Normative Images of Communication Media

Mass and Interpersonal Channels in the New Media Environment

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This study is an extension of earlier uses and gratifications research that identified normative images of mass media. The article considers how well 12 different mass and interpersonal communication channels fill 11 communication needs. A sample of 649 adults completed self-administered questionnaires, the responses of which were submitted to cluster analysis, which identified five channel clusters: Video, Interpersonal, Print, Computer, and Audio. In general, the Interpersonal cluster (conversation and telephone) was rated the most useful at filling various needs, with Computer rated the least useful. Consistent with previous research, clusters that were most useful at filling personal needs were rated highest in social presence. The discussion relates this study's findings to previous research and notes implications for research on the newer communication technologies.

The uses and gratifications perspective assumes that people communicate to satisfy personal goals (Katz, Blumler, & Gurevitch, 1974). This approach to mass media research views people as active communicators because they are aware of their needs, evaluate various communication channels and content, and select the mass or interpersonal channel that they believe will provide the gratifications they seek. People are also aware of functional alternatives, or different channels that can fill similar needs.

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A primary objective of uses and gratifications research has been to understand the ways in which the reasons people have for communicating influence the effect of communication (Katz et al., 1974). The perspective, nevertheless, has been criticized for concentrating on the individual's use of communication. Elliott (1974) argued that an individualistic approach limits understanding of how mass communication is linked to the social structure. In response to this concern, one area of uses and gratifications research has focused on communication channels (e.g., Elliott & Quattlebaum, 1979; Katz, Gurevitch, & Haas, 1973; Kippax & Murray, 1980; Lichtenstein & Rosenfeld, 1983). These studies have identified the dominant perceptions of communication channels within different social structures.

This research has shown that communication channels possess "normative images," that is, widely shared perceptions about a medium's typical usage, which are based on the functions that they serve (Lichtenstein & Rosenfeld, 1983). The normative images of different channels vary because some channels are better than others for satisfying different communication needs. Research has also observed that certain channels are functional alternatives, that is, channels that fill similar needs and have similar normative images.

These studies, however, were conducted before the widespread adoption of several newer communication technologies. As a result, the current investigation assessed the normative images of newer channels of communication (e.g., cable television, videocassette recorders, and computers) along with the images of the more traditional channels (television, movies, radio, recorded music, newspapers, magazines, books, conversation, and telephone). First, we explored whether newer technologies were functional alternatives to more traditional channels. Second, we considered how useful different communication channels are perceived to be for satisfying some media-related and interpersonal communication motives.

NORMATIVE VIEWS OF COMMUNICATION CHANNELS

Communication channels differ along several dimensions: characteristic content, modes of trarsmission, modes of reception, ease of use, and patterns of use (Adoni, 1985; Katz et al., 1974; Salomon, 1984). For example, newspapers and television differ in characteristic content because newspapers present a greater proportion of news analysis than does television. Magazines and radio differ in mode of transmission because radio is broadcast and magazines are printed. Similarly, film and books differ in mode of reception: Film is usually viewed with others, whereas reading is a solitary activity. Television and books differ in ease of use as watching television usually requires less intellectual effort than reading books. And radio and recorded music have different patterns of use than conversation because radio and recorded music are often used as background, whereas conversation requires more complete attention.

Communication channels can also be differentiated by the needs that they are typically perceived to meet. For example, Katz et al. (1973) report that an Israeli sample perceived newspapers as helpful in providing information about and building confidence in society, in overcoming loneliness, and in strengthening social stability. Books, on the other hand, were perceived as helping study and getting closer to Jewish tradition, whereas television was viewed as being most helpful for killing time, spending time with family, and to be in a festive mood.

Elliott and Quattlebaum (1979) extended the Katz et al. (1973) study to the United States. They reduced Katz et al.'s 35 need statements to 10 but expanded their list of channels to 8 by adding friends, recorded music, and magazines. Their findings indicated that print media were rated more helpful for informational needs. More personal needs, such as overcoming loneliness and learning about oneself, were best satisfied by friends or recorded music.

Thus communication channels can be differentiated according to the needs they serve. Lichtenstein and Rosenfeld (1983) noted that a channel's normative image was unrelated to preference or level of use. Also, normative images did not differ regardless of whether respondents rated channels with respect to their own feelings or based their ratings on how they thought "most people" would evaluate different channels (Lichtenstein & Rosenfeld, 1984). Lichtenstein and Rosenfeld (1983, 1984) concluded that individual media choice is idiosyncratic and based on specific needs in specific contexts. Within a culture, however, media share normative images based on the various functions that they serve in that society. Different results in different cultures reinforce this view (Elliott & Quattlebaum, 1979; Katz et al., 1973; Kippax & Murray, 1980; Lichtenstein & Rosenfeld, 1983, 1984). Normative media images appear to be influenced by societal structure and media system.

