Abstract: Gaming industry in its short span of around forty years has evolved from a hobby to a huge economic industry. However, undeniably, incredible advancement in video game graphics has allowed this virtual world to manipulate and escalate its consumer’s behavior. Violent video games, according to Professor Robert Sparrow, have long been used for political contestation and social unrest. The study serves to analyze behavioral escalation through video games. This study has used Ian Bogost’s Procedural Rhetoric as a methodology to analyze video games. The results showed that video games are persuasive interactive medium that escalate behavior and have great potential to be used as a tool of Hybrid war. Louis Jones stated that propaganda and unconventional warfare is not a new thing, it dates back to Greeks. Colin Gray, military strategist, described the future warfare as similar to the historical one but with modern means of technology.

Key Words: Behavioral escalation, Video games, Hybrid war, Gaming industry, Negative Effects, Positive effects.

Introduction

Apart from providing fun, pleasure and competency, video games have some negative effects when played for long time. Various psychological impacts on health and behavior are stated by researchers, which are similar to the effects produced by watching television excessively. The notable advancements in video game technology have made it to be able to create a new world for gamers. These can be so addictive for the gamers to perform many violent actions in the virtual world of games that can be real danger if performed in real life. Parents should have

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*Assistant Professor, Department of Arts & Media, Foundation University Islamabad, Rawalpindi Campus, Rawalpindi, Punjab, Pakistan. Email: haseebwaraich79@gmail.com
†Lecturer, Department of Arts & Media, Foundation University Islamabad, Rawalpindi Campus, Rawalpindi, Punjab, Pakistan.
‡Dean/Professor, Department of Arts & Media, Foundation University Islamabad, Rawalpindi Campus, Rawalpindi, Punjab, Pakistan.

check on their children and control the amount of gaming they are indulged in. Also, the adolescents and parents should check whether the content of game is appropriate or not. (Joseph, 2012)

While in his doctoral thesis, Morgan James (2015) stated that users are active while experiencing any media in argument to the assumed influential behavior by violent media content however the great difference between violent media and violent games is the interactivity of user with the virtual world of video games. Morgan also wrote that whenever a new technology rises, people start to be concerned about it. Mostly negative attributes are associated as did with newspapers, radio, and comic books. Newspapers were accused of training the criminals to commit and then escape from crime as they published the whole criminal cases for general public (Joseph, 1929, p.52). Radio was accused because it was supposed to be the source of catharsis for the people listening to dramas having crime stories, and comic books were the first and foremost evidence for investigation if there came any tragedy in somebody’s life (Rowland, 1944).

However, undeniably, incredible advancement in video game graphics i.e., realistic animation and motion-controlled sensors have allowed this virtual world to manipulate and escalate its consumers behavior. So many game researchers have discussed the notion of play in their studies among which the notable name is Huizinga, who in his work Homo Ludens claimed that the basic idea behind play consists of targeting a certain goal and it always have a representation of an event (Joseph, 2012). These attributes of playing have been used and manipulated in video games for many purposes. Since 1970’s video games have been used secretly for advertising purposes. First example of which is Lunar Lander, in which there was the only food place McDonalds on the moon. The 1980’s developed many video games for companies to advertise themselves such as Coca Cola Kids. Video games was more beneficial medium for advertisement for the companies as compared to television because of repeated exposure and longer time than around thirty-second advertisement on TV.

These video games have become attraction for people for its social interaction capabilities for example the online multi player video games. While interacting with people around the globe, the factor of time spent comes under consideration. In one of the arguments, Morgan (2015) states in his thesis that so many social and empirical researches have conducted on effects of violent interactive games playing results, which showed that the players develop anti-social behavior while exposed to such media for long time. In comparison of other violent media with video games, if the player dies in the video game, he can restart the game over and over again in order to achieve certain goals, thus expose him more towards violent content than other violent mediums.

