A review of literature and two surveys, one of college students and one of a random sample of adults, were used to examine four aspects of media embedded interactions (social behavior in front of a TV or radio): their functions, their environment, their effects, and the reactions of the interactants to them. Television is seen as performing a social function, bringing family members together, providing topics of conversation, acting as a tension release, and serving as a scapegoat, though the nature of the situation thwarts many of these effects. The active environment provided by radio and television affected both the amount and the content (often program related) of conversations held during interactions, with TV's effects being greater and more negative. These results indicate both possible benefits and potentially harmful effects of media interactions and suggest a substantial mediating effect of interactants on the impact of media messages, facts media researchers should keep in mind. (JL)
MEDIA-EMBEDDED INTERACTIONS

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MEDIA EMBEDDED INTERACTIONS

Although there are potentially important implications to the study of media embedded interactions only a limited amount of research has been conducted in this area. Two kinds of research have been done: omnibus studies on the effects of television have often contained a small subset of questions related to media embedded interactions (Bower, 1973; Steiner, 1963) or narrowly focused research related one issue has been reported (e.g. Atkin, 1972, on anticipated interaction and Rosenblatt and Cunningham, 1976, on the relationship between interaction, television viewing, and family tensions). As yet no systematic treatment has been given to the entire range of issues that media embedded interaction raises. This reflects a continuing failure on the part of mass media researchers to examine the social psychological setting in which media is attended to (Lang & Lang, 1978) or for that matter to examine the nature of the medium itself. The failure of the literature to consider the social situational aspects of media environments in a systematic manner has potentially grave implications for the examination of the effects of the media as Salomon and Cohen (1978) so ably point out.

Why is the study of media embedded interactions important? First, there is suggestive evidence that media embedded interactions are qualitatively different from other interactions (Johnson, 1976, 1978). Some researchers have maintained that interaction in the presence of media in essence constitutes a state of quasi-interaction that is parallel rather than interactive (MacCoby, 1951; Steiner, 1963; Walters & Stone, 1971). In and of itself this might be of little import, except that several survey results indicate that families spend a great deal of time viewing
television together (Bower, 1973; Coffin, 1955; Lyle, 1972). In fact, for considerable numbers of family members, 36% according to Hamilton and Lawless (1956), the only time they interact is in the presence of television. If media embedded interactions are different from other interactions, there is at least the possibility that this may have harmful effects on the interactants, and on the dynamics of family life in particular.

Media embedded interactions may also mediate the effects of mass media. By discussing the content of the programming interactants may dampen the effects of messages (Lang and Lang, 1978) or interactants may distract attention of other interactants thereby either reducing the impact of messages or preventing messages from reaching potential audiences (Salomon & Cohen, 1978).

This paper will provide a preliminary overview of the nature of media embedded interactions. Contrasts will be made between television and radio embedded interactions and other interaction situations. Research has demonstrated that radio is a less involving medium than television and, as a result, its effects should be somewhat less pronounced than the effects of television (Johnson, 1976, 1979). The discussion that follows is based on a review of the literature, a qualitative questionnaire distributed to college students at a large midwestern university, and items in a mailed questionnaire sent to a random sample of adults in a large midwestern city.2 The paper is organized topically so evidence from all three sources can be presented in depth on particular issues. This paper will focus on four areas: the functions of media embedded interactions,
the environment of media embedded interactions, the effects of media on social interaction, and reactions to media embedded interactions.

The Functions of Media Embedded Interactions

Interacting in the presence of media serves several functions for interactants. First, they often come to this situation with a sociability motive. In two national surveys 49% in 1960 (Steiner, 1963) and 44% in 1970 (Bower, 1973) of respondents reported that they watch television usually or occasionally mainly to be sociable when others are watching. Television is often seen as an excuse to be with family members and as a stimulus to social interaction (Lyle, 1972; Steiner, 1973). Indeed it appears to decrease interaction with non-family members and increase the amount of time spent with the family (Coffin, 1955; Hamilton & Lawless, 1956; Maccoby, 1951; Robinson, 1972a, b). However, while television increases the amount of time that families spend together "it appears that the increased family contact brought about by television is not social except in the most limited sense; that of being in the same room with other people" (Maccoby, 1951). Others have also noted that while television appears to bring the family together, it really doesn't enhance the level or amount of their social interaction (Coffin, 1955; Hamilton & Lawless, 1956; Robinson, 1972b; Walters & Stone, 1971). In fact in tense family situations television may provide the appearance of togetherness, while preventing family members from discussing the root causes of family strife (Rosenblatt & Cunningham, 1976). All of this suggests that while interactants may come to media situations to be sociable, in the end the nature of the situation thwarts this motive.
Television provides topics of conversation for interactants while the media is on (Lyle, 1972; Robinson, 1972b) and in subsequent interactions (Atkin, 1972; LoSciuto, 1972). The nature of the topics discussed will be examined later in this paper, where the primary emphasis is on the extent to which media provoke or stimulate conversations. Given the relatively low involvement in radio situations it was hypothesized that television, in general, would provoke more comments than radio. In the mailed questionnaire respondents were asked how often in a typical hour they were provoked or stimulated by the things they see or hear on the media to make comments to others. The means for television news and entertainment were 3.8 and 4.3; for radio news and entertainment 2.9 and 1.6 respectively. The differences across the two media were significant ($t=2.96$, $p<.01$ for news and $t=2.64$, $p<.01$ for entertainment). Thus both television and radio appear to stimulate comments, but, as hypothesized the effect of television, is somewhat more pronounced.

