practice of scalping for financial gain (Abler 1992:8). A second aspect of Indian warfare viewed as deviant by European

observers was the cannibalism-torture-human sacrifice complex found among Indians of the northeast where captives taken back to the enemy's home village were subjected to ritualistic abuse while en route. The abuse centered upon the victim's hands, involving the tearing out of nails, severing of finger joints, and the burning of the ends of fingers (Abler 1992:9). Once the captives arrived at the village more torture rituals were performed and new members of the tribe would make the decision of life or death. Torture was not uncommon to Europeans, torture of prisoners in Europe has been well documented and well known (Jennings 1975; Langbein 1977; Peters 1985). It has been suggested that what shocked Europeans about Indian torture and execution of prisoners of war was the degree to which the entire community participated (Abler 1992:12).

While both Native Americans and Europeans participated in torture and scalping practices for different purposes, Native Americans only practiced cannibalism and Europeans only practiced rape. The failure of such practices to cross cultural boundaries allows each side to view the actions of the other with horror and to classify enemy behavior as barbaric (Abler 1992:15). "Stories of enemy atrocities are often inflated for propaganda purposes, while tales of atrocities committed by one's own side are often hearsay and, quite possibly, they have become embroidered in the telling and retelling" (Abler 1992:4). The propaganda that Abler discusses plays a large role in how the soldiers of the Battle of the Little Bighorn viewed and thought of capture concerning Native Americans. Although Abler discusses Native Americans in the northeast, this propaganda spread westward and reached the ears of Europeans nationwide, which was interpreted as a "pan-Indian" standard of Native American warfare.

## **Recruitment and Health of the 7<sup>th</sup> Cavalrymen**

The preparedness of the 7<sup>th</sup> Cavalrymen and commanding officers played a role in the disorganization and chaos that ensued during the Battle of the Little Bighorn when they realized they were significantly outnumbered. It is important to look at the procedures for army admittance and the demographics of the men involved in the Battle of the Little Bighorn in order to observe mental preparedness and assess military tactics. Physical examinations were done by surgeons and included standard evaluation of physical fitness, fractures, depressions, diseases, deafness, unintelligible speech, and poor eyesight as well as overall health of the individuals (Scott et al. 2002:58). Once recruits passed the physical examination and were found fit for service, they were sworn in, placed in uniform, and sent for three months training before joining the regiment (Scott et al. 2002:60).

Age was also a determining factor for military service; in 1874 the minimum enlistment age was 16 years; although recruits between the ages of 16 to 18 years were limited to musician positions, and those between 18 and 21 needed parental or guardian consent. During this time period a minimum enlistment age was enforced because of concern for the ability of youths to provide adequate service while also enduring the physical hardships that military life entailed. There was also concern for the growth and developmental wellbeing of younger recruits. There was also a maximum age requirement for those enlisting in the cavalry, which was 30 years (Scott et al. 2002) although, while these rules were set in place, they were not always followed. To explore this issue Scott et al. (2002) examined the 7<sup>th</sup> Cavalry ages as noted in the enlistment records and found that

the typical recruit was in a man's mid-twenties according to written documents. Upon further examination of enlistment records it is possible that there were many underage recruits because rules were not always so strictly followed and were taking place in a time when birth certificates were nothing more than a handwritten note (Scott et al. 2002). The youngest of the cavalry was found to be only 14 years old, but was written down in enlistment records as being 21. The time period was one of economic depression and so a lot of younger enlistees were seeking meals, clothing, and places to sleep, which is one reason why there were so many younger recruits lying about their ages. Older age also meant more seniority and so that could have also been a determining factor in overstating one's age during enlistment (Scott et al. 2002:68).

The nativity of the men of the 7<sup>th</sup> Cavalry consisted of 57% being born in the United States. Immigrants from Ireland made up 15%, another 15% came from Germany, and 5% came from England. There were also men from Canada, Denmark, France, Italy, Scotland, Switzerland, and several other European countries (Scott et al. 2002). There was some diversity within the regiment, but not a lot. There was an African-American interpreter who was killed in the valley fight and the only other nonwhites on the military side of the battle were one officer of mixed ancestry, being Native American and European. Some Native American allies served as scouts, guides, interpreters, and warriors.

### **Types of Firearms Used During the Battle**

During the 1870s, the guns used by the U.S. army varied. The .50 and .52 caliber Sharps were single-shot breach loading weapons with an effective range of 500 yards and a battle range of 300. Its rate of fire by an experienced marksman was said to be four shots

per minute, which was much slower than the previous Spencer used early on in the Indian Wars (Hirst 2004). By the mid 1871, all of Company E, 7<sup>th</sup> Cavalry were equipped with the .50 caliber Sharps and the .44 caliber Colt pistol. Eventually the Sharps were phased out and the .45 caliber Springfield rifle became widely used (Hirst 2004). The effectiveness of these weapons issued to the U.S. army during the Indian Wars were sometimes known to be unreliable. Although the Springfield had an advantage in long range and selective fire, it had problems with jamming. Crazy Horse recalls the soldiers' need to save ammunition and the fact that the guns jammed periodically. The Native American warriors strategized by "making them shoot three times fast, so their guns will stick and you can knock them down with your clubs," (Hirst 2004:66). Through recent archaeological studies, it has been made clear that although the Sioux and Cheyenne were not uniformly armed with rifles and pistols, there were far more firearms present than previously believed (Hammer 1995:xv).

Gunshot wounds are seen readily in the remains of the soldiers at the Battle of the Little Bighorn. Typically in modern cases a bullet passes through bone and leaves behind a conical wound, with the apex at the point of entrance and the base at the exit. The entrance is approximately the size of the bullet's diameter, but the exit size of the wound is dependent on many factors (Scott et al. 2002:304). The lead round ball, typical of many of the trade guns used by the Lakota and Cheyenne, was cast from nearly pure lead. Lead is much softer than the metal used to make modern bullets and so when they struck bone they generally embedded themselves in the bone shaft, and the projectile was flattened in the process. These lead bullets left extensive bone and tissue damage. The cylindro-conoidal lead bullet of the Minie design and its later modifications were used in the

Springfield carbine, Colt revolver, and most other metallic cartridge firearms used at the battle were still soft lead with an added hardener (Scott et al. 2002:305). These bullets also left extensive bone and tissue damage, so much so that the bone had appeared to be exploded. The Minie bullet caused irreparable damage and was the cause of so many amputations during the Civil War and Indian Wars. Although these bullets could cause extensive damage to bone, that was not always the case. Sometimes the bullets caused tissue damage, but didn't touch the skeleton at all, which makes gunshot trauma in the skeleton hard to interpret at times (Scott et al. 2002:305).

It is necessary to discuss battlefield patterns and tactics during the siege at the Battle of the Little Bighorn in order to understand military tactics and training of the soldiers. According to Fox and Scott (1991), behavioral patterns on the battlefield are expressed through individual behaviors constrained by the norms, values, sanctions, and statuses governing the group within which the individual operates. Military behavior is rigidly defined and hierarchically ordered (Fox and Scott 1991). Firearm identification analysis is also important to note because it allows resolution of individual positions and movement across a battlefield. In the study conducted by Fox and Scott (1991) the procedures for firearm identification follow those used in criminal investigations. This process includes a comparative analysis of distinguishing attributes imparted to ammunition components during the process of firearm discharge and reloading. Ammunition components include the cartridge case and the bullet. Distinguishing attributes are also identified and include, the firing pin, extractor, and land-and-groove marks. Firearm signature information will be most useful at battlefield sites that postdate the widespread adoption of self-contained metallic cartridges in 1865, which includes the

Battle of the Little Bighorn. The soft lead bullets used in 19<sup>th</sup> century muzzle and breech loading rifles imprint the land and groove details even through retaining class characteristic marks. For the purpose of Fox and Scott's study, the copper cartridges and a few brass ones from the Battle of the Little Bighorn were well preserved and subsequently analyzed at both the class and individual characteristic level (Fox and Scott 1991).

Ammunition component signatures provide specific information on the nature of firearms used in a battle even if the actual firearm is not present. Signature differences are important because only occasionally can firearm type be established on the basis of ammunition alone, because many calibers can be fired in a variety of weapons. Unique signatures can determine the number of individual firearms by type, which is important in determining individual patterns. Spent casings tend to fall close to the weapon, thus indicating a weapon's position on the battlefield. There are numerous site-specific variables that can affect correlations between weapons and individuals one of which is the bias of captured weapons. The capturing of weapons occurred during the Battle of the Little Bighorn, which corroborated historical accounts of government firearms in the hands of Native Americans. Switching of firearms is an important observation for gunshot trauma analysis because although the Native Americans and the 7<sup>th</sup> Cavalry possessed different weaponry from the start, those weapons may have not stayed in their hands during battle (Fox and Scott 1991).

Firearm type analysis of cartridges, casings, bullets, and a few firearm parts provided evidence of at least 45 firearm types used at the Battle of Little Bighorn. Historical records show that soldiers were armed with single-shot, .45 caliber Springfield carbines and .45 caliber Colt revolvers (Fox and Scott 1991). Archaeological reports show

that most of the army revolver ammunition represented is for the Colt .45 (Clark 2014:123). The Native Americans were equipped with a wide variety of weapons, including all 45 different types of firearm and the bow and arrow. Native American firearms ranged from muskets to then-modern repeating rifles including the Henry Model 1866 Winchester as well as captured Springfield carbines and Colt revolvers. 371 individual weapons, including 119 repeating firearms were identified on the basis of unique signatures (Fox and Scott 1991:99).

