

An Evaluation of the Motion Picture Association of America's Treatment of Violence in PG-, PG-13-, and R-Rated Films

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ABSTRACT. *Objective.* The purpose of this study was to determine whether the Motion Picture Association of America's ratings system distinguishes among the 3 primary rating categories (PG, PG-13, and R) with respect to violence based on a study of the 100 top-grossing films of 1994.

Methods. The Motion Picture Association of America assigns age-based ratings for every film that is released in the United States accompanied by the reasons for the rating. A data abstraction instrument was designed to code each act of violence within the sample of 100 films. A series of Poisson regression models were used to examine the association among rating, seriousness of violence, and primary reason for the rating assignment.

Results. The total average number of violent acts within each film by rating category increased from PG (14) to PG-13 (20) to R (32). However, using results from the Poisson models, it is clear that the rating does not predict the frequency of violence in films. For all 3 rating categories, the predicted number of violent acts is almost identical for films with violence as a primary descriptor and films with the highest level of seriousness (R = 62.4 acts, PG-13 = 55.2 acts, and PG = 56.1 acts). The regression analysis shows that the rating does not predict the frequency of violence that occurs in films.

Conclusions. Frequency of violence alone is not the most important criterion for the assignment of rating. The content descriptors and average seriousness of films are better measures of the violence than rating assignment. *Pediatrics* 2005;115:e512–e517. URL: www.pediatrics.org/cgi/doi/10.1542/peds.2004-1977; *violence, film, media, MPAA rating system.*

ABBREVIATIONS. MPAA, Motion Picture Association of America; CARA, Classification and Ratings Administration; CI, confidence interval.

Controlling children's exposure to violent movie images has been a challenge from the beginning of film history. In the late 1960s, when the Motion Picture Association of America

(MPAA) instituted its Classification and Ratings Administration to mediate between the exhibition of violent movies and children, it shifted the burden of controlling for exposure from filmmakers to parents. With the classification and ratings system in place, films were no longer being released for general audiences but rather had their audience determined for them by a rating board that was hired to evaluate the objectionable content that films contained and assign a corresponding age-based rating. Thus, structurally speaking, the new form of industry self-regulation played a significant role in the historical break that occurred in cinema during the late 1960s.

The MPAA's Classification and Ratings Administration (CARA) is the industry's self-appointed watchdog agency that is made up of a panel of between 8 and 13 members, including a chairman appointed by Dan Glickman, its newly appointed president. The stated goal of the CARA board is to keep parents informed about the objectionable content that movies contain using the following criteria: theme, violence, language, nudity, sensuality, and drug abuse. Currently, the board uses 5 age-based symbols: G (General Audience, All Ages Admitted), PG (Parental Guidance Suggested, Some Material May Not Be Suitable for Children), PG-13 (Parents Strongly Cautioned, Some Material May Be Inappropriate For Children Under 13), R (Restricted, Under 17 Requires Accompaniment by an Adult), and NC-17 (No One Under 17 Admitted).¹ In addition to these age-based ratings and definitions, the CARA offers supplemental content descriptors of the offending material on the basis of their above-mentioned criteria contained in each film that it rates.¹

A random sample of >500 parents surveyed in 2000 revealed that almost 70% always and an additional 15% often check the rating of a film before their children's viewing of it.² However, several studies have found that parents are not satisfied with the rating system's ability to assign ratings properly.^{3–6} For instance, in a study on the validity of the various rating systems for media products, parents found CARA to be "too lenient," with the PG-13 category being the most problematic in this regard.⁷ In one of the few studies that have examined the CARA rating system, Wilson et al⁸ found the ratings categories to be misleading and lacked specificity in regard to content, such that PG-13 films can contain multiple scenes of violence or have no violence at all but can be loaded with vulgar language. Many have

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argued that a content-based rating system would offer parents the information that they need to make informed decisions about which films to allow their children to view.^{7,8} Reflecting this view, a meta-analysis of 4799 parents found that >64% preferred content-based instead of age-based ratings categories.⁹

