DOCUMENT RESUME

ED 189 670 CS 502 980

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TITLE The Influence of the MPAA's Film Rating System on Motion Picture Attendance: A Pilot Study.
PUB DATE Apr 80
NOTE 31p.; Paper presented at the Annual Meeting of the Eastern Speech Communication Association (Ocean City, MD, April 24-26, 1980).

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Adolescents; Film Industry; *Films; *Media Research; *Responses; Secondary Education; *Standards
IDENTIFIERS Motion Picture Association of America

ABSTRACT

A study was undertaken to design and implement an experimental instrument for testing the influence of the Motion Picture Association of America's (MPAA) film rating system on movie attendance. Sixty-five high school students were given synopses of four different fictional films, each of which had been assigned an MPAA rating of G (approved for general audiences), PG (parental guidance suggested), R (restricted to viewers over 17, unless accompanied by an adult), and X (restricted to viewers over 17). The experimental manipulation consisted of varying the MPAA rating. Therefore, some subjects received a film that had been rated G while others received the same film with ratings of PG, R, or X. All subjects received one film synopsis for each category in the rating system. They then completed questionnaires concerning the likelihood of their attending each of the films. They were also asked to supply demographic information and information about their movie-going habits and to list the movies they had seen in the past six months. The results showed the experimental instrument to be valid. Results of the experimental manipulation were nonsignificant, indicating that for this group of subjects, the MPAA ratings did not affect likelihood of movie attendance. In addition, the findings showed that the subjects most often attended films rated either PG or R. (FL)

# THE INFLUENCE OF THE MPAA'S FILM RATING SYSTEM ON MOTION PICTURE ATTENDANCE: A PILOT STUDY

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A Paper Presented
to
The Eastern Communication
Association Conference
Mass Communication Division
24-26 April 1980
Ocean City, Maryland



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# THE INFLUENCE OF THE MPAA'S FILM RATING SYSTEM ON MOTION PICTURE ATTENDANCE: A PILOT STUDY

On November 1, 1968 the Motion Picture Asspciation of America's (MPAA) film rating system was initiated. The primary purpose of this exploratory study was to design and implement a valid experimental instrument for testing the influence of the MPAA's rating system on movie attendance.

## THEORETIC FOUNDATION

The theoretical basis for proposing that the MPAA's film rating system might be influential in affecting movie attendance is found in Brehm's theory of psychological reactance.[1] Essentially, reactance theory posits that individuals become psychologically aroused when any given behavioral freedom of theirs (such as unencumbered movie selection and attendance) is eliminated or threatened with elimination. The theory predicts that as a consequence of threat to or elimination of a freedom, one's attractiveness toward that freedom increases. Behaviorally, a response to one's aroused feeling of psychological reactance will be manifested in attempts by the individual to restore, or re-establish, the threatened or eliminated freedom. To directly re-establish the threatened or eliminated freedom individuals engage in those behaviors they have learned they cannot or should not engage in. Indirect

freedom restoration would include such strategies as source (of threat or elimination) derogation. As will be discussed below, the MPAA four-point rating scheme presents two potential freedom restrictions. R- and X-ratings preclude the freedom of attendance by under 17-year-olds to such motion pictures; reactance, therefore, should be aroused.

Reactance theory has been tested and supported by numerous studies.[2] For the purposes of this paper, however, perhaps the most germane research is that of Herman and Leyens.[3] In this investigation the researchers examined French-speaking Belgium television (the RTB) and its audience. The RTB regularly broadcasts advisory warnings (qualifications) about some of the movies it programs. Three thematic circumstances are covered by the advisories: violence, sex, and other (tense or depressing climate). Additionally, there are three levels of advisories ranging from the implicit to the explicit with regard to the program's content. For each film the warnings are broadcast three times. Based on this information reactance should be aroused, since the advisories may be interpreted as impersonal threats to one's freedom to select and view a televised movie.

