

Beyond Demographic Groups: Patterns of Consumer Exposure to the Mass Media

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American consumers live in a mass media environment that is potentially both rich and diverse. Most consumers have the necessary monetary resources and language skills to use all of the major mass media, and from this rich media environment they select a particular pattern of exposure. Since the amount of media content is vast relative to the time available for media use, consumers must continually select from this mass media content, and no two will make exactly the same selections. Each person's exposure, therefore, to the mass media is unique.

It is likely, however, that among any large population in a similar mass media environment, there are similarities in patterns of exposure to the mass media. Consumers with a similar pattern of exposure to the mass media can be described as a particular mass media type. Given this assumption, one question naturally arises: What types of mass media consumers are there?¹

Limitations of Demographically Defined Types

By far the most common approach to identifying individual differences in mass media exposure has been to relate differences in media exposure to demographically defined groups. The mass media exposure patterns, particularly television exposure, of people of different ages, educational levels, socio-economic statuses, household sizes, etc. frequently have been compared by mass media researchers.

In some cases, this research has produced clear distinctions among different demographic groups. Some of this research, however, has produced contradictory and inconclusive results. In their summary of research on children's uses of the mass media, Wartella et al. (1979: 43) concluded that "even for descriptive purposes the findings regarding correlates of media use [exposure] are contradictory." For example, "heavy viewers are found among the bright, the low SES, the middle class, and blacks. For each of these findings one can find opposing results" (Wartella et al., 1979: 42). Comstock et al. (1978) came to a similar conclusion about television exposure and demographic variables. They suggested that because television is so heavily used in our society, the differences related to demographic categories have been greatly reduced. Finally, Avery (1979: 59) found that sociological and demographic variables were more useful in differentiating the mass media exposure of adolescents than the mass media exposure of children, but he added that "the literature is not void of contradictions."

The popularity of demographic variables for mass media exposure research appears to stem from their traditional use in sociological research, as well as from their relative ease of measurement, rather than from their theoretical relationship to mass media exposure. Typically, the relationship between a demographic variable and mass media exposure has been explained after the relationship was discovered, rather than being offered as evidence to support a priori theoretical notions as to why people differ in exposure.

I do not discount the utility of demographic variables in studying mass media exposure, but wish to demonstrate that groups of mass media consumers (mass media types) identified by their similar patterns of exposure to mass media are not isomorphic with the groups identified by demographic variables.

In addition, I would suggest that groups of consumers identified by their common patterns of mass media exposure are more closely related to specific media effects (changes in attitudes or behaviors) than are groups identified by demographic variables. Thus, the identification of mass media exposure types should more clearly isolate the individuals who are most likely to be affected by concentrated exposure to specific combinations of mass media content. This unication scholars who have examined both the media consumeell as the effects of that selectivity on the formation of attitudes and values.

Theoretical Rationale

Lippmann's (1921) classic analysis of how mass media form the "pictures in our heads" of the reality that we cannot directly experience suggests that the types and amount of mass media which we use may substantially influence how we view the world. People who habitually consume a narrow range of kinds of mass media content severely limit their sources of information from which they build their pictures of reality, and severely constrain their experience of reality. Similarly, Becker's (1978: 44) mosaic model of communication illustrates that from an almost infinite collection of information increments (or bits) concerning any topic, we consume only a small am

Information increments can come from any of a very large number of sources, so large a number that, for all practical purposes, it also can be treated as infinite. However, at any given moment, only a limited number of sources, if any, are making any of the relevant increments of information available to us.

Our choices are governed, in turn, by our existing attitudes and pictures of reality. The identification of mass media types will isolate the sources of information increments consumed by these types within a common mass communication environment.

The detailed effect of this has been conceptualized by Gerbner and Gross (1976) as the "cultivation effect" of television. Their studies suggest that habitual patterns of exposure will affect attitudes. If, as Gerbner and Gross argued, television effects come not from a single exposure, but from the repeated presentation of certain images that we come to view as reality, then it follows that the patterns of exposure to the media exhibited by consumers must affect the realities that they construct.

In addition, Schramm's analogy between the formation of stalagmites and the effects of communication on human development illustrates how exposure to different mass media sources might gradually influence personality. Schramm (1954: 125) claims that communication produces effects just as "the stalagmite builds up from the calcareous residue of the water dripping on it from the cave roof." Each drop leaves "only a tiny residue." Similarly,

when we introduce one drop of communication into a person where millions of drops have already fallen and left their residue, we can hardly expect to reshape the personality fundamentally by that one drop.

The purpose of this study is to identify the different habitual patterns of consumer exposure to the mass media that help form distinct "Stalagmites:" personalities, attitudes, behaviors, or levels of knowledge. Factor analyses of the mass media exposure of three distinct age groups were used to identify habitual patterns of media exposure. These analyses reduced a large number of media exposure variables, representing respondents' exposure to many kinds of media content, to their underlying patterns of exposure.

Factor Analytic Studies of Media Exposure

Although numerous correlational studies have explored the relationships among exposure to various media (Bailyn, 1959; Samuelson et al., 1963; Anast, 1966; Greenberg and Kumata, 1968; Greenberg, 1973, Tan and Vaughn, 1976; Atkin, 1978; Robinson, 1980; Robinson, 1981; for example), few researchers have used factor analysis to isolate patterns of exposure common to particular groups of individuals. Most of these studies concentrated on exposure to news, either in newspapers alone or in newspapers and electronic media (Anast, 1961; Atwood, 1970; Bornholdt, 1966; Clarke, 1968; Grunig, 1979; Ryan, 1976; Stempel, 1967).