Television also acts as a tension release in some instances. Rosenblatt and Cunningham (1976) have suggested that, especially in spatially dense situations, television embedded interaction can give the appearance of togetherness while providing the means for avoiding tense conversations. The results of the open ended questionnaire suggests that television is often the butt of humor and sarcastic remarks. When asked how their reactions differed when they viewed television alone (results that will be discussed in detail later) respondents said they were less critical and more responsive to it, but as more people enter the situation respondents reported that their conversations became more sarcastic, cynical, and critical of
television programming. Thus television can act as a scapegoat, an easily assailable target that cannot defend itself or be hurt by the release of tensions. However, television can also be a major source of conflict among family members, especially related to choice of programming and viewing times (Hamilton & Lawless, 1955; Lyle, 1972). On the other hand respondents say that radio often sets a relaxed and casual mood among interactants.

The Environment of Media Embedded Interactions

There are three primary elements of media embedded interactions: interactive, passive, and active. This section will discuss the nature of the passive and interactive environments; the remainder of the paper focuses on the active environment and its effects on interactants. The passive environment consists of those elements from which the interactants must actively seek out any meaning or interpretation. For example, the meaning of most inanimate objects is provided by the person that experiences the object. The interactive environment consists of those elements that transmit messages to interactants in recognizable codes, but whose future messages can be changed by the reactions of interactants. Examples of the interactive environment include people and certain computer systems. The active environment consists of those elements (e.g. television, painting, stereos, etc.) that are actively sending out messages that can't be immediately changed by interactant's reactions.

The most important feature of the passive and interactive environments is their relatively low salience in media situations. When asked to describe the environment of their interactions most respondents to the open-ended
questionnaire used one or two word descriptors primarily associated with location (e.g. living room, dorm room, etc.). Responses related to specific features such as furnishings ranged from 11.7% to 23.5% and for elements of the interactive environment (e.g. people's positions) from 10% to 17.6%. Interestingly, people were somewhat less salient in descriptions than elements of the passive environment. The relatively low salience of the interactive and passive environments may be partially attributable to the dominant position of elements of the active environment, especially television. The most commonly watched television set is most frequently located "in a central area where people would have to compete with its audio and video in order to carry on a conversation" (Walters & Stone, 1971).

To describe the effects of the interactive environment respondents were asked to report how their reactions to the media differed when they attended to it alone as opposed to when other people were present. Respondents reported that when they attended TV alone they: concentrated more (6%), paid more attention (7.2%), were involved more (10.8%), and were less critical of the TV (7.2%). However, 13.2% felt their reactions were more subdued or that they didn't object to programming as much (9.8%). Interestingly, respondents felt freer when alone (6.0%), especially to switch channels or to turn off the TV, and 14.4% said they felt much freer to express their emotions (e.g., to cry, to day dream, etc.). Only 6.0% felt that their reactions to television were the same whether or not they were with others.
Similarly respondents indicated that when they attended radio alone they: day dreamed more (3.4%), were more attentive (6.9%), felt more freedom (4.6%), were more involved (4.6%), and got more from the radio (12.7%). Thirteen per cent of the respondents reported that they either sang more (5.8%), or sang aloud only (10.4%), when they were alone. Slightly more respondents, 13.9% felt there was no difference in their reactions to radio when other people were present.