### **Skeletal Trauma and Effect of Bullet on Bone**

There are many ways that a firearm can affect bone and in modern examples it is usually very clear when there is gunshot trauma found in a skeleton. When a gun is discharged, the bullet is expelled from the muzzle and, in a modern rifled barrel, the land and grooves inside the barrel create a spin to the bullet, providing greater accuracy through gyroscopic stability. If a target is in direct contact with the muzzle or close to the muzzle, residue from the soot and powder are deposited near the entrance wound. In the case of the Battle of the Little Bighorn, black powder was used in the firearms, which produces distinct markings (Willey et al. 1996). At that time a mixture of charcoal, sulfur and potassium nitrate was used as the propellant in both rifle and handgun bullets (Stephens 1983). As far as marks left on the bone, there are a number of possible outcomes. The bullet may glance off the bone leaving a slight graze without penetrating it; it may penetrate far enough to become embedded in the bone; or it may penetrate one side of the cranial vault without coming out the other side. It may even penetrate the bone completely and leave an entrance and exit wound (Willey et al. 1996). Typically when a bullet enters a bone it produces a conical, internally beveled defect, which is usually round

or elliptical in shape. Although this is typically the case, there are a lot of factors which can affect the shape of the entrance wound including, angle of impact, bullet stability, and bone morphology. A bullet can also leave lead wipe and lead splatter, which are remnants of metal fragments visible in radiographs and sometimes macroscopically. The exit wound is generally larger and more irregular shaped than the entrance wound (Willey et al. 1996).

The amount of energy transferred during ballistic penetration is influenced by the time spent by the bullet in contact with the bone. It is possible for a relatively slow non-deforming handgun bullet to cause more damage than a stable rifle bullet (Stefanopoulos et al. 2015). Modern military and hunting rifles, as well as Magnum handguns, produce high-energy injuries with extensive bone damage, documented in both experimental studies and retrospective reviews. It has also been observed that maxillofacial injuries by military rifle bullets at close range show greater damage than those inflicted from a long distance with much of the bullet's energy used up (Stefanopoulos et al. 2015). Indirect fractures of the skull base occur with high energy penetrating head trauma, but because of the elasticity within the cranial cavity, even handgun bullets penetrating intracranially can create enough hydraulic pressure to cause linear fractures of the thin orbital plates. In battle wounds, bone fragments are not always retained in close approximation to the shattered bone. Depending on the angle of impact and the projectile velocity, the bullet can ricochet off the bone surface and follow an altered trajectory at reduced velocity (Stefanopoulos et al. 2015).

Specifically, maxillofacial firearm-related injuries are customarily classified as either penetrating or perforating, each of these categories are determined by the terminal location of the projectile and its wounding effects (Stefanopoulos et al. 2015). Penetrating

wounds are caused by missiles of low impact velocity, such as handgun bullets, with a small point of entry leading to the missile embedded in tissue. Perforating wounds are typically produced by higher velocity bullets, which create an exit wound that is often larger than the entrance (Stefanopoulos et al. 2015). Along with the penetrating and perforating wound patterns, there is also a third category, the avulsive or ablative injuries, which involves bone or tissue being blown away from the body. These are caused either by close-range shotgun blasts or by high velocity rifle bullets, and so these specific wound patterns will not be looked at during this analysis of close range cranial injuries in the U.S. 7<sup>th</sup> Cavalrymen (Stefanopoulos et al. 2015).

Gunshot wounds to the face are something to consider during the analysis of cranial injuries present in the 7<sup>th</sup> Cavalrymen. These wounds are classified as either low-velocity or high-velocity according to the energy transfer characteristics along the missile path. Injuries involving low energy transfer typically cause non-avulsive, penetrating or perforating wounds, usually with some damage at the point of bone penetration. High-energy ballistic injuries, commonly produced by rifle bullets, are distinguished by their extensive, often avulsive nature, involving hard and soft tissues (Stefanopoulos et al. 2015). Severe gunshot and shotgun injuries of the face are commonly related to suicide attempts, with the gun fired under the chin while the neck is often hyper-extended, resulting in a non-lethal wound. When applied in this manner, the weapon produces a typical pattern of injury involving the mid-portion of the mandible, extending into the central or lateral mid facial region (Stefanopoulos et al. 2015). When a handgun is fired beneath the chin in hard contact against the skin, the propellant gases expelled from the

muzzle expand within the tissues, creating an explosive effect, which may resemble in severity wounds from rifles and shotguns (Stefanopoulos et al. 2015).

In order to properly assess the effects of gunshot trauma to the cranium Thali et al. (2002) developed something called the “Skin-Skull-Brain Model,” which simulates the human skin, skull and brain. According to the authors, wound ballistic processes can only be fully understood when the physical laws of motion of a bullet in air and in a dense medium are understood. In order to create and study wound morphology, a physical head model had to be designed, which would make the laboratory reproduction of a ballistics injury possible. This model is the first to incorporate a layered construction representing the human skull’s compact bone layers, the Tabula externa and Tabula interna, as well as the porous bone layer in between. Using this simulation, it was possible to demonstrate the characteristic fracture lines of the bone at the entrance and exit wounds. Internal and external beveling of the entrance and exit wounds was also achieved. Glancing and tangential gunshot wounds were also visible in the skull and was always accompanied by depressions and bone fragments found driven into the gelatin. The bullet strikes the skull at an angle too acute for penetration, but nevertheless transfers part of its energy at the point of impact. In more severe tangential gunshot injuries, the entire site-of-impact bone structure was fractured. The polyurethane skull allows the authors to reproduce characteristic fracture lines, both concentric and radiating, after gunshot trauma is experienced (Thali et al. 2002:185).

When discussing the effects of the 1873 Remington .44 caliber pistol, which was utilized by the 7<sup>th</sup> Cavalrymen, the amount of powder residue discharged would be driven into the bone. Stephens (1983) provides information on an experimental study where a

dead pig was shot in the head with the 1873 Remington pistol. During the study it was found that the .44 caliber bullet produced severe fractures of the skull and at the entrance abundant powder residue was driven into the bone, which could not be wiped off (Stephens 1983:761). This study suggests that powder residue would be retained in the skull bones of the skeletons of the 7<sup>th</sup> Cavalry if they had committed suicide or been shot at very close range (Stephens 1983).

### **Suicide Versus Homicide Markers**

In order to set criteria for suicide it is important to be able to distinguish between homicide and suicide by firearm. Unfortunately during this analysis there is no way to analyze gunshot residue on hands, flesh wounds, the victim's blood on another person's clothes, and other evidence that can be used in modern cases to determine homicide versus suicide; thus, the bones represent the only available evidence of battlefield suicide at the Little Bighorn. Circumstantial factors related to suicide in general, such as psychiatric illness, age, gender and type of weapon used, can be utilized during the analysis of the soldiers at the Battle of the Little Bighorn because there are historical documents that make note of such information. A study done by Druid (1997) focused on the usefulness of the internal bullet path as an indicator of homicide versus suicide in a modern forensic context, and this can be used as an analog for the circumstances at the Battle of the Little Bighorn. The material used by Druid (1997) included 213 known suicides, 54 homicides, 14 accidents, and 7 undetermined cases. Some suicides involved persons in an acute state of emotion, particularly in young men. A few other reasons were also identified as causes for suicide, including severe economic troubles, pending imprisonment, or incurable disease. Although in most suicide cases documented in this study, there was a history of

psychiatric illness, often long-lasting depression. In terms of the frequency of weapons used to commit suicide, two-handed weapons dominated with the shotgun being the most frequently used (Druid 1997). The suicidal gunshot wounds found in this study had entered the mouth, the right temple and the left side of the thorax, with the left side of the thorax and the right temple being the most common sites for homicidal entrance wounds. The majority of the homicidal gunshot wounds hit areas outside those typical of suicidal wounds, 38% actually did enter those areas. In five of the ten homicidal wounds in the right temple, the bullet path inside the skull followed a back-to-front trajectory as compared to only three of 38 suicidal wounds with the same entrance location (Druid 1997). As was determined by this information, a gunshot wound in the right temple was most likely due to a suicide, but if the bullet path was directed anteriorly, it was more likely to be due to a homicide. The mean age of suicide victims tended to be higher than that of homicide victims and according to the authors this could be due to the very low frequency of suicide among children under 15. Before the publication of this study, a number of reports were using the location of the entrance wound alone as a marker of suicide, but with the findings of unusual suicides this method is to be used with caution and subsequent material should be taken into consideration (Druid 1997).

Although rare, cases of multiple, self-inflicted gunshot wounds can occur and therefore cannot be counted out in the analysis of gunshot trauma in the soldiers from the Battle of the Little Bighorn. Lethal self-inflicted gunshot wounds are most commonly sustained to the head (81%) often in the right and left temple, followed by the mouth and submental region of the neck, the chest, and the abdomen (Arunkumar et al. 2015). Penetrating gunshot wounds to the head usually result in instantaneous incapacitation of

the victim as a consequence of enhanced intracranial tissue disruption (Arunkumar et al. 2015). When the decedent's body on the crime scene shows multiple gunshot wounds to the head, the case is often regarded as a homicide, although that is not always the case. Several cases of suicide involving multiple gunshot wounds to the head have been reported in the forensic literature, showing the ability to act of the victim after two or more shots (Arunkumar et al. 2015).