Despite differences in respondent ages and in the headlines or news stories used, there is some consistency in the kinds of factors isolated in the seven studies of news content listed above. Five of the seven found a factor associated with public affairs information (Bornholdt, 1966; Clarke, 1968; Grunig, 1979; Ryan, 1976; Stempel, 1967), a human interest/mishaps factor (Anast, 1961; Atwood, 1970; Bornholdt, 1966; Clarke, 1968; Stempel, 1967), and a science and/or health factor (Anast, 1961; Clarke, 1968; Grunig, 1979; Ryan, 1976; Stempel, 1967). In addition, two studies reported an entertainment factor (Anast, 1961; Stempel, 1967), an economics factor (Stempel, 1967; Ryan, 1976), and a sports factor (Bornholdt, 1966; Clarke, 1968). Factor analytic studies of news content, therefore, seem to point to at least three common factors: a public affairs factor, a human interest factor, and a science and/or health factor.

Although of value to those studying news analysis, an obvious limitation of these seven studies is that they differentiate only among patterns of exposure to varieties of news content. If we assume that non-news media content also has some influence over people, then it becomes imperative to analyze that content as well.

Five studies have examined both news and non-news media content (Boyd, 1978; Dunn, 1975; Martin et al., 1976; McIlwraith and Schallow, 1983; McIlwraith and Josephson, 1985). But each of the five used a different set of exposure items, so it is difficult to compare the final factors. One common result was noted. Three of the studies (Dunn, 1975; Martin et al., 1976; McIlwraith and Schallow, 1983) produced media factors that were characterized by exposure to a particular medium rather than to a particular type of media content. Dunn isolated radio users, television users, and newspaper users. Martin et al. found mostly media specific factors for the low socioeconomic group in their study. And McIlwraith and Schallow isolated television users, radio users, and print information users.

These factor analytic studies of exposure to news and non-news content are limited in three respects. First, the studies that included non-news media content surveyed either non-U.S. residents (Boyd, 1978; Martin et al., 1976; McIlwraith and Schallow, 1983; McIlwraith and Josephson, 1985) or members of a particular U.S. minority group (Dunn, 1975). Thus, the factors identified in these studies might not be descriptive of factors that would emerge in a study of representative U.S. residents. Second, these studies were based on exposure to a limited number of media exposure variables. None of these studies used more than 36 media exposure variables. Thus, much of the diversity available in the mass media was overlooked. Finally, each of these studies surveyed one age group. Thus, they could not compare factors among different age groups. This study addressed these three limitations.

Questions Addressed in the Study

1. What are the mass media types (patterns of consumer exposure to the mass media) among seventh graders, high school juniors, and adults in a given mass media environment (geographic area)?
2. What are the similarities and differences in the mass media types isolated for these three age groups?²
3. What demographic variables are most strongly related to each of the mass media types identified in the study?
4. Are the mass media types adequately described by demographic variables, or do they represent distinct descriptions of patterns of consumer exposure to them?

METHOD³

Respondents

Since the goal of the Q-type factor analysis is to identify unique types within a population, variation in the sample is more important than sample size. As Talbott (1971: 8) notes, in Q "The people sample is quite small and very explicitly and purposively chosen...to get representatives of the major patterns or views of the people being studied."

The school age respondents were 116 seventh graders from social science classes at a public school and 107 high school juniors: 59 from the study halls at a public school⁴ and 48 from English classes at a university sponsored laboratory school.⁵ All students were from the Waterloo/Cedar Falls, Iowa area. One hundred and seventy-five respondents completed the survey instruments in late October, 1982 and 48 completed them in late January, 1983. Ninety-one percent of the students sampled completed useable surveys.

Under the guidance of trained personnel, the respondents recorded their daily exposure to television, newspapers, magazines, radio, and recordings for one week, and completed a questionnaire which measured exposure to books and motion pictures, and provided demographic information.⁶ Respondents completed the survey materials during the regular school day.

After an initial telephone interview, diaries, questionnaires, and instructions were mailed to 241 randomly selected adult respondents. One hundred and twenty-one adult respondents from Waterloo, Iowa returned completed survey materials, 100 in late October, 1982 and 21 in late January, 1983. Although the response rate was not particularly high, it was consistent with other studies of media audiences using diaries (Wimmer and Dominick, 1983: 275). In addition, the demographic profile of the adult respondents was representative of other adults in the survey area, except for years of education, which was slightly above average.⁷

Mass Media Variables

The 91 mass media exposure variables used in the study are summarized in Figure 1.⁸

FIGURE 1 MASS MEDIA VARIABLES

TELEVISION

action/adventure
cartoons
comedy
country music/variety
daytime soap operas
game shows
human interest
light dramas
movies
Music Television (MTV)
news & public affairs
prime time soaps
public television
religious
situation comedies
sports
talk shows
other

RADIO

Black
country music
middle-of-the-road
public radio
religious

rock
talk

NEWSPAPERS

advice columns
business & finance
classified ads
comics
crossword puzzles
editorials
entertainment section
international news
local news
national news
obituaries
other advertisements
sports
women's section
other

