

# High youth access to movies that contain smoking in Europe compared with the USA

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## ABSTRACT

**Background** Based on evidence that exposure to smoking in movies is associated with adolescent smoking, the WHO has called on countries to assign a rating that restricts youth access to such movies.

**Objective** To evaluate youth access to movies that portray smoking in European countries and compare with that in the USA.

**Methods** The authors identified the most commercially successful movies screened in six European countries (Germany, Iceland, Italy, the Netherlands, Poland and UK) and the USA between 2004 and 2009. The authors coded the 464 movies that were screened in both Europe and the USA according to whether or not they portrayed smoking.

**Results** 87% of the movies were 'youth' rated in Europe (ratings board classification as suitable for those younger than 16 years) compared to only 67% in the USA (suitable for those younger than 17 years). Smoking was portrayed in 319 (69%) movies. 85% of the movies that portrayed smoking were 'youth' rated in Europe compared with only 59% in the USA ( $p < 0.001$ ).

**Conclusions** Tobacco imagery is still common in popular films shown in European countries and the USA. None of the seven countries examined followed the WHO recommendations on restricting youth access to movies that portray smoking. Compared to the USA, European youths have access to substantially more movies in general, and this gives them access to more movies that portray smoking in particular.

guidelines of Article 13 of the WHO Framework Convention on Tobacco Control.

This body of research and the recommendations that derive from it have stimulated discussion about what sorts of policies could be adopted to reduce youth exposure to smoking in movies. Along with the Master Settlement Agreement,<sup>24</sup> which prohibits payments for tobacco brand placements in movies, public health movements ('Smoke Free Movies' at the University of California, San Francisco: <http://www.smokefreemovies.ucsf.edu/>) have been effective in forcing movie production studios to impose restrictions on the USA-produced movies that contain branded or unbranded smoking. These restrictions have reduced the prevalence of such depictions in movies produced in the USA.<sup>25–28</sup> However, Smoke Free Movies has been less successful in persuading the movie industry to give 'mature' ratings (ie, ratings that restrict youth access) to movies with smoking, a key recommendation in the implementation guidelines of Article 13.<sup>23</sup>

Although there has been much discussion of policies on smoking in movies in the USA, there has been little discussion in Europe, and no rating system there formally incorporates smoking to our knowledge. A recent study of films released in the UK showed that because the rating system was more relaxed than the USA with respect to violence and sex, with which other adult behaviours like smoking tend to be associated in movies, UK youths are exposed to more smoking in the youth-rated movies.<sup>29</sup> The aim of the current paper was to evaluate ratings board-sanctioned youth access to movies and movie smoking (from herein, 'youth access') in six European countries compared with the USA.

## METHODS

We used listings of the most commercially successful movies based on box office data in Germany, Iceland, Italy, the Netherlands, Poland and the UK. We selected the 25 most commercially successful films for the year 2004 and 2009, and the 50 most successful movies for the years 2005, 2006, 2007 and 2008 for all six European countries. The total number of movies examined was 655; because most of the commercially successful movies were internationally distributed, there was considerable overlap in the movie lists for the six countries. The majority of movies ( $N=464$ ; 71%) were shown in cinemas both in the USA and in Europe, and the remainder ( $N=191$ ; 29%) were only shown in one or

## INTRODUCTION

Movie depictions of smoking are a potentially powerful socialising agent.<sup>1</sup> Almost all studies conducted in the USA,<sup>2–11</sup> New Zealand,<sup>12</sup> Mexico<sup>13–14</sup> and several European countries<sup>15–20</sup> indicate that exposure to onscreen smoking in movies increases the probability that youths will start smoking; the one exception examined the association in young Scottish adults (19-year-olds).<sup>21</sup> A review by the US National Cancer Institute concluded that 'the total weight of evidence from cross-sectional, longitudinal, and experimental studies indicates a causal relationship between exposure to movie smoking depictions and youth smoking initiation' (p. 357).<sup>22</sup> Concerns over the effects of smoking in the movies on youth smoking uptake has led the WHO to call for reductions in youth exposure to movies that portray smoking<sup>23</sup> in the implementation

## Research paper

more of the European countries but not in the USA. These 464 movies served as movie sample frame for the current paper.

From the total of 464 movies shown in both the USA and Europe, 68 (15%) were successful in the USA and all six European countries, 52 (11%) in the USA and five European countries, 40 (9%) in the USA and four European countries, 41 (9%) in the USA and three European countries, 61 (13%) in the USA and two European countries and 202 (43%) in the USA and only one European country.

### Movie ratings

In the USA, the movie rating system is a voluntary system operated by the USA Motion Picture Association of America (MPAA) and the National Association of Theatre Owners. The ratings are intended to provide parents with advance information so they can decide for themselves which films are appropriate for viewing by their children. Movie ratings in European countries also use age categories to classify films, but the rating systems differ substantially, not only from the MPAA system, but also within Europe. For example, there is high variance in the number of age categories used, ranging from only two categories in Belgium to 10 categories in Switzerland. Table 1 describes the movies rating systems for the countries involved in the study.

