Video game rating systems in the US and Europe: Comparing their outcomes

Leyla Dogruel
Free University, Berlin, Germany

Sven Joeckel
University of Erfurt, Germany

Abstract

Regulating children's and adolescents' access to video games appeared on the agenda of media lawmakers from the 1990s on. Approaches in western democracies have largely followed the approach of industry self-regulation, resulting in a diverse set of different types of self-regulation systems. This study applies a comparative perspective on the actual rating practices, asking how far regulation systems differ systematically and how far these differences might lead to different rating decisions. The study analyzes both the set-up of three major western regulation systems (the German USK, the pan-European PEGI and the US ESRB) and the actual rating decisions in each of the three systems relying on secondary data at the aggregate level, individual rating decisions for 182 top-selling titles and a list of favorite video games of 744 adolescents in the US and Germany. Findings illustrate that each system has a distinct focus, according to which it regulates different video game use more strongly than the other systems.

Keywords

Age rating, Europe, Germany, media regulation, protection of minors, USA, video games

Corresponding author:
Sven Joeckel, University of Erfurt, Seminar for Media and Communication Studies, Nordhaeuser Str. 63, 99089 Erfurt, Germany.
Email: sven.joeckel@uni-erfurt.de

In the early 1990s, following the US Congressional hearings initiated by Senator Joseph Lieberman (Kent, 2001: 466), video games began to appear on the agenda of media regulation policies. Following the experiences of other audiovisual content such as movies, measures were taken to regulate minors' access to video games. Reasons for this new focus on video games were derived from the fact that many video games contain violent or sexually themed content that is considered to be harmful to adolescents (see Anderson et al., 2010; Bushman and Cantor, 2003; Ferguson and Kilburn, 2010) and most recently the debate on video games' addictive qualities (see Lemmens et al., 2009) added another area of potential concern. As a consequence, regulatory systems for video games were installed for example in Europe, the US and Canada, Japan, Australia and most recently even in countries such as Iran (Sack, 2010).[1] The general aim of these systems is to support parents' mediation strategies for video game selection (Nikken and Jansz, 2006) and as a result restrict children's and adolescents' access to potentially harmful video game content. In general, video game regulation is carried out through the assignment of age-based ratings, which denies children access to certain video games if they are younger than a determined age category (Gentile et al., 2005). In spite of considerable work on the legal set-up of individual regulation systems for video games (see Byrd, 2007; Höynck, 2008; Höynck et al., 2007; Thompson et al., 2006), the effects of age ratings (see Gosselt et al., 2012; Joeckel et al., 2013; Nije Bijvank et al., 2009) or investigations into the importance of ratings for parental media regulation (Nikken and Jansz, 2007; Stroud and Chernin, 2008), few studies have asked the question: How do regulatory systems differ in the way they regulate video games for children and adolescents of certain ages? Answers to this question are not only relevant to media lawmakers but also to media education as this may give some insight into the question of whether there is stability in the actual rating decision across different systems. If this were the case, we might even argue in favor of a more universal and globally comparable rating system as has partially been carried out by the supra-national (pan-European) PEGI (Pan European Game Information) system that is one of the systems focused on in this study.

We set out to answer this question by focusing not only on PEGI but comparing it with two established rating systems: the German USK (Unterhaltungssoftware Selbstkontrolle [Entertainment Software Self-control] and the US ESRB (Entertainment Software Rating Board).

Following an analytic framework for audiovisual content regulation first developed by Saurwein and Latzer (2010), we first focus on the legal aspect and the set-up of the individual regulatory systems in comparison with each other. For us, this comparison is the background for the more essential question, what consequences these different rating systems have on the actual rating decision.

To answer this question, one pre-study and two separate data analyses were carried out. For our pre-study and a first impression on rating practices we rely on secondary data analysis at the aggregate level of rating decisions by the three systems. Then our first study analyses rating decision for $N = 182$ popular titles rated by each of the three systems. Finally, we compare how the three rating systems rate favorite video games as indicated by a sample of 12- to 13-year-old American and German adolescents ($N = 744$).

Video game regulation across the world

The central argument for the protection of minors is that certain media content might have detrimental effects on the development of children and adolescents (Bushman and Cantor, 2003; Leone, 2002). As media products are experience goods whose value and inherent characteristics can only be assessed after their consumption, parents and children cannot adequately decide upfront what content might be harmful. In order to overcome this information asymmetry, content ratings are introduced that provide parents (and children) with information on a video game's content (see Saurwein and Latzer, 2010).

Even if the use of age-based ratings has been accepted across the world, different paradigms for the regulation of audiovisual content are in action. The classical way would be the appointment of a government-regulated rating institution (as for instance in Iran or Australia). Around the 1970s, we notice a general trend towards industry self-regulation as a viable option and second way to regulate media content (Latzer, 2000).

An analytic framework for different forms of self-regulation

For our comparative analysis we largely follow a most similar systems design (Wirth and Kolb, 2004). Thus, we are focusing on systems in western democracies that follow the logic of industry self-regulation. As well, we analyze three well-established ratings systems that regulate video game use in the two economically most important regions for video games, the US and Europe (Kerr, 2006).

Nevertheless, these three rating systems, namely the USK, PEGI and ESRB differ with respect to the media and political systems (Engesser and Franzetti, 2011; Hallin and Mancini, 2004) they are employed in. As a result they can be seen as distinct examples within the broader concept of self-regulation, ranging from pure industry self-regulation (ESRB) to state co-regulation (USK). This approach allows us to focus on the effects of specific details within the larger framework of self-regulation systems.

For an analysis of these specific details in the set-up of each regulation system, we are building upon a framework presented by Saurwein and Latzer (2010). For the comparison of the ESRB, PEGI and USK we focus on (1) the maturity of the system, including its major revisions, (2) the modes of rating including the age ratings given and (3) the intensity of state involvement.

Maturity of the system

At first sight, the ESRB and USK can be characterized as rather mature systems, both established in 1994, compared to the PEGI system, established in 2003. Still, all three systems have been adjusted over the years, with major changes to the USK in 2003.

In 2003, the introduction of the Juvenile Protection Law in Germany (Jugendschutzgesetz; JuSchG) led to USK decisions becoming mandatory. This reform greatly increased the importance of the USK for the regulation of video games in Germany as it specified the set-up of the USK as a regulatory body through federal law. One of the most recent revisions to the JuSchG, in 2008, was aimed at increasing the salience of age ratings on video game packaging (Joeckel et al., 2013). A similar reform was carried out for the PEGI system, introducing a color scheme for age ratings and replacing the

formerly black and white labels in 2009 but keeping black and white content descriptors. Since 1994, minor adjustments had been made to the ESRB system as well, including an increase in the size of age rating labels in 2003. A more substantial revision was carried out in 2005, when the E10+ age rating was introduced (Hyman, 2005; Smith, 2006).