BOOKS

action/adventure
non-fiction
popular novel
romantic novel
other

MAGAZINES

activities & hobbies
adult illustrated
Black
business
celebrity gossip
children's
comic books
female adolescent
humor
hunting & outdoors
male sexual
mass circulation
motor vehicle
music
news magazines
professional journals
religious
science & technology
sports
upscale
women's -
non-traditional roles
women's trad. roles
other

MOTION PICTURES

action/adventure
art films
children's
comedy
dramatic
E.T.-
The Extra-Terrestrial
horror
romantic/dramatic comedy
science fiction & fantasy
sex
teen appeal

RECORDINGS

beautiful music
classical
comedy
country
gospel

jazz
New Wave
pop
rock
soul
other

For television, 18 categories of content were developed from the television programs which appeared on the three local, commercial network affiliates during the survey week, as well as any additional television programs recorded by the respondents. Exposure to each category equalled the sum of the half hours recorded by the respondent for that content category during the survey week. Total exposure to television was the sum of all of these half hours of viewing.

Each radio station serving the survey area was assigned to one of seven radio formats. Exposure to each format equalled the sum of the quarter hours recorded by the respondent for stations with that format during the survey week.⁹ Total exposure to radio was the sum of all of these quarter hours of listening.

For recordings (records and tapes), respondents recorded their daily exposure to each of 11 categories. Exposure equalled the sum of the quarter hours recorded by the respondent for that category during the survey week. Total exposure to recordings was the sum of all of these quarter hours of listening.

For newspapers, respondents' scores for each of 15 parts of the newspaper equalled their rating of exposure to each part (where 0 = never read, 1 = seldom read, 2 = sometimes read, 3 = usually read, 4 = always read), multiplied by their weekly newspaper exposure. Weekly newspaper exposure equalled sum of respondents' daily exposure scores (where 0 = didn't read, 1 = read 1-5 minutes, 2 = read 6-15 minutes, 3 = read 16-30 minutes, 4 = read 31-45 minutes, 5 = read 45-60 minutes, 6 = read more than 60 minutes).

For magazines, respondents recorded the five that they read most frequently, in order of preference (where first preference = 5, second preference = 4, and so forth). Then, all magazines listed by the respondents were coded into one of 23 categories. Next, each respondent's preferences for a particular category were summed. Respondents' scores for each of the 23 magazine categories equalled their total score for that category multiplied by their weekly magazine exposure. Weekly magazine exposure equalled sum of respondents' daily exposure scores, using the same scale as described above for daily newspaper reading.

All motion pictures shown at theaters and drive-ins in the survey area during the two months prior to the survey week were classified into one of 11 categories. Exposure to each category equalled the sum of the motion pictures of that category the respondent reported seeing during the previous two months.

Five book content variables were measured by summing all of books that the respondent reported reading in that category during the previous two months. Total exposure to books equalled the sum of all of these books.

The mass media exposure data was converted into z-scores and entered into three separate Q-type factor analyses which grouped respondents with similar patterns of media exposure into factors.¹⁰ Each factor contained two types of respondents (mass media types). The first type represented the respondents with the most positive factor loadings on the particular mass media factor. The second type represented the respondents with the most negative factor loadings. The interpretation of these three Q-type factor analyses answered Questions 1 and 2.

Demographic Variables

Once these mass media factors were identified, stepwise multiple linear regression analyses were used to evaluate the ability of the demographic variables used in the study to account for the variation in each mass media factor.¹¹ In these regression analyses, the demographic variables were the independent (or predictor) variables and the respondents' factor loadings on each factor identified by the Q-type factor analyses were the dependent (or criterion) variables. The interpretation of these analyses answered both questions 3 and 4.

The juniors and seventh graders provided information on seven demographic variables: sex, father's education, mother's education, household size, age, father's occupation, mother's occupation. The respondent's schools provided the measure of academic achievement.¹²

Using the National Opinion Research Center occupational prestige scale, trained personnel coded respondents' father and mother occupations into two parental occupational prestige scores,¹³ and then reduced these two scores to one variable—household occupational prestige—by selecting the higher of the two parental occupational prestige scores.

For the adults, the demographic variables were more descriptive of the respondent and his/her spouse. Thus, respondent's education, spouse's education, respondent's occupation, and spouse's occupation replaced father's education, mother's education, father's occupation, and mother's occupation. The household occupational prestige score equalled the larger of the two spouse's occupational prestige scores.¹⁴

It seems clear that the mass media types identified in this study were not adequately explained by the demographic variables used in the regression analyses. The mean percentage of variance accounted for by the demographic variables in these 13 analyses was 19.6% (14.1% for the four seventh grader analyses, 18.9% for the four junior analyses, and 25.7% for the five adult analyses). Thus, there remained a considerable amount of unexplained variance once the effect of the demographic variables had been controlled for. In short, the mass media types were not isomorphic with the demographic groups.

RESULTS¹⁵

Q-Type Factor Analyses

The results of the Q-type factor analyses are reported in Table 1. Each factor reported in this study split into two types.¹⁶ The first type represented the respondents who were positively associated with that factor, and the second type represented the respondents who were most negatively associated with that factor. Table 1 includes the media content variables that were most descriptive of each type (Z-score + or - 2).

