In the army now – Narrative elements and realism in military first-person shooters

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ABSTRACT

From their early beginnings until today computer and video games have always been substantial parts of the so-called military-entertainment complex. Especially the genre of first-person shooters (FPS) has been closely associated with the military due to its typical contents and gameplay mechanisms. This paper presents a content analysis of narrative elements in military-themed FPS games from 1992 to 2010 (n=189). The results show that particular conflicts, locations and fractions appear very frequently in these games. The wars and conflicts are almost exclusively portrayed from an American or Western perspective and the degree of realism differs depending on the respective topics and settings. Based on the results of the content analysis, we develop a typology of levels of realism in FPS. The findings are discussed with regard to potential effects of military-themed FPS on their players as suggested by narrative persuasion theory.

Keywords
First-person shooter, realism, military, war, content analysis

INTRODUCTION
On the first day after its release, the military-themed first-person shooter (FPS) *Call of Duty: Black Ops* (Treyarch, 2010) sold more than seven million copies worldwide (about 5.6 million in the United States alone). The game did not only break the record of its predecessor *Call of Duty: Modern Warfare 2* (Infinity Ward, 2009), but also became the best-selling digital game of all times in the United States[1]. According to the Entertainment Software Association (ESA) the genre of shooter and action games made up 13.3 percent of the bestselling computer games and even 31.7 percent of the

bestselling video games in the USA in 2009[2]. Obviously, there is a large audience for first-person shooter (FPS), and military-themed games are a very popular subtype of this genre.

Since millions of people regularly experience virtual wars on their consoles and computers everyday, it is necessary to ask how military-themed FPS games portray war and what effects this might have on the players. The so-called 'military entertainment complex' (i.e. the collaborations between the military and the entertainment industry) and its implications for media users have been discussed in a number of theoretical and conceptual works (e.g. Huntemann & Payne, 2010; Dyer-Witheford & de Peuter, 2009).

Despite the substantial body of theoretical work, there are very few empirical studies examining the very basis of these conceptual analyses, i.e. the games themselves. Content analyses of digital games in general are still rare, due to the inherent problems of applying the method to non-linear, interactive content (see the following section). These problems are even more intricate when it comes to quantitative analyses of the more general features of a whole (sub-) genre and in a larger context (e.g. the portrayal of warfare).

In order to start closing the gap between theoretical and empirical work in this field, we conducted a systematic empirical analysis of the typical contents of military-themed FPS games to answer the following questions: What types of contents are players actually exposed to, i.e. how is warfare portrayed in FPS games? And has the portrayal of warfare in FPS games changed throughout the genre's brief history from the 1990s to today (e.g. due to historical or socio-cultural changes)?

LITERATURE REVIEW AND THEORETICAL BACKGROUND

The military entertainment complex
From their early beginnings until today computer and video games have been a substantial part of what has been labeled the 'military-entertainment complex' (Lenoir & Lowood, 2003). Especially the genre of first-person shooters has been closely associated with the military due to its typical contents and gameplay mechanics.

The genre of realistic military-themed FPS games has largely profited from co-operations between the entertainment industry and the military. The US Department of Defense has contributed substantial sums of money and advisory effort to the production of FPS games (Nieborg, 2010; Nichols, 2010; Dyer-Witheford & de Peuter, 2009). The military benefits from the collaboration with the video games industry in two ways: The games can serve as a public relations tool to improve its image as well as an instrument for military training and recruitment purposes (King & Leonard, 2010; Lenoir & Lowood, 2003). A very prominent example of these collaborations is the successful FPS series *America's Army* (U.S. Army 2002, 2009). The game has been downloaded more than 2.5 million times within the first two months after its release and had 5 million registered players in 2005 (Halter, 2006).

There are, of course, other game genres with an affinity for military topics such as flight simulations or real-time strategy games. However, FPS games differ from these genres in several respects. What distinguishes FPS from other games is the specific *mode of presenting* narrative. Instead of employing a mode of macro-storytelling, FPS games are situated on a micro level, focusing on the individual destiny of one specific protagonist or

a small group of soldiers. Instead of abstract, impersonal historical facts, the player literally experiences war through the eyes of a single person.

This specific way of telling a story has implications for the experience of the players. According to *narrative persuasion theory*, there is a relation between the use of a narrative medium and the adoption of story-inherent believes. This effect is mediated by the narrative engagement of a person (Green, 2004). An important factor in this context is the degree of realism (Bilandzic & Buselle, 2008). Bilandzic and Busselle argue that in general, fictionality does not affect the narrative processing, as it is accepted by the reader/viewer/gamer on base of the suspension of disbelief (Böcking, 2008). However, in order for narrative persuasion to happen there needs to be coherence within the story (narrative realism) and a fit with external reality (external realism). Possible violations of these conditions are perceived as inconsistencies within the mental structures of the users and diminish the persuasive power of the narration, i.e. if inconsistencies are not recognized, the transfer of inherent attitudes is more likely (Bilandzic & Buselle, 2008).

In order to describe the different notions of realism in digital games, Galloway (2004) distinguishes between three types of realism: 'Realistic-ness' as a measure for the fidelity of the audiovisual representation and social realism as an indicator for a realistic narration and setting. The third type is the level of behavioral realism. Digital games in general allow their players a limited set of (inter-) actions. While some FPS games enable unrealistically high jumps or let the character take a highly exaggerated amount of physical damage, most realistic military-themed shooters try to align the range of player actions with the physical possibilities of a real soldier. Regarding the effects of different levels of realism, there are opposing views both in scientific research and the public debate. On the one hand an enhanced, mostly audiovisual, realism is expected to increase aggression and socially deviant attitudes in the player (see, e.g., Anderson et al., 2010). On the other hand, the lack of social realism, especially concerning the consequences of violence, is also discussed as a potential source of negative effects (Gieselmann, 2002). A Swiss study, e.g., analyzed realistic war games with regard to the question of a possible violation of human rights (Castillo, 2009). Within the analyzed games the authors found many offences against current international humanitarian law, including attacks against civilians without military necessity as well as inhumane treatment and torture. The study also indicated that such violations are rarely punished in the games.