Mode of rating (including coding procedure)

Major distinctions between the three regulatory systems emerge for the modes of rating. The USK is known for its rather rigid coding scheme. All video games legally sold in places accessible to minors in Germany have to be rated. Publishers must submit the video game for review. The game is then play-tested by an USK test player, who records and comments on central game features. Then, the rating board, consisting of raters from different backgrounds (e.g. church, political parties, industry), rates the game based on footage taken from the test player. All game-related material including handbooks and packing are evaluated as well. Finally, an elected, federal official (Director for the Protection of Minors) has to ratify the rating decision (Smith, 2006). The USK is an example of third-party rating by an external, non-industry board.

In the PEGI system video game publishers have to submit an online questionnaire. The actual rating is then given by PEGI administrators (Nikken et al., 2007; Smith, 2006). In the nomenclature of Saurwein and Latzer (2010) PEGI could be described as self-coding based on formal criteria. The ESRB falls into the same category. Here, publishers fill out a questionnaire and submit videotape material of crucial scenes. Then independent raters decide on age ratings.

Distinctions between the three systems can also be made on the type of age ratings given and the use of content descriptors. The USK categorizes video games into one of five age ratings as specified under JuSchG §14, with the relevant age in years for which the game is made available printed on the front cover (see Table 1). One additional line of defense in the German 'Protection of Minor' laws is that the USK can simply deny a game classification. If this happens, the game cannot be legally sold in any place accessible to minors. It may also open the possibility for a video game being put on the so-called 'index', a list drawn up by the Federal Department of Media Harmful to Young People (BPjM) that may include video games containing scenes of violence, blood and gore. Games on this list may be owned by adults but not sold publicly or advertised (see Hyman, 2005; Kreimeier, 1999; Smith, 2006). Additionally, all video games fall under jurisdiction of the German penal law (Strafgesetzbuch; StGB) (Höynck, 2008). Under §131 of the StGB it is a criminal offense to even own certain types of texts (including movies, books and video games) that, for example, glorify violence.[2]

The PEGI also uses five age rating categories (see Table 1).[3] The PEGI and USK share similar criteria for categorizing games but the PEGI deliberately mentions the use of sexual themed content and swearwords. The PEGI 18+ (red label) diverts slightly from the USK 18+ rating as it includes elements which the USK would deny classification or could also fall victim to StGB §131.

The ESRB uses six different categories employing different age thresholds that can only be roughly compared to the USK and PEGI (see Table 1). For instance, the E10+ category is unique to the ESRB, and whereas it misses a 16+ category the ESRB's

Table 1. The distinction between USK, PEGI and ESRB categories.

USK		PEGI		ESRB	
Category	Description	Category	Description	Category	Description
Freigegeben ohne Alterskennzeichen ('USK 0' no restriction, white label)	Games that do not include any form of violence or fright inducement	PEGI 3+ (green label)	As USK 0+	'Early Childhood' (EC)	Games that are suitable for children older than 3 years with no material that parents would find inappropriate
Freigegeben ab 6 Jahre (USK 6+, yellow label)	Games that may be more challenging in terms of distinguishing virtuality from reality but only include elements of fighting if these are marked as not realistic	PEGI 7+ (green label)	As USK 6+, plus games that include potential portrayals of nudity in non-sexualized context	'Everyone' (E)	As PEGI 7+ or USK 6+, plus games with cartoon violence and mild language
Freigegeben ab 12 Jahre (USK 12+, green label)	Games in fantasy or historic settings that may include violence in non-realistic settings	PEGI 12+ (yellow/ orange label)	As USK 12+, plus games that contain prolonged nudity, minor use of swearwords and sexual references	'Everyone 10+' (E10+)	Games for children aged 10 and older with more elements of mild, cartoon or fantasy violence
Freigegeben ab 16 Jahre (USK 16+, blue label)	Games have mature themes but violence is embedded in a story	PEGI 16+ (yellow/ orange label)	As USK 16+, plus games with realistic depiction of violence, use of swearwords and drugs	'Teen' (T)	Games that are suitable for adolescents of 13 years or older and may contain violence, minimal blood or infrequent use of strong language.

(continued)

Table 1. (continued)

USK		PEGI		ESRB	
Category	Description	Category	Description	Category	Description
Keine Jugendfreigabe (USK 18+, red label) (not for minors)	Games that almost exclusively focus on violence and use a sinister and disturbing setting	PEGI 18+ (red label)	As USK 18+, plus games with acts of cruelty	'Mature' (M)	Games that require users to be at least 17 years old and that may contain intense violence, blood and gore and sexual content
				'Adults Only' (AO)	Games for adult users that include prolonged scenes of intense violence and/ or graphic sexual content

Note: Based on statements by the relevant institutions' website.

'Mature' category is comparable to the USK 18+ and PEGI 18+ ratings. Additionally, the 'Adults Only' (AO) category is also unique to the ESRB system. It appears to be comparable to the PEGI 18+ category but by implication it is more comparable to the 'classification denied' category in Germany as it is a common understanding among major stores not to sell 'AO' titles (Hyman 2005; Smith, 2006) (for an overview on ratings, see Table 1).

The PEGI and ESRB share the use of content descriptors. The PEGI employs eight content descriptors (Nikken et al., 2007). These are violence, language, horror, sex, drugs, discrimination, gambling and online. All descriptors are depicted using black and white pictograms such as a stylized spider for horror or a fist for violence. For the ESRB, at the time of writing there are currently 30 different content descriptors such as 'fantasy violence' or 'blood and gore'. Content descriptors are presented in written form on the back of packages. For some descriptors the terms 'strong' or 'mild' are used to differentiate the intensity of the relevant descriptor.

State involvement

The USK can be characterized by much stronger government involvement than the ESRB, while PEGI takes a middle ground. The German JuSchG was set up as a requirement of the German Grundgesetz (Constitutional Law) that freedom of speech be restricted under measures to protect minors from harmful content (Article 5, §2; Höynck, 2008; Höynck et al., 2007). This constitutional ruling for the protection of minors is also used as an argument against accepting the PEGI as a German-wide regulation as the PEGI's institutions do not totally correspond to what is demanded by the German constitution. As a result, the USK is a semi-governmental body that acts independently from the state but is bound to JuSchG §12, stating that media regulation is carried out by the state or an institution of voluntary self-control. The USK's decisions need to be ratified by a government official. The close government involvement in the USK together with the potential influence of the BPjM and the German penal law sees video game regulation in Germany strongly influenced by the government, potentially due to Germany's strong tradition of legal instruments to regulate its media system (Hallin and Mancini, 2004: 161). For instance, video game regulation closely follows the regulation of other types of media (books, movies, etc.) that demand the elimination of Nazi symbols.