TABLE 1
MASS MEDIA TYPES AND THEIR DESCRIPTIVE VARIABLES

N=newspapers, TV=television, MP=motion pictures, M=magazines, B=books, R=radio, REC=recordings. Each media content type is underlined. The number to the right of each variable is the z-score representing the strength and the direction of the variable's loading on that type.

ADULTS FACTOR 1	JUNIORS FACTOR 1	7TH GRADERS FACTOR 1	
<u>NEWSPAPER AVOIDERS</u>	<u>CABLE TV WATCHERS/</u> <u>NEWSPAPER AVOIDERS</u>	<u>"FEMALE" READERS</u>	
N-Entertainment -2.05	TV-Movies 2.26	B-Romantic Novels 3.73	
N-Obituaries -2.07	R-Religious 2.11	B-Popular Novels 3.23	
N-Editorials -2.07	TV-MTV 2.05	MP-Dramatic 2.63	
N-Other Ads -2.17	N-Sports -2.02	MP-Children's 2.45	
N-Internat. News -2.24	N-Entertainment -2.07	TV-Sit-Com's 2.14	
N-National News -2.31	N-Local News -2.12		
N-Local News -2.66	N-Comics -2.17		
		<u>"MALE"</u>	
<u>NEWSPAPER READERS</u>	<u>NEWSPAPER READERS</u>	<u>NEWSPAPER READERS</u>	
N-Other Ads 2.23	N-Women's Sect. 2.81	N-National News 2.91	
N-National News 2.13	N-Obituaries 2.66	N-Classified Ads 2.66	
N-Women's Section 2.08	N-Entertainment 2.37	N-Other Ads 2.61	
N-Entertainment 2.04	N-Local News 2.32	N-Sports 2.45	
N-Local News 2.04	N-Advice Columns 2.32	N-Local News 2.40	
N-Obituaries 2.04	N-Editorials 2.23	N-Internat. News 2.27	
N-Advice Columns 2.02	N-National News 2.15	N-Entertainment 2.18	
	N-Internat. News 2.13		
	N-Comics 2.08		
ADULTS FACTOR 2	JUNIORS FACTOR 2	7TH GRADERS FACTOR 2	
<u>TALK SHOW FANS</u>	<u>"BLACK" ROMANTICS</u>	<u>ACTION</u> <u>TELEVISION VIEWERS</u>	
TV-Talk 5.11	M-Black 3.63	TV-Action/Adven. 2.65	
TV-Game 2.00	TV-P-Time Soaps 2.83	R-Information 2.48	
	B-Romance Novels 2.62	TV-Human Interest 2.22	
		N-Comics -2.16	
	<u>PROTOTYPIC</u> <u>ADOLESCENT "MALES"</u>	<u>NEWSPAPER</u> <u>OPINION READERS</u>	
<u>HORROR FILM FANS</u>	N-Classified Ads 3.17	N-Editorials 2.77	
MP-Horror 5.16	M-Motor Vehicle 2.87	N-Advice Columns 2.40	
MP-E.T. 2.92	R-Rock Music 2.37	REC-New Wave 2.25	
	R-Total News 2.25	N-National News 2.06	
	N-Sports 2.11	N-Local News 2.01	
ADULTS FACTOR 3	JUNIORS FACTOR 3	7TH GRADERS FACTOR 3	
<u>COUNTRY LISTENERS</u>	<u>FILM FANS</u>	<u>COUNTRY RADIO LISTENERS/</u> <u>ACTION AVOIDERS</u>	
REC-Country Music 4.19	MP-Teen 4.19	R-Country Music 2.78	
MP-Romance/Comedy 3.14	B-Romance Novels 2.83	MP-Action/Adven. -2.24	
R-MOR 2.91	MP-Horror 2.63	TV-Sit-Com's -2.35	
R-Total News 2.28	MP-Comedy 2.57	TV-Action/Adven. -2.50	
REC-Classical 2.23			
R-Country Music 2.06			
	<u>NON-FICTION</u> <u>TELEVISION VIEWERS</u>	<u>TELEVISION VIEWERS</u>	
<u>ACTION VIEWERS/READERS</u>	TV-Talk Shows 3.73	TV-Sports 2.76	
TV-Comedy 3.57	TV-Sports 3.54	TV-News 2.60	
B-Action/Adven. 3.30	TV-Comedy 3.26	TV-Comedy 2.57	
TV-Action/Adven. 3.16	TV-News 2.67	TV-Soap Operas 2.48	
TV-Light Dramas 2.16	TV-Country Music 2.34	TV-Sit-Com's 2.39	
TV-Cartoons 2.12			
ADULTS FACTOR 4	JUNIORS FACTOR 4	7TH GRADERS FACTOR 4	ADULTS FACTOR 5
<u>ENTERTAINMENT WATCHERS</u>	<u>"FEMALE"</u> <u>ADOLESCENT READERS</u>	<u>"MALE" FILM FANS</u>	<u>NON-FICTION READERS</u>
TV-Game Shows 3.78	MP-Dramatic 2.95	MP-Sex 3.58	B-Non-Fiction 3.77
MP-Action/Adven. 2.54	M-Female Adoles. 2.72	MP-Action/Adven. 3.55	M-Upscale 3.08
MP-Teen 2.44	M-Celeb./Gossip 2.64	MP-Teen 2.37	REC-Religious 2.44
MP-Sci-Fi & Fant. 2.42	M-News Magazines 2.35	TV-MTV 2.28	
MP-Romance/Comedy 2.17	B-Popular Novels 2.04		<u>TELEVISION VIEWERS</u>
			TV-Movies 3.35
<u>SPORTS FANS</u>	<u>ENTERTAINMENT VIEWERS</u>	<u>NON-NEWS READERS</u>	TV-Country Music 2.91
TV-Sports 3.21	TV-Cartoons 3.36	M-Celeb./Gossip 3.04	TV-Cartoons 2.24
N-Sports 2.29	TV-Sit-Com's 3.35	N-Business 2.24	N-Crosswords 2.08
	TV-Soap Operas 2.89	N-Advice Columns 2.23	TV-Action/Adven. 2.04
	TV-Action/Adven. 2.85		