Arunkumar et al. 2015 provides four different cases of multiple, self-inflicted gunshot wounds to the head in order to assess how this can occur. The first case was of a 56-year-old male with a history of depression who was able to shoot himself in the head 8 times with a .22 caliber ROHM revolver. Two of the gunshots penetrated the skull causing injury to the brain. On the right side of his head, there was a circular gunshot wound of entrance, 0.1 inch in diameter. The wound course involved the right parietal bone of the skull, the right parietal lobe of the brain, and the frontal sinus on the right side, which was consistent with a right-handed individual (Arunkumar et al. 2015). Case two was of a 49-year-old male who fired two shots into the head with a Smith and Wesson 357 magnum revolver. Again the subject had a history of depression. Slightly beneath the chin, there was a contact lacerated circular-shaped gunshot wound of entrance, 0.4 inches in diameter. The wound traveled upwards through the chin, fracturing the mandible, lacerating the lower inner lip, lacerating the tongue, passing through the maxilla, and the nasal skeleton. On the right side of the head in the parietal region, there was a contact lacerated oval-shaped gunshot wound of entrance, 0.4 by 0.3 inches, with soot deposition. The bullet penetrated the right parietal bone, involved the right parietal lobe of the brain and the

basal ganglia, and finally stopped at the left parietal bone of the skull (Arunkumar et al. 2015).

Case three involved a 64-year-old male found unresponsive in his home. Two handguns were found at the scene, an unspecified blue steel revolver and chrome steel revolver. On the right side of the head there was a gunshot entrance wound. The wound measured 0.3 inches in diameter and was surrounded by a concentric abraded margin measuring 0.2 inches in width, with soot deposition. The bullet fractured the skull, lacerated the temporal lobes bilaterally and the midbrain, and exited the cranial cavity. The second gunshot wound was located in the roof of the mouth and the hard palate. The bullet perforated the palate, fractured the skull, and exited the back of the head, in the occipital region where there was a stellate-shaped gunshot wound of exit (Arunkumar et al. 2015). Case four was of a 65-year-old male found in his home with a .38 caliber handgun in his hand. There was a stellate-shaped gunshot wound of entrance on the right temple, 0.75 inches in diameter, with soot deposition on the margins and in the underlying soft tissues. The bullet fractured the right temporal bone and exited from the left ear where there was an exit wound located close to the external auditory meatus. The second gunshot wound was located on the submental region of the head. The bullet path went through the mouth and the face, fractured the nasal skeleton, and perforated the frontal sinus. The base of the skull revealed fractures of the right and left temporal bones and the sella turcica (Arunkumar et al. 2015).

### **Oral Histories and Primary Sources**

There is extensive literature concerning the Battle of the Little Bighorn, a much of which comes from first-hand accounts (Michno 1997; Hardorff 1999; Pennington 2001).

The Native Americans and soldiers who fought there, recounting the chaos of battle that ensued, have documented many historical accounts. Although there are many first-hand accounts that have been documented from the battle, there aren't many documenting suicide among the soldiers. *Keep the Last Bullet for Yourself: The True Story of Custer's Last Stand* by Dr. Thomas Marquis (1976) is a comprehensive book detailing accounts of suicide among the soldiers of the Battle of the Little Bighorn. Marquis (1976) compiled notes taken from his time spent among the Sioux and Cheyenne who fought during the Battle of the Little Bighorn. Marquis (1976) spent time gathering oral transcripts from the Native Americans involved in the battle, as well as from some of the surviving soldiers from the battle. Marquis did not publish the book himself; it was later published after his death in the 1930s, because there was a major negative stigma on the subject and the word of the Native Americans was not widely trusted as fact during Marquis' lifetime.

During this time period the common belief among the white settlers was that there was no race of people who could be more brutally cruel than the Indians when they felt in the mood (Marquis 1976:172). Of course it seems that deliberate and methodical torturing of captives was much less common among Indian tribes than has been represented. Regardless, the reputed character of the Native Americans created in the minds of all white settlers an agonizing dread of being captured by them in warfare (Marquis 1976:172). There is a history of suicide pacts being made between soldiers in previous skirmishes with the Native Americans. An account from 1863, in which Indians attacked an expedition of miners from Bannack City, Montana Territory, recalls two men committing suicide immediately after the Indians withdrew from the fight. Consensual murder seemed to be common during this time of turmoil in the United States. During the

Fetterman Massacre in 1866, it is commonly accepted without dispute that both Captain Fetterman and Captain Brown committed suicide, or that they killed each other in consummation of a suicide pact (Marquis 1976:174). Another account recalls a decision was made among the soldiers in which, “It was solemnly decided that in case it came to the worst we would mercifully kill all the wounded and the two women and then ourselves” (Marquis 1976:174). This statement came from soldiers during an attack by Sioux Indians on the Bozeman Trail in Wyoming and Montana in 1866. Samuel Gibson, who was present during the attack on the Bozeman Trail, expressed the sentiment that “they would take that action [suicide] rather than be captured and made to endure the inevitable torture,” (Marquis 1976). In 1876 that same idea of suicide in the most dire of situations was still prevalent, if not even more strongly fixed in soldier minds because of previous instances.

Elizabeth Custer, wife of George Armstrong Custer, recorded her memoirs in a book that reveals customary thoughts and discussions among the Seventh Cavalry from the time of its first 1867 campaign; among these points of discussion, suicide was noted as a means to avoid capture by the Indians (Marquis 1976:176). Mrs. Custer was well aware that if it became probable that should Indians capture her, she was to be shot dead by whoever might have her in charge at the time. During the absence of men at some of the forts, the women talked seriously about the matter of committing suicide or killing each other if the Indians made it into the fort (Marquis 1976:176).

During the Battle of the Little Bighorn some of the Reno men later testified that during the time of the fighting, they gave intensive thought to suicide as an alternative to torture. Private Peter Thompson, who was in the Custer detachment moving toward the

Indian camps, wrote, “I made up my mind that all but one shot would be fired at the Indians, and that one would go into my own head, for I had determined never to be taken alive” (Marquis 1976:179). Suicide was deeply engrained in the mind of every soldier engaged in warfare during those times. The propaganda and training at the time perpetuated the idea that the Indians wanted nothing more than to capture and torture the white men and women regardless of whether or not this was the case. This was met by suicide pacts being formed and consensual murder as a legitimate alternative to capture.

An account from Wooden Leg, a Cheyenne warrior, recounts a telling from another Cheyenne who told him that four soldiers from that part of the ridge, near Keogh’s stand, had turned their horses and tried to escape. Three of the men were killed quickly, but the fourth gained some ground before the pursuing group of Sioux got close to him. Wooden leg states, “His horse was very tired, and the Sioux were gaining on him. He was moving his right arm as though whipping his horse to make it go faster. Suddenly his right hand went up to his head. With his revolver he shot himself and fell dead from his horse” (Hardorff 1999:63). Antelope, another Cheyenne warrior who fought alongside Wooden Leg, recalls an instance in which the Native Americans surrounded the soldiers, “twenty Indians for every soldier,” (Michno 1997). “Antelope saw one soldier panic and shoot himself in the head with his revolver. Then another did the same, and another. By the time the Indians got close enough to count coup on a living enemy, not many soldiers were left to fight” (Michno 1997:203).

There are many accounts from surviving soldiers and Native Americans who witnessed suicides happening among the men of the 7<sup>th</sup> Cavalry. Greg Smith recalls a doctor with the 7<sup>th</sup>, Lieutenant Lord, who committed suicide after he had almost escaped.

This seems to be a common theme among the recollections of suicides at the battle, that the soldiers were about to make their escape and then committed suicide as an alternative. A Native American warrior, Turtle Rib, remembers a soldier riding away from him and his men and just when he appeared to be getting away, he killed himself (Hardorff 1999:59). A Lakota named He Dog provided a statement claiming that one soldier was pursued until they were about give up the chase, when he shot himself with his revolver and the horse was caught. In many of these recollections from the battlefield, Native American warriors were actively pursuing most of the men when they witnessed suicides. Foolish Elk describes his confusion with this statement, "...the soldier drew his pistol and killed himself. This we could not understand because the man's horse was swifter than ours and was continually getting farther away from the pursuers" (Hardorff 1999:62). It is interesting to note that even when the soldiers were well away from their potential captors, suicide was still considered and carried out. Whether or not this was continual fear of being captured, and whether soldiers realized they had a chance to escape, suicide was still apparently an option on the battlefield according to witness accounts.

### **Modern Military Parallels and Military Ideals**

The continual rise in the U.S. military's suicide rate since 2004 is considered a large issue among military leaders, mental health professionals, and suicide experts. Of particular interest is the increase of suicide paralleled with combat operations in Afghanistan and Iraq, which is contrary to history because typically it shows decreased military suicide rates during times of war (Silliman 2008). The analog of modern warfare and military training in Iraq to the Battle of the Little Bighorn shows how similarly the military operates then as opposed to now (Silliman 2008). There is a considerable

disconnect between efforts of suicide prevention and the military personnel because the culture of the people serving in the military is not taken into consideration within these programs (Bryan et al. 2012). Understanding the cultural context of mental health patients is of great importance because the failure to understand the impact of an individual's social context and worldview limits what a mental health care professional can do for consultation and treatment.