There was an interesting temporal dimension that emerged from the results of the qualitative questionnaire. When respondents were asked how their conversations on weekends differed from those during the week they said that: they were less task related (21.8%); task related (4.0%); concerned more with recreational activities (13.7%); they were more relaxed, casual, etc. (21.8%); more lively (4.8%); more personal (4.8%), more detailed or time consuming (14.0%). Only 9.7% said there was no difference in their conversations on weekends as opposed to weekdays.

The Effects of Media on Social Interaction

This section will examine the general effects that media has on interactants, focusing especially on media effects on the structure of conversation, relationships between interactants, and the topics discussed in media situations. Respondents to open ended questionnaire were asked to report, in general, how their conversations were affected by television and radio. Only 10.3% of the respondents reported that
television had no effect on their conversations. The remainder of the respondents said that: they talked less while viewing television (10.3%); that it provided topics of conversation (18.3%); that their conversations while watching television were more cynical, sarcastic or critical (4.5%); for some television determined when talking would occur (4.5%); a few felt that their conversations were limited by TV, hampered by it and were less personal as a result of it (5.7%); their conversations centered around the TV (10.3%); and the effects for some depended on the show (8.0%). Substantially more respondents, 28.4%, reported that radio had no effect on their conversations or that they acted as if the radio wasn't there (9.0%). The rest of the respondents reported that: their conversations were related to the radio show (3.4%), or that they talked about the music (7.9%); radio set the mood (3.4%); and a few respondents reported that they didn't talk during radio programs (5.6%). Interestingly 34.5% of the respondents volunteered that radio had less of an effect than television.

There is some evidence that different types of programming have different effects on interaction (Robinson, 1972a). As a result respondents to the qualitative questionnaire were asked how their conversation during documentary (or news programming) differed from those occurring during entertainment programming. For television respondents reported that their conversations: were more serious (18.8%); had less laughter (8.9%); had less talking (10.8%); contained more media related topics (20.7%); and had more of an intellectual tone (8.9%). For radio respondents said their conversations: were more serious (10.9%); contained less conversation (15.9%); contained more conversation (7.6%); were content related (12.0%);
or didn't differ (5.4%). Some respondents reported that they concentrated more (6.5%), while others said that they turned off or didn't listen to radio news (5.4%).

In the qualitative questionnaire respondents were also asked to describe their conversations in non-media, radio and television situations. For the non-media situations the most frequent descriptor was the topic of the conversations (33.9%, 40.0%). The other responses either fell into two dimensions: heavy (8.9%, 4.4%) - light (7.1%, 4.4%) and important (0.9%, 2.2%) - unimportant (small talk) (5.3%, 4.4%); or described the interaction; personal (12.5%, 6.6%), both participate (3.5%, 2.2%), gossip (5.3%, 0.0%), interesting (5.3%, 0.0%); and activities engaged in (0.0%, 13.3%).

The responses for television concentrated more on describing the surface characteristics of their conversations (timing, length, etc.). The actual responses fell into the following categories: conversations associated with commercials (6.2%, 2.7%); brief (20.6%, 8.1%), conversations related to programming (18.7%, 8.1%); light (6.2%, 5.4%), and 'rowdy' but pleasant (0.0%, 16.2%). Far fewer respondents described television conversations in terms of their topics (16.6%, 16.2%). This reflects the generally greater concern with the form, rather than the substance, of conversations characteristic of the responses for television.

The most striking thing about the responses for radio was that respondents frequently noted the relaxed and casual nature of their conversations could be described as small talk (4.1%, 17.5%) or that they were vague and little was said (10.4%, 2.5%). Respondents also reported
that their conversations were brief or fragmented (10.4%, 5.0%). The topic of conversation was less frequently mentioned than in the no media situation (20.8%, 16.0%). Finally fewer respondents reported that their conversations were media related (8.3%, 7.5%).

Earlier it was demonstrated that television and radio provoke interactants to discuss topics related to programming. Respondents to the qualitative questionnaire were asked to report what they actually talked about in non-media, television and radio situations. In the non-media situations five general types of content were discussed: task related (10.8%, 28.0%), other people (14.8%, 7.0%), personal (17.5%, 10.5%), temporal (future plans, past events) (9.4%, 22.5%); and idiosyncratic personal interests (e.g. sports, music) (20.2%, 19.6%). Similarly a substantial proportion (51.6%, 47%) of the topics discussed in television embedded interaction fell into these categories; although there was substantial reduction in task related topics mentioned (7.1%, 7.8%). However, a substantial proportion of (41.0%, 23.6%) the responses were related to television programming (e.g. conversations related to actors, commercials, the content of the show, the quality of the programming, etc.). For radio and responses were less clear cut, but there was a considerable reduction in the number of topics related to programming (23.2%, 4.0%).