With the introduction of content descriptors in 1990, the CARA system made an effort to combine the age-based with content-based ratings into a more comprehensive descriptive system. However, a 2001 Federal Trade Commission study found that CARA was not, in fact, making the content descriptors available in its promotional materials and strongly recommended that it begin to do so. In a follow-up study, the Federal Trade Commission examined the level of CARA compliance to its recommendation and concluded, "The remaining challenge is to make rating reasons as ubiquitous as the rating in advertising, and to present this important information clearly and conspicuously."¹⁰

To evaluate the CARA rating system's overall schema, we examined the primary factor of the content descriptors that accompany the rating of each film in the sample in relation to the represented violent action. The specific aim of the study was to determine whether PG, PG-13, and R represent 3 distinct categories in regard to violence. For this study, 2 measures were developed to evaluate the violence content. The first, seriousness, identified how aggressive the action was, and the second, explicitness, considered the cinematic treatment of represented violent action insofar as it was minimized or emphasized for effect. These measures enabled quantitative description of each individual act of violence.

It is important to consider that the MPAA does not define its rating system as scientific or objective but rather as a collective judgment from a group of parents. In this study, scientific tools are used to examine the validity of the CARA system to assist parents, caregivers, and pediatricians in understanding the usefulness of the CARA system in protecting their patients from exposure to violence in films.

METHODS

Study Sample

The sample included all films from the 100 top-grossing American films of 1994, established by the Hollywood Reporter (1995). The year 1994 was chosen for convenience, not because of any previous expectation about levels of violence in that year's output. (Film titles are listed in the Appendix.) In the sample of G, PG, PG-13, R, and Unrated films, there was only 1 G (*The Lion King*) and 1 Unrated film (*The Madness of King George*). We therefore chose to conduct a rigorous analysis of the 98 PG, PG-13, and R films excluding the G and Unrated films.

Instrument

A large, multidimensional analytic instrument was designed for systematic coding of each film in the 1994 sample.¹¹ The analytic instrument was structured in such a way that violent action was always contextualized. Specifically, the scene was the largest unit of dramatic action in a film and defines the specific spatial context in which a violent action occurs. The episode was the second largest unit of analysis and defined the temporal logic of violent action, characterized the violent initiator's objectives, and defined the types of provocations that led to violence. A violent action cohering in a single scene and episode was defined

as the basic unit of analysis and included at minimum a single violent gesture made by an initiator, for example, a punch thrown or a weapon discharged.

Three advanced graduate students from the University of California Los Angeles department of film and television served as the coders for all films. The coding used a hierarchical structure that allowed progressive movement from scenes to actions. For each violent action, the film was paused and questions pertaining to the action were answered. Once the coders entered their responses, the film continued until the next violent action. Coders achieved a 90% interrater agreement on all variables.

Measures

For measuring the seriousness or magnitude of violent action, a 3-part scale was used. Level 1 included "pushing, restraining, slapping, pinching, chases without weapons, and spraying or dousing with noxious (but nonlethal) substances." Level 2 included such behavior as "hitting with a closed fist or with a weapon, but with nonlethal force." Level 3 included all "violent acts executed with deadly force." For appraising the degree of explicitness used in representing a violent action, a 4-part scale was used. At level 1, "the act was narratively framed but is not itself depicted, or if depicted, with no wounding or expression of serious force." At level 2, "elements of the act may have been represented, but details of the actual wounding were omitted and visual effects such as blood were not emphasized." At level 3, "elements of the act may have been represented and the actual wounding may have been shown in terms of the impact of the weapon on a body or the emission of blood in relation to a wound. However, flesh was not shown to tear, burn, be crushed, or rupture, nor are fragments of body parts represented." At level 4, "violence was represented in the most explicit manner and the actual tearing, burning or otherwise destroying of flesh or body matter was made visible and/or audible."

The CARA rating board places its supplemental content descriptors in a hierarchy, which provide the rationale and justification for the designated rating. The first descriptor in a series is considered to be the most significant determining element in the rating designation. For the purpose of this study, the first listed factor, referred to as the primary factor for the rating assignment (eg, violence, sexuality, language), was examined. For this analysis, all primary factors other than violence, sexuality, or language were collapsed into the category "other." All factors were abstracted from the Internet-based MPAA database.