Adults

The Q-type factor analysis of the adult respondents' exposure to the mass media content variables produced 5 factors and 10 types.¹⁷ The five factors accounted for 30.8 percent of the variance and had these eigen values: Factor 1 (15.7), Factor 2 (7.6), Factor 3 (5.3), Factor 4 (4.7), and Factor 5 (3.9).

Factor 1 split into Newspaper Avoiders and Newspaper Readers. Newspaper Avoiders were low in exposure to seven categories of newspaper content. Newspaper Readers were high in exposure to seven categories of newspaper content.

Factor 2 split into Talk Show Fans and Horror Film Fans. Talk Show Fans were extremely high in exposure to television talk programs, and high in exposure to game shows. Horror Film Fans were extremely high in exposure to horror movies and very high in exposure to the most popular theatrical motion picture of the time of the survey, *E. T. the Extra-Terrestrial*.

Factor 3 split into Country Listeners and Action Viewers/Readers. Country Listeners had high exposure to country music, both on recordings and on radio, and also exhibited high exposure to several other kinds of non-rock audio: MOR radio, total radio news, and classical recordings. Action Viewers/Readers were very high in exposure to several categories of entertainment television: comedy, action/adventure, light drama, and cartoons. They also had very high exposure to action/adventure books.

Factor 4 split into Entertainment Watchers and Sports Fans. Entertainment Watchers were very high in exposure to several categories of film content (action/adventure, teen, science fiction and fantasy, and romantic/comedy) and television game shows. Sports Fans had a high exposure to sports content on television and in newspapers.

Factor 5 split into Non-Fiction Readers and Television Viewers. Non-Fiction Readers were very high in two categories of upscale print content: non-fiction books and upscale magazines. They were also high in exposure to religious recordings. Television Viewers were high in several categories of television programming: movies, country music, cartoons, and action/adventure. High exposure to newspaper crossword puzzles was also characteristic of these respondents.

High School Juniors

The Q-type factor analysis of the high school junior respondents' exposure to the mass media content variables produced four factors and eight types.¹⁸ The four factors accounted for 26.9 percent of the variance and had these eigen values: Factor 1 (11.4), Factor 2 (6.7), Factor 3 (5.7), and Factor 4 (4.8).

Factor 1 split into Cable Television Viewers/Newspaper Avoiders and Newspaper Readers. Cable Television Viewers/Newspaper Avoiders were the highest in their exposure to movies on television, MTV, and religious radio stations. They were the low in their use of four categories of newspaper content, including sports and comics. These respondents consumed large quantities of two of cable television's more popular offerings, movies, and MTV, but avoided even the entertainment sections of the newspaper. Newspaper Readers were high in exposure to 9 of 15 categories of newspaper content.

Factor 2 split into "Black" Romantics and Prototypic Adolescent "Males." "Black" Romantics were presumably Black because of their heavy consumption of Black magazines.¹⁹ These respondents also had high exposure to prime time soap operas (Dallas, Falcon Crest, etc.), and to romantic novels. Prototypic Adolescent "Males" consumed large amounts of typically male adolescent media content: motor vehicles magazines, newspaper sports, and rock music on radio. In addition, their high consumption of newspaper classified ads may have been tied to an interest in motor vehicles, since classified ads are a major source of information about used cars.

Factor 3 split into Film Fans and Non-Fiction Television Viewers. Film Fans were high in exposure to three categories of films, and to romantic novels. Non-Fiction Television Viewers were television viewers with a distinct preference for five categories of non-fiction television programs: talk shows, sports, news & public affairs, comedy, and country music.

Factor 4 split into "Female" Adolescent Readers and Entertainment Viewers. "Female" Adolescent Readers had high exposure to female adolescent magazines, celebrity/gossip magazines, news magazines, and popular novels. Their high exposure to dramatic films was linked primarily to a dramatic film with a strong romantic theme, *An Officer and a Gentleman*. Entertainment Viewers were heavy consumers of television entertainment programming. They were especially high in exposure to four types of entertainment programming: cartoons, situation comedies, daytime soap operas, and action/adventure programs.

Seventh Graders

The Q-type factor analysis of the seventh grade respondents' exposure to the mass media content variables produced four factors and eight types. The four factors accounted for 24.8 percent of the variance and had these eigen values: Factor 1 (10.32), Factor 2 (6.57), Factor 3 (6.35), and Factor 4 (5.46).