For each movie, we used the Internet Movie Database to ascertain year of release and age rating of the film. In order to compare the MPAA movie rating system with the various European rating systems, we consider movies with the MPAA ratings 'R' or 'NC-17' as 'mature' movies and all other movies as 'youth'-rated movies. All movies with a European film classification of 16 years and above are classified as 'mature' movies, whereas all movies with an age rating below 16 years are considered as 'youth'-rated movies. Note that this difference in age cut-off would, if anything, tend to make the European system appear stricter. To assess sensitivity of our results to the age 16 cut-off, we repeated the analysis using an alternative coding that categorised all European films with an age rating of 18 as 'mature' and all others as 'youth' rated. This classification has been recently suggested.<sup>30</sup> European and MPAA movie

ratings for the same movie were available for all 464 movies that were shown in the USA as well as in European cinemas.

### Movie smoking content

The Dartmouth Media Research Laboratory content codes the top 100 US box office hits each year. Many of these movies appeared on the most commercially successful movie lists for our six countries. The Dartmouth coders provided information on which of the movies that had already been content coded with regard to smoking scenes. Inter-rater correlation between counts of smoking was 0.99 for a 10% sample of double-coded movies for the Dartmouth counts of smoking.<sup>31</sup>

A total of 367 of the 464 movies (79%) were content coded at Dartmouth, while the remaining 97 movies (21%) were content coded in the European study centres. For the present analysis, we applied a simplified post hoc movie smoking coding scheme that classifies movies into two categories, that is, 'at least one smoking scene' versus 'completely smokefree'. For this measure, there was a 100% agreement between the USA and the European coders (based on a re-coding of 40 randomly selected movies) and a 100% concordance between the different European coders.

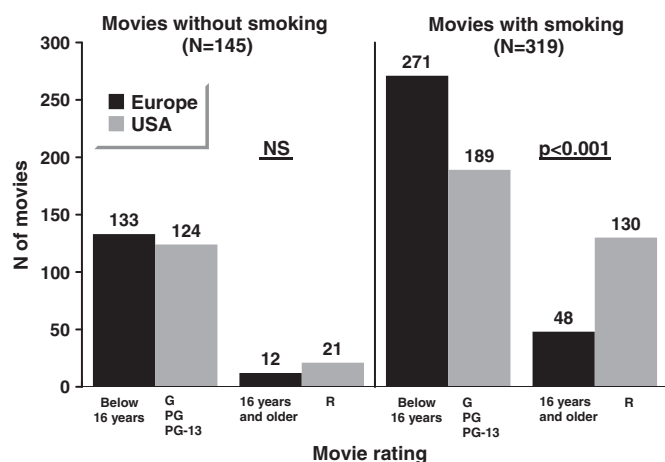
### RESULTS

Significantly more of the 464 movies received 'youth' ratings in Europe (ie, rated as suitable for those younger than 16 years) than in the USA (defined as suitable for those younger than 17 years) (87% (n=404) vs 67% (n=313);  $\chi^2(1)=50.8$ ;  $p<0.001$ ).

A total of 145 (31%) of the movies did not portray smoking. Figure 1 shows that there was no significant difference between the USA and Europe in terms of youth access to these movies ( $\chi^2(1)=2.8$ ; NS). Smoking was portrayed in 319 (69%) of the movies. It was common in movies given a 'mature rating', being portrayed in 48 (80%) of the 60 movies rated as suitable for people 16 years and older in Europe and 130 (86%) of the 151 rated as suitable for those 17 years and older in the USA. Figure 1 shows that 271 (85%) of the movies that portrayed smoking were 'youth' rated in Europe compared with only 189 (59%) in the USA ( $\chi^2(1)=52.4$ ;  $p<0.001$ ).

**Table 1** Description of the movie rating systems in the USA and six European countries

USA	Germany	Italy	Iceland	Poland	The Netherlands	UK
<b>G:</b> general audiences. All ages admitted	<b>FSK 0:</b> Suitable for all	<b>film per tutti:</b> General audiences. All ages admitted	<b>L:</b> Suitable for all	<b>BO:</b> Suitable for all	<b>AL:</b> Suitable for all	<b>U:</b> Universal. Suitable for all audiences
<b>PG:</b> Parental guidance suggested. Some material may not be suitable for children	<b>FSK 6:</b> Suitable for 6 years and older.		<b>7:</b> Passed only for 7 years and older		<b>6:</b> Suitable for 6 years and older <b>9:</b> Suitable for 9 years and older	<b>PG:</b> Parent guidance. General viewing, but some scenes may be unsuitable for young children
<b>PG-13:</b> Parents strongly cautioned. Some material may be inappropriate for children younger than 13 years	<b>FSK 12:</b> Suitable for 12 years and older		<b>12:</b> Passed only for 12 years and older	<b>12:</b> Suitable for 12 years and older	<b>12:</b> Suitable for 12 years and older	<b>12A:</b> Younger than 12 years must be accompanied by an adult
		<b>VM14:</b> Nobody younger than 14 years is allowed, parental guidance is strongly advised	<b>14:</b> Passed only for 14 years and older	<b>15:</b> Suitable for 15 years and older		<b>15:</b> Suitable for 15 years and older
<b>R:</b> Restricted. Children younger than 17 years require accompanying parent or adult guardian	<b>FSK 16:</b> Suitable for 16 years and older		<b>16:</b> Passed only for 16 years and older		<b>16:</b> Suitable for 16 years and older	
<b>NC-17:</b> No one 17 years and younger admitted	<b>FSK 18:</b> Suitable only for adults	<b>VM18:</b> Nobody younger than 18 years is allowed, for older audiences only	<b>18:</b> Passed only for 18 years and older	<b>18:</b> Suitable only for adults		<b>18:</b> Suitable for 18 years and older