The use of aggression and violence in the service of the nation's security is a core concept and the military employs an intense indoctrination process to ensure proper training of this idea. The ideals upheld by the military emphasize honor, integrity, selfless service, duty, and courage in the face of adversity (Bryan et al. 2012). The military culture also values strength, resilience, courage, and personal sacrifice in the face of adversity; perceived weakness or illness is looked down upon. The military teaches personnel how to tolerate extreme physical and psychological discomfort because it is necessary for maximizing combat effectiveness. The service member's fearlessness about injury and death, conditioned throughout military training, can contribute to suicide. Overcoming the fear of death and being able to tolerate high levels of pain are important contributors to the ability to kill oneself (Bryan et al. 2012).

The military training that is used to create obedient and loyal soldiers can be contributing to the high suicide rate by taking away that little piece of humanity needed in order to preserve one's life. These ideals have been upheld in the U.S. military throughout the ages and so it would be of no surprise that these same values were the ones held by the soldiers at the Battle of the Little Bighorn. Although the ideals may have been the same,

the actual reasons for perpetuation of suicide may have been different in the 7<sup>th</sup> Cavalry than among those enlisted in modern armed forces.

“The metaphor renarrates the past through the filter of the present to provide the common link” (Silliman 2008:241). The metaphor in this instance is the term “Indian Country,” which means different things to Native Americans, who view it as sacred, ancestral territories, and the U.S. military, who uses the term to describe hostile, unpacified territories in active war zones. The phrase summons the history of Native American and U.S. military encounters, particularly those of the 19<sup>th</sup> century, in ways that interpret the present in light of the past (Silliman 2008). The use of the term ties together the “old West” with modern military ideals, directly tying the Indian Wars of the 1800s to modern warfare in Iraq and Afghanistan.

North American Indigenous people living in what the U.S. called “Indian Country” were described as dark-skinned savages with little technological development, no adherence to Christianity, warring tribes and factions, land that should be turned over to more appropriate governance and use, and guerilla fighting skills in a war that they did not win. Iraqis are often portrayed in the same ways in military and civilian discourse (Silliman 2008:241). The idea of civilization’s battle against savagery is a deeply rooted notion in the American political sphere, going back to the American Revolution, as a means to provide a reason to go to war (Silliman 2008). This persists today as is seen in the ways the U.S. military portrays Iraqi or Afghani citizens and military personnel. The use of the term “Indian Country” in Iraq asks soldiers to draw on their collective, national memory to remember that U.S. military forces have faced such situations before and to think about doing what their predecessors might have done. “Could a U.S. soldier who has

fought in contemporary “Indian Country” in Iraq read a historical account of the Battle of the Little Bighorn without assuming that he or she might know what that past must have been like?” (Silliman 2008:241) The fight in Iraq does not mirror the Battle of the Little Bighorn; the Indian Wars were not designed to unify a country, as was the supposed intention of the war in Iraq. Instead, the Indian Wars were designed to remove resistant Native Americans from lands that the U.S. government wanted for mineral extraction, railroads, or white settlers (Silliman 2008).

Understanding why and how suicide occurs among active military personnel, as well as veterans, today is a question that is yet to be answered. People who attempt suicide don’t always have much in common and so there is no clear answer as to why it occurs so readily (Sukel 2015:2). The parallels that can be drawn from the Indian Wars have the potential to foster an appreciation for the historical continuity of suicide among current military members and veterans. Although the situations differ, suicide during the battle as opposed to suicide after the fact, the training and coping mechanisms remain the same; generalization of the soldier doesn’t always work for every individual. From looking to the past, this research has the potential to inform the future of training and coping for the modern soldier.

## Chapter 4

*The early morning was bright, and from the high bluffs we had a clear view of Custer's battlefield. We saw a large number of objects that looked like white boulders scattered over the field. Glasses were brought into requisition, and it was announced that these objects were the dead bodies*

Godfrey (Buchholtz 2012:68).

## RESULTS

### **Skeletal Data**

#### ***Gunshot Wounds***

The tables below (Tables 1-5) display the two samples, 31 individuals, and miscellaneous unassigned elements, used during this analysis by breaking up both samples into the specimen name or number where the remains were located, the individual assigned to the remains (including age, sex, ancestry and possible identity) the number of gunshot wounds present, where the gunshot wounds (GSWs) were located on the skeleton, and any other additional skeletal trauma. Of the 11 individuals and remaining unassigned elements excavated during the 1992 excavation led by Willey and Scott 6 (55%) of them exhibited GSWs, lead wipe, and/or metal fragments. Of the 6 individuals exhibiting GSWs, 3 (50%) of those individuals have been shot in the cranium, in either the left or right parietal.

From Burial 3, Grave 454 the individual was identified to be a white male aged 25-35 years with an identity of either Golden or Mann based on historical records of injuries (Table 1). Two GSWs were found, one entrance and one exit wound; the entrance wound was located on the cranial vault through the left parietal. This skeleton also exhibited a

12.2mm long cut on the medial surface of the right navicular, which may indicate a dismemberment attempt. According to Willey and Scott (1997) it is likely this GSW is not a result of suicide because of the tumbling effect of the bullet on the skull, causing a large rectangular entrance wound, suggesting the shooter was farther away.



Figure 1. Burial 3, right parietal GSW entrance (Willey and Scott 1997:48).



Figure 2. Burial 3, left parietal GSW exit (Willey and Scott 1997:49).

The individual identified from Burial 7, Grave 942 was determined to be a white male aged 25-45 years of age with an undetermined identity (Table 1). One definitive GSW was found in the right parietal that was identified as an entrance wound. There is a possible exit wound as well, but blunt force trauma present on the left side of the cranial vault makes it difficult to determine for sure. This individual had an absence of scalping marks, but at least 98 cuts and marks on the postcranial skeleton suggests possible mutilation and dismemberment attempts.

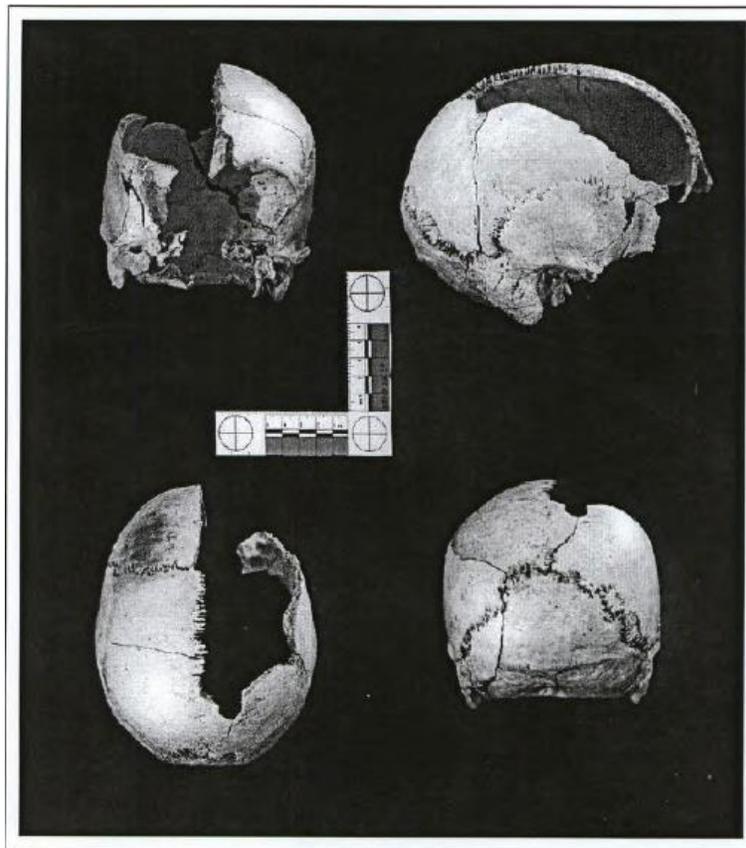


Figure 3. Burial 7, frontal, right lateral, superior, and posterior cranial views (Willey and Scott 1997:98).

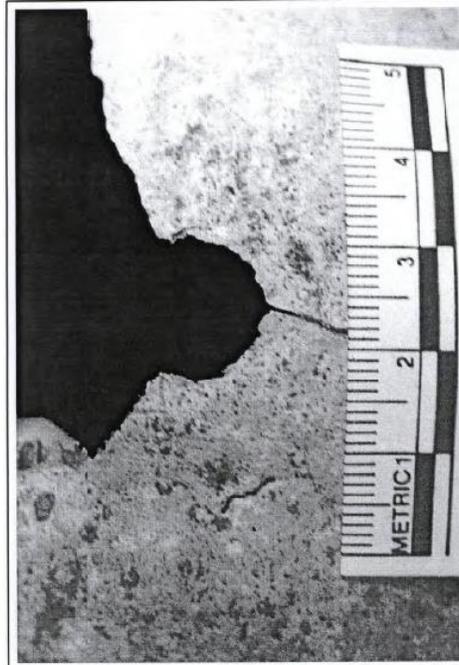


Figure 4. Burial 7 GSW entrance right parietal (Willey and Scott 1997:101).

Repatriation 1 consisted of a young adult white male with one GSW present on the right parietal near the squamosal suture as well as lead wipe found in the same area. In this instance the characteristics of trauma indicate a GSW entering from the right and exiting to the left based on the patterns observed. There were no indicators of mutilation present on this individual (Table 1).