Few studies have considered normative images of newer communication technologies (see Cohen, Levy, & Golden, 1988). Characteristics of these newer technologies, however, suggest that they should be different from more traditional media. The newer media are marked by increased user control, more specialized content, speed of transmission, and nonlinear access (Williams, Phillips, & Lum, 1985; Williams, Rice, & Rogers, 1988). Cable television, for example, might better fill surveillance needs because general and specialized information are more widely available (e.g., CNN, C-SPAN, weather, and local affairs). Videocassette recorders (VCRs) might better satisfy entertainment needs because of the wide variety of tapes available and time shifting (Rubin & Bantz, 1987). Computers may fill learning needs because of educational software, whereas computer videogames may help fill entertainment functions. Thus this study was designed to uncover the normative images of some of these newer communication technologies.

Functional Alternatives

An important aspect of research about normative images is the extent to which different channels are functional alternatives, or are helpful in satisfying similar communication needs. Katz et al. (1973) observed that, for political needs, newspaper, television, and radio were all moderately helpful. Books and films were both useful in satisfying more personal needs, whereas television and film could be interchanged for entertainment.

Lichtenstein and Rosenfeld (1983) found that books, film, recorded music, and friends were functional alternatives for U.S. college students. They were seen as useful for entertainment and relieving tension. Radio, television, magazines, and newspapers also shared similar images as sources for entertainment and for information about daily life.

Finally, new communication technologies may be functional alternatives for traditional channels. Williams and Rice (1983) noted that cable and VCRs were seen by college students as filling the same needs as television. Cohen, Levy, and Golden (1988) observed that Israeli children found VCRs indistinguishable from cinema and recorded music. The current study, then, sought to determine whether newer communication technologies were functional alternatives to traditional communication channels.

MASS AND INTERPERSONAL COMMUNICATION MOTIVES

Mass communication studies have characterized interpersonal communication sources as functional alternatives that compete with media to satisfy different needs. Elliott and Quattlebaum (1979), for example, observed that "friends" was rated second among various channels in meeting a variety of needs. Friends also clustered with films, books, and recorded music on need gratification. Analogously, Cowles (1989) noted that financial advisors, videotex, and computers were viewed similarly by MBA students.

These studies focused on how well interpersonal channels fulfilled typically media-related motives. Rosengren (1974) suggested that a focus on media-related needs limited understanding of how different channels fill similar communication needs. Although interpersonal communication is used to satisfy many different goals (Dillard, Segrin, & Harden, 1989), Rubin, Perse, and Barbato (1988) observed that the most salient interpersonal communication motives are pleasure/entertainment, affection, inclusion/social contact, escape, relaxation, and control. To expand our understanding of normative images, this study included the two interpersonal motives that have been neglected by previous research. Consequently, this investigation asked how useful different communication channels are in displaying affection and maintaining control.

SOCIAL PRESENCE

Research on newer technologies has emphasized another attribute of communication channels (Williams et al., 1985; Williams et al., 1988). Social presence, or perceived personalness, may also contribute to normative media images. Social presence is the feeling that communication exchanges are sociable, warm, personal, sensitive, and active (Short, Williams, & Christie, 1976). Social presence is influenced by channel attributes; that is, channels that convey nonverbal information, such as facial expression, gaze, and posture are usually rated higher in social presence (Acker & Levitt, 1987; Short et al., 1976).

Social presence, however, is not totally dependent on channel attributes. Instead, it is a perceptual dimension of users and is influenced

by communication goals (Short et al., 1976). Some communication goals, such as overcoming loneliness, require higher social presence. Social presence is less important to other goals, such as gaining information. When channels satisfy more personal goals, users perceive higher social presence. Garramone, Harris, and Anderson (1986), for example, observed that social presence of computer bulletin boards varied depending on reasons for using them. Although there was a positive relationship between social presence and personal identity motives for using computer bulletin boards, social presence was unrelated to surveillance or diversionary motives.

Scholars have examined the social presence and media richness, a related concept, of mediated and interpersonal channels within organization settings (Daft & Lengel, 1986; Short et al., 1976). But studies have not compared social presence of mass and interpersonal communication channels. Because social presence is related to communication needs, social presence should be another aspect of the normative images of different communication channels. Channels that are considered useful for filling more personal communication needs should be rated as higher in social presence.