Violent video games, according to Professor Robert Sparrow (2015), have long been used for political contestation and social unrest. He quoted the example of Grand Theft Auto which includes so many acts of moral violence, killings that would be otherwise terrible for the real world (Herz & Macedonia 2002). Many video games are being used by the military corporations
in the world for training and recruiting purposes for their capabilities of persuasion and learning. However, the argument here arises when such video games are released for general public also. *Full Spectrum Warrior* has been used for training military and marketed for entertainment simultaneously (Reyes, 2017). David Demers (2014) wrote in his thesis that video game industry is becoming more appealing for military trainings and entertainment industry simultaneously due to advance developments in video game developing and enhanced realistic graphics for presentation. However, he pointed out those video games as a medium alone does not serve the purpose of achieving certain goals; in addition, politics of fear and war are also used for such missions. The medium of video games is playing the role of virtual mediator. Louis Jones (2017) states in his article that propaganda and unconventional warfare is not a new thing it dates back to Greeks when they left wooden horse at Troy. Colin Gray, military strategist, described the future warfare as similar to the historical one but with modern means of technology. The new virtual means of warfare have not altered the nature of warfare but have developed its new ways. Minhail Anton (2016) defined, hybridity of war requests both material and cognitive approaches. Louis Jones (2017) defined hybrid war as unconventional warfare that links propaganda, civil unrest and terrorism.

Video games are the most persuasive interactive medium, where reality and fiction works best together. Having powerful rhetoric messages in graphics, the video games are escalating behavior and used as a tool of hybrid war. Therefore, the research question is, How behavioral escalation is being done through video games? Which is further divided into two subcategories: a. which rhetorical strategies are used in video games graphics? b. How video games are being used as a tool of Hybrid War? Much research work has been done on video games regarding the issues of time spent, content and representation, but there are much more design elements and Symbols in the game graphics to be identified that persuade their users unconsciously. Moreover, video games have been discussed by many researchers in relation to behavior and military themes, but there is less literature available to predict such video games to be used as a tool of hybrid war.

**Review of Literature**

The virtual technology has established no boundaries between reality and fiction in the video games. The technological advancement in media industry has added more power to the effects on people. Virtual technology has so much potential to involve its users. It has power to make the users believe also make them unable to differentiate between the real and fictional world. The game graphics has been made so real and appealing that it has multiplied its effects. In addition to the strong visual imagery and sound, the super interactivity of gamer with the game environment is giving boost to this industry.

These technological advancements also brought sensational content in media. The term *sensationalism* started to emerge in 19th century with a negative connotation to demean those journalistic and literary works that targeted senses, to provoke emotions among the audience.
The manipulated bodily and enhanced reactions were represented with such an accuracy and ultra-reality, that it started to be accepted by the audience over the time. When exposed to such sensational content repeatedly, Lindsey says, it becomes the norm. The advancements in audio and video stimulations added more value to the sensational media because of their undeniable characteristics of integrating reality and fiction, thus blurring the existing line between fiction and reality. “When the truth is buried in bias, sensationalism, and comforting mythology and then delivered with cinematic finesse, it’s tempting to embrace reality as fiction”.

This great potential in the video games makes them tools for entertainment as well as for recruitment. Their great long-lasting impact makes them to be able to use as recruitment tools for military around the world. This notion has been further explored by David, that various video games have been used by US military, using multiple rhetorical devices. Using Ian Bogust’s procedural rhetoric as theoretical framework, he explored how video games are capable of influencing and spreading dominant culture and analyzing games for being used as a tool for recruiting military (in US). He explored video game, America’s Army which is among the official games used by US military for recruitment. Moreover, he used discourse analysis to explain ideology behind the military themed video games played by soldiers and common people at the same time. For this he analyzed Call of Duty, video game that has been played by huge number of people. It was military themed and one of the best-selling video games ever.

Video games have been effectively targeted its audience. More specifically those video games that has military themes, and use powerful rhetorics for entertainment and ideological influence. Ideologies have crucial status for bringing about change in any society. They have always been used as active agents for political purposes. David has pointed out that there is lesser amount of academic content available regarding video game ideologies. Serious or educational video games are seemed to be the focus of many researchers but there is less literature available regarding recreational video games ideologies. Many researches are conducted on effects of video games playing on the players encompassing cognitive and phenomenological aspects rather than ideologies. For this purpose, two most effective devices are, story and myth. They have the persuasive power to deliver viewpoints of any ideology in the most pleasing way and are used as disguise for changing concepts in any society.

