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Tobacco imagery in video games: ratings and gamer recall

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ABSTRACT

Objective To assess whether tobacco content found in video games was appropriately labelled for tobacco-related content by the Entertainment and Software Ratings Board (ESRB).

Methods Sixty-five gamer participants (self-identified age range 13–50) were interviewed in-person (n=25) or online (n=40) and asked (A) to list favourite games and (B) to name games that they could recall containing tobacco content. The ESRB database was searched for all games mentioned to ascertain whether they had been assigned tobacco-related content descriptors. Games were independently assessed for tobacco content by examining user-created game wiki sites and watching YouTube videos of gameplay. Games with tobacco-related ESRB content descriptors and/or with tobacco imagery verified by researchers were considered to contain tobacco content. Games identified by participants as including tobacco but lacking verifiable tobacco content were treated as not containing tobacco content.

Results Participants recalled playing 140 unique games, of which 118 were listed in the ESRB database. Participants explicitly recalled tobacco content in 31% (37/118) of the games, of which 94% (35/37) included independently verified tobacco content. Only 8% (9/118) of the games had received ESRB tobacco-related content descriptors, but researchers verified that 42% (50/118) contained such content; 42% (49/118) of games were rated 'M' for mature (content deemed appropriate for ages 17+). Of these, 76% (37/49) contained verified tobacco content; however, only 4% (2/49) received ESRB tobacco-related content descriptors.

Conclusions Gamers are exposed to tobacco imagery in many video games. The ESRB is not a reliable source for determining whether video games contain tobacco imagery.

to the gaming industry.⁸ Game manufacturers submit information to the ESRB that includes all 'pertinent content' relevant to the game rating. In addition, manufacturers submit a DVD with visual examples of content that may have bearing on the rating. From this, the committee establishes a rating. The game is also assigned content descriptors that are supposed to indicate the content triggering a particular rating and/or areas of concern.⁹ Committee members examine this material to determine a rating; they are not required to play the game. After the game is released publicly, ESRB staff may play the game to assure that the rating was accurate. According to the ESRB, 84% of parents are aware of the rating system and 69% regularly check a game's rating before making a purchase.¹⁰

There are no legal prohibitions to selling games rated 'M' for mature or 'AO' for adults only to children under 17, although individual stores often prohibit such sales. The ESRB states that not all content may be disclosed in content descriptors and that descriptors may vary depending on the category rating.⁸ Tobacco use or 'reference' are among the content descriptors the ESRB assigns.⁹

A previous study found that the ESRB had given a tobacco-related label to 2.9% of the total games in its database, with the highest proportion (9.0%) in the E10+ (everyone 10 and over) category.¹¹ Other research suggests that tobacco content is present in games rated appropriate for teens (13+ years) and 'mature' players (over 17+ years) but not labelled as such by the ESRB.^{12 13} A case study of the teen rated game *Starcraft-Wings of Liberty* found that tobacco imagery was present throughout gameplay.¹⁴ We explored whether games that were identified as favourites by gamers were recalled as containing tobacco content and whether those games were appropriately labelled by the ESRB.

METHODS

To identify tobacco content labelled by the ESRB in video games, we searched all games released between 1 September 1994 and 30 January 2015 that were listed in the ESRB online database, using the content filter 'substances' by recommended age. We then searched all substance-labelled games in the ESRB database for the content descriptors 'tobacco use' and/or 'tobacco reference'. If a game had either tobacco use or tobacco reference listed among its content descriptors, it was coded as having tobacco content.

To determine what games gamers were actually playing and whether they were encountering tobacco imagery in them, we employed three recruitment strategies. We recruited a convenience sample of adolescents aged 13–21 years using flyers

Research has linked movie smoking imagery to youth smoking initiation.^{1–6} This evidence provides the basis for a hypothesis that watching tobacco imagery from other media sources may likewise impact youth smoking uptake. Video games provide an immersive environment where adolescents can practice ways of being that later may be transferred to actual behaviour.⁷ Tobacco imagery in video games played by adolescents and young adults may therefore be cause for concern.

The Entertainment Software Ratings Board (ESRB) is a USA-based non-profit self-regulatory body sponsored by the gaming industry that provides voluntary age-appropriate ratings for video games, similar to movie ratings. Ratings are established by a confidential three-person body that, according to the ESRB's website, has no financial ties

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Brief report

and snowball sampling in a large Northern California metropolitan area, advertised for participants over age 18 on the website *Reddit* in the subReddit *SampleSize*¹⁵ and, recruited, via networking, game designers that had worked in the video game industry at least 1 year (IRB #11-06485). Written consent and/or assent was obtained for each participant. Participants received a \$20 gift card for participation. For interviews conducted in-person or online, participants were asked to (A) list favourite games and (B) name games that they could recall containing tobacco content. Interviews were transcribed and coded for game names and topics using NVivo software.¹⁶ All games discussed by participants were catalogued, including whether they recalled smoking content. These were compared with the games' posted ESRB rating and ESRB content descriptors. When a participant recalled the name of a series of games rather than an individual game, the most recent game published for console or PC play prior to 31 December 2014 was used for analysis.