While the debate on governmental influence in video game regulation in the US and Germany follows similar lines of argumentation (Byrd, 2007; Höynck, 2008; Morse, 2006) it comes to different conclusions. In recent years, several attempts have been made in Indianapolis, Michigan, or most recently California (Wood, 2009) to incorporate legal measures that would make the use of age rating labels mandatory in the sale of video games, as is the case in Germany. As of now, all state laws that attempted to enforce video game regulation in the US have been suspended, because (a) authorities were not able to present compelling interests, (b) the laws were not narrowly tailored or (c) the laws were considered constitutionally vague (Byrd, 2007; Morse, 2006). As a consequence, the ESRB remains a voluntary self-regulatory institution set up by the Entertainment Software Association (ESA) and is still the only regulatory system for video games in the US.

   Similar to the ESRB, the PEGI was developed by the industry itself through the Inter-active Software Federation of Europe (ISFE). Contrary to the ESRB and more compara-ble to the USK, ratings by the PEGI are carried out by two independent organizations: the Dutch NICAM – a semi-governmental body for media regulation – that is in charge of PEGI 3+ and PEGI 7+ ratings, and the British Video Standard Council, a self-regulatory institution set up in the mid-1980s. Both institutions act independently from the state but were established under government regulations. Their set-up is similar to the German USK but differs in the lack of direct government influence (Nikken et al., 2007; Smith, 2006). The legal impact of the PEGI varies from country to country, with some countries (France, the Netherlands, Iceland) adopting the PEGI as a mandatory regulation system comparable to the USK in Germany, some (Denmark, Italy) only using it as a voluntary system comparable to the ESRB, and a third group of countries (Ireland, Finland) mak-ing the PEGI mandatory but providing exceptions for indigenous rating systems.

Empirical analysis of regulation practices

In order to scrutinize differences in rating decision practices between the three systems and their potential impact on adolescents' media use, we investigated the actual rating decisions of all three systems. In total, we conducted three separate studies, with our first study acting as a pre-study for study 1. In this pre-study, we relied on the three rating systems' databases to get an impression of what proportion of video games was deemed appropriate to be used by children and adolescents at different age levels under the three relevant systems. As this did not fully allow us to compare rating decisions, in study 1 we compared each system's rating practice based on a list of popular video games. For study 2, we relied on data asking adolescents in Germany and the US what video games they liked and how these games were rated by each of the three systems. Studies 1 and 2 were carried out independently but results are presented in relation to each other to provide a comprehensive overview of how these rating systems operate.

Pre-study: Aggregate findings

Sample and procedure

For the aggregate level, we relied on the publicly available rating databases for each of the three systems. Due to the difference in the maturity of the systems, we focused on a common time period using only video games of the latest console generation (2005 to present), namely Xbox 360, PlayStation 3 and Nintendo Wii, and the two handheld con-soles PlayStation Portable and Nintendo DS. These five platforms are the most important platforms in terms of sales figures and video games for these platforms are released on a global scale (www.vgchartz.com). For data generation, we counted the number of titles rated by each rating system and related them to the total amount of titles released.

Results

Table 2 gives an overview of the distributions of age ratings in the three systems. Over-all, the results are very similar.

Table 2. Number of titles by age category (aggregate level).

USK (N = 5612)		PEGI (N = 3392)		ESRB (N = 7054)	
0+	51.2%	3+	52.6%	EC	0.2%
6+	18.1%	7+	13.3%	E	54.1%
12+	17.7%	12+	18.7%	E10+	16.6%
16+	6.9%	16+	9.8%	T	21.6%
18+	6.1%	18+	5.7%	M	7.7%
				AO	0%

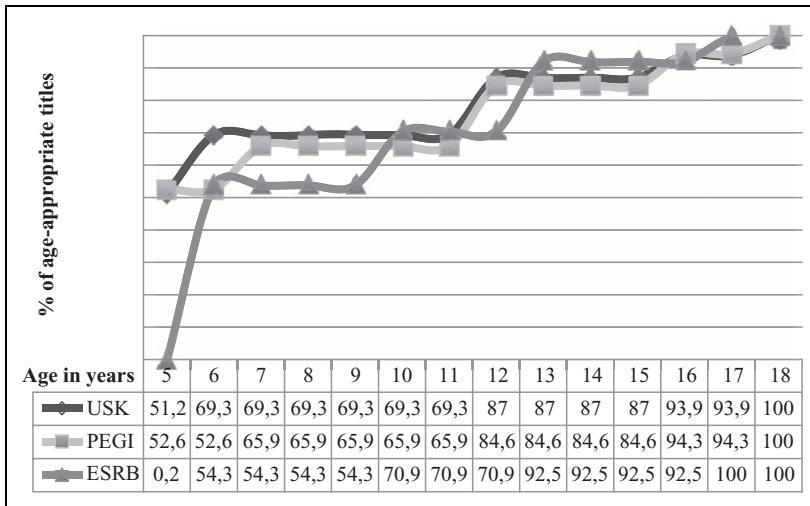| Age in years	5	6	7	8	9	10	11	12	13	14	15	16	17	18
USK	51,2	69,3	69,3	69,3	69,3	69,3	69,3	87	87	87	87	93,9	93,9	100
PEGI	52,6	52,6	65,9	65,9	65,9	65,9	65,9	84,6	84,6	84,6	84,6	94,3	94,3	100
ESRB	0,2	54,3	54,3	54,3	54,3	70,9	70,9	70,9	92,5	92,5	92,5	92,5	100	100

Figure 1. Proportion of titles appropriate by age (aggregate level), in percentages.

As each of the three systems employs different age categories, we counted the number of titles a child of a determined age would be allowed to use. We focused on children from 5 years up to the age of 18 (Figure 1).

The three systems follow a similar pattern in deeming around half of all rated titles appropriate for children between 6 and 12 years old. Interestingly, it is the USK system that allows a significantly ($p < .01$) higher proportion of titles to be used by children 12 years or younger than the seemingly liberal ESRB system. Additionally, for children aged 7–11 years, the PEGI deems a significantly higher proportion of titles as not suitable in comparison to the USK ($p < .01$), while for adolescents between 13 and 15 years of age, the ESRB allows a significantly higher proportion of games to be played compared to the USK ($p < .01$) and PEGI ($p < .01$).