Many researches have examined the negative effects of violent games on children’s behavior. Empirical review revealed the children who used to play violent games for long are vulnerable to more aggressive behavior in future than the children playing non-violent video games. Another research conducted for this concern suggests that those children and adolescents who are repeatedly engaged in playing violent video games have more chances to have problems in behavior such as aggression in their adulthood. In their research about children playing violent video games, even if played for a short time have impact on behavior of children. Those children who are exposed to such violent games for longer time develop primed schema for aggression. Unfortunately, even more gruesome accounts of violence due to the game exist. In 2013, an 8-year-old child from Louisiana killed his old grandmother when she
was watching television. Sky News reported that the boy was found to be playing Grand Theft Auto IV minutes before the shooting.

Children develop primed schema while playing violent video games. There has been an evident representation of certain group of people in these games. This study suggests that such schema is most likely to be developed towards specific race or ethnic group. Children and adolescents may react aggressively in real life when they encounter similar group of people in future. Violent video games contain more racial stereotypes and gender representation as compared to non-violent video games. Those who play these games are most likely to indulge in these racial and gender stereotyping. In 2003 a game was designed and marketed named as *Grand Theft Auto: Vice City*. In this game, Haitians and Cubans were represented as criminals and the game instructions clearly directed its players to kill the Haitians and Cubans. The game producer had to remove those instructions after the public raised protests against it. Another study suggests that those who play violent video games lack in empathy. That makes them aggressive in real life and they lack the feeling of care and sensitivity where needed.

Exploitation of domestic fault lines like political, economic and societal is the main target of Hybrid War. The incremental approach that is followed in Hybrid Warfare is designed to gut a state from within. Hybrid war is very much relevant to Pakistan. In fact, the state and society of Pakistan is already fighting Hybrid War. Enemies from within through extremists and terrorists have targeted Pakistan as proxies for thousands cut strategy.

As described earlier, one of the objectives of this research focuses on how the video games are used as a tool of Hybrid war. Taking account of this argument one should consider what Ismael Garcia from Venezuela notified about the possibility of American invasion. He claimed that “U.S. government knows how to prepare campaigns of psychological terror” and are capable of doing it. This was his response for *Mercenaries 2*, a video game which represented US invasion. The same representation was present in *Kuma War*, targeting an Iranian nuclear service, which was a counter attack by U.S virtual world after the release of *Rescue the Nuke Scientist*. Hezbollah has also been reported to have developed a game *Special Force* in the Middle East. Moreover, various games have been used for recruiting purposes such as those used by intelligence agency G.C.H.Q. It has also been reported by Defense Department of U.S that similar methods are being adopted by Al Qaeda as well.

Minhail, in his thesis stated “Hybridity of war requests the use of both material and cognitive approaches to warfare.” According to Michael Macedonia⁵, computer games should not be considered as non-sense. We win wars with the use of these games. Due to super-realistic representation in video games, they are more likely to get attraction from people and where there comes the theme of military, people get associated toward it. In an argument, Anton stated that combat games are more realistic in sense of its enhanced graphics and presentation.

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⁵ Technical Director and Chief Scientist, US Simulation, Training and Instrumentation Command (STRICOM)
Thus, these appear as more appealing and are assumed as authenticated due to association with military, and representation of real life events, along with realistic battle weapons. Integration of both realism and fiction adds value to any sensational content as mentioned earlier. And by connecting above arguments we can assume that reality and fiction works best in video games. Video games with violent content are supposed to present gender and racial stereotypes as compared to non-violent games. As a result of which a general behavior of aggression is developed towards those stereotypes. An example of which having Haitians and Cubans in Grand Theft Auto: Vice City has already been discussed earlier. When primed schema is developed for certain ethnic groups, it is most likely that the person will behave aggressive likewise in real world when encountered with similar people.

Methodology

Qualitative research method has been adopted for in-depth study. In order to understand behavioral escalation, the model of Escalation Cycle (Colvin & Sugai, 1989), is adapted in this study. This model was originally created for school children to manage their behaviors in classrooms and consist of seven stages of Behavioral Escalation Cycle named as calm, trigger, agitation, acceleration, peak, de-escalation and recovery respectively (see figure 1). These stages (specified till peak) are adapted to identify the stages of behavioral escalation in video game players using Content Analysis. Moreover, this study has used Procedural Rhetorics of Ian Bogost as a methodological framework to study interfaces of two selected video games. Two video games that were selected for this purpose, Six Days in Fallujah (SDIF) and PlayerUnknown’s BattleGrounds (PUBG), which were released by Microsoft Windows. The reason behind selecting these two video games was that, these video games were the most controversial and highly paid.