Only a few studies have dealt with the potential effects of FPS games on attitudes and beliefs that are not directly related to violence and aggression. The available studies, however, indicate that FPS games can indeed have short-term effects on the perception of enemy stereotypes (Hartmann & Vorderer, 2010; Klimmt et al., 2010) and that the use of military-themed games and attitudes towards the military are associated (Penney, 2008). The studies dealing with the effects of FPS games usually use one game or a small number of games from the genre which leaves open the question, how representative these games are and how often players of a specific genre are exposed to certain contents such as enemy stereotypes. As Schmierbach (2009) rightly notes, "research on games requires knowing the traits of games" and "survey research on games requires knowing what aspects of games are meaningful to the players" (p. 168). Hence, knowing the content of military-themed FPS is a prerequisite for the interpretation of results from studies dealing with their effects.

Research on the content of digital games

Until now, there are relatively few quantitative content analyses of digital games. Of the existing content analyses, most studies focused on the portrayal of gender roles (Dietz, 1998; Beasley, & Standley, 2005) or the frequency and types of violent actions (Dietz, 1998; Smith, Lachlan, & Tamborini, 2003; Lachlan, Smith, & Tamborini, 2005). The content analysis by Dietz (1998) found 80 % of the analyzed games to contain at least one type of violent action and identified a sexualized portrayal of female characters that appeared in only 41% of the games. Likewise Smith, Lachlan and Tamborini (2003) found violent acts in 68 % of the games they analyzed. Lachlan, Smith, and Tamborini (2005) also identified male and white characters as the dominant type of aggressors in digital games.

The limited number of content analyses in this area is, in large parts, due to the problems that arise when this method is applied to digital games. Apart from interactivity, the main challenges are the time needed to play through a game (current titles often have single-player campaigns that take about 10-20 hours to finish) and the complexity of the stimulus (Schmierbach, 2009). Problems resulting from these challenges already occur in the sampling process: Previous content analyses primarily used a sample of games chosen on the basis of, e.g., age ratings, platforms or review scores. Due to the diversity of game genres and platforms, drawing a representative sample of games is a nontrivial task. Depending on the respective inclusion criteria, the samples used in studies on computer and video game contents are often rather deliberate than random (Schmierbach, 2009).

An additional problem is caused by the long time it takes to play through a whole game. Most content analyses of digital games simply looked at the first few minutes of gameplay or specific in-game sequences of 20-60 minutes (Schmierbach, 2009). Such time-based sampling is likely to cause a bias and does not represent the game in its entirety. In order to avoid the pitfalls of time-based sampling Schmierbach (2009) suggests genre-specific themes as alternative units of analysis. Such themes could, e.g., be settings, plot elements or overarching narrative frames.

Following this argumentation, the present study took a different approach to analyzing the content of digital games. Instead of drawing a limited random (or deliberate) sample from all games and deeply analyzing a limited time interval from these titles, we chose to focus on a whole genre and analyze the narrative elements of all games in that genre.

Analyzing military-themed FPS as a genre

In order to analyze the content of FPS, it is important to consider a few specific characteristics of the genre. The first-person perspective and a restricted narrative structure strongly influence the experience of the players. This is especially true for single-player campaigns modes, in which the protagonist usually advances through mostly linear levels and the only interaction with other characters is attacking them or being attacked.

In multiplayer modes, the narrative framing is drastically reduced. Instead of following the destiny of one particular soldier and accomplishing missions with different targets (e.g. defending a base or destroying an enemy fortification), players control nameless characters of one fraction, battling other players who control soldiers from another fraction. The locations (maps) merely serve as backgrounds that influence the tactical options in a match (e.g. via the terrain).

Taking into account the differences between single-player campaigns and multiplayer modes, it appears that the narratively framed single-player content is more likely to cause narrative persuasion. Following Schmierbach's suggestion (2009) to use thematic elements of a genre for a content analysis of digital games, the typical narrative elements of single-player campaigns in military-themed FPS games would be:

1. Conflict/Background
2. Location
3. Protagonists
4. Allies
5. Enemies

All of these narrative elements have specific relations common to the genre (see Figure 1). As mentioned before, the analysis of thematic or narrative elements in multiplayer modes in FPS is different from this and mainly limited to the playable fractions.
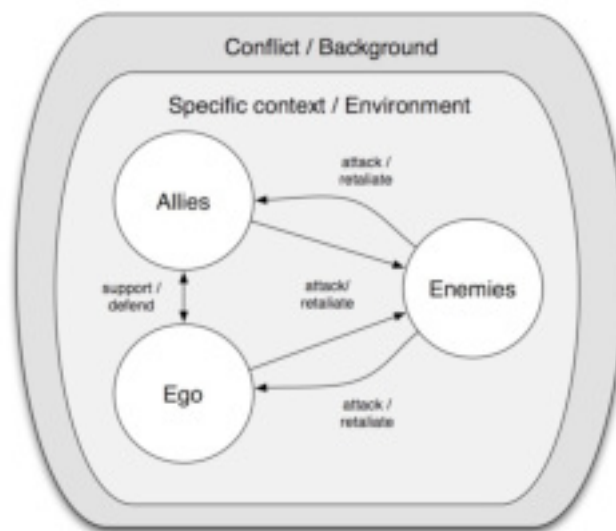

Figure 1: Narrative elements in military-themed FPS

Of course, the above model is a simplification and does not include all of the elements in every FPS title, especially in the more elaborated narrative structures in recent releases. Nonetheless, the model helps to identify some of the main narrative elements that characterize the genre. These common elements can be used to compare narrative contents across the games within this genre.

