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Parental Attitudes About Cigarette Smoking and Alcohol Use in the Motion Picture Association of America Rating System

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Abstract

Objective—To evaluate whether parents want smoking and alcohol use to be considered in movie ratings.

Design—Data were collected as part of a longitudinal study of adolescent health behavior involving 2564 parent/child dyads from northern New England. Parents (n=2401) were surveyed at wave 2 about movie ratings. Qualitative interviews were conducted with a subset of parents (n=62) 15 months later.

Setting—Participants were surveyed by telephone.

Participants—Most parents (94.9%; n=2279) were mothers, 52.5% were younger than 40 years, and 90.6% were white, and children were aged 9 to 15 years.

Main Outcome Measures—Whether cigarette and alcohol use should be included as movie ratings criteria and if movies with cigarette or alcohol use should be rated R.

Results—About 52% (n=1242) and 66% (n=1579) of parents believed cigarette or alcohol use, respectively, should be used as movie ratings criteria; 28.9% (n=693) supported an R rating for movies with smoking and 41.9% (n=1003) supported R ratings for alcohol. In adjusted models, parents were more likely to support adding cigarette and alcohol use as ratings criteria if they

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believed the current ratings were not useful, they restricted their children from watching R-rated movies, and they were nondrinkers. Nonsmoking parents were more likely to support an R rating for smoking. Interviews revealed that parents may underestimate the impact of movie smoking and drinking.

Conclusions—Although a majority of parents supported including smoking or drinking in ratings criteria, fewer favored R ratings. Parental support could be a key factor in determining the impact of modifications to the Motion Picture Association of America rating system.

High exposure to smoking in movies increases the likelihood that adolescents will initiate smoking.¹⁻⁵ A similar influence may exist for children's exposure to movie alcohol use.^{6,7} Although R-rated movies contain the most tobacco and alcohol use, these behaviors are frequently depicted in films rated for younger audiences.⁷⁻¹¹ Tobacco use appears in 40% to 80% of popular contemporary youth-rated movies and alcohol use appears in 50% to 95%.^{7,8,10,12} Overall, most of children's movie smoking exposure comes from youth-rated movies.^{1,12,13}

The Motion Picture Association of America (MPAA), which assigns film ratings of G, PG, PG-13, R, and NC-17, states that films are rated in a manner that "most parents would find suitable and helpful in aiding their decisions about their children and what movies they see."¹⁴ The ratings criteria include adult theme, violence, language, nudity, sex, and drug use.¹⁴ Based on evidence linking movie smoking exposure with adolescent smoking initiation, public health advocates have asked the MPAA to rate new movies portraying smoking "R," unless the movie realistically shows the associated health hazards or depicts an actual historical figure.¹⁵ Additionally, the Harvard School of Public Health recommends that tobacco use be removed from all films accessible to children and youth.¹⁶ The MPAA ratings board recently announced it will "consider smoking as a factor—among many other factors, including violence, sexual situations and language—in the rating of films"¹⁷ but gave no indication of how this might be implemented. Currently, the MPAA rating system does not inform parents of movies containing alcohol use.

Parents are the primary gatekeepers of children's movie viewing, and their support could be a key factor in determining the impact of modifications to the MPAA rating system. Two policy reports provide preliminary data on adults' views regarding an R rating for movie smoking,^{18,19} but, to our knowledge, this topic has not been examined in peer-reviewed publications.

The present study was designed to examine parental attitudes toward (1) including cigarette and alcohol use as MPAA film ratings criteria and (2) assigning R ratings to movies containing these behaviors. Using a mixed-method approach that combines survey data with qualitative interviews, we investigated whether parents' attitudes toward ratings were influenced by other parental characteristics and we explored parents' reasons for wanting to be informed or not about movie smoking or drinking. Our study includes parents of young adolescents for whom MPAA youth ratings are timely and relevant.

METHODS

The data reported were obtained through a longitudinal study of parenting, movie viewing, and adolescent smoking. The study was approved by the Committee for the Protection of Human Subjects at Dartmouth College.