Because tobacco content is often not consistently catalogued, additional methods were used to determine whether a game might contain tobacco content not recalled by a participant and/or to determine whether a participant had erroneously recalled tobacco content. *Common Sense Media* is a website that also rates games according to their appropriateness for children and considers tobacco content in these ratings.¹⁷ Each identified game name was placed into this website and we recorded whether tobacco content had been identified. Additionally, each individual game wiki site was searched with the terms 'cigar, cigarette, tobacco' and 'smoking'. All results were examined to ascertain whether they related to actual tobacco content present in the video game under question. Finally, the video sharing website *YouTube.com* was searched using the individual title of each game, followed by the terms 'game movie' and/or 'cut scenes'. Videos that appeared to include both the arc of game play and the short cinematics (cut scenes) that tie game play sequences together and move the plot line were selected for viewing. At least 1 h of each game movie was watched and each instance of tobacco content recorded. Visible smoking equipment (cigarettes, cigarette packs, cigars, pipes, tobacco, ashtrays with butts in them), characters mentioning smoking or tobacco, and/or characters smoking a pipe, cigar, e-cigarette or cigarette were considered an instance of tobacco content. A game was considered to have tobacco content if such content could be verified using the ESRB, Common Sense Media, the individual game wiki site, and/or had an instance of tobacco content in YouTube game play videos. Games identified by participants as including tobacco but with unverifiable tobacco content were treated as not containing tobacco content.

RESULTS

The tobacco content in video games as labelled by the ESRB is reported in [table 1](#).

Twenty adolescent participants were recruited for in-person interviews (mean age of 17.7 (SD 2.7)). These participants played a mean of 3.8 h a day (SD 1.7) and reported that they had started playing video games at a mean age of 6.4 years (SD 3.0). All adolescent participants reported that they had played games-rated Mature by the ESRB. Additionally, 40 participants were recruited online, with a mean stated age of 23.9 (SD 5.4), reporting that they played a mean of 2.8 h a day (SD 1.3) and that they had started gaming at a mean age of 7.2 years (SD 4.1). Five game designers were recruited with a mean of 8.8 years (SD 9.2) in the industry. Participants collectively identified 140 unique games as favourites. Of 140 identified games,

Table 1 Tobacco content in video games by ESRB rating

Game rating by the ESRB	N	ESRB content descriptor for tobacco use/reference (%)
Early childhood	289	0 (0.0)
Everyone	26 355	255 (0.97)
Everyone 10+	2800	244 (8.7)
Teen (13+)	7298	445 (6.1)
Mature (17+)	2239	19 (0.08)
Adults only	43	0 (0.0)
Total	39 024	963 (2.5)

ESRB, Entertainment and Software Ratings Board.

we found 118 in the ESRB database. Participants recalled tobacco content in 31% (37/118) of the games; 94% (35/37) was independently verified as such. Through verification methods, we found an additional 15 games with tobacco content that the participants had not specifically recalled as having tobacco imagery, but had mentioned as a favourite game. Four of these had ESRB tobacco-related content descriptors.

Only 8% (9/118) of the games had received ESRB tobacco-related content descriptors, but researchers verified that 42% (50/118) contained tobacco content ([table 2](#)). Of 35 games in which participants recalled seeing verified tobacco imagery, only 14% (5/35) had a tobacco content descriptor. See online supplementary appendix 1 for list of games with verified tobacco content, verification methods and numbers of participants mentioning the game and/or recalling seeing tobacco content.

DISCUSSION

Video games are a ubiquitous part of adolescent life in many countries. Among US youth, 8–18, 88% play video games at least occasionally.¹⁸ The median amount of time playing is 13.2 h week, with boys playing more frequently (16.4 h/week) than girls (9.2 h/week).^{11–18} The presence of tobacco imagery in such games exposes players to products and behaviours within an immersive, performative environment, with unknown effects on real-world smoking behaviour.