RESEARCH QUESTIONS

This study built on previous research that identified the normative images of communication channels. We expanded this study by considering a wider range of communication channels, especially including newer technologies (cable television, VCRs, and computers) and more dimensions of communication needs. Our goal was to explore the normative images of this wider range of communication channels. Although we expect some similarities to prior research in some aspects of some channels' normative images (e.g., print media will be seen as better able to fill informational needs and television will be seen as better able to fill entertainment needs), we anticipate that the introduction of new technologies might affect the normative images of more traditional channels. These questions guided our study:

RQ1: Which new and traditional channels are functional alternatives?
RQ2: Which media-related and interpersonal needs are best fulfilled by various communication channels?

METHOD

Procedure and Sample

These data were drawn from a larger survey about the uses and gratifications of different communication channels. The data were collected in two waves. In July 1988, students enrolled in an introductory mass communication course were given course credit for collecting the data for this study. In November 1988, students enrolled in a mass communication theory course were offered extra credit for collecting additional data. Similar to Rubin and Bantz (1987) and Rubin and Rubin (1989), all assistants were trained in questionnaire administration and ethics and were instructed to recruit people not enrolled in college to complete the questionnaires. As a result, 649 self-administered, anonymous questionnaires were completed and returned by the students.[1]

The sample was 48.2% male and ranged in age from 12 to 85 years ($M = 35.65$ years, $SD = 14.50$). Respondents were drawn from a wide geographic area; 226 different zip codes were represented. The sample was somewhat well-educated. Overall, 17.1% were high school graduates, 31.1% had attended college, 31.6% were college graduates, and 14.6% had attended graduate school. The respondents' occupations were coded into seven categories so that 1 = professional and 7 = unskilled labor (Warner, Meeker, & Eells, 1949). Average occupational level was 3.09 ($SD = 1.64$).

Measurement and Analysis

Communication Needs

As part of a larger data set, respondents were asked to indicate their perceptions of how well each of 12 different communication channels satisfied 1 of 11 communication needs. The 11 need statements were (a) to relax, (b) to be entertained, (c) to forget about work or other things, (d) to have something to do with friends, (e) to learn things about myself and others, (f) to pass the time away, particularly when I'm bored, (g) to feel excited, (h) to feel less lonely, (i) to satisfy a habit, (j) to let others know I care about their feelings, and (k) to get someone to do something for me. The 12 different communication channels

were newspapers, magazines, books, movies, radio, noncable television, cable television, VCRs, recorded music, computers, telephone, and conversation with family/friends.

These particular need statements were chosen for theoretical, methodological, and practical reasons. First, although item statements differ slightly across studies, these particular statements represent five of the six need dimensions mentioned in previous studies on this topic (Katz et al., 1973; Elliott & Quattlebaum, 1979; Lichtenstein & Rosenfeld, 1983, 1984): entertainment, pass time, inclusion/social contact, escape, relaxation, and personal utility.[2]

Second, research points out that, although relatively few in number, there are additional salient reasons for communication (Rubin, 1983; Rubin et al., 1988) . Accordingly, we also assessed dimensions not included in previous studies: social utility, arousal, habit, affection, and control.

Finally, concern for respondent fatigue demanded that we select representative item statements rather than a comprehensive list of possibly dozens and dozens of statements. Many studies in the uses and gratifications perspective identify similar dimensions of general gratifications sought from the mass media, and several scholars have suggested that there are few primary dimensions of media gratifications (Dobos & Dimmick, 1988; Lometti, Reeves, & Bybee, 1977). Accordingly, statements were chosen because they were exemplars of the most salient dimensions of communication needs identified by previous research. Using only one statement for each dimension also eliminates a bias toward any one dimension.[3]

Participants' responses about the communication needs were randomized and then selected systematically from the larger data set, so that the 11 needs had an equal likelihood of being represented in the data set. Subsequently, these data were submitted to a cluster analysis in an attempt to identify groupings or clusters of channels that satisfied similar needs.[4]

Social Presence

Following Short et al. (1976), respondents completed five 5-point semantic differential scales that indicated how personal, sensitive, warm, social, and active they perceived the 12 communication channels to be. After appropriate negative items were reversed, responses to scale items were averaged to create social presence scores for each of the 12 communication channels. Cronbach's alpha for the 12 five-item social presence scales ranged from .72 to .86 (M = .80).

Communication Channels

As part of the larger study, respondents also provided a set of evaluations of how well a single channel satisfied each of the 11 communication needs.[5] As before, the selection of respondents from the larger data set to evaluate a particular channel was random. These evaluations of the 11 needs were analyzed using a multivariate analysis of variance (MANOVA), whose purpose was to examine whether identified clusters of media were associated with differences in fulfillment between and among the various communication needs. To conduct this analysis, the respondents were assigned to a group or "media cluster" based on the results of the cluster analysis described above, and the 11 needs scores were treated as multiple criterion measures. All analyses were conducted using the SAS computer package (SAS Institute, 1985).