CARA System

PG is the second least restrictive of the 5 ratings categories. A film qualifies for a PG designation more by what it does not contain than by what it does: "Explicit sex scenes and scenes of drug use are absent; nudity, if present, is seen only briefly, horror and violence do not exceed moderate levels." The rating board has translated this set of standards into a simple warning for parents: "Some material [in these films] may not be suitable for children." The standards for films that are rated PG-13 have been defined by the rating board as follows: "Rough or persistent violence is absent; sexually oriented nudity is generally absent; some scenes of drug use may be seen; one use of the harsher sexually derived words may be heard." The rating board attaches an "R" rating to films that are considered by it to be inappropriate for children under age 17, for, among other reasons, "use of language, theme, violence, sex or . . . portrayal of drug use."

Analysis

Descriptive statistics by film rating were performed for each film. For films in which objectionable language was given as the primary factor for a rating assignment, a detailed analysis of the frequency and type of violence in the film was completed, including an assessment of seriousness and explicitness. χ^2 tests were used to determine the association between rating and frequency of violence as well as the primary factor and frequency of violence.

A series of Poisson regression models were used to examine further the association among frequency of film violence and rating, primary factor, and seriousness of violence.¹² The main parameter of the Poisson distribution is the rate of occurrence of the event as a function of certain covariates. Resulting rate ratios and *P* values were used to describe the relationship among rating,

primary factor, and seriousness of violence. The Poisson regression technique was preferred because the probability of the act of violence was constant within each film yet differed between films. To determine whether the frequency of violent acts could be predicted on the basis of the primary factor and seriousness, the Poisson regression model was used to calculate an estimated number of violent acts by rating, primary factor, and average seriousness. The data were collected and recorded in Filemaker-Pro, managed by Paradox software, and analyzed using SAS/STAT software.¹³

RESULTS

In the sample of 98 films, a total of 2143 bodily violent actions were identified (414 PG, 607 PG-13, and 1122 R). Every film in the study sample with the exception of 3 (*Quiz Show*, PG-13; *Reality Bites*, PG-13; and *Disclosure*, R) contained at least 1 bodily violent action. Sixty-four percent of PG films were comedies, compared with 47% for PG-13 and 17% for R films.

The total average number of violent acts for each rating category increased from PG (14 acts) to PG-13 (20) to R (32; Table 1). However, the range in number of violent acts revealed a more diluted relationship between violence and rating. For instance, PG films contained anywhere from a single act of violence to 97 acts of violence; R films were remarkably similar, ranging from 1 to 110 acts. The 3 most bodily violent films in the sample were *Timecop* (R, action, 110 violent acts), *The Jungle Book* (PG, family, 97), and *True Lies* (R, action, 91).

The most common reason for assigning a PG rating was inappropriate language (46.7%); R films were more often (55.6%) rated for violence. The PG-13 distribution was less distinct, with an almost equal percentage of films rated for violence, language, sexuality, or other factors. Considering that objectionable language content was most often identified as the primary factor for PG and PG-13 films (48.7% and 28.1%, respectively) and the second most offensive element for R-rated films (30.6%), we chose to narrow the analysis of primary factors to the relationship between frequency of violence and the primary factor of language. Among the PG and R films rated primarily for language, the range in number of violent acts was similar (1–33 and 1–59, respectively). Almost 30% of all PG and PG-13 films were rated for “other” versus only 2.8% of R films. Included in the category of “other” were factors such as a crude moment, moment of menace, some mild innuendoes, thematic elements, off-color humor, adventure action, teen mischief, etc. Although not presented in a table, >50% of all primary factors have a generic quantifying term or phrase attached to the factor, such as some . . . , mild . . . , a lot of . . . , strong . . . , a considerable amount of . . . , etc.

Less than one quarter of the violence in PG and PG-13 films was executed at trivial, minimal force (level 1 seriousness), whereas more than one quarter of the violence in all ratings was of level 3 lethal force (26.6% PG, 41.8% PG-13, and 52.4% R; Table 2). Overall, films in the sample contained primarily level 1 or level 2 explicit violence, with only a small proportion of level 3 or level 4 violence. However, each rating category, including PG, contained at least 2 acts of level 4 explicitness.