Based on this model of narrative elements in military-themed FPS, we formulated five research questions for our content analysis:

RQ1: Which military conflicts and settings appear most often and do their frequencies change over time? (conflict/background)
RQ2: What are the most common locations (i.e. countries/regions) in military-themed FPS games? (specific context/location)
RQ3: Which nationalities are the most common for the protagonists? (ego)

RQ4:   Where do the enemies in military-themed FPS games come from (i.e. which countries or regions) and (how) have enemy stereotypes changed over time? (enemies)

RQ5:   Which playable factions do the multiplayer modes of military-themed FPS offer? (ego/allies/enemies)

METHOD

As mentioned in the previous section, our units of analysis were not time sequences, but narrative elements of FPS games. To avoid the problems caused by the interactivity and the long time it takes to play through most digital games, we used game reviews as sources for our content analysis.

Analyzing the narrative features based on game reviews has several methodological advantages:

1. Inter-individual differences between coders regarding gaming expertise and playing skills are not crucial.
2. The time needed to code the content of a game is largely reduced.
3. Older games and platforms that are no longer (easily) available can be included in studies with a diachronic perspective.
4. An automated or semi-automated content analysis is possible (Scharkow, 2011)

The games included in this study were selected from the review archives of the popular gaming websites *Gamespot.com* and *IGN.com*. These sites feature genre lists of first-person shooters (Gamespot & IGN) and tactical shooters (Gamespot). For our analysis we excluded FPS titles that are set in sci-fi or fantasy worlds (like *Halo, Quake, Doom* or *Half-Life*). Since the earliest entries in the two archives date back to 1998, we additionally consulted other web resources and publications on the history of digital games (esp. Kent, 2001).[3] We tried to include all major commercial military-themed FPS games produced for a global market from the beginnings of the genre until today. The final list of games for our analysis spans the time from the beginnings of the genre in 1992 until shortly before this paper was written in March 2011. Based on these criteria, a total of 189 games were included in our analysis.[4] These 189 games make up about 40% of all FPS games in the Gamespot archive[5], and all FPS reviews sum up to about 7% of reviews on Gamespot.com (n=11995).

The sources used to code the game content were the reviews from Gamespot.com and the corresponding entries in the English language version of Wikipedia. The latter were included since they offer – unlike many game reviews that want to avoid spoilers – more detailed descriptions of the games' plotlines in many cases. Game characteristics and narrative elements were coded using a coding scheme based on the research questions (see the results sections for the individual categories). Coders were instructed and trained by coding sample games; all coders were familiar with computer games and specific expressions used in game reviews (like 'capture the flag', 'add-on'). In order to test the reliability of the codings, every 20th game from the alphabetically sorted list was analyzed by all coders (n=5). Reliability scores for the item groups showed very good to satisfactory results.[6]

RESULTS

Conflicts and locations

All of the FPS that were included in our analysis portrayed 20th and 21st century conflicts. There were no games set before World War I.

To analyze which conflicts appear most often in FPS games, we looked at those titles that are based on a real and clearly identifiable conflict. 77 of the games for which information about the conflict was available (n=166) met this criterion. Of these titles, 63.6% portrayed WWII, 16.9% were set during the Vietnam War and 6.5% included scenarios from the global war against terrorism.[7] All other conflicts each appeared in less than 5% of these games (see Table 1).

Conflict/War	Frequency	Percentage
WWII	49	63.6
Vietnam War	13	16.9
War on Terror	5	6.5
Cold War	3	3.0
War in Afghanistan	2	2.6
War in Iraq	2	2.6
1st Gulf War	1	1.3
2nd Gulf War	1	1.3
Balkan Wars	1	1.3
Korea War	1	1.3
Somalia Civil War	1	1.3
WWI	1	1.3

Table 1: Conflicts in FPS games depicting identifiable real wars (N=77)

Regarding the development of portrayed conflicts over time (focusing on the 3 major conflicts WWII, Vietnam War and War on Terror), we found no clear trends (see Figure 2). The total number of military-themed FPS games saw a great increase from 2001 to 2002 and the releases peaked in 2004, before they slowly but steadily decreased from 2004 to 2010. At first sight, this seems to be connected to the events of 9/11, and a resulting increased interest in military topics. However, the number of games portraying real or fictional counter-terrorist operations (WoT games) changed mostly in parallel to

the number of overall releases, meaning that there was no over-proportional growth of this group in relation to other types of military FPS.
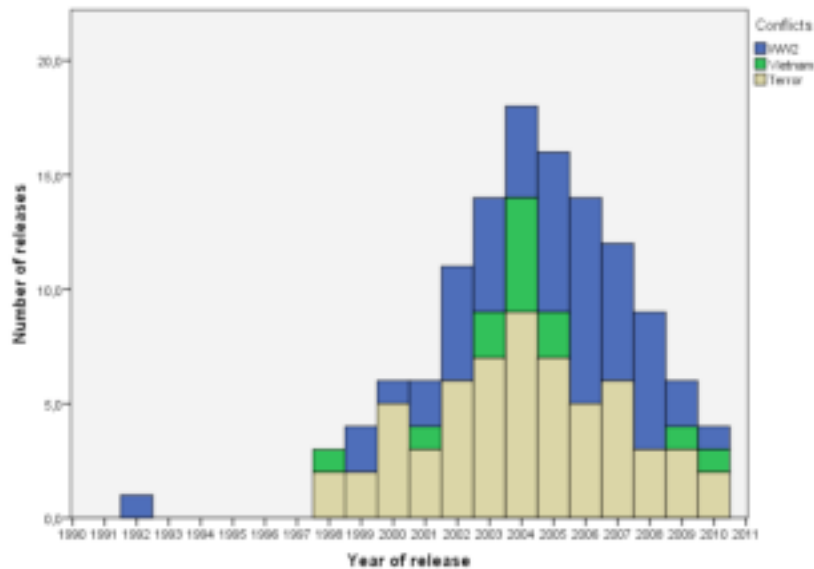

