Defining terms

Violence, in the scope of this project, is defined as bringing harm to an entity in order to disable, destroy or kill said entity. This definition of "violence" can easily be confused with generalized aggression. "Aggression," in the scope of this project, covers adversarial conflict but does not necessarily involve violence. As an example, contact sports, such as football or hockey, involves competition where victory goes to the team who works the hardest, or swiftest, or smartest. "Aggression" in this regard simply implies trying to outdo, overwhelm, or defeat another entity or group, usually with a connotation of physical brutality. Aggression can be considered violent when applied to military actions, an assault, or sports such as mixed martial arts or boxing. However, with careful consideration, aggression does not always imply violence. The project looks at violence as an active challenge to an entity's safety, typically suggesting lethality. Lethality is not always definitive, as actions could be implored to disable but not necessarily to kill. The lack of security draws the distinction between violence and other aggressive actions, and the risk of death or being injured or resolving conflict that cannot be solved rationally plays into why violence entertains gamers.

Immersion makes a player feel like they are "in the game." Gamers describe a game as immersive when the real world around them fades away and they feel fully connected to the game world. It is this sensation, immersion, that makes a player better believe in the game world, distracts the player from the reality of the glowing screen in front of them, just as a good book distracts the reader from the printed words on paper. In the most modern western games, the game puts the player in the body of the player-controlled character and includes several modeled

features to dissolve the connection between the player and the game, such as putting the game camera exactly where the character's eyes would be, so that the camera bobs and moves subtly just as one's gaze does when walking, or seeing the sites of a gun to increase accuracy as a marksman would to to better aim their weapon.

Entertainment is an artifact that is intended to serve an intrinsic purpose for its audience or user, such as for pleasure or ease boredom. Games therefore follow along with the definition of entertainment, except it can also exist outside of the realm of entertainment by serving a higher purpose outside of pleasure, and simply be a game-like system. However, for the scope of this discourse, we will adhere to the idea of a game as a form of pleasurable entertainment with an interactive component. Also a game must have rules and the player must be able to win in some way.

A fantasy is a lifestyle or other existence that, because of insurmountable circumstances, is impossible for an individual to achieve. This could either be due to social norms that must be adhered to, laws and rule, personal ability, resources, or simply because such a lifestyle does not exist or would go against nature. <expand?>

The Warrior Fantasy: from Gilgamesh to Shakespeare

To understand the current motivations for violence in video games we must first look at the long and (ingrained) history of violence in entertainment. Going into tremendous detail

would be beyond the scope of this discourse, so instead I will briefly identify and discuss critical moments in entertainment media and play.

From the earliest preserved literature, epic poems have shown how aggressive conflict has been at the core of human fiction. The Epic of Gilgamesh, often regarded by historians as the earliest work of literature, established many of the traditions of western fiction, including the ever-present trope of the "hero's journey" and the role of violence in conflict resolution. In the Sumerian poems, Gilgamesh is an oppressive king of Uruk, two-thirds god and one-third man. The gods create a wild man named Enkidu to put an end to Gilgamesh's rule, but Enkidu is bested in their first and only fight. Impressed by Enkidu's skills in battle, Gilgamesh befriends the wild man and they quest into the wilderness to defeat the monstrous Humbaba in search of fame and glory. The goddess Ishtar tries to seduce Gilgamesh try to punish Gilgamesh for his series of misdeeds, and eventually leading to the unceremonious death of Enkidu. (come back to this)

The death of Enkidu sends Gilgamesh on a quest for immortality to bring Enkidu back and prevent his own demise, which becomes the focus for the rest of the epic. The theme of death permeates throughout human culture -- it is the foundation of most religions, it has served as the foundation of many philosophical inquiries, and remains one of humanity's unsolvable mysteries -- and the Epic of Gilgamesh illustrates this universal preoccupation with death, especially the context in how we meet our ultimate end. Enkidu laments that he was unable to die a warrior's death because he was sentenced to die by the gods. Why is it better to die in combat than die of natural causes? The ancient author of the epic and authors that followed placed a

significant amount of importance on solving political issues and protecting innocence through glorious combat. The themes vividly illustrated in the poems -- mortality, heroism, glory -- translate into nearly every work of entertainment fiction involving violence, which makes up the vast majority of ancient to gothic literature <need some facts and figures, if they exist>. Furthermore, myths and legends, especially within a religious or spiritual context, had two objectives: send a message and be appealing to an audience so the message travels.

In the epic poems of the author assumed to be Homer, the Iliad and the Odyssey show further evidence supporting the importance of violent content to encourage a message to travel. As with The Epic of Gilgamesh, these two stories were passed around via oral tradition long before they were written down. The story retells the last battles of the siege of Troy, with brutal details of the fights of its many characters. Although the message of the Iliad is to encourage hospitality, the majority of the narrative focuses on the glorious (and not so glorious) battles between main characters and the overall story of the Trojan War. The Odyssey, the sequel to The Iliad, covers the ten-year trek of Odysseus as he tries to reach his home and reunite with his wife. Along the way Odysseus fights a cyclops, avoids the perilous sirens, and then murders all of his wife's suitors upon his eventual return to his home. Odysseus is held in high regard for his actions -- the ideal man -- for his aggressive nature, his effectiveness in combat, and his ability to avoid death against all odds.

Myths and legends have same effect as epic poems in spreading a message of glory in combat and the life and death struggle of heroes. Ancient myths carried with it a more profound spiritual relationship to those who heeded the stories, providing a subject for worship, for fear, or for adoration. Egyptian, Greek, and Norse mythology explained the unexplainable in the absence of accurate science, such as the reasons for abnormal weather, source of draughts, and origins of the universe. For example, norse myth attributes the creation of the universe to a fight between the pantheon of gods and ice giants, with the world as we know built on the remains of the ice giant leader's dead body <this needs to worded more eloquently> In order to spread these stories, they had to be convincing enough to sound plausible, yet exciting enough to be remembered sufficiently for oral transportation. The violent nature of myths can also be attributed to the preoccupation with death and death avoidance, as well as the high value placed on warriorship indicated by the epic poems.