![Behavioral Escalation Cycle](image)

**Six Days in Fallujah (SDIF)**

This video game was a third-person tactic shooter video game that got unreleased yet due to its super-realistic representation of horror of war in Fallujah. This game was developed by Atomic Games in 2009, a company based in North Carolina and known for developing war games. It faced great criticism when the game plays were available for the public. This was a joint offensive comprised of United States, British and Iraqi fighters. In 2004, 3000 people were given
task to evacuate the city of Fallujah, occupied by 250,000 people. This emergency evacuation allowed the soldiers to fight without fear of shooting any civilian being caught in the crossfire. According to Red Cross, 8000 civilians lost their lives in this coalition. Much of the city was left with the ruins of battles, leaving many men, women and children as homeless as a result of battle. The sweeping victory of this coalition was simply painful and inaccurate. Due to the backlash from mainstream press, Six Days in Fallujah video game remained unreleased to this day. This game reflects one of the brutal battles in Iraq.

**Rhetorical Study of Video Game Six Days in Fallujah**

In this game, The US Marines are three dimensional figures that have been designed through the technique of 3D modeling. That requires immense skill of creating form, curves and lighting to achieve resemblance. This game represents the fighters as real life figures with great detail to uplift the experience of game player. Whole environment is designed with great realism to ensure the authenticity of event. One of the game designers and artists who worked for Six Days in Fallujah was Nathan Cheever. He explained the game to have 30 levels planned first. After the collaboration of Atomic Games and Konami, the levels of the game were reduced to 12. Six Days in Fallujah is the combination of the biggest military operation of four decades and a documentary film to meet the realism. This documentary film is both compelling and have insight of Iraq war. This game was developed and designed after having ample access to military action plans, action reports, videos and satellite photos of maps, in collaboration with more than 30 Marines of United States. All the scenario of war designed through factual events makes Six Days in Fallujah the most authentic, military action, third-person shooter war game to this date. In Six Days in Fallujah video game, the player plays the role of fire fighter of US Marine against Iraq insurgency. He has to undergo through the real experience and intensity of war ground as in real ground. The player has to flee along all the houses in the battle field, and evacuate the area. This battle field could have been designed by the player himself as the real military do. Most of the houses in the game, seem empty, however the player have to stay alert of any possible encounter. Player can kick the doors, destroy the walls, and blow the environment to remove any hurdle in his way.

According to the president of Atomic Games, Peter Tamte, "Video games are interactive, and they're the medium of choice for an entire generation," moreover he said, "Therefore, we should use this medium to deal with relevant issues while they're still relevant".

**Player Unknown’s Battlegrounds**

This is an online mobile game that was first released by Microsoft Windows in March, 2017. Its full release came to be seen on 20th December, 2017. It is a kind of royale battle game created by PUBG Corporation, which belongs to larger video gaming company in South Korea, named as Blue hole. A Battle Royale game is a type game which includes multiple features like exploration, looting and survival. The winner of this type of game is a last survivor of game.
Brandon Greene, who was the creator and developer of PUBG, created this game as an inspiration from a Japanese movie, named as Battle Royale. In 2018, PUBG was released for Xbox One, PlayStation 4 and was also available for iOS and android as a free to play game. This game is considered to be the most often played and one of the blockbusting videogames of 2018. About fifty million copies were sold all over the world during the year 2018 and 400 million users were playing PUBG online. PUBG has won and been nominated for awards as a best online video games in years 2017 and 2018.

In this game up to hundred players can land on ground from a plane by using parachutes. The ground consists of different sized zones having an area of 8x8 km, 6x6 km, 4x4 km and 2.5 km on which the player has to decide quickly to land on. The player can select skin, hairstyle and outfit of his own choice when he enters into the first interface of the game. However, this outfit has nothing to do with the game performance. The player can also choose to play it either in First Person Shooter (FPP) perspective or Third Person Shooter (TPS) perspective.

Upon reaching the ground, the player can go for many sites including buildings and ghost towns to collect weapons, armors, vehicles and other items. The more the area with high risk of death, the more the weapons or rewards will be. Basically, it is a last man standing game where the player has to loot the sites and kill other players for getting money and life. The areas on the land are play zones or red zones, play zones are blue outlined whereas the dangerous regions are shown with red color and some having bombs. This blue outlined play zone on ground begins to shrink with time and the player has to loot the area and escape from the shrinking ground to save him. Otherwise he has to encounter other players so closely and might lose his life. So the player has to enter a safe zone before the land shrinks out.