Figure 5. Repatriation 1, GSW entrance into right parietal (Willey and Scott 1997:123).

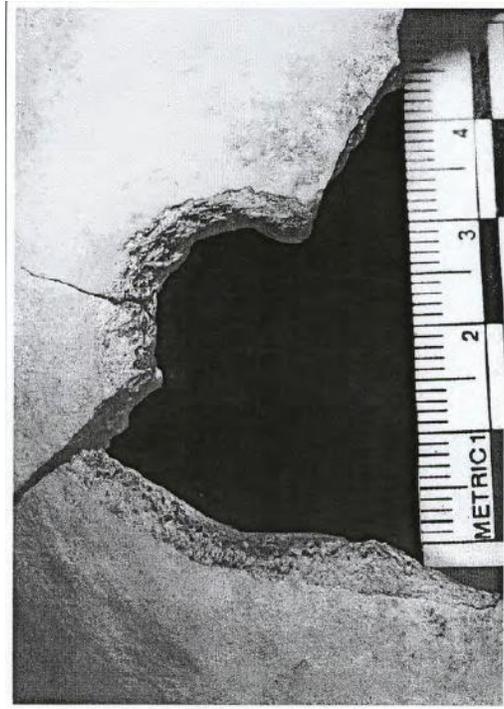


Figure 6. Repatriation 1, GSW exit left parietal (Willey and Scott 1997:124)

Of the 17 individuals and miscellaneous unassigned elements collected from the excavation conducted by Snow and Fitzpatrick (1989) 3 (18%), individuals exhibited 1 or more GSWs. Of the 3 individuals who exhibited GSWs, none of them sustained GSWs to the cranium. The GSWs that were sustained by these individuals were in the areas of the abdomen, specifically the ribs, and the radius and ulna. Although there were not many GSWs identified in this sample, there were a lot of instances of massive blunt force trauma to the cranium (Table 2).

Overall the GSWs present in both samples from Willey and Scott (1997) and Snow and Fitzpatrick (1989) were found in either the cranium (30%), bones of the arm including the humerus, radius, and ulna (30%), and the areas of the thorax including the pelvis and ribs (44%). For the purposes of this study, the most significant GSWs include the 3 GSWs found in the cranium, all of which were found in either the left or right parietal. Out of the

sample of 31 individuals included in this study, 3 individuals (10%) displayed possible markers of suicide in the form of GSWs to the left or right parietal (Table 2).

### ***Mutilation Markers***

Although GSWs were not particularly abundant within the Willey and Scott (1997) and the Snow and Fitzpatrick (1983) samples, 22 of the 31 (71%) individuals included in both samples exhibited marks consistent with mutilation. Multiple elements not assigned to specific individuals also exhibited marks consistent with mutilation. Marks characteristic of mutilation include cuts indicative of possible dismemberment and/or scalping, as well as blunt force trauma characteristic of fracture patterns.

In the sample from the 1997 excavation, 6 of the 11 (55%) individuals present exhibit some marks characteristic of mutilation. Burial 1, Grave 458 includes a white male aged 20-25 years and exhibits a cut on the left parietal and frontal bone immediately superior to the left temporal line, which is consistent with cut marks sustained from scalping. There were also cuts found on the humerus and right coracoid process of the scapula suggesting possible dismemberment of the arm at the shoulder. Other mutilation marks include cuts on the sacrum and left femoral shaft (Table 3).

Burial 3, Grave 454 includes a white male aged 18-23 years with a possible identity of either Golden or Mann. The medial surface of the right navicular has a 12.2 mm long cut, which may indicate a dismemberment attempt of the foot at the ankle. Burial 4, Grave 455 includes another white male aged 25-35 years with a possible identity of Farrier Vincent Charley, who, along with a GSW to the iliac crest, exhibits cuts on the internal surface of the left os coxae near the posterior iliac crest, which may represent a

mutilation attempt. Trauma to the outside of the right foot was also present, which may have resulted from the foot hitting a fixed object or being crushed by a heavy object.

Burial 5, Grave 456 consisted of a white male, aged 20-25 years with a possible identity of Private Meyer. Lead spatter and lead wipe was found on the proximal end of the left humerus indicative of a GSW. A 21mm long cut on the right frontal bone is consistent in location and direction with cuts attributed to scalping attempts. Three cuts near or on the right femoral head are consistent with attempts to dismember the lower right limb from the torso. Burial 7, Grave 942 also interred a white male, aged 25-45 years with an unknown identity. Along with GSWs, blunt force trauma and numerous cuts were also present. Blunt force trauma present on the left side of the cranial vault, which skews a possible GSW exit wound, suggests an attempt to mutilate the body after the GSW occurred. At least 98 cuts and marks on the postcranial skeleton are consistent with mutilation and dismemberment attempts (Table 3).

The final individual that exhibits mutilation marks from the 1997 excavation sample comes from Burial 8, Grave 517A. This burial includes a male of undetermined ancestry, aged 35-40 years with a possible identity of Lt. Col. Custer. Metal fragments were found in the abdominal and thoracic regions, which indicate possible GSWs in this area. The left rib neck and the right radial interosseous crest have cuts presents, which may indicate mutilations around the time of death.

In the sample from the 1983/1984 excavations conducted by Snow and Fitzpatrick, 16 out of 21 individuals (76%) included exhibit some mutilation marks characteristic of dismemberment, scalping, and/or blunt force trauma. There are also multiple elements not assigned to specific individuals, which contain bones with characteristic signs of

mutilation. Trench A84, which was excavated in 1984, contained multiple elements not assigned to specific individuals and exhibited multiple mutilation marks. The first cranial fragment identified is from the left parietal and displays linear, abrupt fracture margins consistent with perimortem blunt force trauma. The remaining cranial fragments comprise the anterior portion of the maxilla and most of the left zygomatic, which also exhibits fracture margins indicative of blunt force trauma. Square G84 also contained multiple elements, including facial bones, which exhibited extensive comminuted craniofacial fractures indicative of massive blunt force injury. There was also a cleanly transected cervical vertebra included in this assemblage, which indicates a single decapitating blow inflicted with a sharp-edged instrument such as a hatchet or axe (Table 4).

Of the individuals included in this sample 11 of the 21 (52%) show fracturing indicative of blunt force trauma. The second individual from the museum collection, an adult male, displays abrupt fracture lines indicative of perimortem blunt force trauma on the left parietal bone. One of the surface finds from 1983 also exhibits linear fracture patterns along a short segment of the cranial vault consistent with blunt force trauma. Square H84 consists of a 30-40 year old male of unknown ancestry who sustained massive comminuted cranial fractures and a stellate fracture of the upper third of the left humerus. Also cut marks of the manubrium and left humeral head are characteristic of being caused by a sharply edged instrument such as a knife, hatchet, or metal arrow point. (Table 4). Square I84 consists of a 25-40 year old individual of unknown sex or ancestry also exhibiting perimortem trauma consistent with a massive blunt force injury to the head.

The individuals found in square K84 through square G85 all exhibit some form of either cut marks or blunt force injury (Table 4). All of these individuals are aged between

15-40 years and of the ones with identifiable sex all were determined to be male. No ancestry determinations were made on these individuals. One of the individuals found in square K84 exhibits cut marks on the distal end of the left femur, which indicate postmortem mutilation and possible dismemberment. The individual found in square B85 shows deep v-shaped fractures characteristic of massive perimortem blunt force trauma to the cranium. The remaining individuals have some fractures and cut marks suggestive of postmortem mutilation as well as blunt force trauma to the cranium (Table 4).

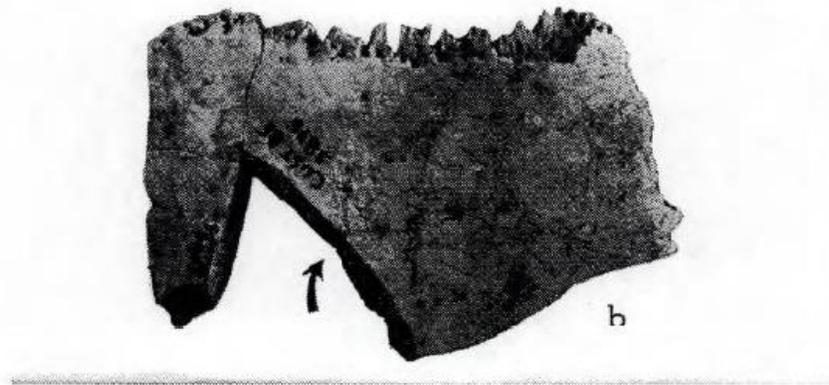


Figure 7. Example of fracture caused by blunt force trauma Square C85 (Snow and Fitzpatrick 1989).

Square M85 contained the most complete skeleton found during these 1983 excavations. The individual was a 19-22 year old white male who sustained GSWs as well as extensive mutilation marks. Cut marks on the lower surface of the lateral end of the left clavicle indicates a wound caused by a metal-tipped arrow or a stab wound of the left shoulder. Massive blunt force trauma inflicted by repeated blows to the head by a heavy instrument was also present and characteristic of being hit with a rifle butt, warclub, or a large stone. The legs of this individual were seemingly dismembered at the acetabulum, using a heavy bladed weapon such as an axe or hatchet characteristic of cut marks in this region.