STUDY DESIGN

Children were identified through surveys administered in New Hampshire and Vermont public schools in 2002-2003. Schools were randomly selected from all New Hampshire and

Vermont schools containing grades 4 through 6 (N=559), stratified by state and student enrollment. Twenty-six schools participated in the study, representing 30% of those contacted. Eighty-seven percent (n=3705) of enrolled students completed a survey. Sixty-nine percent (n=2566) of these children and their parents were subsequently enrolled in the longitudinal cohort study. Child data were collected in 3 phases: a baseline survey (including the in-school written survey and a subsequent telephone survey) and 2 telephone follow-up surveys.^{1,20,21} One parent, preferentially the mother, was identified at baseline to participate in the 3 waves of telephone surveys. Parent/child dyads completed individual telephone surveys at baseline (mean [SD] 9.1 [5.2] weeks after the in-school survey), wave 2 (n=2401, mean [SD] 47.4 [11.2] weeks after baseline data collection), and wave 3 (n=2278, mean [SD] 53.5 [7.6] weeks after wave 2). Telephone surveys were conducted by trained interviewers using an individualized computer-assisted telephone interview system. At each wave, parent consent and child assent were obtained verbally and parents were surveyed about a week subsequent to the child.

SURVEY MEASURES

Parent age, education, household income, race/ethnicity, and child primary residence were assessed through the parent baseline survey. Children reported their sex on the baseline school survey and parental R-rated movie restrictions in the wave 2 survey. Child age at wave 2 was calculated based on date of birth. All other quantitative measures, including parents' attitudes toward movie ratings, were assessed through the parent wave 2 survey.

Parental perception of the usefulness of movie ratings was assessed by asking: "Do you think the movie ratings give parents enough information to choose movies for their children?" To characterize parents' attitudes about movie rating modifications, the interviewer first read, "As you may know, movie ratings are based on whether a movie contains bad language, violence, sex, or drug use," and then asked the following 4 questions in the order presented: "Do you think movie ratings should also be based on whether there is [cigarette smoking/alcohol use] in the movie?" and "Do you think movies that contain [cigarette smoking/alcohol use] should be rated R?" Parent responses (definitely yes, probably yes, probably no, definitely no) were dichotomized into yes/no variables for analysis.

Parental restriction of R-rated movies was assessed by asking children: "How often do your parents let you watch movies or videos that are rated R?" The responses (never, sometimes, most of the time, all of the time) were combined to reflect 3 levels of R-movie restrictions: "none," "partial," and "complete." In prior studies, this variable significantly discriminated between the number of R-rated movies a child viewed.²²

Parental smoking status and alcohol use were each assessed with 2 questions: "Do [you/your spouse or partner] smoke cigarettes?" (yes/no) and "How often do [you/your spouse or partner] drink beer, wine, or liquor?" (never, occasionally, weekly, daily). Responses were combined to create 3-level variables for analysis: neither, one, or both parents smoke and neither parent drinks, one/both parent(s) drinks occasionally, or one/both drink weekly or more.

DATA ANALYSIS

The χ^2 test was used to test for bivariate associations between parental attitudes about movie ratings and parent and child characteristics. A 2-sided $P < .05$ was considered statistically significant without adjusting for multiple comparisons. We used generalized estimating equations, assuming a Poisson distribution and a log link controlling for clustering by school, to model the relationships between parental attitudes about ratings, R-

rated movie restrictions, and parental smoking and alcohol use. Relative risks (RRs) and 95% confidence intervals (CIs) from models adjusted for parental demographics, smoking and alcohol use, and movie restrictions are presented. Data were analyzed using SAS 9.1.²³

SUBJECTS

The final sample included 2401 parents and children for whom we had complete wave 2 data. The majority of parents were mothers (94.9%), about half (52.5%) were younger than 40 years, and 90.6% were white. Approximately one-third (34.5%) reported an annual household income of \$40 000 or less. One-third (33.6%) reported that they or their spouse smoked and 86.9% reported that they or their spouse consumed alcohol at least occasionally. Children's ages ranged from 9 to 15 years, with equal proportions of girls and boys. As previously reported, parental income, education, and race of the final sample were comparable with the underlying population of adults in New Hampshire and Vermont.^{20,21}

QUALITATIVE SUBSTUDY

We conducted qualitative telephone interviews with a subsample of parents a mean (SD) of 8.5 (4.2) weeks after the wave 3 survey. To ensure a balanced distribution of parental attitudes and movie monitoring behavior, we stratified our selection of parents based on child report of parental restriction of R-rated movies at wave 3, which was most proximal to the qualitative interviews.