Figure 2: Major conflict types in FPS games from 1992-2010 (N= 124)

The results regarding the games' locations are, of course, confounded with the findings on the conflicts described above. In n=153 games, we could identify the countries where the single-player campaign is set. In line with the dominance of WWII games, the most frequent countries were Russia (16.3%), Germany (15.0%) and France (14.4%). Vietnam appeared in 9.8% of the games. Interestingly, the United States were the 5th most frequent location in military-themed FPS games (8.5%). Apart from Italy (7.8%) and Iraq (5.2%), all other countries were included in less than 5% of the games each.

Since the WoT games differed from the games portraying historical conflicts in some respects (e.g. realism; see the following section on realism) we looked at the countries appearing in these games more closely. Of the games that included real or fictional war on terror scenarios (n=61), 26.2% were set in Russia, 11.5% in the USA, 9.8% in Iraq, 8.2% in Colombia and 6.6% each in Mexico and Serbia/Kosovo. All other countries each appeared in less than 5% of the cases.

Since some of the conflicts were set in the future, we also looked at the differences between these titles and those that exclusively featured past conflicts. Josh Smicker (2010) described the group of FPS whose narration takes place in the future as "proleptic games" (p. 113) which he defines as "games [that] are set in the present or near future, and present possible future interventions into present day 'hot spots'" (p. 113). Of the games for which the time span they cover could be identified (n=54), 20 were set in the future, while 34 were set in the past. Among the games set in the future, the most frequent locations were the United States (25%), Croatia (15%), Brazil (15%), Russia (15%), Mexico (10%) and Indonesia (10%). The most common countries in games portraying historical conflicts were France (32.4%), Germany (29.4%), Russia (20.6) and Vietnam (14.7%). Figures 3 show heatmaps illustrating the hotspots of digital warfare for various subgroups of military-themed FPS.
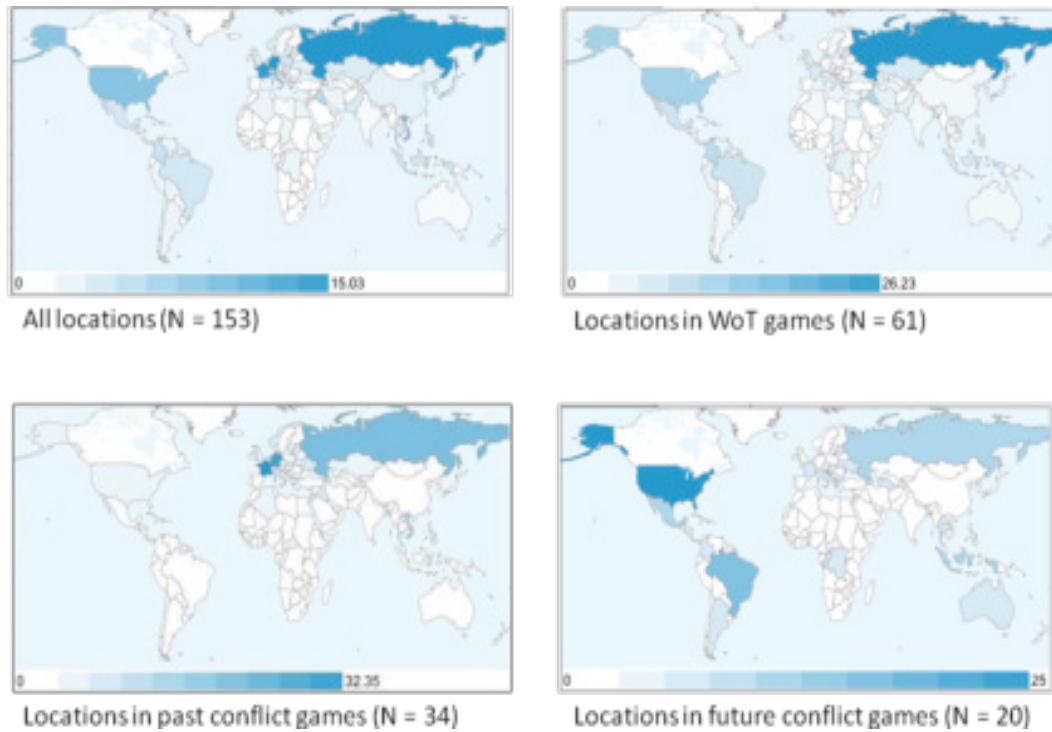
Figure 3: Heatmaps showing the percentages of locations in different FPS subgroups

Protagonists and enemies

Similar to the distribution of conflicts and locations in military-themed FPS games, there are also protagonists and enemy types that appear more frequently than others. The nationalities of protagonists and antagonists are, again, largely determined by the respective conflicts and locations portrayed in a given game (see previous section). The large majority of protagonists in the games for which the main characters could be identified (n=158) were US-Americans (82.3%). The second biggest group of protagonists was British (17.1%). Russian protagonists appeared in 5.7% of the games and protagonists of all other nationalities each appeared in less than 5% of the games used in this analysis (see Table 2).