The goals of warfare always had non-spiritual and purely tertiary motivation, and rarely was killing a punishable offense in the eyes of the pantheon. The gods would take part in the conflicts and even take matters into their own hands and take sides, but the combat was to satisfy the volitions of mortals, therefore killing had no greater purpose in a spiritual regard. An infamous example of the continued adherence to unspiritual and misguided killing comes from the Roman gladiatorial games, where people would fight, often to the death, for public amusement. No territory was gained or lost, no moral motivation was satisfied, but people got to experience from their perspective the thrill of combat and all its visceral details, all from the safety of their arena seats. Gladiator fighting serves as a very early, documented example of

killing for pure entertainment and one of the first examples of a what will be discussed

throughout this discourse, a"fantasy of a fantasy." The combat in the gladiator's battlefield,

while usually depicting famous historical battles, was staged in ways to prioritize entertainment

value first and present realistic details second. What was realistic was the fighting: men used real

weapons and wore real armor and actually killed each other. But the circumstances and

motivations for the fights were all staged -- completely fake. And so the spectators, who did not

actively participate in the fights, had the chance to see what combat is like, without any of the ill

effects. But what they actually experienced was a romanticized reproduction -- so the got to live

a warriors fantasy, but the fantasy was also a fantasy!

When Christianity dominated Europe, this trend of "entertainment violence" or warfare

for the sake of human gains came to stop. However, that did not stop conquest in the name of

the Abrahamic God, as seen in the stories in the Bible and the Crusades. Now that killing a

fellow man for earthly motivations was a deadly sin in the eyes of God, killing had to be justified

with religious reasons, such as and primarily to remove non-believers from the land.

An example of literature that brings to light the transition from a pagan to Christian

domination in medieval Europe is Beowulf. The epic poem of *Beowulf* carries the ideals and

symbols of the epic hero to the medieval era, but it is debated among medievalists if the text was

compiled by Christians depicting the pagan Danes or if was a pagan oral tradition written down

by the pagans who heard them. If the former is true, this shows a significant example of how

early Christian Europeans, who would see the pagan Danes as blasphemous heretics, would

accept the story as a form of entertainment, despite not adhering to any of the Christian doctrines, especially those regarding violence. If the latter is true, *Beowulf* still identifies an example of oral tradition in a similar vein as *Gilgamesh* and the works of Homer, that had made such an impact on its people that it was eventually written down. <may need more here>

Despite Christianity's firm stance on murder, Christian stories and leaders made violence a glorious act. The most obvious evidence comes from the Crusades, which, while not an example of literature,

<I need to work on this more, will have this completed by next week>

a) Christianity and glorified violence

    (1) Crusades -> violence in name of God

b) Canterbury Tales (post-christianity)

c) Conquistadors and Columbus

d) Shakespeare and the Renaissance

e) Reformation (30 years war) violence between Catholics and Protestants

    (1) Peace of Westphalia

    (2) Nations had sovereignty to be either Protestant or Catholic

    (3) First inkling that states are independent (not nations, but state sovereignty)

The end of ludic wars and the rise of the hero with a gun

The Industrial Revolution reduced individualism and increased nationalism. With a minimized importance for personal skill, the individual often struggled to find purpose or an identity, causing tremendous amounts of anxiety and pent up tension in the labor class. Even though the Enlightenment brought to the west an admiration of reason, people still had pent up emotional energy that needed a target, which often transpired into passions for God, country, capitalist pursuits, or leisure. Enlightenment brought with it a new sense of individuality, as respect for the person soon outgrew the respect for the group. It became the responsibility for the the individual to be more self-sufficient, to defend himself when he or his cause were threatened. The Industrial Revolution came into conflict with this respect for individuality, where the factory machine diminished the worth of a single person. At this time, when the individual, one of the core values of American liberty, had lost value. In America especially, the gun was seen as a tool to aid in self-sufficiency and self defense, and turn the everyman, once again, into the hero (Emberton).

Johan Huizinga wrote the classic work *Homo Ludens,* which has played an important role in game studies. In *Ludens,* Huizinga discusses the "ludic", or the showing of spontaneous and undirected playfulness, and its necessity in cultivating culture. Huizinga asserts that warfare has traditionally been part of this ludic, in that it contained a "cultural play element.[1] During the 18th and 19th centuries, war between nations had many elements of a game: there were rules, there were procedures, there was an opponent, there was a victor. However, "as long as war

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[1] Huizinga, 91

maintained a difference between combatants and civilians and admitted a rough parity between the combatants, war was a game."[2] In "ludic war," combatants acknowledged each other as equals of similar capability. Also in a ludic war, the object of the campaign was to *defeat* the enemy, not *destroy* them. Therefore, when considering colonial conquest between powerful European nations and less-equipped native populations in the Americas and Africa, these would not be ludic. The Napoleonic Wars, as a counter example, would be considered ludic, because the objective was to defeat the enemy and adopt the losing opposition into your population.

Ludic wars generated a certain appeal for warfare. The honor held for warriors, generated over millennia, stayed true into the Age of Reason. But with reason came sensibility, and honor was placed on civility as well as heroics in battle. The 19th century also saw the genesis of the war novel genre, with classics like *The Charterhouse of Parma, War and Peace,* and *The Red Badge of Courage* in the last 50 years of the century. These novels initially resembled the ancient epics discussed in the previous section. They typically condoned heroics and attacked cowardice, but as time passed they also began to question the moral implications and brought to light some of the bloody horrors of war alongside the glorification of glory in combat. Although the literature towards the turn of the 20th century exhibited a lot of anti-war sentiment, much of the young male public still had an innate desire for adventure which, at this time of burgeoning industry, could only be satisfied by becoming a soldier. <get some examples of this I know it's there, just need some sources>

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[2] Playing the Past, 183

This all changed with World War I, when armed conflict would forever transform from "ludic warfare" to "total warfare." Erich Ludendorff, general of the German army under Paul von Hindenburg, is commonly associated as the individual responsible for this shift in warfare strategy. Ludendorff took previous primary motivation of war, that "war is the continuation of politics by other means," and inverted it into "war no longer to be the seeking of political ends by military means, rather the political state was to serve the military ends."[3] Every aspect of civilization was mobilized to the war effort: civilians were drafted into the war, factories produced weapons, and the infrastructure served the needs of the military. Now, because civilian components were utilized to overwhelm and defeat the enemy, the civilians then became a target. War was no longer removed from every-day life. War was no longer the stuff of legend read about in exciting novels. War was no longer about defeating the enemy, the enemy had to be *destroyed.* And in the age of reason, in order to justify destroying the enemy, the enemy must become sub-human -- monsters to be eradicated.