TABLE 1. Distribution of Films and Acts of Bodily Violence According to Primary Factor and Rating

Primary Factor	PG			PG-13			R		
	Films, % (n = 30)	Violent Acts, % (n = 414)	Average No. of Acts (Range)	Films, % (n = 32)	Violent Acts, % (n = 607)	Average No. of Acts (Range)	Films, % (n = 36)	Violent Acts, % (n = 1122)	Average No. of Acts (Range)
Violence*	10.0	31.4	43 (11–97)	25.0	52.6	40 (19–63)	55.6	79.0	44 (19–110)
Language†	46.7	36.0	11 (1–33)	28.1	4.3	3 (0–6)	30.6	15.6	16 (1–59)
Sexuality	6.7	5.1	11 (4–17)	12.5	7.4	9 (1–24)	11.1	3.0	9 (0–20)
Other	33.3	26.1	11 (1–47)	28.1	32.5	25 (6–45)	2.8	2.4	27 (27–27)
Missing	3.3	1.4	6 (6–6)	6.3	3.3	10 (0–20)	0.0	0.0	0 (0–0)
Total	100	100	14 (1–97)	100	100	20 (1–63)	100	100	32 (1–110)

* Violence includes all factors that used the word “violence” in any context.

† Language includes all factors that used the word “language” in any context.

TABLE 2. Percentage Distribution of Acts of Bodily Violence According to Rating and Characteristic

Characteristic	PG (n = 414)	PG-13 (n = 607)	R (n = 1122)
Seriousness of bodily violence, %*			
Level 1	24.7	22.1	13.6
Level 2	48.7	36.1	34.0
Level 3	26.6	41.8	52.4
Explicitness of bodily violence, %†			
Level 1	53.0	43.7	31.8
Level 2	43.8	46.0	52.9
Level 3	2.7	9.7	13.0
Level 4	0.5	0.5	2.2

* Not included are 2 acts with missing values for seriousness.

† Not included are 4 acts with missing values for explicitness.

No strong trend between rating and frequency of violence ($P = .09$) was found, and the primary factor was only a slightly better indicator of violence. In Table 3, model 1 assesses the association between rating and frequency of bodily violence in films without considering any other covariates. PG-13 and R films were more likely to contain a 1-unit increase in the frequency of violence compared with PG films (95% confidence interval [CI]: 1.2–1.6 and 2.0–2.5, respectively). The addition of the primary factor to model 2 resulted in a decrease in rate ratios for both PG-13 and R compared with model 1, and the PG-13 rate ratio became insignificant (95% CI: 0.96–1.2). The average seriousness was added to the third model, which further reduced the rate ratios for both PG-13 and R as well as caused both ratings to lose statistical significance. The rate ratio for the primary factor of violence decreased in model 3 compared with model 2 but remained significant (95% CI: 1.6–2.2). For every 1-unit increase in average seriousness, the risk of violence increased 70%.

The results from model 3 were used to determine the predicted number of violent acts in a film, given the primary factor and seriousness (Table 4). In comparing the distributions of seriousness by primary factor for the 3 rating categories, it is clear that the rating does not predict the frequency of violence in films. For all 3 rating categories, the predicted number of violent acts is almost identical for films with violence as a primary factor and a level 3 average

seriousness (R = 62.4 acts, PG-13 = 55.2 acts, and PG = 56.1 acts).

DISCUSSION

The results of this study reflect the controversy surrounding the CARA rating system and demonstrate its failure to identify clearly violent content in American films. At first glance, it seems that the ratings system makes clearcut distinctions between PG-, PG-13-, and R-rated films with respect to violence, as R films contained more acts of violence than either PG or PG-13. These figures demonstrate that films with a more restrictive rating contained, on average, more violence as well as higher levels of seriousness. However, these basic distributions mask the inconsistencies in the application of its system. For instance, although the average number of violent bodily actions in a PG-13 film was 20, 6 PG films (20% of all PG films) exceeded the PG-13 average. In addition, 3 (10%) of the PG films had more acts of violence than the average for R films (32 per film). Such an overlap in the number of violent acts per rating proves that the ratings system is not consistent in its segmentation of categories. The most striking finding was that more than one quarter of the violence in each of the 3 rating categories was of lethal magnitude (highly serious). On the basis of this result, we believe that CARA has failed to adhere to its definitions of the PG and PG-13 ratings, which state, “horror and violence do not exceed moderate levels” and “rough or persistent violence is absent,” respectively.