Nationality	Frequency	Percentage
USA	130	82.3
UK	27	17.1
Russia	9	5.7
Germany	7	4.4
France	7	4.4
Canada	4	2.5

Australia	2	1.3
China	2	1.3
Vietnam	2	1.3
Other	6	3.8

Table 2: Nationalities of the protagonists in military-themed FPS games (N= 158)

Although we could find information about the protagonists race for only 66 titles, the majority of these games had white main characters (95.5%). Non-white protagonists appeared in very few games (see Table 3). This finding is in line with results from Lachlan, Smith, & Tamborini (2005), showing that most acts of violence were committed by white male characters.[8]

Race	Frequency	Percentage
White	63	95.5
Hispanic	3	4.5
Black	3	4.5
Asian	2	3.0

Table 3: Race of the protagonists in military-themed FPS games (N= 66)

Due to the high percentage of WWII-themed games within our analysis, the most frequent enemies in the games for which the opposing forces in the single-player mode could be identified (n=132) were Germans (28.8%), followed by Russians (15.9%) and Vietnamese (10.6%). US Americans appeared as antagonists in 8.3% of the games, North Koreans in 7.6% and Japanese and Iraqi each in 6%. Opponents of other nationalities were each featured in less than 5% of the games. Again, the numbers differed when we distinguished between the types of conflict. In WoT games with identifiable opposing forces in the single-player mode (n=30), the biggest fraction of opponents were Russians (26.7%), North Koreans (20%), Iraqis (16.7%) or US Americans (10%). In FPS games portraying future conflicts (n=13) 30.8% of the opponents were North Korean, and 15.4% each Mexican, Russian or Chinese. In games dealing with past conflicts (n=34) 47% of the opponents were Germans, 17.6% Russians and 11.8% each Japanese or Vietnamese. The heatmaps in figure 4 show, where the opposing forces in the different types of FPS games come from.
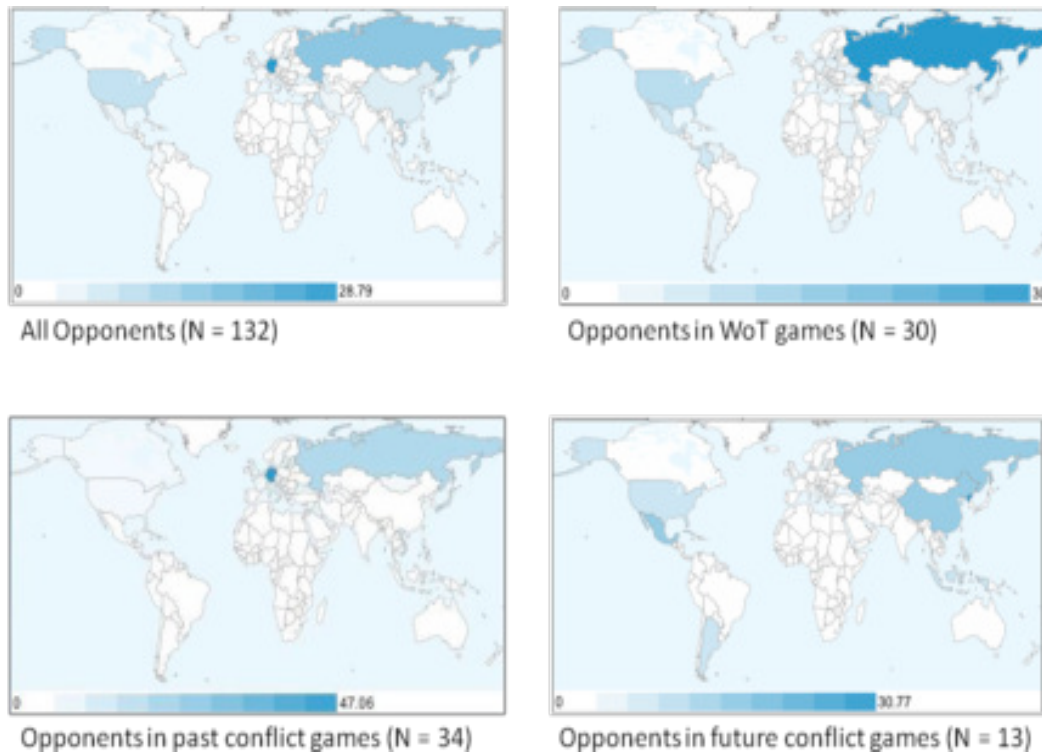
Figure 4: Heatmaps showing the percentages of countries from which the opponents in different types of FPS games come from

We also looked at changes over time in the prevalent enemy types and found developments that are very similar to those in the conflict types (see Figure 4).
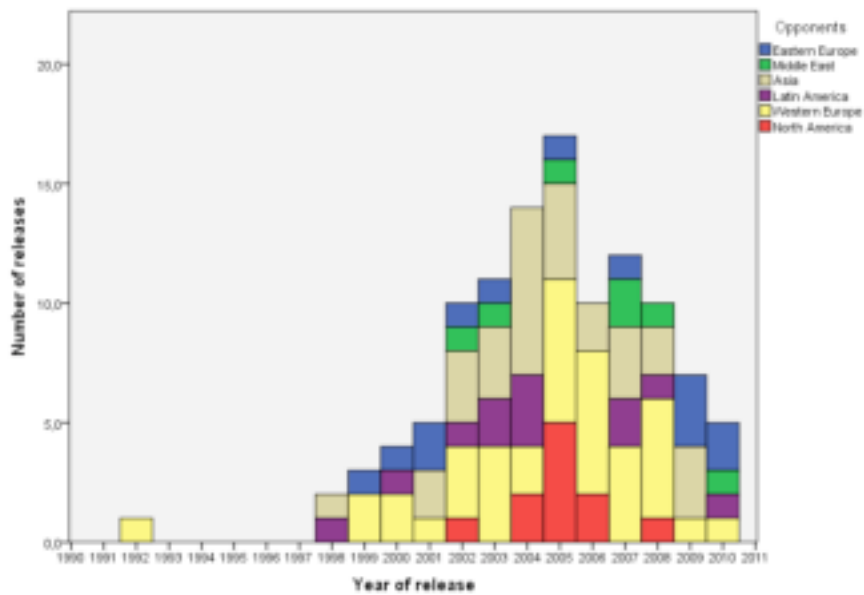