Factor 1 split into "Female" Readers and "Male" Newspaper Readers. "Female" Readers were high in exposure to

books and films targeted to female audiences. These respondents were very high in exposure to romantic novels, popular novels, dramatic motion pictures, and children's films. "Male" Newspaper Readers were high in exposure to 7 of 15 categories of newspaper content, including sports.

Factor 2 split into Action Television Viewers and Newspaper Opinion Readers. Action Television Viewers were highest in exposure to television action/adventure and human interest programs. Newspaper Opinion Readers were high in exposure to 4 categories of newspaper content, including editorials, and advice columns.

Factor 3 split into Country Radio Listeners/Action Avoiders and Television Viewers. Country Radio Listeners/Action Avoiders were high in exposure to country music on the radio. They were low in exposure to action/adventure content in two media, television and motion pictures, as well as televised situation-comedies. Television Viewers were high in exposure to a wide variety of television programming.

Factor 4 split into "Male" Film Fans and Non-News Readers. "Male" Film Fans were high in exposure to three categories of film content of particular interest to males, and to MTV, which has a higher percentage of male viewers than female viewers. Non-News Readers were high in exposure to three types of print media content: gossip magazines, newspaper business news, newspaper advice columns. In general, this type of reader avoided any hard news content.

Multiple Regression Analyses

The results of the stepwise multiple linear regression analyses run for each of the 13 mass media factors isolated by the three Q-type factor analyses are in Table 2. I labeled each of these 13 factors (dependent variables) with the type most positively associated with the factor and the type most negatively associated with the factor. For example, adult Factor 1 was labeled Newspaper Avoiders versus Newspaper Readers. Only independent variables significant at $p < .05$ ARE INCLUDED IN TABLE 2.

TABLE 2
REGRESSION ANALYSES

DEPENDENT VARIABLES	INDEPENDENT VARIABLES	R	BETA WEIGHT	SIGNIFICANCE LEVEL
ADULT FACTOR 1 (.000) Newspaper Avoiders vs. Newspaper Readers	Age	.284	-.575	.000
	Household Occupational Prestige	.051	-.230	.003
ADULT FACTOR 2 (.000) Talk Show Fans vs. Horror Film Fans	Sex	.166	.382	.000
	Household Occupational Prestige	.056	-.237	.005
ADULT FACTOR 3 (.037) Country Listeners vs. Action Viewers/Readers	Age	.036	.190	.037
ADULT FACTOR 4 (.000) Entertainment Watchers vs. Sports Fans	Sex	.384	.601	.000
	Household Occupational Prestige	.033	-.183	.011
ADULT FACTOR 5 (.000) Non-Fiction Readers vs. Television Viewers	Education	.178	.473	.000
	Age	.062	.205	.016
	Household Size	.033	-.187	.024
JUNIOR FACTOR 1 Cable Television Viewers/Newspaper Avoiders vs. Newspaper Readers	No Significant Variables			
JUNIOR FACTOR 2 (.001) "Black" Romantics vs. Prototypic Adolescent "Males"	Sex	.094	.311	.001
	Age	.035	-.187	.043
JUNIOR FACTOR 3 (.000) Film Fans vs. Non-Fiction Television Viewers	Sex	.325	.524	.000
	Household Occupational Prestige	.041	-.207	.011
JUNIOR FACTOR 4 (.000) "Female" Adolescent Readers vs. Entertainment Viewers	Academic Achievement	.112	.273	.004
	Sex	.076	.336	.000
	Father's Education	.072	.297	.002

TABLE 2 CONTINUED

DEPENDENT VARIABLES	INDEPENDENT VARIABLES	R	BETA WEIGHT	SIGNIFICANCE LEVEL
GRADE 7 FACTOR 1 (.000) "Female" Readers vs. "Male" Newspaper Readers	Sex	.152	.430	.000
	Academic Achievement	.045	-.257	.003
	Mother's Education	.043	.213	.014
GRADE 7 FACTOR 2 (.000) Action Television Viewers vs. Newspaper Opinion Readers	Sex	.140	-.360	.000
	Academic Achievement	.049	-.222	.010
GRADE 7 FACTOR 3 (.009) Country Radio Listeners/ Action Avoiders vs. Television Viewers	Sex	.042	.211	.022
	Household Size	.038	.196	.032
GRADE 7 FACTOR 4 (.012) "Male" Film Fans vs. Non-News Readers	Sex	.054	-.233	.012

Significance levels for the regression equations are in parentheses.
Only significant ($p < .05$) independent variables are included.

Age was a significant predictor for three of the five adult mass media factors. In addition, sex was a significant, and strong predictor for two of the five factors; and household occupational prestige was a significant, but weak predictor for three of the five factors.

For the high school juniors, sex was a significant predictor of three of the four mass media factors. No other demographic variable was significant in more than one regression analysis.

For the seventh graders, demographic variables were generally weak predictors of mass media factors. Sex was the strongest predictor in all four of the regression analyses, and academic achievement was a significant predictor in two of the four analyses.

DISCUSSION

Two limitations on the generalizability of these types should be noted. First, the respondents in this study came from two neighboring communities in Iowa, and do not reflect regional differences in mass media exposure in the United States. Second, the QUANAL program limited the number of factors or types to 10. This program limitation meant that the number of types isolated by these analyses might be artificially low. The types that were isolated, however, were the strongest types (in terms of variance accounted for), and thus are the most clearly distinguished from the rest of the population. Despite these limitations, these Q-type factor analyses were the first conducted on exposure to an extensive variety of media content, and the first to use demographically diverse samples selected from three distinct age groups of U.S. residents.