World War I was the first and only war where the combatants were more excited about its beginning than its end.<REALLY need a source here> Civilians were excited to join up because of two fundamental reasons. First, because of the anxieties of industrial life, young people were left wanting an opportunity to find fulfilling purpose, and fighting for your country satisfied this need. Second, because of the tremendous amount of propaganda generated to dehumanize the enemy and its entire civilian population, there was little ethical resolve inhibiting the desire to kill.

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[3] Playing the Past, 184

World War II had the same aspects of total war as World War I, only much worse and on a grander scale. By the second World War, civilian soldiers were more cautious and less excited, for now the horrors or war were much more apparent thanks to early films like *All Quiet on the Western Front,* based off the classic novel of the same name. But now thanks to world-wide economic crisis, nationalism rose to new heights and to terrible effect. Civilians were now the primary targets of the war, completely eliminating any notion of Huizinga's ludic war,

So how did we go from World War II, the most profoundly unpleasurable, horrible, and non-ludic event in human history, to *Call of Duty,* the best selling video game franchise? The answer lies in Hollywood and American gun culture.

The liberty of the original colonies was won at the end of a musket, held in the hands of the armed public. The gun made the average citizen a hero, at least, that's the romanticized interpretation of it. This is the kind of image protected by the Second Amendment, that at any moment, the everyman can take up arms against a threat to his liberty. This romanticized ideal of gun violence continued as the country widened its frontiers into the west, where having a pistol or rifle was critical for the survival of family and livestock (Brumberg).

This image of the hero with a gun was solidified after action in two world wars, in each of which the American public declared the United States the victor, which influenced post-WWII Americans to see themselves the world's police force, the most powerful military in the world. This only encouraged the proliferation of pro-gun and pro-war culture. Post-war America saw another shift in the roles of men. As the middle class grew, so did the amount of men taking desk

jobs. The growing white-collar worker force began to feel in less control over their destiny,

similar to what was experienced during the first Industrial Revolution a hundred years prior.

Only this time around, the individual became more dependent on larger groups in both

professional and home life, in all regards emasculating modern men (Pitzulo, 3). Gender politics

aside, the anxiety permeating throughout society would create fertile ground for an aspiring film

industry to take root and flourish, full of virtual worlds for people to escape their mundane lives.

The Western film genre reinforced the romantic tradition of the cowboy, the drifter, the

gunslinger. The stars or these films were men who had to protect their land and their ideals with

bad guys with guns, and had to secure their own meals. <need more about western films>

Eventually World War II movies would follow this format. The films would maintain the

ideals of war heroics and the courage and risk the individual goes through in combat. In this new

era of film we see an emergence of escapism, to leave the mundane world behind for a moment

to witness heroics of your Humphrey Bogarts and John Waynes, excitement, drama not available

in real life. In the relationship between World War II movies and their intended audience we can

see a similarity between the audiences of gladiators and the actual wars they represent. Granted,

the actors in the World War II movies do not actually die on screen, but the performance is as far

removed from the actual historical events as the gladiators and the Battle of Thermopylae. These

films were the first stage in making war once again a ludic experience.

Later in the 1950s we see a fascination with destruction, with further destruction thwarted

by, once again, the heroics of a man with a gun. Films become increasingly removed from

real-life events with the introduction of outrageous science fiction. Giant robots from outer space

or Soviet experiments gone wrong were thinly-veiled metaphors for the country's paranoia and anxiety surrounding nuclear weapons and Communist infiltration during the Cold War(Barr, 19). Disasters were the outcomes of evil doers, and in the end a hero with a gun apprehends the evil robot or mutant creature, just as peace and security in real-life are maintained by a superior military force.

<stuff about animation of violence and getting kids involved in violent themes?>

Three major themes can be drawn from the "re-ludificiation" of violence in the latter half of the 20 century in entertainment media, which was critical for the existence of violent games. First is the romanticisation of the grossly unromantic. This can be seen in the early war films and westerns, where the primary objective of the films was to entertain by emphasizing the fun and exciting aspects of violence -- independence, heroics, skillfully avoiding death, etc -- while ultimately avoiding the truths of war and frontier life -- lack of control, ethics of killing others, absolute boredom, etc.

The second is polar good vs evil plots. Of course, this is not unique to the 20th century. As I have indicated, simple us and them dichotomies in combat has been a staple of stories since the beginning of recorded language, and even serves the foundation of religions. The importance of good and evil in the context of entertainment violence is the fact that the media makes these distinctions when the morality in play is more complicated in reality. But in order for the focus of the works to remain on the fun aspects of violence, there must be a good team and an evil team, and there must exist and evil entity for good entities to fight.

The last take-away is the portrayal of violence as a simple solution to difficult problems. <add more in next draft>

Regarding chess and tin soldiers

Now that we have thoroughly discussed the development of violence in literature and other media, let's now look at how warfare and the appeal of aggression has shaped game development. <need better transition> To adequately understand the appeal of video games, we look to the first games: sport and tabletop games. Sports have served to satisfy the desire for physical competition between members of a community. In sports were the non-lethal analogs of their combat-equivalent activities: wrestling, archery, javelin throwing, pole-vaulting. Table-top or "board games" appealed more to the ruling class, those in charge of directing the military and orchestrating whole campaigns, hence the games aligned less with the activities or a soldier and more of a commander. [4]

Huizinga expresses the long history of war as a game:

> *"Ever since words existed for fighting and playing, men have been wont to call war a game... The two ideas often seem to blend absolutely in the archaic mind. Indeed, all fighting that is bound by rules bear the formal characteristics of play*

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[4] From Sun Tzu to Xbox, 5

by that very limitation. We can call it the most intense, the most energetic form of

play and at the same time the most palpable and primitive."

The integration of war strategy into games dates back more 5,500 years to the ancient Chinese game of *Go. Go* is a turn-based board game between two players, where each player takes turns placing stones, one person black stones the other white. The object of the game is to end the game with the most points, which are obtained through surrounding territory in your color stones and capturing your opponent's stones by surrounding them. The legend of the game's creation claims the game was created by warlords that used the black and white stones to plan attacks on enemy fortifications. Regardless if the legend is true, the game has parallels to military strategy, although not as obvious.