Figure 5: Enemy types in FPS games from 1992-2010 (N= 111)

Again, the graph shows the gap in military-themed FPS releases between 1992 and 1998 as well as a large increase from 2001 to 2002. While Eastern and Western European opponents appear almost throughout all years due to the large share of WWII-themed FPS games, Middle Eastern and North American enemies began to appear after 2001 and the proportion of Asian and Latin American opponents also increased after 2001 (especially from 2003 to 2004). Overall, the enemy types seem to have diversified with the growing number of FPS releases.

Realism

In order to quantify the degree of realism in the games, we computed a realism score for each title. The score ranged from 0 (very unrealistic) to 2 (very realistic) and was based on various items in our coding questionnaire that asked whether the settings was real (i.e. the country or region), whether the game featured fictional elements (such as aliens or futuristic weapons), and whether the protagonists and opposing forces were based on real units, troops or armies. The descriptive data on the conflicts, their locations, protagonists and antagonists suggests that WWII-themed games feature more realistic elements, while WoT games tend to use more fictional aspects. In order to verify this assumption, we performed t-tests for the realism score of games featuring WWII and those in which the war against terrorism appeared. The results show that WWII games on average had a significantly higher realism score ($x = 1.85$) than the other games ($x = 1.20$) ($T = -11.22***$) while games dealing with the war on terror scored significantly lower on realism ($x = 1.04$) compared to other titles ($x = 1.55$) ($F = 7.66***$).[9]

These differences regarding the realism scores can be explained by looking more closely at the presence of fictional elements in the different FPS types. In the WoT games, for which this information could be found (n=46), only 8.7 % featured real enemies, while 21.7% included real and fictional opposing forces and 69.6% had only fictional enemies. Of the games that do not portray operations against terrorist forces (n=98), 65.3% featured real enemies, 16.3% had both real and fictional antagonists and 18.4% included only fictional enemies. The differences for real protagonists are less pronounced (53.3% in WoT games and 68.4% in all other military-themed FPS games).

Multiplayer factions

Following Schmierbach's criticism (2009) of previous content analyses that ignored multiplayer content, we looked at the factions that can be played in the multiplayer modes of the games we analyzed. In the games for which the multiplayer factions could be identified (n=52), the large majority of the playable sides were identical to the protagonists and opposing forces in the single-player campaign. The only notable exceptions are the games from the *America's Army* series and the 2010 version of *Medal of Honor* (Danger Close & EA Digital Illusions, 2010). In the *America's Army* games, players can only play US Army soldiers in the multiplayer mode. Their (online) opponents, however, see them as opposing forces (i.e. as terrorists). Thus, the terrorist faction cannot really be played, but it does appear in the multiplayer mode. *Medal of Honor* originally included the Taliban as a playable faction in its multiplayer mode. After massive protests from the US and the British military, however, the game company renamed the Taliban in the game to 'opposing forces' (OPFOR).

DISCUSSION

The results of our content analysis show that some conflicts, settings, protagonists and opponents are more likely to appear in military-themed FPS games than others. While the prevalent enemy types seem to have diversified just like in other entertainment media and depend on the type of conflict that is portrayed, the large majority of protagonists in FPS games are American soldiers. When considering these tendencies, however, one also has to take into account the practical reasons behind these. First of all, most game developers and publishers are American or British companies and two of the world's biggest markets for digital games are the United States and the UK (de Prato et al., 2010). Moreover, WWII, the Vietnam War and the war on terror as the conflicts that appear most often in the analyzed FPS did or do involve British and American soldiers. WWII is a war that has clear 'moral frontlines' (especially from today's perspective) with the Allied forces being the good and the Axis powers representing the evil side. This, combined with the historical distance between WWII and the era of FPS games and the importance of infantry combat in that war, makes it an ideal setting for these games. The cause of the Allied forces fighting in WWII is generally not seen as a controversial topic. This is clearly different in the cases of, e.g., the Vietnam War or the war in Iraq.

Similar to the results regarding the protagonists in FPS games, the data on locations and opponents should also be interpreted with caution. Most importantly, locations, protagonists and enemies are largely determined by the conflicts that are portrayed in a game. The high proportion of WWII games, e.g., simply increases the number of European countries as locations and German soldiers as opponents. Nevertheless, especially the games that are not set in WWII show that there are some prevailing enemy stereotypes in FPS games. Eastern Europeans (especially Russians), Asians (especially Chinese and North Koreans) and Latin Americans (especially Colombians and Mexicans) are typical enemies in FPS games outside the WWII subgroup. Similarly, the locations in games depicting recent, current or future conflicts cluster in Asia, South America, and the Middle East. These biases in terms of settings, protagonists and antagonists illustrate that the military shooter games produced for the international market present the world and its conflicts from an exclusively Western (i.e. European and US American) perspective. Overall, most military-themed FPS games proliferate clichés and stereotypes that are also common to many war movies. The typical hero is the white, male American soldier, the settings are often exotic places like jungle-covered islands or oriental cities (especially in games set in the present of near future) and typical enemies include Russian nationalists, terrorist groups from the Middle East or South American rebels or drug dealing organizations. The story-driven single-player campaigns usually have fractions clearly identifiable as good and evil, while the majority of multiplayer modes allow playing more than one fraction without using a narrative frame to distinguish between the good and bad guys. Part of the reason for the diversification of conflicts and settings over time and the rarity of Vietnam War shooters could also be technical factors. Early shooter engines were, e.g., not able to realistically render jungle foliage and it is still a lot easier to design linear levels and maps without complex textures and richly animated environments.