Using a panel design, persons in the sample recorded their viewing habits of RTB broadcast films over a four-year (1972-75) period. From their findings Herman and Leyens concluded that

> it appears from our study that qualifications

make the movies more desirable for the television viewers. As a result, the movies with advisories are watched more than the movies without them.[4]

## THE MPAA FILM RATING SYSTEM

With but minor modifications the initial MPAA rating plan has remained in effect unchanged for more than ten years. According to Jack Valenti, MPAA president, the rating scheme came about as a result of a combination of two factors; "an avalanching revision of American mores and customs" and the 1968 Supreme Court decision to uphold "the constitutional power of states and cities to prevent exposure of children to books and films which could not be denied to adults."[5] An additional reason for the adoption of a voluntary rating system is Hollywood's historic, and in some sense well-founded, fear of federal regulation.[6] As Valenti himself states: "I knew that the mix of new social currents, the irrestistible force of creators determined to make 'their' films (full of wild candor), groused some social critics, and the possible intrusion of government into the movie arena demanded my immediate action."[7]

Although the present self-regulatory plan itself has undergone virtually no significant changes since its inception, the current program does represent a radical shift in the

industry's philosophy from years previous. Prior to the adoption of the 1968 rating scheme, the Production Code Administration granted a seal of approval based on a film's content. The present arrangement, however, views as its purpose providing:

> advance information to enable parents to make judgements on the movies they want their children to see or not to see. Basic to the program was and is the responsibility of the parent to make the decision. . . . The only objective of the ratings is to advise the parent in advance so he may determine the suitability or unsuitability of viewing by his children.[8]
>
> [emphasis in original]

Films are voluntarily submitted to the MPAA for rating by the producer. Based on four criteria (theme, language, violence, and nudity and sex) a seven person rating board assigns a rating by majority vote. The producers of a given picture may appeal the rating and/or may re-edit their film in order to qualify for a less severe rating. The MPAA classifies a film into one of four rating categories: G for general audiences, all ages admitted; PG (originally M and then GP) for parental guidance, since some material may not be suitable for preteenagers; R for restricted, under 17-year-olds (originally 16) must be accompanied by a parent or guardian; X -- no one

under 17 (originally 16) years of age admitted.

## REVIEW OF LITERATURE

The MPAA has consistently and vociferously argued that there exists no relationship between a picture's rating and its eventual box office gross.[9] Jack Valenti has gone so far as to promulgate a "Valenti's Law of Ratings: If you have a movie that a lot of people want to see, no rating will hurt it. If you have a movie that few people want to see, no rating will help it."[10] Valenti's Law raises at least two important questions. First, what about films that fall in the intermediate zone (i.e., movies that people are not sure whether or not they want to see)? Second, how do people know -- or go about making their selection of -- what they want to see? In response to both questions, the available research offers little evidence that either confirms or refutes Valenti's assertion that the rating system is an uninfluential variable in an individual's decision to attend a particular movie. In their March 1978 Report the House Subcommittee on Small Business Problems made special note of the fact that "there have been no researched studies on the relationship between the various MPAA ratings and box office receipts."[11] What has been found through empirical methods is summarized below.

First and foremost, for the rating system to have an effect on one's attendance decision, the individual must be

aware of the system's existence and its parameters. In a 1977 study commissioned by the MPAA, the Opinion Research Corporation, using a national probability sample of 2,504 persons, found that 97% of both the total (12 years old and above) and adult (18 and over) movie-going public was "aware" of the rating system and virtually no one (less than 0.5%) had not heard of it.[12] Apparently, then, the movie-going public is cognizant of the system at near saturation level.

While the MPAA classifies films submitted to it into one of four categories (G, PG, R, or X), the distribution of films by category has been far from equal (this is not to imply that the distribution should be equal). For all pictures rated by the MPAA (which is not to say all pictures produced and distributed since films are voluntarily submitted for rating) since 1968 through November 1979, 78% received either a PG or an R rating (38% were rated PG and 40% were R-rated).[13] Moreover, using Variety's definition of top-grossing films ($4 million or more in net film rentals in the U.S. and Canada), Austin found that these percentages were virtually identical for top-grossing films for the 1969-1978 period: 77% of all top-grossing pictures were either PG- or R-rated.[14] Only minor differences between overall MPAA ratings and ratings for top-grossing films were found to exist in the percentages of films in the G and X categories.