Of the 76 participants selected for interviews, 82% completed interviews, 5% refused, and 13% were unreachable. Qualitative interview participants were demographically comparable with the larger cohort: 96.8% were mothers, 60.0% were younger than 40 years, 95.2% were white, and 29.3% had an annual household income of \$40 000 or less. About one-quarter (24.2%) reported that they or their spouse smoked cigarettes and 85.5% reported that they or their spouse consumed alcohol at least occasionally.

Using a series of open-ended questions, we asked parents how they chose movies for their children and their attitudes about smoking and drinking in movies. Two trained interviewers, blinded to participant survey data, followed a standardized interview guide with the option of pursuing more in-depth lines of questioning. Interviews lasted approximately 30 minutes and were audio recorded and transcribed verbatim.

We analyzed interview transcripts using the data coding and reduction methods of Miles and Huberman.²⁴ Using inductive coding techniques, the primary coder (M.R.L.) identified and coded themes describing parents' reasons for wanting to be informed or not and the types of smoking and drinking movie scenarios about which parents were most concerned. Thematic codes were based on the transcript data and derived to the extent possible from participants' language. The secondary coder (A.M.A.) separately classified and coded each transcript. Agreement between the coders for the classification was 97% and 90% for thematic codes. Differences in classification and thematic codes were discussed between coders until discrepancies were resolved.

RESULTS

SURVEY RESULTS

Overall, half of parents (51.9%; n=1242) believed the MPAA rating system should include cigarette smoking as a criterion, and two-thirds (66.0%; n=1579) believed it should include alcohol use. Parents who favored adding smoking as a ratings criterion were more likely to be older, highly educated, nonsmokers, and nondrinkers (Table 1). They were also more likely to restrict their child's viewing of R-rated films and feel that current MPAA ratings

were not useful. Except for age and education, the same characteristics were associated with support for adding alcohol use as a criterion.

Slightly more than one-quarter (28.9%; n=693) supported an R rating for movies with cigarette smoking and 41.9% (n=1003) supported an R rating for alcohol use. Parents who favored R ratings for smoking or alcohol content tended to have less education and lower income, be nonwhite, refrain from alcohol use, and believe the MPAA ratings were not useful. Parental smoking was not significantly associated with support of R ratings.

In adjusted analyses, parents who did not find the MPAA ratings useful, compared with those who did, were more likely to favor smoking and alcohol use as ratings criteria and to support an R rating for these behaviors (Table 2). Complete restriction of R-rated movies was associated with support for adding smoking and alcohol use as ratings criteria but not with assigning R ratings for these behaviors. Parents who never restricted their child's R-rated movie viewing, compared with those who partially restricted, were less likely to favor adding smoking or alcohol use as ratings criteria or to support an R rating for movie alcohol use. If neither parent smoked, they were more likely to support including smoking and alcohol use as ratings criteria than if both parents smoked, but the associations were of borderline significance. Similarly, if neither parent smoked, they were more likely to support R ratings for smoking. However, there was no association between parental smoking and support for R ratings for alcohol. Compared with parents who consumed alcohol at least weekly, parents who drank occasionally or not at all were more likely to support including smoking and alcohol use as ratings criteria and assigning an R rating to movies with these behaviors.

QUALITATIVE INTERVIEW RESULTS

Sixty-one percent (n=38) of parents interviewed said they preferred to be informed about movie smoking and drinking. Parents who wished to be informed most often cited family values, and the beliefs that movies promote smoking and drinking, and film images could influence children to develop positive attitudes about or try these behaviors. Several parents used movie scenes of smoking or drinking to discuss these topics with their child. Among parents who did not want to be informed (n=24), the primary reasons given were that they already discussed smoking and drinking with their child, their child was exposed regularly to these behaviors in everyday life, or their child views smoking or drinking negatively. Several parents said they rarely see movie smoking or drinking (eTable 1, <http://archpediatrics.com>).