Discussion

When focusing on titles released on the five contemporary platforms, the proportion of titles deemed suitable for children and adolescents follows a similar pattern across all

three systems. In comparison, it seems that the ESRB is very much focused on regulating younger children's media use while adopting a liberal approach as soon as children turn 13 years. The PEGI and USK, on the other hand, are stricter when regulating the media use of adolescents older than 13 years. The introduction of the E10+ category in the ESRB system – an age category missing in both the USK and PEGI – and the application of a 16+ category – missing in the ESRB – can be interpreted as a sign of this different focus on the part of the three systems. Still, we have to account for the fact that the over-all number of titles was not identical for each of the three systems. We even found strong differences in the number of titles rated by each of the three systems, potentially due to different treatment of multi-platform titles. Additionally, the relative high number of titles suitable for younger children was probably due to an overrepresentation of titles for Nintendo platforms (Wii, DS), as titles for those platforms are predominantly rated as suitable for children younger than 12 (PEGI: 93%, $N = 2004$; USK: 85%, $N = 3235$) or 13 (ESRB: 98%, $N = 3553$). In order to test if these pre-study findings presented at the aggregate level hold true when individual titles are taken into account we focused on a specific list of video games in study 1.

Study 1: Rating practices in comparison

Sample and procedure

As the analysis of rating practices on the aggregate level did not allow investigation of how far the rating systems differ in their rating practices for the same video games, we expanded our pre-study by focusing on the level of individual video games. Therefore we selected the 50 top-selling video games from Europe and the US[4] for the years 2008–2010 based on data available at www.vgchartz.com. Due to the global nature of the video game market, similar video games are enjoyed in both regions. The correlation between sales figures in the two regions was quite strong ($r = .898$, $p < .001$, $N = 186$), suggesting that our list of popular titles is a viable approximation of popular titles for both regions. As titles could appear in the top 50 of several years and in both regions, a total of $N = 186$ titles was found. We then coded the age rating received from each of the three rating systems. Additionally, we coded the content descriptors for the PEGI and ESRB systems.

Results

First, we focus on the rating practice for each of the games as presented in Table 2 for the aggregate data (Table 3).

Comparing the proportion of each age rating category reveals very similar patterns. One small detail requires attention: the data analysis allowed us to account for the number of titles denied a rating by the USK and that thus could not be bought in German stores accessible to minors. The titles *Army of Two* and *Gears of War 2* were denied an age rating, indicating that the denial of a rating is only rarely employed in Germany.

In all systems approximately three out of five titles are suitable for children and adolescents younger than 12 (PEGI, USK) or 13 (ESRB) years. Contrary to the list for the aggregate data, the proportion of 'Mature' (ESRB) or 18+ (PEGI, USK) titles is substantially higher, with close to one out of four titles being suitable only for mature or adult

Table 3. Titles by age category (top-seller segment).

	USK (N = 173)		PEGI (N = 176)		ESRB (N = 186)
0+	49.1%	3+	47.2%	EC	0%
6+	12.1%	7+	8.0%	E	50.8%
12+	6.4%	12+	11.4%	E10+	9.2%
16+	8.7%	16+	11.9%	T	14.1%
18+	22.5%	18+	21.6%	M	25.9%
Denied	1.2%			AO	0%

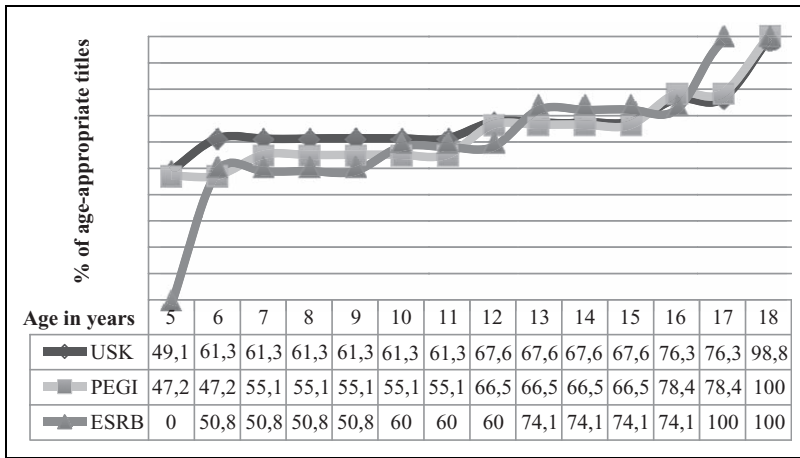| Age in years	5	6	7	8	9	10	11	12	13	14	15	16	17	18
USK	49,1	61,3	61,3	61,3	61,3	61,3	61,3	67,6	67,6	67,6	67,6	76,3	76,3	98,8
PEGI	47,2	47,2	55,1	55,1	55,1	55,1	55,1	66,5	66,5	66,5	66,5	78,4	78,4	100
ESRB	0	50,8	50,8	50,8	50,8	60	60	60	74,1	74,1	74,1	74,1	100	100

Figure 2. Proportion of titles appropriate by age (top-seller segment), in percentages.

audiences. Interestingly, age categories 'Teen' (ESRB) or 12+ (PEGI, USK) are less frequent than at the aggregate level. If we put the age categories in rank order from the lowest age category (0+, 3+, EC) to the highest (18+, 18+, AO) the rank correlation between all three systems is very strong, particularly for the ESRB and PEGI (rho = .946, $p < .001$, N = 176) but also strong for the USK and PEGI (rho = .860, $p < .001$, N = 173) and the USK and ESRB (rho = .869, $p < .001$, N = 170). If one system rates a video game appropriate for older children, the other system is very likely to do the same, so that differences only occur in terms of the categories employed. This becomes apparent if we repeat the analysis of the pre-study in counting the number of titles a child of a determined age was allowed to use by the individual systems (Figure 2).

The systems indeed come to very similar age ratings. Again, the USK adopts a slightly more liberal approach for titles suitable for children under 12 years old and a stricter approach for regulating adolescents' (16+) media use. The ESRB is more concentrated on regulating the media use of children and adolescents younger than 13 years, while allowing a higher proportion of titles to be played by adolescents 13 years or older compared to the other two systems. The PEGI adopts somewhat of a middle ground.