The Commission on Obscenity and Pornography reported that

their analysis of box office receipts since the rating system's implementation revealed "no dramatic differences in reported grosses among 'G,' 'GP' [now PG], and 'R' rated films, although as a group 'G' films tend to have consistently higher grosses."[15] Later in their Report the Commission noted that while G-rated films tended to have higher grosses, this did not mean that they were more profitable since the cost of production must be taken into account.[16]

The Subcommittee on Special Small Business Problems was established to determine whether or not the MPAA rating system discriminated against independent producers by assigning them more restrictive ratings for their films. In their 1978 Report the Subcommittee indicated that claims of discrimination were "unfounded"[17] and that "there was no evidence whatsoever that some productions are favored over others."[18] Austin's analysis of film ratings for the 1969-78 period demonstrated that "Independent producers were found to have had significantly more of their pictures rated either R or X than did Major-Minor producers."[19] Austin's finding, however, cannot necessarily be interpreted as an indication of discrimination on the part of the industry, MPAA, or Code and Rating Administration. That independents earned more R and X ratings might, for instance, mean that they produced pictures with more violence, sex, etc. than major-minor producers.

A few studies have examined people's use of the rating

system. Valenti reported that by 1974, 66% of the parents surveyed believed the rating system to be very or fairly useful as a guide for deciding what movies their children should see.[20] More recently, 65% of the adults surveyed found the code useful.[21] These findings conflict with two earlier reports. Yeager's 1971 study found that the ratings were perceived as a form of censorship and that parents had skeptical reactions to them.[22] Similarly, in 1973, O'Dell reported that the rating system was not found to be held in high esteem by parents.[23] A 1970 study by Robertus and Simons discovered that teenagers were more likely than their parents to report use of the system in film selection.[24] (Note that this finding is somewhat at odds with the system's ostensible purpose -- that of providing advice for parents concerning their children's movie attendance.) More recently, Austin reported that among high school students more than half (53.3%) of his sample indicated that a film's rating was either "very important" or "important" to their attendance decision.[25] Unfortunately, neither Robertus and Simons' nor Austin's study focused in on specific rating categories nor the possible differential effects that may exist. Finally, the first major study the A.C. Nielsen Company has conducted on pay cable televiewers found that "movies, particularly those with an R rating, are the most popular programs on pay cable."[26]

Thus, as can be seen, there has been no publically available research that has been directly focused on the possible

influence of the MPAA's film rating system on movie attendance. This study therefore addresses an issue that has so far provoked speculation and debate but no objective analysis.

## METHODOLOGY

This study employed a convenience sample. The respondents to the self-administered questionnaire used for this study were members of high school classes in English and Film. The high school is located in a middle-class, residential New Jersey town. The data were collected on one day in mid-March 1979. A total of 65 questionnaires were collected, all of which were usable. The subjects, 40 males and 25 females, ranged in age from 15 to 18 years, with most (55%) being 17 years old. The participants were asked to complete an anonymous questionnaire on the likelihood of their attending each of four different (fictitious) film plot synopses presented in the questionnaire. Each of the four film synopses was different from the other three. The synopses were intended to be neutral. Included in each one-page synopsis was the film's title and an approximately 175 word plot synopsis. Following the plot synopsis was a short paragraph indicating the film's producer, director, screenplay writer, and male and female star (all persons named here are actual film producers, directors, screenwriters, or actors). Finally, set off in a line of its own, the film's MPAA rating was noted (e.g., "This picture has been rated R:

restricted, under 17-year-olds must be accompanied by a parent or guardian"). The experimental manipulation consisted of varying the MPAA film rating. Therefore, some subjects received film A as rated G, others received film A rated PG, and so forth. All subjects received one film that was rated G, a different film rated PG, a third film rated R, and a fourth film rated X. Thus the experimental design employed here was a four (ratings) by four (film plot synopses) repeated measure simple Latin square. To control for the possibility of some subjects picking up a pattern (i.e., recognizing the experimental manipulation) the exact order of the presentation of film synopses was systematically varied by MPAA rating. The subjects were randomly assigned to one of the four treatment groups.

The subjects were instructed to read each film plot synopsis and to then indicate their likelihood of attending each film. The subjects were explicitly told not to compare one film to any of the others when deciding their likelihood of attendance (just before reaching the response options the subjects read the following: "For the film described above, ***title of film***, would you say that you are:"). The subjects' likelihood of attending each film was measured on a five-point rating scale. Response options ranged from "Very likely to go to see this movie" to "Very unlikely to go to see this movie."