Chess has a more obvious analog to warfare, with its knights and castles ready to defend the king or the realm. The commonly presumed predecessor to Chess was the Indian *chatura ga,* which translates approximately to "four divisions," in reference to its four types of pieces, elephants (bishops), chariots (rooks), cavalry (knights), and infantry (pawns). The game traveled along the silk road to Europe, where it was adopted in southern Europe by aristocrats and royalty as an engaging pastime. Boards and game pieces have been found in forts as far was a Britain, with one unearthed from Hadrian's Wall, as well as in the homes of the wealthy, who would wage miniature battles while safe in their Palantine villas and seacoast resorts.[5]

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[5] From Sun Tzu to Xbox, 15

What we recognize today as Chess came about a thousand years later when the rules for "western chess" became standardized across Spain and Italy. While *Go* was the first documented board game, *Chess* had writings about its theory and strategy published in the 15th century, indicating how highly the game was regarded by its players. During the 19th century *Chess* migrated north to France and Germany where the game became ubiquitous among the aristocracy, so much in fact that the game started to find its way into the education of military officers. While *Go* represented a more eastern approach to warfare, which focused on long-term strategy, massive groups of equal units, and subtle mind games between general and opponent ala *Art of War, Chess* aligned more with Western war traditions: specialized units, sacrifice of lower ranks to protect the leadership, and more focus on play-by-play tactics than immediate decision on end-game formation from the onset of battle. Because of *Chess's* likeness to military doctrine and vast complexity (despite *Go* having exponentially greater number of board arrangements), military leadership would introduce the game to their children, along with other toys to inspire military mindset, like tin soldiers and model artillery, in hopes of cultivating great officers. In 1801, Joesph Strutt, author of *The Sports and Pastimes of the People of England*, indicated how a love for war was instilled into the minds of boys at a young age:

> *"Persons of rank were taught in their childhood to relish such exercises as were of a martial nature ... and the very toys that were put into their hands as playthings were calculated to bias the mind their favour."* [6]

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[6] From Sun Tzu to Xbox, 48

Chess was appreciated for its ability to capture the attention of young and old alike, but eventually the game was lampooned as an inadequate representation of warfare. It did not account for several factors of the battlefield -- variance in terrain, weather patterns, armies of hundreds of units. The biggest problem with *Chess* was its predictability: entire strategies could be executed simply by knowing the correct patterns of piece placement, which is only possible when the combatant has "complete knowledge" of the opponent and the field -- every piece is seen by both players all the time. Prussian elite were concerned that the game became too distracting, that so much effort would be spent reading literature and practising strategy for a mere game instead of preparing for the real thing. To train new officers, there needed to be a tool that would simulate warfare under the guise of a game. Prussian army Lieutenant Georg Leopold von Reiswitz and his son Georg Heinrich Rudolf von Reiswitz created the game *Kriegsspiel* (literally "war game") for King Wilhelm III. It consisted of a modular grid system representing different terrain, such as rivers, mountains, forests, and open fields. The game included dice to simulate unpredictable situations on the battlefield, and even mechanics to simulate communication failure among units and incomplete knowledge of the enemy, commonly referred to as the "fog of war." The development of the incomplete knowledge system inspired a modification to *Chess*, where the player only knew the location of their pieces and not their enemy's.

But *Kriegsspiel* was both too complex and not complex enough. Real maps of Belgium were used, and the grid system began to fade away. The number of units and the amount of mechanics added onto the game, intended to increase realism, bogged down the game and

reduced the amount of tension between players. To bring the tension back, referees were given more control over the game's mechanics, such as determining if orders were received or if attacks were successful, much like the role of a computer in any real-time strategy game. The evolution of *Kriegsspiel* made it a formidable training tool used by Otto von Bismarck's officers, as evident by successful campaigns of generals who played the game.

The realism of *Kriegsspiel* captured the attention of civilian men in the late 19th century who wanted to experience the thrill of being in command of an army without any of the responsibility or risk. The game granted a satisfaction of a masculine power fantasy, similar to how sports translated the show of physical prowess without the necessity of actually killing your opponent. It channels the warrior myths, the hero worship, the intrigue, the espionage, and other aspects that make violent conflict captivating, but in itself is still not "real."[7] But because the player of games like *Kriegsspiel* has an active role in the fantasy, as opposed to experiencing it in literature, the experience is considered a real experience. The game and the opponent exists in the same world as the player, so defeating the real player in a fantasy simulation satisfies the desire to have the glory and honor of a warrior besting an enemy in combat.

Throughout the 19th century and up to World War I, a popular toys aimed at young boys were model soldiers and war engines. These toys may seem like a trivial pastime of children, but their creation and intentions were certainly to raise a new generation of soldiers excited for war.

[7] Die Tryin' 16

In 1873, writer W.H. Cremer encouraged "patriotic parents" to invest in their children's future with these little tin soldiers:

> *[it is] important that every child of the new royal empire should be well acquainted with the customs of soldiers of other countries against him we might one day have to stand, face to face, in mortal strife, and therefore very good copies of possible antagonists are prepared for his instruction."[8]*

The level of detail in these toys was considered important for identification of different armies of different nations. Children would memorize the colors and patterns of their neighbors uniforms and strive to have complete collections of toy soldiers to represent any possible enemy to their homeland. Children would reenact little battles using marbles to represent cannon and musket volleys, with the goal of knocking the models over, symbolizing a successful kill.

This type of play would transcend the playrooms of little children and evolve to appeal to adults. Writers H.G. Wells and Robert Louis Stevenson were obsessed with the game, and even high-ranking officials such as Winston Churchill admitted to enjoying collecting and battling with tin soldiers. Wells went as far to publish his own standard of rules for a war game in his book, *Little Wars,* published only a few years before the onset of World War I. The game he devised was heavily inspired by *Kriegsspiel,* which he had learned from his friends in the

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[8] *The Toys of Little Folk, look up the page*

military. He intended to further capture the spirit of commanding an army, which *Kriegsspiel* he believed failed to do because of it's focus on its strict educational objective.