Parents who wanted to be informed about movie smoking and drinking identified the movie context in which these behaviors are portrayed (eg, "wine-tasting" vs "frat-party" scenarios) as a primary concern. They expressed apprehension about movie depictions of teenage smoking or drinking because underage drinking is illegal and/or because it could convey that these behaviors are acceptable. Some parents believed that negative portrayals might teach children about the consequences of tobacco or alcohol use. Others felt that tobacco and alcohol use in youth-rated movies was particularly inappropriate. Several parents disliked movies in which the hero or specific popular movie star smoked or drank because these characters are admired by children and glamorize the behavior (eTable 2).

COMMENT

Approximately half the parents in this study supported adding smoking as a criterion to the MPAA rating system, and only 29% favored an R rating for movies depicting smoking. In light of recent research and the advocacy climate surrounding this issue, these relatively low levels of parental support were somewhat surprising. We did not assess parents' awareness

of research linking movie smoking exposure with adolescent behavior. Therefore, it is unclear whether parents' modest support for an R rating for movie smoking reflects a lack of knowledge about its impact or whether parents aware of this research remain unconvinced that smoking content merits an R rating.

Parents generally were more concerned about movie alcohol use than smoking, as evidenced by greater support for adding the criterion (66.0%) or applying an R rating (41.9%) for movie alcohol use. Less research and public health advocacy has focused on the influence of movie alcohol use compared with smoking. However, nationwide, high school students are 50% more likely to try alcohol than smoking and so parents' preferential concern about movie alcohol use could reflect recognition of the greater likelihood their child will try alcohol rather than smoking.²⁵ In addition, the negative consequences of alcohol use during adolescence, such as driving while intoxicated, are more immediate and may therefore be more worrisome to parents than the long-term health consequences of smoking. Overall, parental support for including smoking and drinking in the rating system was relatively consistent across demographic groups. However, parents with higher income and education levels were less likely to support an R rating for smoking and alcohol use, possibly indicating that these parents want information about these behaviors but prefer to determine themselves whether the content is age appropriate for their children.

Our qualitative findings also provide preliminary support for the view that parents may be unaware of the potential impact of children's movie exposure. Some parents believed that communicating their disapproval of smoking or alcohol use to their child would mitigate the influence of movie exposures. Our prior research, however, demonstrates that movie smoking exposure influences adolescent initiation even after adjusting for parental disapproval of smoking.^{4,22,26} Some parents underestimated the influence of glamorized or idealized movie portrayals of smoking or alcohol,^{8,11,27-29} believing that such portrayals would not influence their child's risk beyond viewing smoking or alcohol use in "real life." Parents may also overestimate the protective effect of a child's negative attitudes toward smoking or alcohol. Previous studies show that a child's negative expectancies of smoking do not preclude susceptibility to smoking, and children with greater movie smoking exposure are more likely to hold positive expectancies of smoking.^{30,31}

More than 40% of parents reported that the MPAA ratings do not give them enough information to choose movies for their children. Not surprisingly, parents who did not find MPAA ratings useful were more likely to support all 4 ratings modifications, suggesting that a substantial proportion of parents are seeking additional information about movie content than is currently available. Our qualitative findings further suggest that parents want to know the context in which smoking and drinking are portrayed. In this study, fewer parents thought the MPAA ratings were useful compared with other reports.^{32,33} Our study focused exclusively on parents of children aged 9 to 15 years vs parents of children younger than 13 years and parents of 2- to 18-year-olds in prior reports. Our qualitative data indicate that parents perceived a wide variability of content in PG-13 movies and, thus, were particularly dissatisfied with the usefulness of this rating category. Consequently, our findings may reflect parents' challenge of choosing movies that are appropriate for preteens and young adolescents.