Square O85, P85, and R85 all contained individuals with mutilation marks as well. The individual found in square O85 was an 18-30 year old male of unknown ancestry who sustained perimortem blunt force trauma to the cranium as suggested by the cranial fragmentation. A 35-45 year old individual of unknown sex and ancestry was found in square P85 and also seemingly sustained massive blunt force trauma inflicted at or around the time of death as suggested by the cranial fragmentation. The individual discovered in square R85 was determined to be an adult, but that is all that is known of this individual besides the possible perimortem severing of the base of one of the intermediate phalanges as shown by cut marks in this area (Table 4).

### **Historical Data**

Table 5, which can be found below in the appendices, displays historical accounts and testimonials given by Native American warriors and 7<sup>th</sup> Cavalry affiliates who witnessed the Battle of the Little Bighorn and the events that transpired there. The accounts given in Table 5 only recount instances in which suicides occurred among the soldiers of the 7<sup>th</sup> Cavalry. The names of the soldiers, if available, who committed suicide, the names of the individuals who witnessed or heard of suicide, the publication in which the testimonial was found, and a general description of the events are included in Table 5.

Not many names of the soldiers who were witnessed as committing suicide were available to be corroborated with the possible identities of those skeletons found in the 1992 and 1983/1984 excavations. Lieutenant Lord was one of the few who was specifically named as committing suicide by Harold Cook (Hardorff 1999). Lieutenant Lord was a doctor with the 7<sup>th</sup> Cavalry and is said to have committed suicide after he had already made good his escape (Table 5). A prominent theme throughout the historical data

is that many soldiers were witnessed committing suicide after they had already accomplished running away and escaping from the pursuant Native Americans. Lieutenant Harrington is another example as was explained by Turtle Rib, “The soldier rode like the wind and appeared to be getting away from us, when he killed himself,” (Hardorff 1999:59). There are 30 testimonials given in this sample and of the 30 individuals who are said to have committed suicide 12 (40%) of them are described as having escaped already or gained good distance away from Native American warriors (Table 5).

The death of Corporal John Foley was said to have been a suicide by both Colonel Herbert J. Slocum and He Dog. He was pursued by several Native American warriors and then shot himself during pursuit (Hardorff 1999:60). A Corporal of Harrington Company, though specifically unnamed, was witnessed by Walter M. Camp as being at least a mile away from the fight and then shot himself (Hardorff 1999:65). Of the 30 testimonials given only 3 (10%) individuals were named with certainty as having committed suicide.

## Chapter 5

*[The] bullets came like hail when [the] fire first started. [The] bullets sounded like hail on [the] teepees and tree tops. [I] could see [the] bullets hit dirt. I was armed with my bow and arrows*

Little Soldier (Hardorff 2004:175).

### **DISCUSSION**

#### **Skeletal Data**

##### ***Gunshot Wounds***

Out of the total 31 individuals assessed for suicide only 3 (27%) exhibited possible signs of suicide through GSWs to the left or right parietals. The sample from the 1997 excavations was exhumed from the Custer National Cemetery and represents soldiers likely not involved in Custer's last stand and Company C (Willey and Scott 1997).

According to eyewitness accounts as well as excavation reports, it is more likely that those individuals who committed suicide during the battle were those with Custer's company (Willey and Scott 1997, Hardorff 1999). It is likely that is why the individuals in both samples did not exhibit more GSWs to the head and why it is more than likely that of the 3 individuals only 1 (33%) may have committed suicide.

It is likely that the individual found in Repatriation 1 may have committed suicide based on the location of the entrance and exit wounds, entering through the right parietal and exiting out the left parietal. This wound pattern is typical in the instance of a suicide because more than likely the individual is right handed and will lift the firearm to the right side of the head resulting in an entrance wound on the right parietal (Druid 1997, Willey and Scott 1997). Other than the directionality and the location of the entrance and exit

wounds there are no other definitive indicators to show that this person committed suicide. Although the skeleton is lacking in any marks characteristic of mutilation, which may corroborate the notion that Native Americans shunned the bodies of suicide victims, all that is available for analysis is the calvarium and so it can only be said that potentially this individual was not scalped, but there are no postcranial remains to say with certainty that this person was not mutilated (Pennington 2001). That being said there are also no indicators of where the gun was fired when this individual was shot. There is no black powder present, which can be indicative of a shot fired at close range (Stephens 1983). It was said that when the soldiers came back to bury the dead that "...in those days of black powder, it would have been next to impossible for a man to hold a gun far enough away from his face to escape such burns when committing suicide" (Hardorff 1989). Although there is a straight through and through entrance and exit wound, which may suggest a close range shot based on the fact that the bullet did not have time to tumble as was seen in the individual from Burial 3, Grave 454 (Willey and Scott 1997).

The other two individuals from Burial 3, Grave 454 and Burial 7, Grave 942 are likely not victims of suicide. Although the individual from Burial 3, Grave 454 has an entrance wound in the left parietal, it is a large rectangular entrance wound, likely caused from the bullet tumbling as it traveled through the air, suggesting that this individual was shot from far away rather than close range (Willey and Scott 1997). This individual also had a cut on the right navicular suggesting a dismemberment attempt, which would not fit the narrative of bodies of known suicide victims being shunned. The individual from Burial 7, Grave 942 also exhibits an entrance wound to the right parietal, but the orientation of the GSW suggests that this individual did not commit suicide. The location

of the GSW is on the posterior right parietal, meaning the individual would have had to angle the firearm in such a way to shoot the back of the head, which is not likely in the case of suicides (Druid 1997). There were also at least 98 cuts and marks found on the postcranial skeleton as well as blunt force trauma to the left side of the skull, meaning that this individual was also extensively mutilated.

The absence of GSWs in the sample from the Snow and Fitzpatrick 1983/1984 excavations was very odd. There was a lot of blunt force trauma to the skull that was reported, but it was reported in such a way that could be up for interpretation. Unfortunately only one photo was included in the report that exhibited blunt force trauma to the skull (Figure 7.) and that photo is of a very small cranial fragment with fracture lines that could possibly be interpreted as projectile trauma. Most of the descriptions of blunt force trauma in the report are left to simply stating massive blunt force trauma as is seen by fracture lines. Without pictures of each example of blunt force trauma it is hard to say whether or not the fractures were caused by blunt force trauma or by projectile trauma, namely a GSW.

### ***Mutilation Markers***

The majority (71%) of the skeletons in both samples exhibited some form of mutilation marks, whether it was cut marks or blunt force trauma. From testimonial given by Private Jacob Adams after the battle had subsided and the survivors went back to claim the dead, he recalls the bodies of soldiers being mutilated in every conceivable way (Hardorff 1989:19). Dr. Marquis (1976) posits the fear of being tortured and mutilated at the hands of Native Americans was so engrained in the mind of the soldiers that it drove them to suicide when they thought they had no way out. This is seen in the testimonials of

witnesses to suicide, suggesting they were so crazed with fear that they started shooting each other and themselves (Pennington 2001). From the skeletal evidence and historical testimony, mutilation was indeed happening, and happening frequently on the battlefield, which is enough to make any person feel fear of being caught and captured. This culture of fear that was perpetuated throughout this time period from multiple hostile encounters with Native Americans caused men to conjure up suicide pacts with other soldiers, even with their own families in some instances, rather than be captured (Marquis 1976).

### **Historical Data**

The testimonials given by Native Americans and soldiers alike all state that suicide happened during the Battle of the Little Bighorn (Michno 1997, Hardorff 1999, Pennington 2001). From the historical data gleaned for this analysis, it seems as though soldiers committed suicide after they had already escaped or gained ground from their pursuers; these testimonials accounted for 40% of the total description of events given. It is strange to think that someone would commit suicide once they had gotten away or were about to escape, but this is coming from the perspective of the Native American warriors who were actively pursuing the soldier. Although the Native Americans who knew they were about give up the chase found it very strange that this soldier would kill himself after he had escaped, how was the soldier to know they were about to give up chase? It is more than likely that in those instances the soldier himself may not have felt the warriors were giving up and feared capture above all else and therefore committed suicide (Michno 1997, Hardorff 1999).

Out of the 30 testimonials 14 (47%) specifically stated that the soldier used a revolver or pistol to commit suicide, whereas the other 16 (53%) testimonials did not

specify the type of gun used (Table 5). It is more than likely that the Colt revolvers issued to the 7<sup>th</sup> Cavalry during that time period were the guns of choice to commit suicide because of their compact size and easy accessibility while on horseback or otherwise. Some testimonials report on the fear that these soldiers seemed to experience, which drove them to suicide. A testimonial given by Lieutenant John G. Bourke recalls himself thinking, “The soldier [who he witnessed kill himself] must have been crazed with fright as he was seen to pull out his revolver and blow out his brains” (Hardorff 1999:63).

Again the reliability of first-hand accounts is always something to take into consideration as well. It is unclear in some instances if these testimonials were actually first-hand accounts or stories handed down making the reliability even more questionable. It is also unclear whether or not some of these testimonials given by the same person in different publications are discussing the same event multiple times as in the instance of Wooden Leg, who comes up in multiple sources (Marquis 1976, Michno 1997, Hardorff 1999, Pennington 2001). It is important to take into consideration the variability of storytelling and the bias of interpretation as well. These factors could potentially skew the number of suicides that actually occurred because they were not reported accurately or the interpretation was not accurately transcribed.