RESULTS

Preliminary Descriptive Analyses

A preliminary step to understanding the normative images of new and traditional communication channels involved describing the utility of the 12 channels in fulfilling the 11 communication needs. The mean ratings are presented in Table 1. These means are for descriptive purposes and were not used in subsequent analyses.

Overall, the computer was seen as unable to fill any communication need. It was rated last in satisfying all needs, except "to get someone to do something for me." On the other hand, conversation was viewed as able to satisfy any communication need and was rated highest for filling the most needs. The telephone was seen as fulfilling interpersonal communication needs, such as to overcome loneliness, to show affection to others, and for control. Movies were viewed as satisfying escapist, social, and entertainment needs. The print media —newspapers, magazines, and books—were seen as fulfilling learning needs but were not useful for satisfying social, arousal, or companionship needs.

TABLE 1
Mean Ratings for Utility of Channels for Satisfying Communication Needs ($N = 649$)

Need	*TV*	*VCR*	*CTV*	*Movies*	*Conversation*	*Phone*	*Computer*	*Newspapers*	*Magazines*	*Books*	*Radio*	*Music*
To relax	3.25	3.44	3.43	3.52	3.85	2.98	1.66	3.06	3.39	3.66	3.90	4.03
To be entertained	3.13	3.72	3.59	3.94	3.94	2.96	1.83	2.70	3.17	3.46	3.66	3.98
To forget about work and other things	3.21	3.48	3.39	3.80	3.89	3.08	1.79	2.82	3.18	3.59	3.45	3.73
To have something to do with friends	2.67	3.39	2.98	3.79	4.33	3.69	1.60	1.88	1.98	1.93	2.68	3.25
To learn about myself and others	2.82	2.40	2.80	2.75	4.34	3.55	2.11	3.60	3.48	3.40	3.00	2.50
To pass the time away, particularly when I'm bored	3.28	3.44	3.52	3.53	4.03	3.42	1.98	3.13	3.45	3.59	3.55	3.66
To feel excited	2.56	3.00	2.84	3.41	3.85	3.04	1.76	2.31	2.60	2.86	3.15	3.50
To feel less lonely	2.95	3.01	3.04	3.19	4.43	4.01	1.68	2.37	2.54	2.94	3.32	3.42
To satisfy a habit	2.60	2.55	2.67	2.64	3.29	2.82	1.69	2.63	2.63	2.76	3.00	2.82
To let others know I care about their feelings	1.61	1.76	1.64	1.85	4.57	4.20	1.48	1.66	1.65	1.78	1.99	2.50
To get someone to do something for me	1.61	1.69	1.61	1.72	4.04	4.21	1.64	1.76	1.65	1.58	1.83	1.97

In ascending order, the social presence scores for each of the channels were as follows: computer, $M = 2.03$ ($SD = 0.85$); newspapers, $M = 2.67$ ($SD = 0.76$); television, $M = 2.99$ ($SD = 0.74$); cable television, $M = 3.10$ ($SD = 0.76$); magazines, $M = 3.15$ ($SD = 0.74$); VCRs, $M = 3.16$ ($SD = 0.83$); books, $M = 3.36$ ($SD = 0.81$); radio, $M = 3.49$ ($SD = 0.72$); movies, $M = 3.65$ ($SD = 0.70$); recorded music, $M = 3.80$ ($SD = 0.74$); telephone, $M = 4.23$ ($SD = 0.76$); and conversation, $M = 4.65$ ($SD = 0.58$).

Functional Alternatives

To answer the first research question and identify which communication channels are functional alternatives, the next step was to conduct a cluster analysis of the different communication channels according to their perceived helpfulness in satisfying the 11 needs. The VARCLUS clustering procedure was used to generate oblique clusters among the channels (SAS Institute, 1985). We employed two criteria to determine the appropriate number of clusters in our solution. First, we applied a method similar to a scree test commonly used in factor analysis (Aldenderfer & Blashfield, 1984). A flattening of the curve of increases in variance explained by additional clusters identified the point at which new clusters yielded little new information. Second, we examined the cluster solution identified by this initial procedure to determine its theoretical relevance.

Based on these criteria, we identified a five-cluster solution that accounted for 75.2% of the variance in the data. The cluster solution is summarized in Table 2.

Cluster 1, *Video*, accounted for 23.1% of the variance and was composed of audiovisual mass media: cable television, movies, television, and VCRs. Cluster 2, *Interpersonal*, accounted for 12.2% of the variance. This cluster included conversation and telephone. Cluster 3, *Print*, which accounted for 18.4% of the variance, contained print mass media: magazines, books, and newspapers. Cluster 4, *Computer*, was a single-item cluster that accounted for 8.3% of the variance. Cluster 5, *Audio*, accounted for 13.3% of the variance. It comprised audio media: radio and recorded music.