In addition to the analysis already carried out at the aggregate level, data for the top-seller segment allowed investigation of the use of content descriptors for the PEGI and ESRB. For an in-depth analysis we focused on descriptors for violence, sexual content and language. The ESRB employs substantially more content descriptors, allowing for describing nuances within a broader category. In order to compare the two systems, we combined some thematically related descriptors of the ESRB into broader categories that could be better compared to the rather broader descriptors of the PEGI. These categories were 'Blood' including the descriptors for animated blood, blood, blood and gore, 'Sexual Content' including the descriptors for sexual content, sexual themes, partial nudity and nudity, 'Strong Language' including descriptors for strong language, strong lyrics, mature humor, and a category for 'Language' including the descriptors language, lyrics and crude humor.

For violence, we wondered how often the mention of one ESRB content descriptor for violence was met or not met by the PEGI content descriptor for violence. We carried out this analysis for the ESRB content descriptors for violence, intense violence, comic violence and the blood category.[5] The relationship between the PEGI descriptor for violence and the three categories of intense violence, violence and the blood category was very strong: all 32 mentions of intense violence (ESRB) received a violence descriptor in PEGI ($\chi^2 = 45.211$, df $= 1$, $p < .001$, $N = 172$). All 57 mentions in the ESRB blood category were mirrored by a violence descriptor in the PEGI ($\chi^2 = 98.040$, df $= 1$, $p < .001$, $N = 172$). Only three out of 37 video games that the ESRB rated for violence did not receive a PEGI code for violence ($\chi^2 = 39.022$, df $= 1$, $p < .001$, $N = 172$). A discrepancy only occurs for the ESRB content descriptor of cartoon violence ($\chi^2 = 1.032$, df $= 1$, $p = .310$, $N = 172$). Here, only 11 out of 29 video games that had received a cartoon violence descriptor by the ESRB received a violence descriptor by the PEGI.

Strong differences in rating practice occurred when focusing on sexual themes. First, the PEGI rarely used this content descriptor (five times in total). Second, of these five games, only one game also received a coding for sexual content by the ESRB. Statistically, coding for sexuality in the PEGI and ESRB is found to be independent of each other (PEGI and ESRB strong sexual content: $\chi^2 = .123$, df $= 1$, $p = .726$; PEGI and ESRB sexual content: $\chi^2 = .420$, df $= 1$, $p = .517$, $N = 172$).

Findings for the use of content descriptors for language were more coherent. Here, 31 of the 36 titles that were rated by the ESRB in the strong language category also received a PEGI language descriptor ($\chi^2 = 79.299$, df $= 1$, $p < .001$, $N = 172$). For the weaker ESRB category of language the relationship is not as accentuated. Of all the 45 titles that received a rating in this category, only 14 were also rated for language by the PEGI ($\chi^2 = .440$, df $= 1$, $p = .507$, $N = 172$).

Discussion

Overall, we see similar patterns with the individual titles as with the aggregate data. The differences between the systems even become smaller as we are focusing on an identical set of titles. Differences are mostly due to the different age categories employed, particularly between the two European systems and the ESRB system. Again, it seems that the ESRB strongly regulates younger children's access to video games (12 or 13 years or

younger), while the USK is particularly focused on regulating adolescents' (12–17 years old) access.

When comparing the rating practice concerning content descriptors we can see stability in the rating practices. For rating violent content the finding by Funk et al. (1999) is reaffirmed that problems in rating violence between different coders – relying in their study on children, parents and college students – lie not so much in the coding of violence or not but in the problem of coding weaker forms of violence, for instance in cartoons. The PEGI and ESRB strongly overlap in the area of violence and intense violence. Discrepancies only occur in terms of coding elements of cartoon violence that are less likely to fall into the PEGI category. The same can be found for the coding of language ratings. For strong language, the PEGI and ESRB go hand in hand, yet discrepancies occur in terms of coding milder forms of language transgressions. In general, the ESRB appears to provide more content labels in general, and even for mild forms of both violence and language. This again underlines the argument that the ESRB takes a much stronger position in regulating children's (young than 13 years old) media use.

Finally, we should note that crucial differences occur when rating for sexual content. For example, not only is the ESRB much more likely to rate a game for any form of sexual content, the PEGI coding and ESRB coding of sexual content do not share any common ground. European and American standards on what is considered sexual content that requires content information are strikingly different (Federman, 1996), with Europeans seeing scenes of fully clothed adults kissing as not relevant for coding for sexuality and partial nudity being much more accepted even for children's programs or video games.

Using popular titles as a database provides substantially more information than the aggregate data of our pre-study. Still, even this procedure does not allow us to focus on the concrete addressees of the systems, namely the parents, children and adolescents consuming the games.

Study 2: Rating of adolescents' favorite video games

For the last step in the analysis we are asking the question, what titles do adolescents of a certain age like and how were these titles rated by the three systems? Our focus is now on the question of how many of these titles preferred by adolescents are deemed inappropriate to be used by adolescents of a certain age group. For this study, we limit our focus to young adolescents of 12–13 years.

Several reasons speak in favor of using this age group. (1) Arguing from a developmental perspective (Raney et al., 2006), age-inappropriate video games are of special interest for children in their early adolescence. (2) At that age, their overall media use is less subject to parental control than that of younger children (Olson et al., 2008) but (3) they still seem more vulnerable to the potential influences of harmful content than young adults (Kirsh, 2003).

Sample and procedure

We relied on secondary datasets for the two regions of interest (Europe and the US). For Europe, we could use a German dataset. This dataset was a convenience sample

Table 4. Sample characteristics.

	US	Germany
Age		
M	12.50	12.20
SD	0.50	0.3
Gender in %		
Boys	52	54
Girls	48	46
Total	344	400

of $N = 400$ pupils of different mid-German schools weighted by school type for the relevant federal state. As Germany employs the USK system but also uses PEGI symbols for most of the video games sold, Germany provides a good base for this analysis. In the US, the 2008 Pew Internet 'Teen, Video Games and Civics' dataset served as the base for the video game use of American adolescents; these data are publicly available (Lenhart et al., 2008). In both datasets, identical questions were asked. The sociodemographics are presented in Table 4.

Measures

Favorite game. Both studies asked for the adolescents' top three favorite video games. This answer was then used for coding further measures.

Age rating. The ESRB, PEGI and USK age ratings for all titles mentioned by the adolescents in the two samples were coded. If adolescents mentioned a game series, we always coded the most tolerant rating (Kutner and Olson, 2008) such as coding for 12+ (USK) if the game series consisted of USK 16+ and USK 12+ titles. In order to compare rating practices, mentions in the two regions were coded for all three rating systems.