In terms of the content descriptors, we found numerous glaring contradictions that were also identified in a recent study by Thompson and Yokota.¹⁴ For instance, when objectionable language was identified as the primary factor (which it most often was in PG and PG-13 films), violence levels were as high as those rated for violence. In addition, it was surprising to find that 5 PG films that were rated primarily for language had ≥ 14 violent acts. Likewise, in the R category, several films that were rated principally for language were saturated with violence. We understand this to mean that for the CARA rating board, transgressions of the norms governing speech decorum are more offensive than violence.

In terms of the films that were rated primarily for factors other than language, violence, or sexuality,

TABLE 3. Results From Poisson Regressions Assessing Frequency of Bodily Violence in Relation to Rating, Primary Factor, and Seriousness

Characteristic	RR (95% CI)		
	Model 1	Model 2	Model 3
Rating			
PG*	1.0	1.0	1.0
PG-13	1.4 (1.2–1.6)	1.1 (0.96–1.2)	0.98 (0.9–1.1)
R	2.2 (2.0–2.5)	1.3 (1.2–1.5)	1.1 (0.97–1.3)
Primary factor			
Other*	—	1.0	1.0
Violence	—	2.2 (1.9–2.6)	1.9 (1.6–2.2)
Language	—	0.6 (0.5–0.7)	0.60 (0.5–0.7)
Sexuality	—	0.6 (0.4–0.7)	0.61 (0.5–0.8)
Seriousness	—	—	1.7 (1.5–2.0)

RR indicates rate ratio.

* Reference category.

TABLE 4. Predicted Number of Bodily Violent Acts According to Primary Factor, Rating, and Average Seriousness

Primary Factor	PG, Average Seriousness Level			PG-13, Average Seriousness Level			R, Average Seriousness Level		
	I	II	III	I	II	III	I	II	III
Violence	20.7	35.9	62.4	18.3	31.7	55.2	18.6	32.3	56.1
Language	6.5	11.4	19.8	5.8	10.1	17.5	5.9	10.2	17.8
Sexuality	6.7	11.6	20.2	5.9	10.3	17.9	6	10.5	18.2
Other	10.9	19	33.1	9.7	16.8	29.2	9.8	17.1	29.7

the descriptions were often misleading and elusive, including such phrases as “thematic elements,” “moment of menace,” or “off-color humor.” Descriptions such as these combined the genre of the film with a synonym for violence in an apparent effort to inform parents about objectionable content (eg, adventure action, sci-fi action, war action). It is interesting that of the 19 films that were rated for factors other than language, violence, or sexuality, 18 (95%) were PG or PG-13. This means that the films of most concern to parents contain the most ambiguous content descriptors, and the density of violence in these 18 films ranged from a single act of violence to >40 acts, which is well beyond the average number of acts in an R film (32 acts). It seems that CARA’s rating scheme and its prose explanations frequently hide more offensive elements behind euphemistic and innocuous terminology. This makes informed parental choice extremely difficult.

From our multivariate analysis, it became apparent that when the primary factor and average seriousness were included in the model, the rating system was not significantly associated with the frequency of violence. That is, the primary factor of assessing violence, language, and sexuality was a better predictor of our outcome variable than the rating system. We found no difference between the rating categories with respect to the predicted number of violent acts. We found that the primary factor and average seriousness are better measures of violence than rating assignment. Indeed, all rating categories include a great deal of violence and thus are not particularly useful for parents who care about violence. However, it is important to recognize that although the primary factor and seriousness are better, they are not completely reliable. Many films that were rated primarily for language were in fact just as violent as films that were rated for violence.