Following the four film plot synopses, on separate pages, the subjects were asked to respond to a few demographic questions

and questions inquiring as to their movie-going habits in general. On the last page of the questionnaire the subjects were asked to list the titles (as best they remembered them) of all the movies they had seen in "the past six months or so." This question was designed as an unobtrusive measure of the subjects' tendency to attend films of one or another of the MPAA ratings. All of the film titles listed were later assigned their MPAA rating by consulting the MPAA's Code and Rating Administration Annual Reports (1968-78). For more recent (than 1978) films the MPAA rating was obtained from the film's advertisement as it appeared in the New York Times.

## RESULTS AND DISCUSSION

One purpose of this study was to design a valid experimental instrument for measuring the potential effect of the MPAA's film rating system on movie attendance. Following their completion of the questionnaire, the subjects were asked a series of questions about the questionnaire. The subjects verbally reported that both the film plot synopses and the MPAA ratings assigned to the synopses appeared credible. A few subjects indicated that some of the plot synopses did remind them of an old or current film. This is to be expected, however, as one might anticipate subjects' attempts to fit this new information into their existing field of experience. Moreover, the dramatic plot structures presented in the synopses do lend themselves to association with previously established

film genres. The problem here, of course, is what doesn't or wouldn't?

To further ensure the validity of the instrument, the data were subjected to analysis of variance and covariance tests using the BMDP package (April 1979 edition). If the film synopses are truly neutral and the subjects accurately followed the instruction not to compare the synopses when deciding upon the likelihood of their attendance, one should expect no significant difference among the overall likelihood of attendance for each synopsis when the MPAA rating is discounted as a variable. Consequently, the likelihood of attendance responses for all four film synopses were compared. This procedure allows us to analyze the whole experimental model (all four films). As Table 1 demonstrates, no significant

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Table 1 About Here

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differences were found ($p > .05$). In other words, the likelihood of attendance was no greater or lesser, irrespective of MPAA rating. Therefore, since the results of analysis on the whole model proved nonsignificant, the model's parts (each synopsis individually) can be assumed valid. Moreover, the questionnaire's instructions can also be assumed to be clearly understood insofar as the subjects appeared to follow the directions provided.

A second purpose of this study was to ascertain the influence of the MPAA's film rating system on likelihood of attendance. As would be predicted by reactance theory, persons under the age of 17 should experience reactance due to the R and X ratings. To restore the threatened or eliminated freedom these individuals, especially, should show greater likelihood of attendance at R- and X-rated films. The data were therefore subjected to an analysis of variance test. For this test, overall likelihood of attendance (at all films as categorized by MPAA rating) by MPAA rating was compared. Additionally, comparisons by sex and age (over 17 and under 17 years) were made. Two covariates, importance of film-going as a leisure activity (measured on a five-point scale) and frequency of film attendance, were also included in the analysis. Use of these covariates in the analysis is justified since reactance theory would predict that the greater the importance of the threatened freedom (i.e., movie attendance), the greater the reactance aroused and, therefore, the stronger the desire to restore that freedom. The results are reported in Table 2.

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Table 2 About Here

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As can be seen, likelihood of attendance by rating, sex, age, and the two covariates all proved nonsignificant ($p > .05$). Thus,

testing the overall model indicates that for this sample the MPAA ratings were not an influential factor in the sample's likelihood of attendance and therefore none of the four films need be tested on an individual basis. While this finding appears to support the MPAA's contention that ratings do not influence attendance and thus to reject reactance theory's prediction, further testing is warranted. This study's sample was not a random one and hence, replication of this experiment using a probability sample is called for. Moreover, replication of this study using a seven-point (or greater) response scale might prove fruitful. Perhaps the five-point scale used here did not allow the subjects fine enough discrimination.

The final item to be reported and discussed is the subjects' response to the unobstrusive measure included in the questionnaire. Subjects were asked to list the titles of as many movies as they could recall having seen in the past half-year. A total of 117 different titles were mentioned. The film titles were then coded according to their MPAA rating.