This study suggests that the ESRB's content descriptors cannot be regarded as a reliable source for assessing games for tobacco imagery, especially in the Mature category. For example, 14 participants identified the video franchise *Metal Gear Solid* as containing tobacco content. Common Sense Media,¹⁹ the *Metal Gear* wiki site^{20–21} and a nearly 9 h game movie²² verified

Table 2 Comparison of ESRB tobacco content labels, verified tobacco content and participant recall in video games

All games identified by participants by ESRB rating (n)	Games with ESRB tobacco content descriptors, % (n)	Games with verified tobacco content, % (n)	Games with verified tobacco content also identified by participants, % (n)
Everyone (30)	3 (1)	6 (2)	0 (0)
Everyone 10+ (9)	22 (2)	22 (2)	11 (1)
Teen (30)	13 (4)	30 (9)	13 (4)
Mature (49)	4 (2)	75 (37)	61 (30)
Total (118)	7.6 (9)	42 (50)	30 (35)

ESRB, Entertainment and Software Ratings Board.

extensive smoking throughout, yet the ESRB gave that game no tobacco content descriptor. Henry Gilbert, a writer for the website *Games Radar*, said about the main character in the *Metal Gear Solid* games:

The most famous smoker in gaming history, Solid has been lighting up for decades with little care of the consequences...he usually keeps a pack handy no matter what his superiors say....the cigs lend him steady aim, allow him to see infrared lasers and restore his psyche, while at the same time decreasing his health bar and—in MGS4—possibly giving away his position with the scent.²³

Of the M-rated games, 75% contained verified tobacco content, yet the ESRB only gave 4% a tobacco content descriptor. Since these games are considered age appropriate for those over 17, the ESRB may not view them as high priority for labelling tobacco content. However, if this is the practice, it is applied inconsistently, as the ESRB has given 19 other M-rated games tobacco-related content descriptors, including two identified as including tobacco by the ESRB and study participants, *The Wolf Among Us* and *Bioshock Infinite*.²⁴ Of teen-rated games, the ESRB gave 13% tobacco-related content descriptors; however, 30% had researcher-verified tobacco content. While the ESRB and the gamers each identified four teen-rated games as having tobacco content, only one of those games was on both lists.

Guidelines for implementation of Article 13 of the WHO Framework Convention on Tobacco Control state that the media should “Implement a ratings or classification system that takes into account the depiction of tobacco products, use or images in rating or classifying entertainment media products (eg, requiring adult ratings which restrict access of minors) and that ensures that entertainment media aimed at children (including cartoons) do not depict tobacco products, use or imagery.”²⁵ The ESRB is not doing this consistently. Barrientos-Gutierrez *et al*²⁶ suggest that there should be a complete ban on advertising, promotion and sponsorship of tobacco products, either directly or indirectly, and this ban should extend to new media, including video games.

This study has several limitations. The limited sample does not allow generalisation to all gamers. In addition, we did not attempt to quantify the amount of tobacco imagery in each game, so it is unclear whether tobacco imagery only occurred in a brief scene or was consistently present throughout. Whether tobacco in these games was portrayed in socially desirable or undesirable ways was not explored. Finally, as games may be played in a variety of ways, it is possible that tobacco imagery may be present during one participant’s play but not in another. In addition, it is likely that not all games with tobacco content were identified, given the length and variations of many games, and the lack of consistent reporting. It is also unknown whether the ESRB consistently labels for tobacco content on games it rates as mature.

However, this study demonstrates that tobacco imagery is present in games, recalled consciously by players, and that most ESRB game ratings do not reflect this tobacco content. Games rated M were played by all participants, including those 17 and younger, indicating likely exposure to unrated tobacco content. Research suggests that age restrictions may actually make games more attractive to youth.²⁷ For example, M-rated *Grand Theft Auto* has been played by 56% of US 8–18-year-olds.²⁸ Because many adolescents do play M-rated games, the ESRB should apply more rigorous procedures to ensure accurate content descriptors. This study shows that adolescent video game players may be exposed to more tobacco imagery than ratings would suggest.

What this paper adds

- ▶ Exposure to smoking imagery in movies has been positively linked to adolescent smoking initiation, providing the basis for the hypothesis that smoking imagery from other media sources may be similarly implicated.
- ▶ Nearly 90% of adolescents play video games, yet there is little research on whether smoking content is present in the games, whether gamers recall smoking imagery, and whether this content, if present, is labelled with tobacco-related content descriptors by the Entertainment Software Ratings Board (ESRB).
- ▶ Tobacco is present in games rated for and being played by adolescents, is recalled consciously, and the ESRB ratings do not reflect tobacco content recalled by adolescent and adult players.
- ▶ Adolescents may be exposed to significantly more tobacco imagery than previously thought.

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Contributors SRF co-conceived and designed the project, conducted interviews, researched, analysed and interpreted data and wrote the first draft of the manuscript. REM co-conceived and assisted with design, supervised on all phases of the project, analysed and interpreted the data, and cowrote sections of and edited the manuscript.

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Brief report

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