There were several interrelationships among the factors. Video was significantly related to Audio ($r = .64$, $p < .001$), Print ($r = .47$, $p < .001$), and Computer ($r = .25$, $p < .001$). Audio was correlated with Print ($r = .39$, $p < .001$) and Computer ($r = .25$, $p < .001$). Computer and Print

TABLE 2
Cluster Soluton: Communication Channels, by Functional Image

Medium	*Video*	*Interpersond*	*Print*	*Computer*	*Audio*
Cable	[.86]	.00	.35	.21	.52
Movies	[.83]	.05	.43	.21	.52
Television	[.78]	.07	.46	.20	.46
VCR	[.56]	−.03	.34	.20	.50
Conversation	.02	[.85]	.00	−.01	.04
Telephone	.03	[.85]	−.03	.12	.08
Magazines	.45	.01	[.91]	.20	.40
Books	.45	−.08	[.81]	.13	.38
Newspapers	.32	.02	[.85]	.21	.24
Computer	.25	.07	.21	[1.00]	.23
Radio	.54	.11	.41	.23	[.89]
Recorded music	.53	.01	.30	.17	[.89]
% of variance explained	23.13	12.15	18.36	8.33	13.28
Total variance explained = 75.25%					

were also connected ($r = .21$, $p < .001$). Interpersonal was unrelated to any of the other clusters.[6]

Need Fulfillment by Channel Clusters

The second research question concerned which media clusters were most useful for satisfying various needs and which channel clusters differed on social presence. To answer this question, a one-way MANOVA was conducted with the media clusters as the independent variable and the ratings of the needs fulfillment as the 11 criterion measures. This multivariate analysis was significant, $F = 21.43$, $df = 44,2084$, $p < .0001$. Subsequently, one-way ANOVAs followed by post hoc significance tests were used to identify which clusters differed in satisfying the 11 diferent communication needs. These univariate analyses are summarized in Table 3.

Video, Audio, Print, and Interpersonal clusters did not differ in their utility to fulfill relaxation and escapist needs or to pass time.

TABLE3
Mean Ratings for Communication Need Salience, by Channel Clusters ($N = 533$)

Need	*Video*	*Interpersonal*	*Print*	*Computer*	*Audio*
Relax	3.48_b	3.70_i	3.40_b	1.53_c	4.10_a
Eatertain	3.67_{ab}	3.47_{ic}	3.21_c	1.65_d	3.88_a
Forget	3.38_a	3.53_i	3.32_a	1.70_b	3.66_a
Do/friends	3.25_b	3.94_i	1.96_c	1.45_d	3.01_b
Learn	2.62_c	3.99_i	3.52_b	1.80_d	2.84_c
Pass time	3.45_a	3.77_i	3.50_a	1.68_b	3.66_a
Excited	2.84_b	3.56_i	2.54_b	1.53_c	3.31_a
Lonely	3.03_c	4.38_i	2.71_c	1.60_d	3.51_b
Habit	2.62_b	3.13_i	2.77_{ab}	1.43_c	3.17_a
Feelings	1.75_c	4.51_i	1.67_c	1.30_d	2.34_b
Get	1.66_b	4.53_i	1.70_b	1.28_c	1.90_b
Social presence	3.24_c	4.28_i	2.98_d	1.92_e	3.77_b

NOTE: Duncan's multiple range test was used to conduct these post hoc comparisons. Means with the same letter in subscript are not significantly different.

Overall, the Computer cluster was rated significantly lower than all other clusters in satisfying all communication needs.

The Video and Audio mass media clusters were ranked highest at providing entertainment. The Interpersonal cluster was rated highest as something to do with friends, followed by Audio and Video. Interpersonal channels were rated significantly higher for learning, followed by Print, Audio, and Video. Interpersonal and Audio channels were rated highest to feel excited, followed by Video and Print.

Interpersonal channels were also rated highest to overcome loneliness, followed by Audio. Print and Video were rated significantly lower. Audio, Print, and Interpersonal channels did not differ in their habitual use, nor did Video and Print. Video and Print, however, were perceived as less useful for habit than Interpersonal and Audio channels. Interpersonal channels were rated significantly more useful in telling someone about feelings. Audio was considered significantly higher than Video or Print for that purpose. Interpersonal channels were rated significantly more useful than all other clusters to get someone to do something.

A final analysis was conducted on the social presence scores. A one-way ANOVA on the clusters was found to be significant, $F = 87.49$, $df = 4,621$, $p < .0001$; $R^2 = .36$. A set of post hoc tests among all possible

pairs of means indicated that the mean for each media cluster was significantly different from the means for all other clusters. These means are also displayed in Table 3.