**Figure 1** Movie rating in Europe and the USA by smoking in the movies. G, general audiences; PG, parental guidance suggested; PG-13, parents strongly cautioned; R, restricted.

The contrast was more striking when the cut-point for a 'mature' rating was elevated to age 18: European youths younger than 18 years had access to almost all movies (311 out of the total of 319 movies, 98%) that portrayed smoking.

## DISCUSSION

This study found that smoking is common in movies screened in European cinemas. Smoking content was present in over two-thirds of a large sample of the most commercially successful movies shown in cinemas of six European countries between 2004 and 2009. Consistent with previous research, we found that 'mature'-rated movies (those rated as only suitable for those aged 16 years and older) more often contain smoking episodes.<sup>32</sup> We also found that a substantially higher number of movies portraying smoking can be legally viewed by European youth than by US youth. This difference is mainly because mature-rated movies are likely to contain smoking, and a large share of movies rated as suitable for people older than 17 years in the USA are classified as youth appropriate in Europe.

Findings from this study are in line with two UK studies, which reported that adolescents in that country are exposed to more smoking images than US youths because a substantial number of movies rated for adults in the USA ('R') are classified as suitable for youths in the UK ('15' or '12A').<sup>29 33</sup> We confirmed these findings and extended this research by incorporating data from five additional European countries.

There are several limitations to the current investigation. First, we selected six European countries, which are located in North, South, East and West Europe. Some European countries with a long-standing movie-making history (eg, France) are not included in this sample. Therefore, we should be cautious in generalising the results of this study to all European countries. Second, we did not measure the intensity of smoking nor other characteristics of the movies (eg, genre of the movies). Third, it is difficult to compare movie rating systems across countries. There is no direct correspondence for a US 'R'-rated movie in the European context. We therefore decided to be conservative and to classify all movies that are deemed suitable for European adolescents with the age of 16 years as 'R'-rated, rather than using the European adult rating (18 years) that applied in all but one (the Netherlands) of the countries we investigated.

One policy to reduce youth exposure to movie smoking would be for movie rating boards to incorporate smoking into the

## What this paper adds

- ▶ Smoking is common in movies screened in European cinemas.
- ▶ None of the seven countries follow Framework Convention on Tobacco Control recommendations for restricting youth access to movies that portray smoking.
- ▶ A substantially higher proportion of movies are rated as acceptable for youth viewing in Europe compared with the USA, resulting in greater access to movies that contain smoking among European youth.

ratings system.<sup>34</sup> Industry-run ratings systems, like that of the MPAA, were designed by the movie industry to avoid censorship.<sup>35</sup> With respect to this policy option, it is important to understand that the rating for a movie is part of the contractual agreement signed at the beginning of the process, before the movie enters production,<sup>36</sup> and if smoking in a movie attracts an adult rating producers would simply leave smoking out of the films intended for younger audiences. This contractual agreement represents a business decision.<sup>37</sup> Neither the producer nor the director can determine what the rating will be; the contractual agreement simply states that the MPAA ratings board has to deliver a certain rating category, otherwise the movie needs to be edited and resubmitted until the desired rating is achieved. If smoking is deemed artistically necessary or desirable, producers would be free to include portrayals of smoking in the knowledge that this would attract an adult rating for the movie. If reaching a youth audience is deemed of greater value, then smoking would be cut. Movie producers make such decisions routinely when they choose whether or not to include bad language and scenes of sex and violence in the light of movie rating board criteria or whenever a movie is adapted for television or airline viewing.

Previous research has clearly shown that smoking in movies is an important contributor to youth smoking initiation. Youths from Germany, Iceland, Italy, the Netherlands, Poland and the UK have ratings board-sanctioned access to more films that contain smoking than adolescents in the USA. Germany, Iceland, Italy, the Netherlands, Poland and the UK have all ratified the WHO Framework Convention on Tobacco Control. Implementation of this international treaty in these countries should follow the WHO recommendations to modify the film rating system so that new movies portraying smoking are classified as appropriate for adults only. Assigning films that portray smoking an adult rating would substantially reduce youth smoking exposure to onscreen smoking and in the long run contribute to the prevention of smoking initiation among European youths.

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