Age-inappropriate video games. An age-inappropriate video game was determined based on the relevant age rating of the favorite games indicated by the adolescents. For the USK, 16+ and 18+ classifications were deemed inappropriate. For the PEGI, 16+ and 18+ titles fell into the category. The ESRB uses 13 years of age as a threshold for the 'Teen' category. As we focused on 12- to 13-year-olds, a 'Teen' rated game would be age-inappropriate for a 12-year-old. However, we did not see this one-year age difference as crucial as the three- or four-year difference for the PEGI and USK (12–13 years compared to 16 years). As a consequence, we considered only 'Mature' and 'Adult Only' titles as age-inappropriate by the ESRB.

Results

In order to compare the three rating systems in action, we focus on the system that is applicable to the relevant country and we analyze how the rating decision for the video games mentioned by the adolescents would be different in the other two rating systems.

Our focus is on the proportions of adolescents in the two countries that each of the three regulation systems deems or would deem as showing a preference for age-inappropriate video games.

In Germany, 24.6% of adolescents ($N = 256$) that had indicated a favorite video game, had indicated at least one age-inappropriate video game. If Germany had employed the PEGI rating system, the proportion would be 23.8% and as such not significantly different from the proportion that the USK would indicate ($p > .2$). The ESRB rated the games preferred by German adolescents in a way that only 16% of adolescents would use age-inappropriate video games. The difference in the proportion that the USK and ESRB deem inappropriate is significant at the $p < .01$ level.

If we now compare rating practices for the games preferred by US adolescents, we first note that 28.1% of US adolescents have mentioned a video game which the ESRB considers them too young to use ($N = 308$). This proportion is not significantly different ($p > .2$) from the proportion of German adolescents showing a preference for age-inappropriate video games as determined by the USK. Again, we compare the proportion of US adolescents deemed as preferring age-inappropriate video games by the ESRB with the proportion the USK or PEGI would indicate. The USK would rate the preferences of 33.8% of US adolescents as age-inappropriate. This difference with the proportion as reported by the ESRB is only approaching significance ($p < .15$). For the PEGI, the proportion would be 32.1% (no significant difference to the ESRB, $p > .2$).

Discussion

In study 3 we no longer focused on a given list of video games but we investigated how the three rating boards would rate video games that adolescents favored. Secondary data analysis allowed us to gather answers from two countries that employed our three rating systems (Germany, the US). The adolescents provided us with a list of their favorite games. Comparing the distribution of age rating categories among the two samples and with findings from study 2 revealed that most of the adolescents in both countries preferred video games that were deemed appropriate for them. Still, we observed a substantial proportion, 20–30%, of the adolescents that at least partially preferred age-inappropriate video games. Findings for the US and Germany were not different on a systematic level. When comparing the rating practice of the three institutions for the video games indicated by adolescents, all three systems came to rather similar solutions. The USK takes a slightly more rigorous approach in granting access to video games for adolescents 12–13 years old than the PEGI or ESRB. However, as the difference between the rating practices are either only approaching significance or very small, these findings should not be overrated.

General discussion

We scrutinized the rating practice of three of the most important self-regulation systems for video games: the German USK, the pan-European PEGI and the US ESRB. In our study, we addressed two areas of concern: (1) we compared the specific set up of each rating system and (2) we analyzed actually rating decisions.

As the analysis based on the criteria identified by Saurwein and Latzer (2010) illustrated, each of the three systems follows a slightly different outline within the overall paradigm of self-regulation. The German USK system – together with other instruments of German legislation – follows a government co-regulation approach, with a strong focus on rating video games independently from the industry and a close connection to state regulatory bodies. The ESRB is positioned on the other side of the continuum and focuses on pure industry self-regulation. The PEGI, on the other hand, occupies a middle ground with a focus on self-regulation but also a close relationship with semi-governmental bodies. The PEGI is the only rating system that has been applied on a cross-national level.

Despite the differences in the outline of these systems, across the studies we found that overall all three rating systems come to rather similar results. Contrary to the assumption of a very strict approach on the part of the co-regulated USK system (Hyman, 2005; Smith, 2006), we found in the first two studies that the ESRB focuses more on regulating children's (12 years and younger) video game use, whereas the USK – and PEGI to a slightly lesser extent– focuses more strongly on the regulation of adolescents' (13 years or older) video game use. The most crucial difference between the three systems is not so much in the question of how particular games are rated, but which categories are employed. Whereas the PEGI and USK employ almost identical age categories, the ESRB employs slightly different age categories, also focusing more on younger children, for instance with the introduction of the E10+ category.

When looking at the rating decisions for the adolescents' most favorite games, the chances are slightly higher that the USK sees a video game as inappropriate for this age group compared to the other two systems.

For a further discussion on how to explain these differences in the actual rating practice, we took a more in-depth look into the areas where the three rating systems differ systematically. These areas were (1) the rating of violent content and (2) the rating of sexually themed content.

The USK particularly rates one type of video game more strongly than (particularly) the ESRB: military/shooter type games. For instance, several installments of the popular *Call of Duty* series such as *Call of Duty* or *Call of Duty 2* received a teen rating by the ESRB and a PEGI rating of 16+ compared to an 18+ rating by the USK.

In terms of rating violent content, findings by other researchers (Funk et al., 1999) were reaffirmed. The PEGI and ESRB – the two systems that use content descriptors – rate severer forms of violence or inappropriate language identically. Still, milder forms of transgression do not run accordingly. It is again the ESRB system where milder forms of inappropriate language or violence such as cartoon violence are rated more readily.

The biggest discrepancy in terms of content ratings was found for sexual content. Video games that were rated for sexual content by the ESRB did not receive a content descriptor in the PEGI. This different attitude towards sexual content would probably be due to a fundamentally different approach to sexual themes in the US and Europe (Federman, 1998; Leone and Barowski, 2011). European media in general adopt a rather liberal approach towards sexual content compared to the US. The effects of this different approach can be illustrated for one of the most often mentioned favorite game series of the adolescents: *The Sims*. *The Sims 2* (PC) received a 0+ USK rating, and a 7+ rating plus a descriptor for violence by the PEGI. From the ESRB, it received a 'Teen' rating and content descriptors for crude humor,

sexual themes and violence. Here, the USK adopts a strikingly more liberal approach than the ESRB and the PEGI again occupies a middle ground, still not seeing the potential detrimental influence of sexual content that the ESRB sees. For the game series' latest installment, *The Sims 3*, the discrepancy in the coding begins to level out, as the ESRB still rated it as 'Teen', and the PEGI now chose a 12+ rating. Both systems gave content descriptors for sexual content. The USK on the other hand rates the game as 6+.

Thus, we conclude that each rating system seems to have a focus on a particular set of video games that it regulates more strictly than others. The ESRB focuses on regulating children's video game use, protecting particular younger children from violent and sexual content. For adolescents, the USK regulates the use of violent, shooter-type games more rigidly, while the ESRB takes a more liberal stance. For all instances, the PEGI adopts a middle ground.