DISCUSSION

This study was designed to assess the normative images of mass and interpersonal channels in the newer media environment. We conducted the cluster analysis to explore which communication channels were seen as functional alternatives, or able to fulfill similar communication needs.

This study identified channel clusters that differed from those found by previous research (Elliott & Quattlebaum, 1979; Katz et al., 1973; Lichtenstein & Rosenfeld, 1983). These differences might be explained by media structure. Katz et al. (1973), for instance, studied media's normative images using an Israeli sample, and these respondents might have viewed communication channels differently than U.S. respondents did. Katz et al. suggest that there might have been heightened attention to religion and politics in Israel. Equally important, the media environment differs in Israel: There is only one national television network and a lower diffusion of VCRs (Cohen et al., 1988).

We might also expect our results to differ from earlier studies that used a U.S. sample (Elliott & Quattlebaum, 1979; Lichtenstein & Rosenfeld, 1983, 1984). Our study not only was conducted in a more contemporary media environment but used an adult instead of a college-aged sample. Be that as it may, our sample was purposive, not random, and our results should be generalized with caution.

In our study, communication channels clustered very clearly along technical attributes and/or characteristic content. This finding is consistent with changes in our media environment. When there were fewer communication channels, those channels needed to fill a large variety of communication needs. The introduction of newer technologies no doubt changed the images and uses of other communication channels (Williams et al., 1985). The increase in video media may have more clearly differentiated the audio media, for example. The development of portable disc and tape players may make recorded music more similar to radio.

Our results indicate that cable television and VCRs do not have images distinct from television and movies along several traditional, media-related needs. This common normative image for audiovisual media might be explained by content attributes. The VCR's potential for time-shifting, for example, allows it to provide the same content as cable or broadcast television.

Thus, despite greater choice and audience control offered by cable television and VCRs, these media are perceived to be very similar to television and movies (and to a lesser extent to radio and recorded music) in how well they satisfy traditional communication needs. Cable and VCRs are quite clearly functional alternatives to television and movies.

This finding may offer one explanation for network television's shrinking share of the video audience. Clearly, adults consider VCRs, cable, and movies as functional alternatives to television viewing. The descriptive statistics displayed in Table 1 indicate that, even though VCRs, cable, television, and movies share a functional image, cable and VCRs are most often seen as more useful than television at satisfying almost all communication needs. Accordingly, future research should continue to explore whether the attributes of newer mass media—greater choice and control—provide greater gratifications.

Computers were functionally unrelated to other communication channels. There are several explanations for this result. First, personal computer diffusion is still relatively low (Dutton, Rogers, & Jun, 1987). Moreover, computers are still not widely used for communication. Despite their increasing utility in organizations and academic circles, electronic mail and computer bulletin boards have not been widely adopted by the public at large (Dutton et al., 1987). Thus, the computer's low ratings for communication need satisfaction may reflect unfamiliarity and low use of computers for communication. Future research should consider whether the almost certain increase in use of the technology for communication will influence the functional image of this medium (Williams & Rice, 1983).

To assess the normative images of communication channels, we also considered how useful the different channel clusters are for satisfying different communication needs. The results of the univariate ANOVAs indicate that the Interpersonal channel cluster (conversation and telephone) is quite useful in satisfying typical media-related needs. In contrast, the mass media channels are not considered very useful in satisfying interpersonal communication needs.

The Interpersonal cluster was overwhelmingly rated highest to show affection (to let others know one's feelings), for control (to get someone to do something), or for inclusion (when I feel lonely). Of

the mass media clusters, only Audio (radio and recorded music) was rated somewhat useful in satisfying these needs. Clearly, interpersonal communication serves as a functional alternative to mass media better than mass media serve as functional alternatives to interpersonal communication. Mass and interpersonal communication channels may not be "coequal" in satisfying communication needs (Rubin & Rubin, 1985).

The results of this study suggest that social presence may have an impact on normative images. Although our design did not allow us to directly compare channels' social presence and their ratings for filling different needs, consistent with past research (Short et al., 1976), the Interpersonal cluster (conversation and telephone) was rated highest in social presence, and Print and Computer were rated lower than Audio and Visual.

Contrary to past results, however, Audio was rated higher in social presence than Video, such as television or movies. The personalness of a communication channel has usually been associated with greater bandwidth, or ability to present visual as well as audio information. The results of this study point out that the functional image of a channel may influence social presence more than channel attributes.