### **Skeletal and Historical Data Corroboration**

The skeletal data and historical data did not match up as far as identities of individuals named in either sample. All of the possible identities of the skeletons found in both samples did not match with the identities of those named in historical accounts. Only 3 people (10%) were known to have committed suicide with certainty within the 30

testimonials given and none of those names matched with the skeletal data from the Willey and Scott (1997) or Snow and Fitzpatrick (1989) samples.

In the most general terms, the skeletal data did not corroborate the historical data because of the lack of evidence of suicide found among the skeletons. There is one probable individual, Repatriation 1, who could have committed suicide, but due to the taphonomic alterations and lack of elements it is hard to tell with certainty whether or not this person did commit suicide. According to the criteria of suicide discussed earlier, this individual does exhibit 3 of the 4 (75%) characteristics expected in a person who had committed suicide and so it is likely, based on this particular analysis, that this person did commit suicide.

The small sample size, 31 individuals out of the total 268 (12%) who died that day, is also a factor in the skewing of results because it does not give the best portrayal of the events that it could possibly give, but this is what is available at this time. Perhaps in the future if researchers were to uncover more skeletons from the Battle of the Little Bighorn, it would be beneficial to create a system of 3D scanning so that the skeletons will essentially be available for any further research done in this area. With the material that is available now only limited analysis could be performed, which is presented here.

## Chapter 6

*“Not surprisingly, accuracy and authenticity have always been key ingredients in a good telling of the battle story, regardless of who was doing the telling.”*

*Debra Buchholtz (Buchholtz 2000:346)*

### **CONCLUSION**

The topic of suicide, both in 1876 and today is something of a taboo, especially among military personnel and yet it remains a prevalent problem. Suicide among veterans and active duty military members today have skyrocketed in recent years, but broader, collective discussions remain mostly silent because suicide is not seen as upholding military ideals of the perfect soldier (Whitworth 2008, Braswell and Kushner 2012). The horrors of what is seen during battle are something that everyone copes with in different ways because everyone, including soldiers, is different. That is why this discussion of suicide needs to be addressed, in order to bring awareness to the issues that are happening currently and that have happened in the past. It is expected that this report on suicide from the past will spark a modern conversation about suicide in the military and among veterans today.

Through the use of skeletal data provided from two excavation reports as well as historical testimonial given, suicide was examined among the soldiers of the 7<sup>th</sup> Cavalry during the Battle of the Little Bighorn. Although the hope was to corroborate the skeletal data with the historical data and find specific instances of suicide, that was not entirely the case. Many historical accounts provide evidence of suicide occurring during the battle, but the skeletal samples do not. There is no doubt that suicide was something that happened during this battle, but it does not seem as though it happened on the grand scale Dr.

Marquis seemed to have thought. Suicide may have been occurring, but the osteological evidence is still lacking enough to corroborate the historical accounts.

Collections examined by Willey and Scott (1997) and Snow and Fitzpatrick (1989) only represent a very small percentage of remains from the battle that ensued in 1876, which with the addition of more skeletons it may be more likely to find evidence of suicide. When possible it would be extremely beneficial to prepare 3D scans of individuals exhumed from the Battle of the Little Bighorn cemeteries so that more research could be done without the necessity of keeping skeletons out of the ground longer than need be. This process could also be beneficial with any burials recovered in the future, to combat ethical dilemmas while also giving access to skeletal materials to researchers. With the addition of more skeletal specimens it could be possible to corroborate the historical accounts with the skeletal data because suicide is definitely something that was happening during the battle, the prevalence of which is still relatively unknown.

Table 1. Skeletal Data, Willey and Scott 1992 Excavation.						
Skeletal Specimens	Age	Sex	Ancestry	Possible Identity	Number of GSW	Location of GSW
Osteological Analysis of Human Skeletons Excavated from the Custer National Cemetery, (Willey et. al 1997)						
Burial 1, Grave 458	20-25 years	Male	White	Meyer or Summers	No GSW or lead wipes/splatter	N/A
Burial 2, Grave 453	25-45 years	Male	White	Lell	No GSW found	Said to have been shot in the stomach (historical account)
	Unassigned elements	N/A	N/A	N/A	No GSW found	N/A
Burial 3, Grave 454	18-23 years	Male	White	Golden or Mann	2 (entrance/exit)	Cranial vault/ left parietal (photo pg. 61)
	Unassigned elements	N/A	N/A	N/A	No GSW found	N/A
Burial 4, Grave 455	25-35 years	Male	White	Farrier Vincent Charley	2 (entrance/exit)	Right ilium
	Unassigned elements	N/A	N/A	N/A	No GSW found	N/A

Burial 5, Grave 456	20-25 years	Male	White	Private Meyer	Lead spatter/wipe	Proximal end of left humerus
	Unassigned elements	N/A	N/A	N/A	No GSW found	N/A
Burial 6, Grave 942	45-60 years	Female	American Indian	N/A	No GSW found	N/A
	20-35 years	Male	White or Black	6 Possible identities	No GSW found	N/A
Burial 7, Grave 942	25-45 years	Male	White	N/A	1( possible exit wound as well).	Right parietal
Burial 8, Grave 517A	17-25 years	Male	Undetermined	Possibly Reed	N/A	N/A
	35-40 years	Male	Undetermined Ancestry	Custer?	Metal fragments found	Abdomen and thorax/ adjacent areas
Repatriation 1	Young adult	Possible Male	White	N/A	1 (Lead wipe found)	Right parietal near the squamosal suture

Table 2. Skeletal Data, Snow and Fitzpatrick 1983/1984 Excavation.						
Skeletal Specimen	Age	Sex	Ancestry	Possible Identity	Number of GSWs	Location of GSWs
Archaeological Perspectives on the Battle of the Little Bighorn, (Snow and Fitzpatrick 1989)						
1( Museum Collection)	Adult	Male	N/A	N/A	No GSW Found	N/A
2 ( Museum Collection)	Adult	Male	N/A	N/A	No GSW Found	N/A
3 (Museum Collection)	18-35 years	Male	N/A	N/A	No GSW Found	N/A
4 (Museum Collection)	18-35 years	Male	N/A	N/A	No GSW Found	N/A
Surface Finds 1983	18-35 years	Male	N/A	N/A	No GSW Found	N/A
Surface Finds 1984	Several individuals (One cervical vert from Adult male, 18-25)	Male	N/A	N/A	No GSW Found	N/A
Trench A84 (1984)	Multiple elements	N/A	N/A	N/A	No GSW Found	N/A
Square G84	Multiple elements	N/A	N/A	N/A	No GSW Found	N/A
Square H84	30-40 years	Male	N/A	N/A	No GSW Found	N/A
Square I84	25-40 years	Indeterminate	N/A	N/A	No GSW Found	N/A
Square J84	Adult	Indeterminate	Indeterminate	N/A	No GSW Found	N/A
Square K84	18-22 years	Male	N/A	N/A	No GSW Found	N/A
	20-35 years	Male	N/A	N/A	No GSW Found	N/A

Square B85	20-30 years	N/A	N/A	N/A	No GSW Found	N/A
Square C85	20-40 years	N/A	N/A	N/A	No GSW Found	N/A
Square D85	15-19 years	Male	N/A	N/A	No GSW Found	N/A
Square F85	Adult	Male	N/A	N/A	No GSW Found	N/A
Square G85	Indeterminate	N/A	N/A	N/A	No GSW Found	N/A
Square J85	Adult	N/A	N/A	N/A	No GSW Found	N/A
Square K85	35-45 years	N/A	N/A	N/A	No GSW Found	N/A
Square M85	19-22 years	Male	White	N/A	3	Ribs, Anterior surface of the radius
Square O85	18-30 years	Male	N/A	N/A	1	Ulna
Square P85	35-45 years	N/A	N/A	N/A	1	12th Left Rib
Square R85	Adult	N/A	N/A	N/A	No GSW Found	N/A

Skeletal Specimens	General Skeletal Trauma
Osteological Analysis of Human Skeletons Excavated from the Custer National Cemetery, (Willey et. al 1997)	
Burial 1, Grave 458	Cut on left parietal and frontal immediately superior to the left temporal line. Consistent with scalping. Old cuts on the humerus and right coracoid process. Possible dismemberment of the arm at the shoulder. Old cuts on sacrum and left femur shaft indicate more mutilation marks.
Burial 2, Grave 453	N/A
Burial 3, Grave 454	The medial surface of the right foot navicular has a 12.2 mm long cut, which may indicate a dismemberment attempt. Likely not suicide because of the tumbling effect of the bullet on the skull, suggesting the shooter was farther away.
Burial 4, Grave 455	Old cut on the left innonminate's internal surface near the posterior iliac crest, which may represent a mutilation. Trauma to the outside of the right foot, such as foot hitting a fixed object or being crushed by a heavy object.
Burial 5, Grave 456	Old, 21 mm long cut on the right frontal, which is consistent in location and direction with cuts attributed to scalping attempts. Three old cuts near or on the right femoral head, which are consistent with attempts to dismember the lower right limb from the torso.
Burial 6, Grave 942	Inconsistent with a U.S. Cavalryman.
Burial 7, Grave 942	Blunt force trauma and numerous cuts. Blunt force trauma present on the left side of the cranial vault, occurred after the GSW suggesting the blunt force trauma was an attempt to mutilate the body. At least 98 cuts and marks on the postcranial skeleton, most of which are consistent with mutilations and dismemberment attempts.
Burial 8, Grave 517A	N/A
	Left rib neck and the right radius interosseous crest have old cuts and may indicate mutilations around the time of death.
Repatriation 1	The characteristics of trauma indicate a GSW entering from the right and exiting to the left, characteristic of suicide.