Compared with recent policy reports,^{18,19} fewer parents in the current study supported an R rating for movie smoking. Prior reports sampled US adults in general, whereas the present study exclusively surveyed parents of adolescents. Although it may seem counterintuitive that parents of young adolescents would be less likely to support smoking ratings modifications than adults in general, it is possible that parents of preteens, who are already attempting to supervise their child's media "diet," may be unenthusiastic about the task of

monitoring yet one more issue. Recent publications demonstrate that only half of parents have rules about television watching³⁴ or restrict young adolescents from watching R-rated movies,²⁰ and 48% to 68% of children have a television in their bedrooms.^{21,34} This suggests that many parents are already unable to meet existing recommendations for child media use.³⁵ Parents may also underestimate the protective influence of movie restrictions because it has not been promoted as much as other parental monitoring behaviors for preventing children's substance use.^{36,37}

Several characteristics of the study may limit the generalizability of our findings. Our regional sample included a primarily white, rural population. We do not know if parents' views in this study are representative of parents nationwide. Movie smoking exposure may be higher among African American and Latino adolescents compared with white adolescents.³ Thus, movie viewing and possibly parental attitudes about movie content may differ by race or ethnicity. Parents in urban areas may also have different views regarding movies and movie ratings. Further research is needed to determine if our findings are consistent among a more diverse parent population. We did not assess whether parents' views of the ratings change as their children age. However, we surveyed parents when their children were at the peak age for smoking and drinking initiation, when this issue would be most salient. The general ratings criterion questions were always asked prior to the R ratings questions. By answering the general questions first, parents may have been less inclined to endorse an R rating.

Parents remain the primary monitors of children's movie exposure. Simply eliminating smoking from movies that would otherwise be rated for youth audiences would reduce children's exposure to movie smoking regardless of the level of parental oversight. However, parental support is more important in determining the success of a policy that modifies movie ratings based on smoking content. If parents believe that exposure to movie smoking has no impact on their child's behavior, changes in the rating system may not translate into changes in children's exposure. In the worst-case scenario, if parents disagree with an R rating exclusively for smoking, applying R ratings to movies with smoking potentially could lead parents to become more lenient in their restrictions. The current study suggests that to ensure that an R rating for smoking has the intended effect of reducing children's exposure, more work is needed to educate parents about the effects of children's exposure to movie smoking and to secure their support for the proposed modification.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1
Sample Characteristics by Parental Support for Rating Modifications^a

Predictor	Sample No. (%)	%			
		Ratings Should Also Be Based on Cigarette Smoking (n=1242)	Ratings Should Also Be Based on Alcohol Use (n=1579)	R Rating for Cigarette Smoking (n=693)	R Rating for Alcohol Use (n=1003)
Parent characteristic assessed at baseline					
Age, y					
20-29	109 (4.5)	4.0 ^b	4.7 ^b	4.5	4.2
30-39	1149 (48.0)	46.3	45.3	47.2	48.2
40-49	1032 (43.1)	44.3	45.1	43.0	43.0
50	106 (4.4)	5.2	4.7	5.3	4.7
Education					
High school or less	754 (31.6)	30.5 ^b	30.1	36.9 ^c	35.1 ^c
Some college or associate's degree	930 (39.0)	37.4	38.7	38.7	39.5
Bachelor's or graduate degree	703 (29.5)	31.8	30.3	24.0	25.1
Household income, \$					
<25 000	257 (10.9)	10.5	10.6	14.0 ^c	14.0 ^c
25 000 to 40 000	560 (23.7)	23.2	23.8	26.6	26.1
40 001 to 65 000	711 (30.1)	30.4	30.0	28.3	28.9
>65 000	837 (35.4)	34.3	34.2	29.7	29.8
Race/ethnicity					
White	2175 (90.6)	90.2	90.8	88.7 ^b	88.7 ^b
Other	226 (9.4)	9.8	9.2	11.3	11.3
Parent characteristic assessed at wave 2					
Relationship to child					
Mother/stepmother/foster	2279 (94.9)	95.3	95.9 ^b	94.2	94.9
Father	96 (4.0)	3.5	3.1	4.2	3.6
Other	26 (1.1)	1.1	1.0	1.6	1.5
Smoking status					