As Table 3 illustrates, of the 117 titles listed by the

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Table 3 About Here

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participants films with a PG rating were by far the most frequently mentioned (75 or 65.2% of the total). No X-rated

films and very few (7 or 6.1%) G-rated pictures were reported as having been seen. Thirty-three (or 28.7%) movies with an R rating were reported as having been attended. Another way of looking at the films reported is to examine the number of times a given picture (and, as later coded, its rating) was mentioned. Table 4 reports this information. By looking at

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Table 4 About Here

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the percentage row of Table 4 and comparing these figures to those in the same row in Table 3 one can see that the percentage of R-rated films increases while the percentage of G- and PG-rated films decreases. One may conclude from this that the data reported in Table 4 offers a better index of film (and by implication, rating) popularity. As is evident from both Tables 3 and 4, PG- and R-rated films were clearly the most frequently attended; X-rated movies were completely avoided and films with a G rating very infrequently attended. Further, as was noted in the review of the literature, PG and R have been the most often assigned MPAA ratings. Since the participants in this study overwhelmingly reported attending PG- and R-rated films, one may conclude that the menu equals the diet; that which is most commonly offered is that which is most commonly consumed. This conclusion is further substantiated by examining the most frequently mentioned films. As is

shown in Table 5, of those films mentioned by six or more

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Table 5 About Here

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participants, 42% were PG-rated and 58% R-rated. Moreover, no single G-rated film was mentioned by more than one person (not shown in table).

Thus, by their own actual film attendance reports, the participants in this study clearly favored those films with a PG or R rating. These findings, however, are in contradiction to those reported in the experimental situation. Whereas the experiment showed no greater likelihood of attendance when 'varying the film plot synopses' rating, the participants' actual movie attendance shows a clear preference for PG- and R-rated movies. One possible explanation for this apparent anomaly would be that the subjects' were unwilling to report their attendance at G- and X-rated movies. Still another reason might be that the film plot synopses were simply unattractive altogether (examination of the likelihood of attendance frequencies and cell means rules out this explanation). A more likely and credible reason for the discrepancy between self-report and experimental findings has been alluded to above. Simply put, there are more films rated PG and R in circulation and available for viewing than there are G- and X-rated films. At the time this study was conducted, a

maximum potential of only 7% and 6% of all films rated by the MPAA were G- and X-rated respectively.[27] Therefore, one's opportunity to attend such pictures, regardless of desire, was very limited. Moreover, we might speculate that the difference between the experimental and self-report findings is a result of the conditions in which the subjects made their film choices. The experimental condition involved a hypothetical situation which required the subjects to project their likelihood of attendance with no true behavioral, psychological, or financial commitment. Further, and importantly, the consequences of their decision were hypothetical as well. Finally, the experimental situation did not provide the subjects with the full potential range of decision-making aids which, presumable, normally accompany the movie attendance decision process (probably the most important of which is word-of-mouth[28]). The self-report data, on the other hand, represents real situations with real commitments (e.g. price of admission, appropriateness for dating activities) and consequences.

## SUMMARY AND CONCLUSIONS

The study reported here sought to design and implement a valid experimental instrument to test the potential influence of the MPAA's film rating system on movie attendance. Subjects in the experiment were high school students. The experimental

instrument was found to be valid. Results of the experimental manipulation were nonsignficant, thereby indicating that for this sample the MPAA ratings did not effect likelihood of film attendance and that psychological reactance apparently was not aroused. Finally, self-report data indicated that the participants in this study most frequently attended films rated either PG or R. These findings were explained in terms of the limited choice (G, PG, R, or X ratings) options available to the students.

Finally, this study suggests at least two avenues for further research. Replication of the experiment using a probability sample is clearly warranted. Moreover, expansion of the response scale from five to seven (or greater) points would offer subjects greater discrimination.

## FOOTNOTES

[1]Jack W. Brehm, A Theory of Psychological Reactance (New York: Academic Press, 1966).

[2]For a handy review of the literature on reactance theory see Jack W. Brehm, Responses to Loss of Freedom: A Theory of Psychological Reactance (Morristown, New Jersey: General Learning Press, 1972).

[3]Ginette Herman and Jacques-Philippe Leyens, "Rating Films on TV," Journal of Communcation 27: 48-53, (Autumn 1977).

[4]Ibid., p. 53.

[5]Jack Valenti, "The Movie Rating System." New York: Motion Picture Association of America, no date, pp. 1 and 2. (Mimeographed.) The court case Valenti refers to is Ginsburg v. New York 390 U.S. 629 which was preceded and influenced by Redrup v. New York 386 U.S. 767 (1967):

[6]It is not within the scope of this paper to discuss the premise for this fear. However, for an excellent discussion of film censorship in the United States see Richard S. Randall, Censorship of the Movies (Madison, Wisconsin: University of Wisconsin Press, 1968). For a discussion of federal, state, and local legislative threats to the motion picture industry as they influenced the development of the present rating system see Julian C. Burrough, Jr., "X Plus 2: The MPAA Classification System During its First Two Years," Journal of the University

Film Assocation 23: 44-53 (1971). Finally, for a more anecdotal approach to understanding Hollywood's fear of federal intrusion see Murray Schumach, The Face on the Cutting Room Floor (New York: Da Capo Press, 1964).