> *I have had quite a considerable correspondence with military people who have been interested by it, and who have shown a very friendly spirit towards it ... They tell me -- what I already expected -- that Kriegspiel, as it is played by the British Army, is a very dull and unsatisfactory exercise, lacking in realism, in stir and the unexpected, obsessed by the umpire at every turn, and or very doubtful value in waking up the imagination, which should be its chief function.[9]*

What's most interesting about Well's game was the author's passion for pacifism. He took care to clarify this position in the work's conclusion, which consists of a lengthy yet eloquent argument that playing nursery-floor battles can advance the cause of peace. He contended that despite his enthusiasm for "tin murder," playing out these battles in a safe setting could allow youth and adults alike to both honor those who had fought in real war while also satisfying men's desire to feel the thrill of war without feeling the need to actually take part in it.[10] However, fellow pacifists also recognized that playing with model soldiers might prepare youngsters for real war. Constance Wilde, wife of playwright Oscar Wilde, was quoted in a London newspaper holding an anti-toy soldier stance:

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[9] Little Wars, *find page*
[10] From Sun Tzu to Xbox, 61

...children should be taught in the nursery to be against war. It has been

suggested that toy soldiers and toy guns should be kept from the children. I do not

think much good can be don that way. It is impossible ... for children not to see

[real] soldiers, and, seeing them, to like their bright clothes and upright bearing.

At the same time, a wise mother can instill into the child a dislike of war.[11]

Unfortunately, according to some historians, Constance Wilde was somewhat correct. In regards to the unusual "cultural bloodlust" exhibited at the onset of World War I, some explanations point to the "new rigors of industrialized life, the wicked duo of institutionalized boredom and high-stress environments. The environment changed, but the desires for war still boiled in the psyche of young men, due to several generations of Europeans having a steady diet of imperialist pop culture through the kiddie literature of the day and fighting fantasy battles with toy soldiers. "For those who never knew war firsthand, these fictions portrayed it as a great adventure, a thrilling, testosterone-affirming escape from the emasculating drudgery of modern existence."[12]

Computers for fun

Contemporary video games owe much of their existence to military interest. If it wasn't for the Cold War, there wouldn't be well-funded armies of computer engineers supplied with the most powerful supercomputers and ample free time to tinker with programs. One of the first

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[11] From Sun Tzu to Xbox, 50
[12] From Sun Tzu to Xbox, 51

popular games played on a computer was *Space War!*, played on oscilloscopes in research laboratories across the United States.

Space invaders: saving earth from aliens with a ship that shoots, you can die from th aliens

Battlezone: first person perspective, player operates a tank. Illustrates how appealing being immersed in a game can be, and how people want to be "in game"

Missile Defense: another example of continued military involvement in games, allude to to future of that

The first-person shooter

<will elaborate later>

Wolfenstein 3D: first FPS shooter. Shooting Nazis and monsters, gory details

Doom: really starts the trend of FPS popularity, spawns several "clones", draws media attention to violence in games, controversy occurs.

Quake: introduces the quake engine, which will revolutionize FPS graphics and will be the foundation of most current game engines. Popularized multiplayer

Unreal Tournament: much like quake, introduces another game engine, really popularizes the fast arena style combat

Half-life: narrative in a FPS. No cut scenes, player takes active role throughout the game, perspective never leaves the player character. Also spawns several modded games

Counter Strike: mod of Half Life, combines fast arena style combat with realistic weapons and environments and scenarios (VIP protection, bomb disarming, anti terrorism)

Halo: next phase of the FPS. Motivates emphasis on online multiplayer combat with more realism. Introduced limited loadouts. Sparks franchise.

Battlefield 1942: latches onto appeal of multiplayer game, places into recreating WWII battles. 32 v 32 battles, all vehicles operated by players. Sparks franchise

Call of Duty: WWII game, started trend of "cinematic" gameplay. Not realistic to WWII, feels like WWII movie. Sparks franchise

Far Cry: uses CryEngine. Lots of freedom of movement, brutal combat mechanics

Gears of War: not FPS, but shares almost every aspect other than the perspective. Very gory. Designed with mindset of replicating tension or combat, inspired by paintball and actual combat experience. Emphasizes cover and strategic firing. Popular among veterans.

Dishonored: gives players an option to not kill anybody, but killing people is very visceral

<i'm not sure what recent games other than Dishonored would I consider "influential">

The project focuses on the first-person shooter genre because of its characteristics conducive to immersion, its prevalence in gaming culture, and its predicted longevity as a genre. The first-person shooter, ever since its early incarnations in the mid 1990s, is defined by the

point-of-view of the camera, which lies at the general location of the player character's eyes. The exact location of the camera varies, but typically, with military shooters such as *Call of Duty* or fantasy role playing games like *The Elder Scrolls,* the camera can clearly see character's hand-held weapons. The character's body model connects the player to a three-dimensional virtual world, as the player has the ability to walk in any direction and realistically comes into contact with physical obstructions. The weapons in the FPS allow the player to "connect" with the world further via projectiles propelled from a gun and hitting game objects. The connection feels real to the player because of the disconnect between the player in the real world and the game object the projectile hits. Just as a marksman fires a rifle to hit a target, the marksman does not hit the target himself but via a propelled, separate projectile. Modern gamepads have motors that provide haptic vibration to replicate the sensation of holding a gun while it fires, further increasing the believability of the action. Because of the combination of the haptic sensations and the fact that the player character does not (normally) physically touch targets to "hit" them, first-person shooters can easily create a believable interface between the real and virtual world.

Not unique to the first-person shooter but certainly an important characteristic, the player exhibits a considerable level of agency in the virtual world. The player is responsible for the life of the player character and possibly allies, and capable at inflicting damage to people, structures, terrain, and objects. The player's role in the life and death of virtual entities causes much of the controversy surrounding the genre while also affecting the player's sense of immersion.

Most studies of first-person shooters typically focus on how these games will eventually destroy the fabric of civilization or raise a generation of merciless killers. The violence in these games may or may not actually be problematic, as studies have disproven links to violent video

games and abusive behavior (Markey, Markey, & French), but the fear generated from this implied causality has a lasting impact on the perception of violent games, and not so much violent movies and other literature. Violence has been prominent in entertainment for centuries, and has been more acceptable than other touchy subjects like sex and vulgarity. Therefore it's not the violent subjects in these games that critics fear, but the agency the player possesses in the violent activities. Alexander R. Galloway identifies player action as the central medium of the video game:

> *If photographs are images, and films are moving images, then video games are actions. Let this be word one for video game theory. Without action, games remain only in the pages of an abstract rule book. Without the active participation of players and machines, video games exist only as static computer code. (Galloway, 1)*

Because a game comes from the player's interaction with the digital content and not the content itself, a violent game therefore instructs and guides a player to become an aggressive agent. The characteristics of the first-person shooter serve to heighten this agency.