As a last step in our study, we discuss from where these differences might derive. First, differences between the German USK and the US ESRB system are astonishing but may be explained through different cultural and legislatory traditions: a free-market approach with the banning of sexual content in the US and a cooperative mode and a stronger focus on violence in the case of Germany (Gibbons and Humphreys, 2011). One might even argue that the pure self-regulation mode in the US system might lead to a more liberal rating practice in terms of violence as violent video games are usually much more successful on an economic level than sexually themed games. Thus, the industry is not willing to cut down on its cash cows. Still, the more rigid regulation of children's (12 years or younger) media use in the US cannot fully be explained by the liberal market model. Here, we might argue that potentially the strong influence of civic lobby groups such as parent–teacher associations (PTA) on media regulation in the US is causal for this stronger focus. For instance, since 2008 the PTA and ESRB have collaborated on information material for video games. Second, we note that the PEGI system occupies a middle ground: it rates young children's media use more strictly than the USK but more liberally than the ESRB, whereas it rates older adolescents' (16/17+) access more liberally than the ESRB but more strictly than the USK. This is also reflected in its set-up as being more independent from state influence than the USK but more subject to legislative impacts than the ESRB. This may be due to the supra-national nature of the system. The PEGI seems to be based upon a compromise among its participating nations. The example of the PEGI demonstrates that such a compromise need not be based on the lowest common denominator. Indeed, as a conclusion to our study, we may even point in the direction that there is great potential for supra-national video game regulation as distinct systems largely come to similar results and that the differences are much more likely explicable by cultural factors and not by the different legal positions of rating systems. This directly questions Germany's exception from the PEGI; not following an equally successful rating scheme might even confuse parents because the PEGI symbols are used on video game packages in German as well, even if they have no legal relevance.

Limitations

By using three different studies (one pre-study, two main ones), our approach was able to illustrate different aspects of regulation practice by each of the three systems. All

analyses were carried out using available secondary data. This approach has some limitations as researchers have to rely on what is available. A more in-depth analysis of rating practices cannot abstain from gathering information directly from the people in charge at the individual institutions. Here, in-depth interviews with coders and representatives of each of the institution might provide a more informed insight into differences in rating decisions. Relatedly, recent research has already done so for a closer investigation of the German youth protection system and has advocated the use of network analysis (Löblich and Pfaff-Rüder, 2011). For a further analysis on the different structures of age ratings for video games and/or other audiovisual content such a perspective might be promising and may expand our research.

Additionally, our research focuses on three major western systems. We have done so to follow a most similar systems design but therefore our findings are also limited to this closed set of self-regulation systems in western democracies. The next step would require broadening our approach to systems from other areas. Here, we might investigate how far even stronger state involvement, such as that found in Australia (Smith, 2006) or most recently in Iran (Sack, 2010), might impact on rating decisions and to what extent legal bans (as partially available through the German penal law in the German case we observed here) are an efficient way to regulate adolescents' access to a certain type of content or whether legal bans are indeed more comparable to actual censorship. Another line of inquiry could focus on the Japanese CERO system as another self-regulatory system. Here, future research could investigate the role of cultural factors for the rating of video games more thoroughly as Japan's gaming culture is very distinct from Europe or the US.

Conclusion

We cannot say – and it was never the intent of this article – that one rating system is superior to the other. All three systems are rather similar in their rating practice but the analysis could demonstrate individual foci for each of the systems. Despite crucial differences in the set-up of each of the three systems, there is a common understanding on how to regulate video games for children and adolescents in western democracies. Violent content and bad language make video games only available for adolescents of 12 or 13 years and older. The USK seems to be very sensitive with regard to violence and may even deny a rating for certain violent games. Sexual content again makes video games only available to older adolescents, but here, the two European systems have a much more liberal approach than the ESRB.

Systems with little state involvement such as the ESRB and PEGI are not inferior to co-regulation systems such as the USK in restricting access to potentially harmful video game content. They might even – as the example of the ESRB's rating practice shows – be more restrictive and provide more information for a particular age group (children 12 years or younger).

Funding

Notes

1. Iran recently appointed the government-regulated ESRA (Entertainment Software Rating Association) scheme as the first video game regulation based on Islamic values (Sack, 2010).
2. Although rarely used, video games such as *Manhunt 2* (PlayStation 2), *Condemned 2* (Xbox 360; PlayStation 3) were confiscated based on §131 of the StGB.
3. For unified classification (video games and movies), Portugal uses different age categories (3+ = 4+, 7+ = 6+). Finland has used different age categories but now has fully adopted the PEGI.
4. VGChartz provides information on the sales figures in the two regions, the Americas (North and South America) and EMEAA (Europe, Middle East, Africa, Asia). As the US and Europe are the strongest contributors to each of the respective regions we see these data as an acceptable approximation for video games preferred in the US and Europe.
5. Due to few mentions we excluded the descriptors for sexual violence (0 mentions) and fantasy violence (3 mentions) from our analysis.

References

Anderson C, Shibuya A, Ihori N, et al. (2010) Violent video game effects on aggression, empathy, and prosocial behavior in eastern and western countries: A meta-analytic review. *Psychological Bulletin* 136(2): 151–173.

Bushman BJ and Cantor J (2003) Media ratings for violence and sex: Implications for policy makers and parents. *American Psychologist* 58(2): 130–141.

Byrd PL (2007) It's all fun and games until someone gets hurt: The effectiveness of proposed video-game legislation on reducing violence in children. *Houston Law Review* 44(2): 401–432.

Engesser S and Franzetti A (2011) Media systems and political systems: Dimensions of comparison. *International Communication Gazette* 73(4): 273–301.

Federman J (1998) Media rating systems: A comparative review. In: Price ME (ed.) *The V-Chip Debate: Content Filtering from Television to the Internet*. Mahwah, NJ: Lawrence Erlbaum, pp. 99–132.

Ferguson CJ and Kilburn J (2010) Much ado about nothing. The misestimation and overinterpretation of violent video game effects in Eastern and Western nations. Comment on Anderson et al (2010). *Psychological Bulletin* 136(2): 174–178.

Funk JB, Flores G, Buchman DD and Germann JN (1999) Rating electronic games: Violence is in the eye of the beholder. *Youth Society* 30(3): 283–312.

Gentile D, Humphrey J and Walsh D (2005) Media ratings for movies, music, video games, and television: A review of the research and recommendations for improvements. *Adolescents Medicine Clinics* 16(2): 427–446.