The telephone, for example, is usually rated low in social presence because it presents only low-fidelity audio information.[7] However, because telephone clusters with conversation and satisfies highly personal communication needs, our respondents obviously perceived it as possessing a higher degree of social presence. In this study, Audio was closest to Interpersonal in filling more personal needs. Lull (1987) points out that music has very personal and social dimensions and can serve interpersonal uses for people. Clearly, audio media have higher social presence because of the personal and social communication needs they fill.

In conclusion, the results of this study indicate the utility of investigating the normative images of various communication channels. When the results of this study are compared to earlier research (e.g., Elliott & Quattlebaum, 1979; Katz et al., 1973), it is apparent that functional images vary across cultures and across time. In addition, the changes in normative images that have occurred within the past few years suggest that as the media environment changes, the usefulness of different channels for satisfying communication needs also changes.

Future research should expand the range of this study's findings. Although we focused on some salient dimensions of communication-related needs, we could not include the full range of all possible communication needs. For example, future research might want to consider needs that reflect more specific communication concerns, such as political interest, parasocial attraction, or voyeurism. Further, the emerging awareness of distinct uses of the newer technologies, such as VCRs, cable, and computers, suggest that additional communication needs that center on control, content variety, and interactivity might affect normative media images. Our study touched on only the most salient of interpersonal communication motives (Rubin et al., 1988). Future research might consider how channel helpfulness at filling several other interpersonal communication goals (e.g., Dillard et al., 1989) is related to normative media images.

Finally, the results of this study reinforce one of the basic assumptions of the uses and gratifications perspective: People are aware of communication alternatives and select channels based on the normative images those channels are perceived to possess.

NOTES

1. Students were assigned sex and age quotas in recruiting respondents. Because the periods of data collection included school holidays, for the most part the assistants recruited adults known to them. Thus the sample is purposive, not randomly selected.

2. We did not include a statement to assess political information. This is a limitation of our list of communication needs.

3. Although Katz, Gurevitch, and Haas (1973) began their analysis by considering 35 different communication needs, they subsequently focused on 8 specific needs to eliminate bias toward the "socio-political arena" (p. 173). Those 8 needs covered five need dimensions: political information (four items), entertainment, pass time, inclusion/social contact, and escape-relaxation (one item each). Later studies (Elliott, 1974; Lichtenstein & Rosenfeld, 1983, 1984) adapted those eight needs and added one other: personal utility (two items).

4. We used cluster analysis rather than factor analysis in this study because we were interested in obtaining the dimensions of similarites in the different communication channels rather than reducing the data to some smaller number of latent, underlying factors. A thorough account of the different purposes of these two approaches is presented in Cattell (1978).

5. To be clear, in the previous analysis each respondent indicated his or her perception of how well or how poorly each channel satisfied a single need. In this instance, respondents evaluated how well a single channel satisfied the entire set of 11 needs.

6. To assess more fully the nature of these relationships, the correlation matrix among these clusters was submitted to multidimensional scaling analysis (MDS). We viewed this as analogous to second-order factor analysis, with our goal being to discern the existence of "clusters among the clusters." And, in fact, three such "second-order clusters" appeared: The initial clusters we had labeled Video, Print, and Audio grouped

together into what was clearly a "mass media cluster," whereas the Interpersonal and Computer clusters were far apart from both each other and the "mass media" grouping of initial clusters. Because these secondary groupings support our initial cluster solution and are basically intuitive, we will provide no additional interpretation.

7. Some research suggests that the telephone is a "rich" medium (Daft & Lengel, 1986) because it provides strong vocal cues (Rutter, 1987) and shortens group decision-making time (Ochsman & Chapanis, 1974).

REFERENCES

Acker, S. R., & Levitt, S. R. (1987). Designing videoconference facilities for improved eye contact. *Journal of Broadcasting & Electronic Media, 31*, 181-191.

Adoni, H. (1985). Media interchangeability anc co-existence: Trends and changes in production, distribution and consumption patterns of the print media in the television era. *Libri, 35*, 202-217.

Aldenderfer, M. S., & Blashfield, R. K. (1984). *Cluster analysis*. Beverly Hills, CA: Sage.

Cattell, R. B. (1978). *The scientific use of factor analysis in behavioral and life sciences*. New York: Plenum.

Cohen, A. A., Levy, M. R., & Golden, K. (1988). Children's uses and gratifications of home VCRs. *Communication Research, 15*, 772-780.

Cowles, D. (1989). Consumer perception of interactive media. *Journal of Broadcasting & Electronic Media, 33*, 83-89.

Daft, R. L., & Lengel, R. H. (1986). Organizational information requirements, media richness and structural design. *Management Science, 32*, 554-571.

Dillard, J. P., Segrin, D., & Harden, J. M. (1989) Primary and secondary goals in the production of interpersonal influence messages. *Communication Monographs, 56*, 19-38.