Predictor	Sample (N=2401), No. (%)	%			
		Ratings Should Also Be Based on Cigarette Smoking (n=1242)	Ratings Should Also Be Based on Alcohol Use (n=1579)	R Rating for Cigarette Smoking (n=693)	R Rating for Alcohol Use (n=1003)
Neither smoke	1592 (66.4)	69.7 ^c	68.6 ^b	67.0	63.8
One smokes	509 (21.2)	20.0	20.4	21.4	22.4
Both smoke	298 (12.4)	10.2	11.0	11.7	13.8
Alcohol use					
Neither drinks	310 (13.1)	14.3 ^b	13.3 ^b	17.2 ^c	16.8 ^c
One or both drink occasionally	1255 (53.1)	53.1	53.8	55.4	55.4
One or both drink weekly or more	799 (33.8)	31.2	31.5	25.8	26.3
Parental restriction of R-rated movies					
Complete	852 (35.5)	40.8 ^c	39.5 ^c	35.9	35.1
Partial	1416 (59.0)	55.6	56.0	59.5	60.0
None	131 (5.5)	3.6	4.4	4.5	4.9
Believes MPAA ratings are					
Useful	1408 (58.8)	55.2 ^c	54.7 ^c	51.1 ^c	53.4 ^c
Not useful	987 (41.2)	44.8	45.2	48.8	46.5
Child characteristic					
Child lives with participating parent					
All the time	2062 (86.0)	86.8	86.6	88.3	86.3
Sometimes stays with another parent/relative	335 (14.0)	13.0	13.2	11.7	13.7
Sex					
M	1201 (50.0)	48.6	48.4 ^b	46.9	49.4
F	1200 (50.0)	51.4	51.6	53.1	50.6
Age at wave 2, y					
9-10	464 (19.3)	20.0	19.4	18.6	18.3
11	886 (36.9)	35.7	37.0	35.9	36.9
12	773 (32.2)	33.2	32.0	33.3	32.6
13-15	278 (11.6)	11.2	11.6	12.1	12.2

Abbreviation: MPAA, Motion Picture Association of America.

^aNumber of subjects with missing data for parental attitudes and predictors: ratings also based on cigarette smoking (6); ratings also based on alcohol use (7); R rating for cigarette smoking (5); R rating for alcohol use (7); parent age (5); parent education (1.4); household income (36); parental smoking status (2); parental alcohol use (37); parental restriction of R-rated movies (2); parental beliefs of rating usefulness (6); and child primary residence (4).

^bOverall χ^2 *P* value <.05.

^cOverall χ^2 *P* value <.001.

Table 2
Parental Attitudes/Characteristics Associated With Support for the Specific Movie Ratings Modifications

Parent Characteristic	Parents Supported, Adjusted RR ^b (95% CI)			
	Ratings Also Based on Cigarette Smoking	Ratings Also Based on Alcohol Use	R Rating for Cigarette Smoking	R Rating for Alcohol Use
Believes MPAA ratings are ^b				
Useful	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]
Not useful	1.14 (1.05-1.24)	1.16 (1.09-1.23)	1.38 (1.27-1.50)	1.23 (1.15-1.31)
Restricted their child's viewing of				
R-rated movies ^c				
Complete	1.19 (1.11-1.29)	1.15 (1.07-1.24)	1.03 (0.85-1.25)	1.01 (0.90-1.13)
Partial	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]
None	0.72 (0.57-0.90)	0.85 (0.74-0.97)	0.76 (0.53-1.10)	0.81 (0.67-0.98)
Smoking status ^d				
Neither smoke	1.19 (1.00-1.40)	1.12 (1.00-1.25)	1.24 (1.06-1.45)	0.94 (0.81-1.09)
One smokes	1.14 (0.91-1.41)	1.08 (0.93-1.24)	1.12 (0.92-1.37)	0.98 (0.84-1.14)
Both smoke	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]
Alcohol use ^d				
Neither drinks	1.20 (1.07-1.34)	1.09 (1.01-1.19)	1.52 (1.25-1.85)	1.51 (1.29-1.77)
One or both drink occasionally	1.10 (1.01-1.21)	1.10 (1.04-1.16)	1.32 (1.11-1.57)	1.31 (1.18-1.46)
One or both drink weekly or more	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]

Abbreviations: CI, confidence interval; MPAA, Motion Picture Association of America; RR, relative risk.

^aAll relative risks are adjusted for respondent's relationship to child, parent education, parent age, household income, and residency of child with respondent.

^bAlso adjusted for parental restriction of R-rated movies, parental smoking, and parental alcohol use.

^cAlso adjusted for parental smoking and parental alcohol use.

^dAlso adjusted for parental restriction of R-rated movies.