When interpreting the changes of narrative elements in FPS over time it is important to note that digital games, like all other entertainment media, are influenced by real world events. Hence, new conflict zones and types also make their way into FPS and other games. Although we found no clear trends in the proportion of conflict types from 1992 to 2010, incidents like the 9/11 attacks also affected the contents of FPS games. The release of the add-on *Black Thorn* for the game *Tom Clancy's Rogue Spear* (Red Storm Entertainment, 1999, 2001) at the end of 2001 was, e.g., slightly delayed because the

game producers removed a mission in which an A380 was hi-jacked by terrorists and moved the setting of another mission from an airport to a bus terminal in reaction to the terrorist attacks of 9/11 (http://en.wikipedia.org/wiki/Rogue_Spear:_Black_Thorn).

With the types of conflicts portrayed in FPS games, the settings and actors (i.e. protagonists and opponents) change, too. The data on enemy types show that Middle Eastern and North American enemies began to appear (more often) after 2001 and the proportion of Latin American and Asian opponents in FPS games also grew from 2002 to 2004. This result, together with the data on conflict types and locations, indicates that the FPS genre has diversified in terms of contents. The growing market for military-themed FPS games and the diversification in content, however, can also partly be seen as a reaction to real world events. The 9/11 attacks showed that the United States as the dominant military power are vulnerable and the increase in US military operations after 9/11 delivered new scenarios also for the entertainment industry. The surprising finding that a substantial part of FPS titles are set in the United States and also feature American enemies suggests that the narrative framing of warfare in these games has changed. While games portraying historical conflicts such as WWII or the Vietnam War show US troops as an intervening force in foreign countries, games dealing with terrorism present military operations more like acts of self-defense of the United States or the Western world in general. These findings support Smicker's observation that the so-called 'proleptic games' often portray pre-emptive strikes against potential threats to the USA or other (mostly Western) countries (Smicker, 2010).

The results on the differences in realism between the FPS subgroups show that the notion of realism that game producers often use to advertise their products is a very particular one. Although the reviews indicate that a high audiovisual fidelity is a main feature of the FPS genre, this is much less so for behavioral or social realism as described by Bilandzic & Busselle (2008) and Galloway (2004). While our analysis indicates that many of the FPS games depicting the fight against terrorism use a range of fictional narrative elements (most of all, fictional enemies), the majority of WWII shooters seem to also aim for a certain degree of external or social realism. However, also these types of realism appear in a very specific way in military-themed FPS. Although many of the games in our study use real conflicts, factions and settings, the game reviews support the notion of Castillo (2009) and Gieselmann (2007) that the depiction of the consequences of violence in war in almost all games is far from being realistic. In order to understand the role of the various types of realism in digital games on the player's experience and, potentially, his/her attitudes and beliefs, the typology of realism has to be further differentiated. Our results suggest that narrative realism is composed of several elements such as the location and setting or the involved fractions. Based on our results and the theoretical concepts of realism in digital games a more refined model of realism should take into account genre-specific features and elements. Figure 6 presents a model of realism for military-themed FPS.
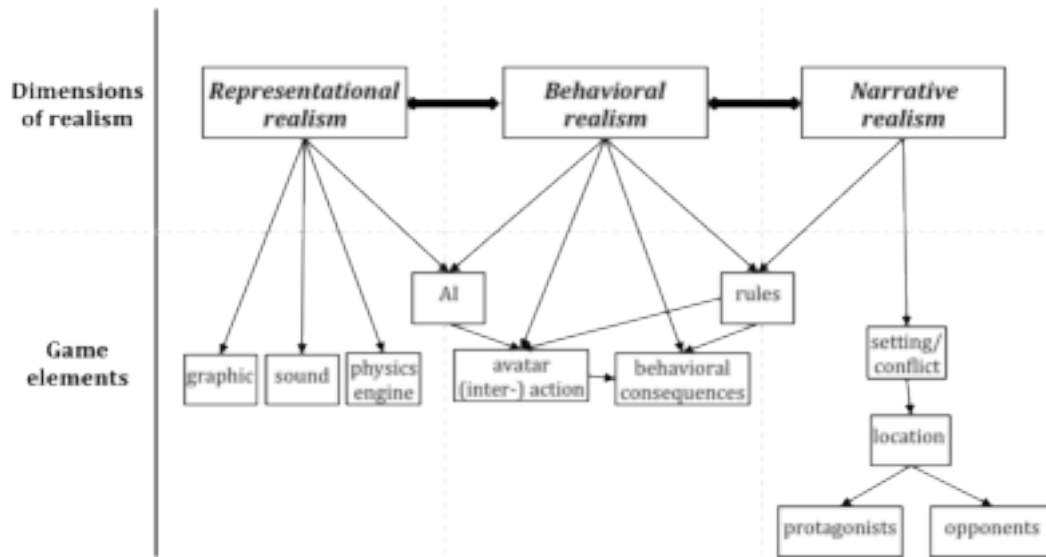
Figure 6: Model of realism in military-themed FPS

Our study focused on the segment of narrative realism and the findings illustrate that the degrees of realism of each narrative element (e.g. conflicts and locations) depend on each other. This means that a realistic conflict with realistic locations increases the likelihood of real factions being involved.