Some of the media types isolated in this study are related to types reported in other studies. Two U.S. studies of media exposure (Atkin, 1978; Poindexter, 1980) and two British studies of media preferences (Himmelweit et al., 1958; Goodhardt et al., 1975) identified groups with particular interest in news content. The Non-News Readers among the seventh graders, the Non-Fiction Television viewers among the juniors, and the various "Newspaper Readers" types among all three age groups seemed to support the generalization that the consumption or avoidance of news is a distinctive characteristic of some mass media types.

In addition, what Himmelweit et al. (1958) labeled the excitement type and Goodhardt et al. (1975) called the adventure type emerged in this study. Among the seventh graders, both the Action Television Viewers and "Male" Film Fans were characterized by an interest in action/adventure content, as were the junior Entertainment Viewers and the adult Action Viewers/Readers and Entertainment Watchers.

Some evidence of the sports content type found in several previous studies (Bornholdt, 1966; Clarke, 1968; Goodhardt et al., 1975; McIlwraith and Schallow, 1983) also emerged. The Prototypic Adolescent "Males" type among the juniors and, especially, the Sports Fans type among the adults were heavy consumers of sports content.

The general television factor found by McIlwraith and Schallow (1983) emerged in both the adult and seventh grader Television Viewers and, in a more ambiguous way, in the junior Entertainment Viewers and Non-Fiction Television Viewers.

Finally, the movies factor found by McIlwraith and Josephson (1985) emerged to some extent in all three age groups (Horror Film Fans for the adults, Film Fans for the juniors, and "Male" Film Fans for the seventh graders).

Unlike several previous studies (Dunn, 1975; Martin et al., 1976; McIlwraith and Schallow, 1983), the mass media types were, in general, characterized by exposure to a particular type of content rather than to a particular

medium. Eighteen of the 26 types were media 'content' types, while only eight were media "specific" types.²⁰ This contradictory result is probably due to the greater number of mass media exposure variables included in this study (91) as compared to previous factor analytic studies that used a maximum of 36 media exposure variables. Thus, this study indicates that people are more frequently identified by their interest in a particular type of media content than by their interest in a particular medium.

The use of three distinct age groups provided an opportunity to examine how mass media types differ by age. The three Q-type factor analyses all produced three media specific types (newspaper readers, film fans, television viewers) in varying degrees. In addition, the seventh graders and the adults shared a country listener type (Country Radio Listeners/Action Avoiders for the seventh graders, and Country Listeners for the adults), and the seventh graders and the juniors shared a female reader type ('Female' Readers for the seventh graders and "Female" Adolescent Readers for the juniors).

It seems clear that the mass media types identified in this study were not adequately explained by the demographic variables used in the regression analyses. The mean percentage of variance accounted for by the demographic variables in these 13 analyses was 19.6% (14.1% for the four seventh grader analyses, 18.9% for the four junior analyses, and 25.7% for the five adult analyses). Thus, there remained a considerable amount of unexplained variance once the effect of the demographic variables had been controlled for. In short, the mass media types were not isomorphic with the demographic groups.

This study was inspired by the common belief expressed by several mass communication scholars that habitual patterns of media exposure will lead to the development and maintenance of certain attitudes and behaviors. Lippmann's (1971) "pictures in our heads," Becker's (1978) Communication Mosaic, and Schramm's (1954) stalagmite analogy all suggest that the effects of mass media usually come not from a single message, but from the consistent reception of certain images, ideas, or attitudes over a long period of time. Since people differ in the combinations of media they consume, they should vary in the degree to which the media effect any attitude, belief, or level of knowledge. By isolating the common patterns of exposure to media content, as this study has done, the mass media scholar should be able to identify more precisely the types of media consumers most likely to have a particular media produced attitude, belief, or level of knowledge.

The thrust of this study was to identify types of media consumers, based on exposure to a wide range of mass media content rather than relying on exposure to a single medium (television, newspapers, etc.) or a specific type of content available in several media (news, action/adventure, etc.). The isolation of these mass media types, and their confirmation and modification in subsequent studies, should provide mass communication researchers with clearer directions in their search for mass media effects.

NOTES

1. Mass media exposure is not the only way in which users of mass media can be typed. The uses and gratifications approach has generated research that classified individuals based on their uses of the mass media (surveillance, entertainment, para-social interaction, etc.). These different expectations of the mass media are assumed to lead to differential patterns of media exposure (See Katz, Blumler, and Gurevitch, 1974). In this study, I was interested in finding the patterns of mass media exposure that are part of the consumer's use of mass media regardless of whether this exposure is motivated by a specific need, or caused by some other source (e.g. the means to use media content, the time of day available for viewing, group influences on media selection).

2. In order to examine how mass media types change with age, seventh graders and high school juniors, as well as adults were surveyed. Seventh graders were selected for three reasons. First, unlike most younger children, the average seventh grader has the necessary reading skills to use the full range of print media included in this study. Second, with the aid of a teacher, seventh graders were able to keep a daily diary and were sophisticated enough to respond to a written questionnaire. Finally, this age group is of particular interest because it is near the peak age of television exposure in the United States (Greenberg, 1973: 87). Thus, the strongest impact of television on the exposure to other mass media should be evident for this age group.