The first-person shooter genre prevails in Western culture. In 2015, shooter games made 21.7% of the gaming market share, trailing behind action games by only 7%, and beating all other genres by large margins (McCarthy). The genre has had a lasting impact on the reception of video games as a medium ever since *Doom* in 1996. The interface of the first-person shooter serves as the best analog for the future of virtual reality games. Acknowledging the several modern exceptions of first-person games that lack any form of violence, such as *Firewatch* or *Gone Home,* the genre shows what kinds of game mechanics that could easily be accomplished

through current VR implementations, such as the projectile-disconnect explained previously. Because of its significant placement in gaming culture, the characteristics of the FPS have dictated development of video games, and continues to affect their development especially in the realm of VR, as seen by early prototypes of immersive game technology.[13][14] Most importantly, VR is "first person," both in terms of perspective and agency. The participant does not control a separate character, they are the character. Of course, the perspective is not exclusive to shooters, as several puzzle games take place in the first-person perspective. What the FPS provides, however, is a unique continuous connection between the participant and the virtual world through navigating the space and by connecting projectiles to targets. This facilitates a mutual reinforcement of immersion and identification with the player character (Call, Whitlock, & Voorhees, 34).

Video games introduced decision making and skill into digital media consumption, which restored some sense of control to individual lives. Later, in the game *Myst,* first person perspective made the player the character, and the character's actions are the player's actions, immersing the player into a virtual world or puzzles and decision making. Once a gun was added to the immersive perspective, the FPS genre was ripe to take off. The gun restored control to the player's life: now instead of watching someone else escape reality and live vicariously through a character in a film, a video game player could be the one to literally call the shots. Multiplayer satisfied the individual need to be better than other individuals inherent in aggressive competition. The virtual violence in these competitive environments evoked the ideals of self defense against others, proving to the oneself that you are more capable than others of keeping

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[13] http://www.virtuix.com/
[14] http://www.priovr.com/

themselves alive. In all games, players make decisions, a type of control, but in an FPS, the decisions must be made quickly and frequently in tests of control. Soon as graphical capabilities improved, American FPS games pushed the boundaries of realistic graphics, to make violent games as real and as gritty as possible.

Several mechanics are ubiquitous among the FPS games. These mechanics are not necessarily unique to FPS, but they are nevertheless critical to the dynamics found in the genre and contribute to its lasting appeal. The primary mechanic of FPS is, of course, the shooting. The actual shooting itself can take two forms: physics projectile and point-to-point vector. <find the actual terms for these, if they exist> point-to-point vectors are the simplest in terms of gameplay and computer calculation, as it involve knowing the angle and position of the tip of the weapon, usually the position of the player's crosshair on the screen and then using that data to essentially draw a line out of the tip of the weapon. If this line intersects a target, a hit is detected. This kind of gameplay occurs in more "arcade" style games where aligning the crosshair and clicking is all it takes to score a hit. Of course, this is not how guns work in reality. A bullet or other projectile is a physical object affected by air resistance, gravity, weather conditions, and weapon specifications. The physical projectile model used in some FPS games attempts to get closer to reality. In these games, the bullet will actually take time to travel in space and hit a target and have a trajectory arch to represent the bullet slowing down as it would in the real world. This phenomenon is typically referred to as "bullet drop" in the gaming community, a term borrowed from actual ballistics training. The amount of the bullet drop adheres to real-life physics varies from game to game, usually depending on if the game is meant to emphasize simulation or gameplay. Sometimes bullet drop is applied to weapons in a game simply as a form of *balancing*,

that is, making weapons that would be otherwise overly effective in dispatching enemies more

difficult to use by increasing the amount of skill required to predict where a projectile will land

based on its speed and trajectory. This of course only works in the realm of a game that focuses

on fun gameplay, as in reality the goal of weapon engineering is to make the weapon's

capabilities as effective as possible, which would be limiting the unpredictability of the weapon's

projectile. As a simply example, a common weapon in FPS games is a rocket launcher. The

standard trope is a slow moving projectile that travels on an almost parabolic path (with the

exception of games like *Quake* and *Unreal* where the slow-moving projectile travels along a

straight line). The projectile, when it successfully hits, does tremendous damage, and even create

"splash damage," or inflict harm on targets within a certain radius from the impact point. The

RPG-7, a Cold War-era weapon used by rebel forces and insurgents due to its relative

affordability and availability (indicating that it is not exactly a sophisticated, modernized rocket

launcher), has a muzzle velocity of 115 meters, which is roughly the length of a football pitch, in

a second. With its combination of explosive damage, range, velocity, and fragmentation, the

RPG-7 is a fearsome weapon in the field. But in a standard non-simulation game, an RPG-7 is

slowed down and harder to aim, as getting kills with it would be "too easy" and therefore limit

the enjoyment of a game. Instead, a more unrealistic trajectory akin to a toy bottle rocket is used

in a game.

Another critical mechanic of FPS is ammunition and reloading. Conventional firearms

take ammunition (ammo) from a payload of limited capacity attached to the weapon. In

gameplay, this forces the player to make their shots count, lest they have to stop in the middle of

a volley to put more ammo in their weapon.

f) More mechanics

g) Imagery

h) Immersion / agency

i) Controversy

B. Non-FPS violence and its various guises and forms

1. Aggression in sports

2. Adversarial games

3. "Kid friendly" violence

a) Mario

b) Zelda

c) Pokemon

d) Little Big Planet

e) Skylanders

C. Why is Violence Fun? (culmination of the background section)

1. Motivations / emotional needs

a) Autonomy

b) Belonging

c) Competency

2. Violence compounds and enhances the perception of games satisfying

these needs.

3. Deep-rooted systemic inclusion of violence

Case Studies

<will elaborate>

http://drum.lib.umd.edu/bitstream/handle/1903/10106/Travers,%20Christopher.pdf?sequence=1

http://public.psych.iastate.edu/caa/abstracts/2005-2009/07cab.pdf

http://www.sprachnichten.de/wp-content/uploads/2012/09/violent-video-games-prime-both-aggressive-and-positive-cognitions.pdf

https://www.sciencedaily.com/releases/2013/03/130328091750.htm

Field studies

Round 1:

https://docs.google.com/document/d/1kASbnGI-8sYP4gMmzT2V1aAjwrxkCjZZP1J9XqECruM/edit

Round 2:

https://docs.google.com/document/d/1FNPGEw3zG2kSjbkwpa8owmpCTJlZfuQrQSuHobnTX3U/edit

Round 3+ ?