Although CARA’s descriptions of films are inconsistent and often vague, given the choice, parents prefer these content-based assessments to a single, overall age-based rating.⁹ Currently, however, film distributors are not required to print the factors for rating assignment in newspapers or on the jackets of DVD/VHS videos, leaving parents with only a single age-based rating to determine the appropriateness of the film. CARA skirts around this issue only by maintaining an online database of films and content-based ratings on their publicly accessible web site. However, many parents do not have Internet access; therefore, one must assume that the only consistently available film-rating information is the age-based guidelines. With 30 million households owning a

DVD player and >90% of American households using VCRs, it is troubling to find such a void in the availability of the most relevant and sought-after film-rating information.^{15,16}

This study has some important limitations. First, the most widely seen films of 1994 were chosen as a convenience sample. However, we believe that it provided generalizable results. Second, although the scales of seriousness and explicitness that are used to measure film violence were adequate for assessing discrete acts of violence, future studies should track the amount of time dedicated to violence. Last, in terms of the content descriptors assigned to each film by the CARA rating board, only the primary factor was considered in this analysis. Although the primary factor is the most important criterion for rating assignment, future studies should analyze all content descriptors listed.

CONCLUSIONS

For CARA to provide more consistent ratings in terms of violence, we recommend the addition of a quantitative component to their process of film rating. Similar to the methods used by this study, the CARA rating system should determine the frequency and seriousness of the violent acts, the frequency and types of problematic language use, the frequency and graphicness of sexual representations, etc. Such descriptive data would provide the ratings board with empirical measures of film content and serve 2 primary purposes: first, it would provide a systematic element to the ratings process. Second, the numerical values would enable the ratings board to be more precise and consistent in their content descriptors, narrowing and refining their use of such vague qualifying terms as “some,” “strong,” “mild,” “moderate,” “brief,” “a lot of,” “great amount of,” “considerable amount of,” etc to describe objectionable material. Our final recommendation is that the content descriptors be made clear and legible on all print advertisements and on all film, video, and DVD trailers, which would provide parents with meaningful descriptive ratings as well as the traditional age-based guidelines.

APPENDIX

The films studied were *8 Seconds*, *A Low Down Dirty Shame*, *Above the Rim*, *Ace Ventura*, *Andre*, *Angels in the Outfield*, *Baby’s Day Out*, *Bad Girls*, *Beverly Hills Cop 3*, *Blank Check*, *Blink*, *Blown Away*, *Blue Chips*, *Bullets over Broadway*, *City Slickers 2*, *Clear and Present Danger*, *Corrina, Corrina*, *Crooklyn*, *D2: The Mighty Ducks*, *Disclosure*, *Drop Zone*, *Dumb and*

Dumber, Forrest Gump, Four Weddings and a Funeral, Getting Even With Dad, Greedy, Guarding Tess, House Party 3, I Love Trouble, I.Q., In the Army Now, Intersection, Interview With a Vampire, Iron Will, It Could Happen to You, Jason's Lyric, Junior, Legends of the Fall, Lightning Jack, Little Big League, Little Giants, Little Women, Love Affair, Mary Shelley's Frankenstein, Major League 2, Maverick, Milk Money, Miracle on 34th Street, Monkey Trouble, My Father the Hero, My Girl 2, Naked Gun 3 1/3, Natural Born Killers, Nell, No Escape, Nobody's Fool, On Deadly Ground, Only You, Pulp Fiction, Quiz Show, Reality Bites, Renaissance Man, Richie Rich, Speechless, Speed, Star Trek Generations, Stargate, Street Fighter, Sugar Hill, The Flintstones, Terminal Velocity, The Air up There, The Color of Night, The Client, The Cowboy Way, The Crow, The Getaway, The Jungle Book, The Lion King, The Little Rascals, The Madness of King George, The Mask, The Pagemaster, The Paper, The Professional, The River Wild, The Santa Clause, The Shadow, The Shawshank Redemption, The Specialist, The War, Three Ninjas Kick Back, Threesome, Timecop, True Lies, Wes Craven's New Nightmare, When a Man Loves a Woman, With Honors, Wolf, and Wyatt Earp.

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