[7]Valenti, op. cit., p. 3.

[8]Valenti, ibid., p. 5.

[9]Personal correspondence from Michael Linden, MPAA Director of Research, April 14, 1978.

[10]Jack Valenti, "Remarks by Jack Valenti to the Annual Convention of the National Association of Theater Owners," Miami Beach, Florida, October 26, 1977, pp. 2-3.

[11]Subcommittee on Special Small Business Problems, Report of the Subcommittee on Special Small Business Problems, "Movie Ratings and the Independent Producer," H.R., 95th Congress, 2d session, report no. 95-996 (Washington, D.C.: U.S. Government Printing Office, March 1978), p. 54.

[12]Opinion Research Corporation, "An Appraisal of the Motion Picture Industry's Voluntary Rating System" (Princeton, New Jersey: July-August 1977). The percentage of individuals not accounted for included those who offered no opinion. However, as the report points out (p. 2): "It is fair to assume that some people who offered 'no opinion' are nevertheless aware of the system although the actual number cannot be determined. Therefore the current status may be better than the percentages shown above."

[13]"MPAA Film Ratings: 1968-79," Variety, November 7, 1979, p. 24.

[14]Bruce A. Austin, "Rating the Movies," Journal of Popular Film and Television, in press.

[15]Commission on Obscenity and Pornography, Report of the Commission on Obscenity and Pornography (New York: Bantam Books, 1970), p. 12.

[16]Ibid., p. 102.

[17]Subcommittee on Special Small Business Problems, op. cit., p. 80.

[18]Ibid., p. 77.

[19]Austin, op. cit.

[20]Jack Valenti, "Rating the Movies," Journal of Communication 26: 62-63 (Summer 1976).

[21]See "NATO Gets Word; MPAA Code Okay," Variety, October 31, 1979, p. 4 and "65% Believe Movie Ratings Useful as Guide for Parents," Los Angeles Times, November 2, 1979, part IV, p. 30.

[22]Suzanne White Yeager, "G-GP-R-X: A Q-Study of the Movie Industry's Latest Attempt at Self-Regulation," unpublished M.A. thesis, University of Missouri, 1971.

[23]Sylvia Lynn O'Dell, "A Study of Parents' Attitudes Toward the Motion Picture Association of America Rating System," unpublished M.S. thesis, Oklahoma State University, 1973.

[24]Patricia Robertus and Rita James Simons, "The Movie Code: A View from Parents and Teenagers," Journalism Quarterly

47: 568-569, 629 (Autumn 1970).

[25]Bruce A. Austin, "Motion Picture Attendance and Factors Influencing Movie Selection Among High School Students," paper presented to the 33rd Annual University Film Association Conference, August 13-17, 1979, Ithaca, New York.

[26]"New Study Shows Pay Cable Taps Network Audience," TV Guide, November 3, 1979, p. A-3.

[27]"MPAA Film Ratings" 1968-79," op. cit. The figures reported represent all films rated from November 1978 to October 1979.

[28]Other film attendance decision factors would conceivably include critical reviews, advertisements, theater trailers, and general media hype, to name a few.

TABLE 1

Likelihood of Attendance by Film Plot Synposes
Irrespective of MPAA Rating

| Source | SS | df | ms | F | p |
|---|---|---|---|---|---|
| Mean | 64.00879 | 1 | 64.00879 | 47.69 | 0.0000 |
| Sex | 3.44666 | 1 | 3.44666 | 2.57 | 0.1145 |
| Age | 2.10413 | 1 | 2.10413 | 1.57 | 0.2155 |
| Sex X Age | 5.63935 | 1 | 5.63935 | 4.20 | 0.0449 |
| Import [1] | 0.48380 | 1 | 0.48380 | 0.36 | 0.5506 |
| Attend [2] | 0.45213 | 1 | 0.45213 | 0.34 | 0.5639 |
| Import X Attend | 0.78920 | 2 | 0.39460 | 0.29 | 0.7464 |
| Error | 77.84018 | 58 | 1.34207 | | |
| R [3] | 2.64166 | 3 | 0.88055 | 0.70 | 0.5538 |
| R X Sex | 1.53477 | 3 | 0.51159 | 0.41 | 0.7488 |
| R X Age | 1.98113 | 3 | 0.66038 | 0.52 | 0.6662 |
| R X Sex X Age | 2.77692 | 3 | 0.92564 | 0.73 | 0.5325 |
| Error | 226.75828 | 180 | 1.25977 | | |