Analysis

https://docs.google.com/document/d/1J6yXCFtAy4bgf2Q3krsh5ZnWb-2GYZ8AfU-P8hOwlvE/edit

How I derived the start of violence spectrum from field studies

Classifying violence

In all entertainment media, violent content will fall under two categories: romanticized and deglamorized. Each implement violence to accomplish two different agendas. "Deglamorized violence" aims to address the more serious aspects of violence, and capitalizes on themes of mortality, the weight of loss of life, justice, and the lack of duality between good and evil. When a work wants to address the real implications of violence in the world, deglamorization occurs. "Romanticized violence" serves as a foil, and aims to address the fun aspects of violence, such as putting down evil people who are only evil for the sake of being evil, or being able to survive by one's wits and one's gun. In order to accomplish deglamorization correctly, much more thought must go into the narrative and drama. The violence is not to create entertainment, it's there to create a message and set the tone of the piece. In effect, works with deglamorization typically show much more graphic gore and mature themes meant for adults. Here you find *Saving Private Ryan* or *The Godfather.* In romanticization, the violence *is* the entertainment. This form of violence shows more popularity in film and games, and often intended for even children. This is the realm of comic book heroes and PG-13 blockbusters.

The propagation of violent media illustrates its prevalence in popular culture. In the realm of violent video games, the violence typically exists as the central aspect of the game's mechanics, certainly with first-person shooters. Games exhibit both categories: *Team Fortress 2* capitalizes on the fun aspects of violence as seen in 1970s spy movies, while *Medal of Honor*

evokes the somber tones of World War II films. However, both somehow have the ability to generate entertainment value from making the player an active participant in violent acts.

Psychological studies have indicated three primary human needs that motivate us in our daily lives. These three needs are autonomy, belonging, and competence. These three needs also provide the reasoning behind how people find violent games enjoyable. People desire to have the ability to make choices in their lives. People also want the satisfaction of making correct decisions. Autonomy revolves around the concept of decision making, but also include having control over decisions. Belonging, or relatedness, concerns the desire to be a part of something bigger than the self, whether that involves working with a small group to accomplish something or feeling accepted by a large community. Belonging can also correspond to providing meaningful contributions to a group of people, to feel useful. Usefulness ties into competence, which encapsulates the desire to have and use knowledge. People also want to demonstrate their knowledge to others, and sometimes the amount one knows becomes competitive.

Violent content in video games serves to bolster the satisfaction of these three basic motivations. Especially true to first-person shooters, the player must make thousands of choices every second. Stephen Totilo, editor of Kotaku, explains the effect of the frequency of choices in a first-person game:

> *Any good game is a series of decisions. They're not necessarily always decisions that you enjoy intellectualizing or thinking about in terms of their context, but they're interesting. What can I do next? What will I do next? What will I choose not to do next? And the shooter games wind up presenting some of the most interesting, in-the-moment decisions*

available when you're playing games. Simple things that you wouldn't really want to have to worry about in real life, but should I run here or should I hide? Should I shoot? Should I shoot here? Should I shoot there? Constant decision making is what these games are all about (Totilo).

The tremendous frequency of decisions made in this context increases the amount of satisfaction experienced when these choices successfully keep the player character alive. The life and death scenario of these games enhances the satisfaction obtained from decision making because of the sense of meaning derived from the depicted situation, whether it be a realistic military war zone or futuristic starship. Even though the depicted situation is simply a recreation on a digital screen, the immersion of the game makes the player feel like it's actually happening.

In a similar fashion, the life and death scenario increases the effectiveness of a game's ability to satisfy belonging and competence. By aiding to keep teammates "alive" in a dangerous situation, a player can feel they made significant, meaningful contributions to a combined group effort. Staying alive in such a game also demonstrates one's competence in a game, but because of the sense of reality crafted by the game, the competence can be regarded to have translated to real-life application,

Most modern first-person shooters have competitive multiplayer as a critical component. The multiplayer adds another layer to the entertainment value of these violent games due to the observations by other players on the activities of a player in a game. Playing and communicating with other real people to accomplish objectives further satisfies the need for belonging and in a way that includes more authenticity than with computer-controlled allies (Rigby & Ryan, 71). In

a competitive context, "killing" an opponent proves a player's competence in the game exceeds that of the "slain" opponent. Because one player is depicted as dead while the other is alive, the imagery and context provoke satisfaction of the most carnal achievement, survival.

Despite the theoretical effectiveness of violent context in games to enhance the satisfaction of the basic motivations, personal taste affects how much one is willing to subject themselves to violent media. Regardless of taste, people experience a rush of adrenaline when playing violent games, which is the same reaction when exposed to real-life risky situations. According to developmental psychologist Douglas Gentile,

> *These gamers do have an adrenaline rush, and it's noradrenaline and it's testosterone, and it's cortisol — these are the so-called stress hormones ... that's exactly the same cocktail of hormones you drop into your bloodstream if I punched you ... But when you know you're safe, having that really heightened sense of stress can be fun (Yenigun).*

When in danger, humans, like other animals, kick into fight-or-flight mode to ensure they live another day, either by getting as far away as possible from a threat or by becoming a threat to their threat. Humans are naturally wired to have this response, and when the response is triggered in a secure environment, like when playing a video game, it can arouse a sense of enjoyment. As an activity approaches a point where security loses absolute certainty, as experienced in haunted houses, roller coasters, or paintball, the fight-or-flight response continues to increase in magnitude but fear for security will eventually take over for most people (Tajerian). With a haunted house, a person can have direct physical contact with their biggest irrational fears; with roller coasters, there's an awareness that some people have died from

similar rides; with paintball, real pain occurs when hit by an opponent. As brought up by Gentile, people get pleasure from the chemicals that result from getting punched in the face, but the actual pain resulting from getting punched in the face can offset that pleasure. The same occurs with violent games and a player's sense of morality.

Some individuals I interviewed expressed how they felt morally opposed to violent content in video games, especially when the violence involved committing controversial acts, like crime in *Grand Theft Auto* games or shooting civilians in *Call of Duty: Modern Warfare.* Some simply felt that because killing in real life was wrong, killing in a videogame was wrong as well. Players are aware that the game world is not real, yet when given the opportunity to kill in a completely virtual world, despite not actually killing, they still feel morally opposed to killing, because the immersion and agency allotted to them makes it feel real.