The generally lower degree of narrative realism in WoT games, especially with regard to the enemies, indicates that some contents are more problematic than others. In order to avoid public controversies, it seems that many producers resort to using fictional settings and names in their games. The problems associated with the portrayal of recent or even ongoing conflicts in digital games are best illustrated by the case of *Six Days in Fallujah*. The game *Six Days in Fallujah* was a project by the company Atomic games together with American soldiers who had fought in the battle of Fallujah in Iraq in 2004. The goal of the production team was to make the game as realistic as possible, also in terms of the fear and the suffering the soldiers encountered in the real battle of Fallujah. Soon after the project became public, the families of soldiers who died in the actual battle, military officers and politicians criticized it for being an inappropriate way to portray such recent events and as disrespectful towards the victims of the war. After a massive wave of criticism publisher Konami retreated from the project and the producing team was unable to find a new publisher. Although some members of the original team planned to go on with the project, *Six Days in Fallujah* has still not been released (see http://en.wikipedia.org/wiki/Six_Days_in_Fallujah). The dilemma of using current or recent conflicts as settings in computer and video games is best summarized by a statement from the retired US Army captain Brian Chung, who advised the developers of *Medal of Honor* regarding the game's multiplayer mode (see results section): "This isn't in the past. If you say Taliban and U.S. troops, that is going on now; there are soldiers dying every day"[10]. For interactive entertainment media like digital games there seems to be a very fine line between the effort to realistically portray military combat and the misuse of graphical violence just for the shock effect.

CONCLUSION & OUTLOOK

Our content analysis of military-themed first-person shooters revealed that these games tend to portray warfare in a very specific way. Some conflicts, settings, protagonists and enemy types are more common in FPS games than others and the graphical of the genre`s realism is not mirrored by a corresponding narrative realism. In general, the games in our analysis present wars and conflicts from a US- or Eurocentric perspective.

Our study focused on commercial entertainment games that are produced for a global market. It would be interesting to see, if the portrayal of war and military conflicts is different in smaller independent productions, in games that are produced for national markets only (e.g. in Asia or the Middle East) or in games intended fur purposes beyond entertainment (i.e. serious games). Future studies should analyze other game genres with an affinity for military topics such as strategy games or simulations. It would be interesting to see, if military-themed games from other genres differ in their use of settings and fractions or the different levels of realism. It is, e.g., likely that strategy games generally show a lower degree of representational realism and simulations concentrate more on behavioral realism. It would also be worthwhile to investigate which FPS games received support by the military and to which extent (although this information might be hard to gather) and whether these differ in their content from independent productions.

In order to further contextualize the findings of this study, a comparative content analysis of the portrayal of war in digital games and movies could also deliver further insights into the developments within the military entertainment complex. It is reasonable to assume that movies produced for a Western audience have similar tendencies in their choice of conflicts, settings and fractions and that movie makers, just like the producers of computer and video games, also react to real world events in their work.

In our study we used game reviews as sources instead of playing through the games. This approach has a number of advantages (see method section). Most importantly, it increases the number of games that can be realistically included, allows for the inclusion of older titles and reduces the influence of the coder/player on the content that is analyzed. However, using reviews brings along some limitations. Apart from reducing the ecological validity, it means a loss in terms of the depth of information.

An alternative for future content analysis of digital games could be the use of longplay videos or walkthroughs for a game. Using walkthroughs, FAQs or longplay videos can serve as a compromise between the depth of analyses based on actually playing (and ideally finishing) a game and the breadth made possible by using reviews. Additionally, analyses of reviews or walkthroughs could be complemented by in-depth analyses of individual game titles. The titles for the additional codings based on actually playing through one or more complete game(s) would have to be selected carefully, e.g. based on their typicality for a specific genre or subgenre, their success, release date or contents.

Upcoming studies dealing with the conditions and consequences of narrative persuasion should take into account the different levels of realism in digital games and the game elements or features that determine these levels. The present study has developed a model of realism and investigated typical narrative elements of FPS games, but further research is needed to see how these elements influence the player experience and if or how they can affect the players moral and political beliefs.

ACKNOWLEDGMENTS

ENDNOTES

1 The sales figures were gathered by the NPD Group/Retail Tracking Service, available at http://www.gamespot.com/news/6303325.html?tag=latestheadlines%3Btitle%3B1

2 Data from the NPD Group/Retail Tracking Service; more detailed information at http://www.theesa.com/facts/pdfs/ESA_Essential_Facts_2010.PDF

3 We are aware of the limitations of this sampling procedure and the possibility of missing titles. However, since the various sources revealed a large overlap of games in the respective lists, we are confident that we identified the great majority, if not all relevant titles.

4 A complete list of all games used in the content analysis can be obtained from the first author of the paper.

5 This percentage was calculated by multiplying the number of games with 1.78, which is the average number of platforms a game is released for, and dividing it by the total number of FPS reviews in the Gamespot archive (n=825). This was done because in the Gamespot review archive the same game has usually more than one review (one for each platform the title was released for).

6 Krippendorff's alpha and Holsti were calculated for the item groups: Conflicts (.93 Krippendorff/.99 Holsti), Settings (.78/.91), Opponent nationalities (.83/.96), Opponent types (.63/.94) and Protagonists (.87/.98).

7 We included the war on terror since it is a common scenario in many digital games.. We are, of course, aware that it differs in some respects from other conflicts.

8 It is also an interesting finding that only two games in our sample had female protagonists. Hence, the lack of female characters found by Dietz (1998) and Beasley & Standley (2005) seems to be even more pronounced for the genre of military-themed FPS.

9 The mean realism score for all games for which this score could be computed was 1.38 (sd= .55). It should be noted that these statistical tests were just used for the (improbable) case that a larger number of games were missing from our list. However, if we take our list as a complete overview of the genre, all differences are 'as they are' and need not to be subjected to an inferential statistical analysis.

10   See: http://www.gamespot.com/xbox360/action/medalofhonor/news.html?sid=6280702

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