[1] importance of movies as a leisure activity, first covariate
[2] frequency of movie attendance, second covariate
[3] film plot synopses

TABLE 2

Likelihood of Attendance by MPAA Ratings, Sex, and Age

| Source | SS | df | ms | F | p |
|---|---|---|---|---|---|
| Mean | 64.00879 | 1 | 64.00879 | 47.69 | 0.0000 |
| Sex | 3.44666 | 1 | 3.44666 | 2.57 | 0.1145 |
| Age | 2.10413 | 1 | 2.10413 | 1.57 | 0.2155 |
| Sex X Age | 5.63935 | 1 | 5.63935 | 4.20 | 0.0449 |
| Import[1] | 0.48380 | 1 | 0.48380 | 0.36 | 0.5506 |
| Attend[2] | 0.45213 | 1 | 0.45213 | 0.34 | 0.5639 |
| Import X Attend | 0.78920 | 2 | 0.39460 | 0.29 | 0.7464 |
| Error | 77.84018 | 58 | 1.34207 | | |
| Ratings | 8.00512 | 3 | 2.66837 | 2.27 | 0.0818 |
| Ratings X Sex | 4.34403 | 3 | 1.44801 | 1.23 | 0.2992 |
| Ratings X Age | 4.72727 | 3 | 1.57576 | 1.34 | 0.2624 |
| Ratings X Sex X Age | 3.78494 | 3 | 1.26165 | 1.07 | 0.3614 |
| Error | 211.41999 | 180 | 1.17456 | | |

[1]importance of movies as a leisure activity, first covariate
[2]frequency of movie attendance, second covariate

TABLE 3

Films Reported as Having Been Seen by MPAA Rating

| G | PG | R | X | TOTAL |
|---|---|---|---|---|
| 7 | 75 | 33 | 0 | 115* |
| 6.1% | 65.2% | 28.7% | 0% | 100% |

*two films had no MPAA rating and were therefore not included

TABLE 4

Films Reported as Having Been Seen by MPAA Rating and Number of Times Mentioned

| G | PG | R | X | TOTAL |
|---|---|---|---|---|
| 7 | 216 | 188 | 0 | 411* |
| 1.7% | 52.5% | 45.8% | 0% | 100% |

*two films had no MPAA rating and were therefore not included

TABLE 5

Most Frequently Mentioned Films

| Rank | Title | Number of Mentions | MPAA Rating |
|---|---|---|---|
| 1 | NATIONAL LAMPOON'S ANIMAL HOUSE | 49 | R |
| 2 | UP IN SMOKE | 31 | R |
| 3 | MIDNIGHT EXPRESS | 29 | R |
| 4 | GREASE | 19 | PG |
| 5 | EVERY WHICH WAY BUT LOOSE | 13 | PG |
| 5 | ROCKY HORROR PICTURE SHOW | 13 | R |
| 6 | HEAVEN CAN WAIT | 12 | PG |
| 7 | STAR WARS | 11 | PG |
| 8 | CALIFORNIA SUITE | 9 | PG |
| 8 | COMING HOME | 9 | R |
| 8 | LAST WALTZ | 9 | PG |
| 9 | INVASION OF THE BODY SNATCHERS | 8 | PG |
| 9 | SATURDAY NIGHT FEVER | 8 | R |
| 10 | HARD CORE | 6 | R |
| 10 | HOOPER | 6 | PG |
| 10 | JAWS 2 | 6 | PG |
| 10 | LORD OF THE RINGS | 6 | PG |
| 10 | SMOKEY AND THE BANDIT | 6 | PG |

Most Frequently Mentioned Films by Rating

| G | PG | R | X | TOTAL |
|---|---|---|---|---|
| 0 | 105 | 145 | 0 | 250 |
| 0% | 42% | 58% | 0% | 100% |