In the opposite regard, some people absolutely want to kill in a virtual world because it feels real to them but without the emotional baggage of actual killing in the real world. For these individuals, violence plays a critical role in their gameplay, and often defines the key aspects of those games. To tie back to the idea of life-and-death significance present in violent games, depiction of dangerous situations in a game validates some gamers' sense of fulfillment in a game. As an example, the "mature" content of these games dissolved some notions that video games were only for children, and made escapism (or even "make believe") an acceptable activity for working, peaceful adults. These games made adults bored with their lives feel like they were "actually doing something," despite simply looking at a glowing screen with a

gamepad in their hands. Violence validated their make-believe play, despite being morally opposed to violence in real life.

Reception of violent content in games varies for different people and depends on the background and held preconceived notions of the medium, which makes investigation of this topic rather tricky. A common aspect of concern is the graphic nature of violent content which challenges the sensibilities of some people and produces discomfort, whereas some people find this discomfort pleasurable or entertaining. The amount and intensity of graphic content often coincides with believability of action, which ties into immersion. If a game "pulls punches" by reducing the amount of gore produced by a particularly brutal attack, some may find the game immature or lacking. As an adjacent aspect, the context of the violence also affects one's enjoyment of the game. Does the violence take place in a romanticized battle between good and evil, or does it involve running over pedestrians with an automobile?

To better organize characteristics of violent video games, I constructed a violence spectrum. The spectrum optimizes gauging interest in violent games and categorizes different aspects of different types of violence. Currently I have five levels: no violence, comical violence, fantasy violence, realistic violence, and hyper violence. The framework is based on research and consultation with several game designers and self-identified gamers. I hope to create additional intermediate levels with further research to make the project more interesting.

Violence Level	Examples	Characteristics
1. No	*Little Big Planet, Tetris,*	Imagery ecompasses abstraction, stylization,

	Fez, Viva Pinata, Gone Home, Firewatch	and realism. If any aggression occurs between entities, it's either through dialog or humorous contact with no physical harm inflicted.
2. Comical	*Mario Franchise, Super Smash Bros., Pokemon, Super Meat Boy, Binding of Isaac*	Stylized or cartoon imagery. Physical harm comes to other entities, but in comical fashion and rarely results in death.
3. Fantasy	*DOTA, League of LEgends, Final Fantasy, Kingdom Hearts, World of Warcraft*	Imagery approaches realm of realism yet emphasizes fantastic aspects. Art focuses on depicting impossible visual phenomenon. Physical harm and death occur often but through unrealistic circumstances and with minimal gore.
4. Realistic	*Battlefield, Call of Duty, Medal of Honor, Grand Theft Auto, Total War*	Audio, art, and animations mimic real-life as much as budget allows. Death is primary method of neutralizing entities. Camera typically in first-person perspective. Physical harm represented with anatomical correctness and gore certainly occurs.

		However, the gore occurs in a controlled fashion.
5. Hyper	*Gears of War, God of War, Dawn of War, Mortal Kombat, Dead Space, Doom, Far Cry*	Primary focus of art direction is to emphasize aggression. Gore, while sometimes anatomically correct, is abundant, and violent actions aim to generate as much gore as possible. Imagery drifts back to stylized realm but typically stays within boundaries of realism.

Prototypes

For my first prototype, I created a simple game to demonstrate my idea of "different look, same game" to identify how violent content affects gameplay and player's feelings towards a game. The game I constructed was a simple 2D sprite game akin to Atari game, *Outlaw,* where two opponents face off and shoot at each other, able to hide behind cover and move vertically up and down the screen to dodge incoming projectiles. For my game, I let the player control what the game looked like. With a button press, the character models, the bullet sprites, the cover, the background, and the music would change. I made the game before I developed the above framework, so I did not put as much thought into the forms in the game as in the framework. The game had three forms. In the first, simple squares represent everything as gentle music plays. In

the second, the player avatars are replaced by cartoon-stylized lizard monsters that shoot fireballs at each other, the cover turned into city buildings, and the music changes into the Godzilla theme song. In the final form, the avatars become human future-soldiers with large guns that shoot projectiles resembling a tracer round, and the quirky Godzilla music changes to aggressive heavy metal music.

People play games, just as most activities, to satisfy the three fundamental needs. If the game's mechanics satisfy one or more of these needs, autonomy, belonging, or competence, then the art direction should be irrelevant, but it is not. People will prefer and gravitate towards one of the forms based on personal taste. The game in the aspect prototype exhibits the same mechanic of a simple shooting game, but users commented how the change in aesthetics felt like entirely different games, suggesting the amount of influence graphic content can have over a game's reception. This also illustrates how concerns generated by violent games emanate from the graphic content, context, and implied identity of the subjects and not from how the games are played, despite the essence of the game coming from the actions of the player, not the visuals and audio.

However, I will admit the prototype did a poor job of going deeper on this insight, as the underdeveloped game, with it's faulty controls and lackluster gameplay, distracted the players too much to obtain any useful information from their play.

My final product will be a matured evolution of this aspect, ensuring the quality of the game does not take away from the intended investigation. I developed a system prototype to illustrate, in detail, what the game will accomplish. The game will be a VR FPS game focused on

full-body immersion that allows the player to change the form of violence, like in the aspect prototype before it. Each "form" will encapsulate one of the categories along the violence spectrum I explained earlier. The amount of time spent and the player's performance in each form is tracked.

<this will be modified once I have completed the next phase of my product creation>

I wanted to see if I could find useful information in tracking the objective physical responses of the player. Numerous studies have shown how games indicate psychological arousal through heart rate (Barlett, Harris, & Baldassaro) and skin conductivity, standardly referred to as electrodermal activity, or EDA (Poels). From these residual effects researchers can extract a player's feelings in game, such as fear, excitement, or frustration (Cicchirillo & Stewart, 383). The game would track the player's kill-to-death ratio as another metric into player performance, to see if the player would get a different average game score with the introduction of different levels of violence. The game would track subjective information, such as violence spectrum preference, through tracking the time spent in particular forms. This information would potentially coincide with the questionnaires conducted at the beginning and end of the study -- if someone expressed feelings that violence is critical to the games they play and have no problem with excessive gore, then they would in theory spend the most time in the most violent form of the game. However, there preference in violence says nothing about how their physical body will react to the different forms of violence or how their score in the game would be affected. Also, theoretically, a player may spend more time in a form of the game that

contradicts their questionnaire responses, which would indicate how violence may be received

differently within a virtual reality game versus a traditional video game.