Table 3. Skeletal Data, Mutilation Markers

Willey and Scott 1992 excavations.

Table 4. Skeletal Data, Mutilation Marks Snow and Fitzpatrick 1983/1984 Excavations.	
Skeletal Specimen	General Skeletal Trauma
Archaeological Perspectives on the Battle of the Little Bighorn, (Snow and Fitzpatrick 1989)	
1( Museum Collection)	Hamate from right wrist, no trauma or pathology
2 ( Museum Collection)	Cranial fragment is from the left parietal bone, displays abrupt fracture lines indicative of perimortem blunt force trauma.
3 (Museum Collection)	Left tibia and four bones of the left and right hands, no pathology or trauma.
4 (Museum Collection)	Right radius and ulna, no trauma.
Surface Finds 1983	The cranial vault fragment displays a short segment of patent sutural border with linear fractures consistent with blunt force trauma.
Surface Finds 1984	Seven human postcranial bones with no signs of disease or trauma.
Trench A84 (1984)	First cranial fragment is from the left parietal and displays linear, abrupt fracture margins consistent with perimortem blunt force trauma. The remaining cranial fragments comprise the anterior portion of the maxilla and most of the left zygomatic and also exhibit fracture margins indicative of blunt force trauma.
Square G84	Extensive comminuted craniofacial fractures indicative of massive blunt force injury and the cleanly transected cervical vertebra caused by a single decapitating blow inflicted with a sharp-edged instrument such as a hatchet or axe.

Square H84	Massive comminuted cranial fractures and a stellate fracture of the upper third of the left humerus. Also cut marks of the manubrium and left humeral head produced by a sharply edged instrument such as a knife, hatchet, or metal arrow point.
Square I84	Perimortem trauma consists of massive blunt force injury to the head.
Square J84	The planar fracture surface of the mastoid is characteristic of a blow struck with an edged instrument such as a hatchet or axe.
Square K84	Single cranial fragment has fracture margins indicative of perimortem blunt force trauma.
	Cutmarks on the distal end of the left femur indicates postmortem mutilation and possibly dismemberment.
Square B85	Deep V-shaped fracture caused by massive perimortem blunt force trauma to the cranium.
Square C85	The cranial fragment bears fracture margins indicative of perimortem blunt force trauma.
Square D85	The massive cranial fragmentation is consistent with blunt force trauma.
Square F85	The hand phalanx and three of the foot bones bear cut marks suggestive of postmortem mutilation.
Square G85	Possible cutmark on right capitate
Square J85	Three fragmentary hand and foot bones with no signs of trauma.
Square K85	No signs of trauma.
Square M85	Cutmark on the lower surface of the lateral end of the left clavicle indicates a wound caused by a metal-tipped arrow or a stab wound of the left shoulder. Massive blunt force trauma inflicted by repeated blows to the head by a heavy instrument such as a rifle butt, warclub, or a large stone. The legs were dismembered at the acetabulum, using a heavy bladed weapon such as an axe or hatchet.

Square O85	Gunshot wound to the forearm. Cranial fragmentation suggests perimortem blunt force trauma.
Square P85	Cranial fragmentation is suggestive of massive blunt force inflicted at or about the time of death.
Square R85	Possible perimortem severing of the base of one of the intermediate phalanges.

Table 5. Historical Data.			
Historical Accounts			
Names of soldiers	Testimonials	Publication	Description of events
Lieutenant Lord	Harold Cook	Hardorff 1999	Lieutenant Lord was a doctor with the 7th, and committed suicide after he had almost made good his escape. (pg. 40)
Lieutenant Harrington	Turtle Rib	Hardorff 1999	The soldier rode like the wind and appeared to be getting away from us, when he killed himself. (pg. 59)
Corporal John Foley	Colonel Herbert J. Slocum	Hardorff 1999	Gall showed us where the lone soldier rode away, pursued by several Indians, and finally shot himself and fell off the horse. (pg.60)
Corporal John Foley	He Dog	Hardorff 1999	Your location of Foley is right and he is the one who shot himself. (pg. 60)
Unknown (Custer)	Charles Corn	Hardorff 1999	Before the Indians got to this soldier, he shot himself through the jaw. (pg. 60)
Unknown (Custer)	Ibid.	Hardorff 1999	He was riding a dark bay horse and was very fast, but he killed himself. He shot himself through the head. He could have lived because he was riding a very fast horse. (pg 60)
Unknown (Custer)	He Dog	Hardorff 1999	He had a very fast horse and was pursued until they were about to give up the chase, when he shot himself with his revolver and the horse was caught. (pg. 61)
Unknown (Custer)	Red Feather	Hardorff 1999	They saw some smoke and the report of a gun, and saw him fall off his horse. The Indians went over and concluded he has shot himself. (pg. 61)
Unknown (Custer)	Iron Hawk	Hardorff 1999	He outstripped them, but he dismounted after riding about three quarters of a mile and shot himself in the forehead. He would have escaped. (pg. 61)
Unknown (Custer)	Jirah I. Allen	Hardorff 1999	We only intended to follow him a little further, but he took his own life by shooting himself in the head with his revolver.
Unknown (Custer)	Nicholas Ruleau	Hardorff 1999	They went over to him and found he has a bullet wound in his right temple. The Indians do not know whether he shot himself or was shot by someone, but they believe he shot himself as they saw nobody near him. (pg. 62)
Unknown (Custer)	Foolish Elk	Hardorff 1999	They told that after chasing him for about a mile or two the soldier drew his pistol and killed himself. This we could not understand because the man's horse was swifter than ours and was continually getting farther away from the pursuers. (pg. 62)
Unknown (Custer)	Wooden Leg	Hardorff 1999	Suddenly his right hand went up to his head. With his revolver he shot himself and fell dead from his horse. (pg. 63)
Unknown (Custer)	Unknown field correspondent	Hardorff 1999	...after they had turned back, hearing a shot they looked to see the lone rider withdraw a pistol from his own head, and reel from the saddle, dead- the terrible sights through which he had passed has turned even this soldier's brain. (pg. 63)

Unknown (Custer)	Lieutenant John G. Bourke	Hardorff 1999	The soldier must had been crazed with fright as he was seen to pull out his revolver and blow out his brains. (pg. 63)
Unknown (Custer)	Captain Charles King	Hardorff 1999	...the hunted cavalryman glanced over his shoulder, fancied himself nearly overtaken, and placing the muzzle of his pistol against his ear, pulled the trigger, and sent his own bullet through his brain. (pg. 64)
Unknown (Custer)	Helen H. Blish	Hardorff 1999	The last man of Custer's command took his own life. ...this man could have saved himself but that, maddened by what had taken place and not realizing his opportunity, or being unwilling to take it, raised the gun and fired a shot through his temple. (pg. 64)
Unknown (Custer)	Shot in the Eye	Hardorff 1999	They were amazed by the swiftness of the horse, but not half as much as when the officer, discovering that he was cut off the flight, drew his revolver and shot himself through the head. (pg. 65)
Corporal of Harrington Co.	Walter M. Camp	Hardorff 1999	It is true that one of Custer's soldiers got about a mile away from the fight, and that he shot himself. (pg. 65).
Unknown (Marker 174)	Wooden Leg	Hardorff 1999	Just after he got across the gulch he stopped, stood still, and killed himself with his own revolver.
Multiple Unknown	Antelope	Michno 1997	Antelope saw one soldier panic and shoot himself in the head with his revolver. Then another did the same, and another. By the time the Indians got close enough to count coup on a living enemy, not many soldiers were left to fight. (pg. 203)
Unknown	Wooden Leg	Michno 1997	His horse was tired and as the Lakotas gained on him he put his revolver to his head and shot himself. (pg. 222)
Unknown	White Cow Bull	Michno 1997	I saw him yank out his revolver and thought he was going to shoot back at these warriors. Instead he put the revolver to his head, pulled the trigger and fell dead. (pg. 223)
Unknown	Foolish Elk	Michno 1997	He heard that the man got a mile or two away before pulling out a pistol and killing himself (pg. 233).
Unknown	Wooden Leg	Michno 1997	The soldier crossed the gulch and stopped. Wooden Leg thought the soldier killed himself with his own revolver (pg. 234).
Unknown	Red Hawk	Michno 1997	When he had gone quite a distance, and the Indians had all but given up on catching him, they saw him fall from his horse. The pursuing warriors went up to him and found a bullet wound in his right temple. Since no one was near him, they believed he must have shot himself. (pg. 263)
Multiple Unknown	Wooden Leg	Pennington 2001	Instead of shooting us, they turned their guns upon themselves. Almost before we could get to them, every one of them were dead. They killed themselves.
Multiple Unknown	Wooden Leg	Pennington 2001	The Indians told me that they had killed only a few of those men, that the men had shot each other and shot themselves...
Multiple Unknown	Wooden Leg	Pennington 2001	About that time, all of this band of soldiers went crazy and fired their guns at each other's heads and breasts or their own heads and breasts. All of them were dead before the Indians got to them...(pg. 116)
Multiple Unknown	Kate Bighead	Pennington 2001	It was said that these seven men, or some of them, killed themselves, I do not know... (pg. 116)

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