During game the plane fly over the plane, where the player can select a flare gun and throw out a bundle of loot items on the ground. From this loot bundle, red smoke emerges which attract other players towards it and helps to kill them. It takes around thirty minutes to complete one round of PUBG. At the end of each round, the player is awarded with money (in-game currency) to purchase boxes of various items including cosmetics and weapons. The most stimulating feature of Player Unknown’s Battlegrounds is that the player can opt to play alone or create his team. This team may comprise of his friends or persons from any region all over the world and can easily interact through comments or voice in chat box while playing the game.

Findings

- Six Days in Fallujah and PUBG have been designed to facilitate the player to navigate smoothly through the frames.
- Also, other than following instructions, the players have space in the game that is a kind of freedom as stated by Bogost, which provides the player a more sense of association with the game where he is responsible for his actions. First person shooter perspective gives more concentration and presence in the battle ground as also available in PUBG too.
• PUBG designed for mobile brought innovation in game design where all the desktop features are incorporated in mobile version. Mobile phones for being handy and the most easily carry device, gave this game more hype.

• In both games, procedures are intense and threatening however in SDIF; the experience is more intense because of the content. Whereas in PUBG, the situation and environment has been designed soothing and natural unless there are some encounters.

• In PUBG players have more space when they have to loot the sights, where they collect items without much effort in addition to fight. Here they can return to calm stage and get ready for the coming threats.

• In SDIF, the game interface is more intense and requires more attentiveness as he has to be in real battle.

• Military theme has been adopted in both games as mode of persuasion. In one game, patriotism dominates humanity, while in other survival dominates humanity.

• The whole idea behind these games is to let the target audience behave, what they desired. It was meant to make the teens soldiers, while sitting in lounge, and fight for the war from their home. Instead of physical war, these young brains are going through a virtual war.

Referring back to behavioral escalation stages (five stages), the analysis of both video games showed that the game interfaces reflected similar behavioral indicators as defined by Calvin and Sughai. In these video games, it was identified with respect to the games interfaces in the section of analysis earlier in this study where the game players had to go through the stages of calm, trigger, agitation, acceleration and eventually leading to peak stage.

Following table shows the stages of the video games along with their behavioral indicators.

<table>
<thead>
<tr>
<th>Phase</th>
<th>SDIF Images</th>
<th>PUBG Images</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Following directions</td>
<td><img src="image1.png" alt="SDIF Image" /></td>
<td><img src="image2.png" alt="PUBG Image" /></td>
</tr>
<tr>
<td>• No confrontation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Interested in showing play capability</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Behavioral Escalation: Video Game as a Tool of Hybrid War

Trigger
- Problem solving situation
- Ready to face consequence of actions
- Interruption of calm phase

Agitation
- Increased body, eye, hand movement
- Instructions to shoot

Acceleration
- Threats, intimidations and defense
- Physical aggression
- Destruction

Peak
- Physical aggression
- Self-Abuse
- Hyper-arousal

Upon reaching the peak phase, the worst state is hyper-arousal. According to Victoria L. Dunckley, who is a renowned psychiatrist, author and expert in screen-time, every time when a person is confronted with a screen, many changes appear in the brain and result in over-stimulation and hyper-arousal state. An electronic screen is abundantly rich in terms of sensory, cognitive and psychological input to engage its users. These characteristics over-arouse the nervous system. The brain interprets in form of stress as a result to such sensory information. These enhance reactions of fight or flight and generate hyper-arousal state, which makes the person unable to wind it down and sleep deeply (Victoria L. Dunckley, 2015).
Numerous Screen-Related Factors Trigger Stress

When the changes become significant enough to impact frontal lobe functioning—or in other words how the child feels, thinks, behaves, or socializes—on a day-to-day basis, this is what called as Electronic Screen Syndrome. Concluding from above results following diagram shows how behavior is escalated and leads to hyper-arousal state.
Psychological warfare is the planned tactical use of propaganda, threats, and other non-combat techniques during wars, threats of war, or periods of geopolitical unrest to mislead, intimidate, demoralize, or otherwise influence the thinking or behavior of an enemy. As mentioned earlier, what Ismael Garcia stated about the video games that the video games are not nonsense, they are being used as a tool for psychological terror. The United States know how to win war through the games.
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