Gibbons T and Humphreys P (2011) *Audiovisual Regulation Under Pressure: Comparative Cases from North America and Europe*. London and New York: Routledge.

Gosselt JF, De Jong MDT and Van Hoof JJ (2012) Effects of media ratings on children and adolescents. A limimus test of the forbidden fruit effect. *Journal of Communication*. Epub ahead of print.

Hallin D and Mancini P (2004) *Comparing Media Systems: Three Models of Media and Politics*. Cambridge: Cambridge University Press.

Höynck T (2008) Stumpfe Waffe? Möglichkeiten und Grenzen der Anwendung von § 131 StGB auf gewalthaltige Computerspiele am Beispiel 'Der Pate - Die Don Edition' [A blunt weapon? Potentials and limitations of the application of § 131 StGB (German Penal Law) on violent video games. The example of 'The Godfather']. *Zeitschrift für Internationale Strafrechtsdogmatik* 4: 206–217.

Höynck T, Mößle T, Kleimann M, et al. (2007) Jugendmedienschutz bei gewalthaltigen Computerspielen. Eine Analyse der USK-Alterseinstufungen [Protection of minors from violent computer games: An analysis of the USK rating system]. KFN Forschungsbericht Nr. 101. Hannover.

Hyman P (2005) Rated and willing: Where game rating boards differ. Available at: www.gamasutra.com/view/feature/2486/rated_and_willing_where_game_.php.

Joeckel S, Blake S and Schluetz D (2013) The influence of age rating label salience on perception and evaluation of media. An eye tracking study. *Journal of Media Psychology* 25(2): 83–94.

Kent SL (2001) *The Ultimate History of Video Games: From Pong to Pokemon. The Story Behind the Craze that Touched our Lives and Changed the World*. Roseville, CA: Prima.

Kerr A (2006) *The Business and Culture of Digital Games: Gamework/ Gameplay*. London, Thousand Oaks, CA and New Delhi: Sage.

Kirsh SJ (2003) The effects of violent video games on adolescents: The overlooked influence of development. *Aggression and Violent Behavior* 8: 377–389.

Kreimeier B (1999) Killing games: A look at German videogame legislation. 27 August. Available at: www.gamasutra.com/features/19990827/killing_games_01.htm (accessed 10 April 2013).

Kutner L and Olson CK (2008) *Grand Theft Childhood: The Surprising Truth about Violent Video Games*. New York: Simon and Schuster.

Latzer M (2000) Transformation der Staatlichkeit – Schlussfolgerungen für die Politik [Transformations in impacts of government – Conclusion for policies]. In: Latzer M (ed.) *Mediamatikpolitik für die Digitale Ökonomie*. Innsbruck and Wien: Studien-Verlag, pp. 307–330.

Lemmens JS, Valkenburg PM and Peter J (2009) Development and validation of a game addiction scale for adolescents. *Media Psychology* 12(1): 77–95.

Lenhart A, Kahne J, Middaugh E, et al. (2008) Teens, video games, and civics. Available at: www.pewinternet.org/PPF/r/263/report_display.asp.

Leone R (2002) Contemplating ratings: An examination of what the MPAA considers 'too far for R' and why. *Journal of Communication* 52(4): 938–954.

Leone R and Barowski L (2011) MPAA rating creeps: A longitudinal analysis of the PG-13 rating category in US movies. *Journal of Children and Media* 5(1): 53–68.

Löblich M and Pfaff-Rüdiger S (2011) Network analysis: A qualitative approach to empirical studies on communication policy. *International Communication Gazette* 73(7): 630–647.

Morse R (2006) If you fail, try, try again. The fate of new legislation curbing minors' access to violent and sexually explicit video games. *Loyola L.A. Entertainment Law Review* 26: 171–201.

Nije Bijvank M, Konijn EA, Bushman BJ and Roelofsma P (2009) Age and violent-content labels make video games forbidden fruits for youth. *Pediatrics* 123(3): 870–876.

Nikken P and Jansz J (2006) Parental mediation of children's videogame playing: A comparison of the reports by parents and children. *Learning, Media and Technology* 31(2): 181–202.

Nikken J and Jansz J (2007) Playing restricted videogames: Relations with game ratings and parental mediation. *Journal of Children and Media* 1(3): 227–243.

Nikken P, Jansz J and Schouwstra S (2007) Parents' interest in videogame ratings and content descriptors in relation to game mediation. *European Journal of Communication* 22(3): 315–336.

Olson CK, Kutner LA and Warner DE (2008) The role of violent video game content in adolescent development: Boys' perspectives. *Journal of Adolescent Research* 23(1): 55–75.

Raney AA, Smith J and Baker K (2006) Adolescents and the appeal of video games. In: Vorderer P and Bryant J (eds) *Playing Computer Games: Motives, Responses, and Consequences*. Mahwah, NJ: Lawrence Erlbaum, pp. 165–180.

Sack D (2010) A new rating system for video games based on Islamic values endorsed today in Dubai. Spawnpoint. Available at: www.spawnpoint.com/news/27009/A_New_Rating_System_for_Video_Games_base d_on_Islamic_Values_Endorsed_today_in_Dubai

Saurwein F and Latzer M (2010) Regulatory choice in communications: The case of content-rating schemes in the audiovisual industry. *Journal of Broadcasting and Electronic Medi*a 54(3): 463–484.

Smith S (2006) Perps, pimps, and provocative clothing: Examining negative content patterns in video games. In: Vorderer P and Bryant J (eds) *Playing Computer Games: Motives, Responses, and Consequences*. Mahwah, NJ: Lawrence Erlbaum, pp. 57–76.

Stroud NJ and Chernin A (2008) Video games and the ESRB: An evaluation of parental beliefs about the rating system. *Journal of Children and Media* 2(1): 1–18.

Thompson KM, Tepichin K and Haninger K (2006) Content and ratings of mature-rated video games. *Archives of Pediatrics and Adolescent Medicine* 160(4): 402–410.

Wirth W and Kolb S (2004) Designs and methods of comparative political communication research. In: Esser F and Pfetsch B (eds) *Comparing Political Communication: Theories, Cases, Challenges*. Cambridge: Cambridge University Press, pp. 97–114.

Wood RH (2009) Violent video games: More ink spilled than blood – An analysis of the 9th circuit decision in Video Software Dealers Association v. Schwarzenegger. *Texas Review of Entertainment and Sports Law* 10: 103–122.

Online database

VGChartz: www.vgchartz.com/

PEGI: http://www.pegi.info/de/

USK: www.usk.de/

ESRB: www.esrb.org/index-js.jsp