Dobos, J., & Dimmick, J. (1988). Factor analysis and gratification constructs. *Journal of Broadcasting & Electronic Media, 32*, 335-350.

Dutton, W. H., Rogers, E. M., & Jun, S. (1987). Diffusion and social impacts of personal computers. *Communication Research, 14*, 219-250.

Elliott, P. (1974). Uses and gratifications research: A critique and sociological alternative. In J. G. Blumler & E. Katz (Eds.), *The uses of mass communications: Current perspectives on gratifications research* (pp. 249-268). Beverly Hills, CA: Sage.

Elliott, W. R., & Quattlebaum, C. P. (1979). Similarities in patterns of media use: A cluster analysis of media gratifications. *Western Journal of Speech Communication, 43*, 61-72.

Garramone, G. M., Harris, A. D., & Anderson, R. (1986). Uses of political computer bulletin boards. *Journal of Broadcasting & Electronic Media, 30*, 325-339.

Katz, E., Blumler, J. G., & Gurevitch, M. (1974). Utilization of mass communication by the individual. In J. G. Blumler & E. Katz (Eds.), *The uses of mass communications: Current perspectives on gratifications research* (pp. 19-32). Beverly Hills, CA: Sage.

Katz, E., Gurevitch, M., & Haas, H. (1973). On the use of the mass media for important things. *American Sociological Review, 38*, 164-181.

Kippax, S., & Murray, J. P. (1980). Using the mass media: Need gratification and perceived utility. *Communication Research, 7*, 335-360.

Lichtenstein, A., & Rosenfeld, L. B. (1983). Uses and misuses of gratifications research: An explication of media functions. *Communication Research, 10*, 97-109.

Lichtenstein, A., & Rosenfeld, L. (1984). Normative expectations and individual decision concerning media gratifications choices. *Communication Research, 11*, 393-413.

Lometti, G. E., Reeves, B., & Bybee, C. R. (1977). Investigating the assumptions of uses and gratifications research. *Communication Research, 4*, 321-338.

Lull, J. (1987). Listeners' communicative uses of popular music. In J. Lull (Ed.), *Popular music and communication* (pp. 140-174). Newbury Park, CA: Sage.

Ochsman, R., & Chapanis, A. (1974). The effects of 10 communication modes on the behavior of teams during co-operative problem-solving. *International Journal of Man-Machine Studies, 6*, 579-619.

Rosengren, K. E. (1974). Uses and gratifications: A paradigm outlined. In J. G. Blumler & E. Katz (Eds.), *The uses of mass communications: Current perspectives on gratifications research* (pp. 269-286). Beverly Hills, CA: Sage.

Rubin, A. M. (1983). Television uses and gratifications: The interactions of viewing patterns and motivations. *Journal of Broadcasting, 27*, 37-51.

Rubin, A. M., & Bantz, C. R. (1987). Utility of videocassette recorders. *American Behavioral Scientist, 30*, 471-485.

Rubin, A. M., & Rubin, R. B. (1985). Interface of personal and mediated communication: A research agenda. *Critical Studies in Mass Communication, 2*, 36-53.

Rubin, A. M., & Rubin, R. B. (1989). Social and psychological antecedents of VCR use. In M. R. Levy (Ed.), *The VCR age: Home video and mass communication* (pp. 92-111). Newbury Park, CA: Sage.

Rubin, R. B., Perse, E. M., & Barbato, C. A. (1988). Conceptualization and measurement of interpersonal communication motives. *Human Communication Research, 14*, 602-628.

Rutter, D. R. (1987). *Communicating by telephone*. Oxford: Pergamon.

Salomon, G. (1984). Television is "easy" and print is "tough": The differential investment of mental effort in learning as a function of perceptions and attributions. *Journal of Educational Psychology, 74*, 647-658.

SAS Institute. (1985). *SAS user's guide: Statistics* (Version 5 ed.). Cary, NC: Author.

Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. New York: Wiley.

Warner, W. L., Meeker, M., & Eells, K. (1949). *Social class in America*. Chicago: Science Research Associates.

Williams, F., Phillips, A. F., & Lum, P. (1985). Gratifications associated with new communication technologies. In K. E. Rosengren, L. A. Wenner, & P. Palmgreen (Eds.), *Media gratifications research: Current perspectives* (pp. 241-252). Beverly Hills, CA: Sage.

Williams, F., & Rice, R. E. (1983). Communication research and the new media technologies. In R. N. Bostrom (Ed.), *Communication yearbook 7* (pp. 200-224). Beverly Hills, CA: Sage.

Williams, F., Rice, R. E., & Rogers, E. M. (1988). *Research methods and the new media*. New York: Free Press.