High school juniors were selected because they have incorporated a series of changes that begin with the onset of adolescence. Typically, juniors have developed social interests outside the home, including dating and other peer activities, which decrease the amount of time spent with television. Many juniors have access to an automobile and thus find it easier to attend motion pictures, and interest in popular music is usually at its peak. Because of these changes, high school juniors were used to provide a strong contrast to both adults and seventh graders.

3. A more detailed version of the method is available elsewhere. See Walker (1984).

4. Eight of the 59 Central High School juniors completed only 5 daily diaries. In order to save this data, estimates of their exposure to the media variables measured daily were constructed by multiplying their five day totals by 1.4.

5. Five of these respondents were seniors taking a junior English class.
6. To improve reliability, respondents were asked to record their use of specific types of television programs, radio stations, recordings, motion pictures, and books rather than estimating their average viewing (as when respondents are asked how often they watch television or a particular type of program on a scale ranging from "never" to "often"). As Hawkins and Pingree (1980: 205) have noted, estimates of average viewing "suffer from reliability problems especially for estimates of viewing different program types;" consequently, a "viewing diary should be more accurate." The results of a pilot study of 39 respondents conducted during the week of October 11, 1982 were used to modify the survey instrument.
7. The adult respondents' age ranged from 18 to 65 years with a mean of 38.9 years. Their mean number of years of education was 13.6, and their mean occupational prestige (using the U.S. Bureau of the Census scale) was 45.8 on a 100 point scale. There were 57 males and 64 females.
8. Because they do not refer to any specific type of media content, the five "other" mass media exposure variables (other television, other parts of the newspaper, other magazines, other recordings, and other books) were not included in the Q-type factor analyses.
9. Since news is available on most radio stations, and thus could not be measured using the above procedure, respondents recorded their daily exposure to radio news on a seven point scale: 1=not at all, 2=one time, 3=two times, 4=three times, 5=four times, 6=five times, 7=more than five times.
10. For this study, Q-type factor analysis refers to a factor analysis based on a transposed R-type score matrix. Thus, the correlation matrix used in the Q-type factor analysis consists of each respondent's exposure to the mass media variables correlated with every other respondent's exposure to those same variables. In short, Q-type factor analysis involves the correlating of respondents rather than variables.
This use of the "Q" label is consistent with Cattell (1952: 90-92; 1978: 322-329) but conflicts with Stephenson (1953: 47-59; 1967: 13-32). Both Cattell and Stephenson identify factor analytic techniques based on use of transposed R-type factor scores, but employ different labels to describe this technique. Cattell identifies any factor analysis that uses a transposed R-type score matrix as Q-technique. Stephenson insists that the Q-technique requires the use of a Q-sort of sample statements, not just a transposed R-type score matrix. He labels a transposed R analysis "System 3." Readers more comfortable with Stephenson's approach to Q may read my references to "Q-type factor analysis" as "System 3" or "Transposed R" factor analysis.
11. The SPSSX statistical package was used to compute the 13 multiple regression analyses.
12. For the seventh graders, academic achievement was operationalized as the respondent's composite score on the Iowa Tests of Basic Skills. For the juniors, the respondent's composite score on the Iowa Tests of Educational Development was used.
13. Since being a housewife or homemaker is not treated as an occupation on the National Opinion Research Center occupational prestige scale, it was assigned the same numeric value²² as that of a private household worker. The responses "retired," "unemployed," and "student" were treated as missing data because the previous or future occupation of the person was unknown.
14. For all demographic variables except sex, missing data was replaced with the mean scores for that respondent's age group.
15. For each age group, means, standard deviations, and Ns for the nearly 100 media content variables are available elsewhere. See Walker (1984).
16. If over 25 percent of the variance in a factor is negative, the QUANAL program splits a factor into two types.
17. Ninety one content categories were coded in the study, but six of these categories were "other" categories (other television programs, other magazines, other parts of the newspaper, other books, other recordings, and pop recordings). Since the content in these categories was not of any consistent type, these categories were not used in the factor analyses.
18. For both the junior and seventh grader Q-type factor analyses, the varimax rotation (used to maximize the distinctiveness of the Q-type factors) could not be accomplished for more than four factors.
19. When the word "black," "male," or "female" is used as part of the label assigned to a mass media content type, it refers to patterns of exposure to media content traditionally consumed by these groups, not necessarily the respondents' race or sex.
20. For the adults, the media "content" types included Talk Show Fans, Horror Film Fans, Country Listeners, Action Viewers/Readers, Entertainment Watchers, Sports Fans, and Non-Fiction Readers; for the juniors, "Black" Romantics, Prototypic Adolescent "Males," Non-Fiction Television Viewers, "Female" Adolescent Readers, and Entertainment Viewers; and for the seventh graders, "Female" Readers, Action Television Viewers, Newspaper Opinion Readers, Country Radio Listeners/Action Avoiders, "Male" Film Fans, and Non-News Readers.
For the adults, the media "specific" types included Newspaper Avoiders, Newspaper Readers, and Television Viewers; for the juniors, Cable TV Watchers/Newspaper Avoiders, Newspaper Readers, and Film Fans; and for the seventh graders "Male" Newspaper Readers, and Television Viewers.

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