In the mailed questionnaire respondents were also asked to report any habits they had developed when talking with others in the presence of radio or television. For television 33.9% of the respondents reported that they hadn't developed any habits. A subset of the responses reflected diminished levels of involvement: do not listen attentively, (16.1%), do not look at other person (14.4%), lack of concentration (2.5%), tune out
TV (1.6%), and tune out other person (5.7%). Some respondents (9.3%) reported that they were irritable when talking with others in the presence of television. The remaining responses fell into a general category of effects on conversation: short conversations (5.9%), talk during commercials (6.7%), and less talking (2.5%).

Most of the respondents (74%) couldn’t recall any habits they had developed when they talked in the presence of the radio. The remainder of the responses indicated that respondents usually attend selectively to radio, thus it only affects their conversations when something important is on.

Reactions to Media Embedded Interactions

The respondent’s reactions to conversations in the presence of media were pursued less directly in the open ended questionnaire. No direct question relating to this issue was asked. However, the results of the other questions indicated that respondents were much more willing to describe their conversations in the presence of media in negative terms. In the no media situations there were essentially no negative evaluations of the nature of their conversations. In the media situations substantial numbers (approximately 40% for television) of the evaluations were negative ones.

Several questions in the mailed questionnaire were designed to explore this area more thoroughly. When asked if they liked talking in the presence of television, only 16.5% said they did. In contrast 65.3% of the respondents reported that they liked to talk in the presence of radio. Thus, as could be predicted from the qualitative questionnaire, there is a significant difference (z=4.97, p < .01) between these two media in respondent reactions to talking in their presence.
To follow up on these answers respondents were asked what they liked about talking in the presence of television. Forty-four per cent of respondents gave no positive response. A substantial proportion of respondents (36.4%) like conversations related to programming, especially those that promoted the respondent's understanding of the show. There was a smattering of other types of responses including escape from the show (4.2%), other interactants (1.6%), and commercials (2.5%).

Respondents were also asked what they disliked about talking in the presence of television. Most responses focused on the disrupting nature of conversations in the presence of television. Conversations were reported to disrupt the show (22.8%) or distract attention from it (31.3%), respondents saying they lose track of what is happening as a result of them. Respondents also said that they couldn't simultaneously carry on a conversation and watch television (12.7%). Finally, some respondents (15.2%) said that they watch television because they want to enjoy the programming, and talking detracts from their enjoyment.

On a scale of 1 (hurts a lot) to 10 (helps a lot) respondents were asked separately to report how much effect television and radio have on their conversations. The difference between the effects of the two media were significant ($t = 4.85, p < .01$) with a mean response for television of 4.13 and for radio of 5.85.

Given the responses to the qualitative questionnaire it could be predicted that respondents would enjoy conversations more in the presence of radio. On a scale of 1 (very enjoyable) to 10 (very unenjoyable) respondents were asked to rate their conversation in television and radio news and entertainment
conditions. Radio conversations were significantly more enjoyable during news programming with means of 5.1 for radio and 6.1 for television. For entertainment conditions there was also a significant difference (t = -5.26, p < .001) with means of 3.8 for radio and 5.7 for television.

**Discussion**

There appears to be several possible benefits to interacting in media situations. First, it can encourage a minimal level of interaction, especially among family members, by both providing a setting for interaction to occur and topics of conversations. Second, television especially by dampening interactions, and also by acting as a scapegoat, may serve to reduce tensions among interactants. Third, interaction may increase understanding of or appreciation for programming.

Conversely there are several potentially harmful effects of media embedded interactions. One, there is a much greater tendency for media embedded interactions to consist mostly of small talk, especially topics related to programming. Partially as a result of scapegoating there is also a tendency for television embedded conversations to assume a negative tone, characterized by sarcasm and critical remarks directed at programming. Thus the agenda, tone, and depth of conversation is to a certain extent determined by the media and their associated programming. Two, the flow of the conversations is often discontinuous with many breaks in the interaction. Three, there is a diminished awareness of and involvement with other interactants. All of these factors contribute to the characterization, discussed earlier, of media embedded interactions as states of quasi-interaction, where it is doubtful that deep or meaningful interactions are possible or typically occur.
The results consistently reveal that television has a greater effect on social interactions than does radio, further the effects of television are more negative, while some of the reported effects of radio can be construed as relatively positive. Significantly more respondents reported that they liked talking in the presence of radio, that these conversations were found to be more enjoyable, and that radio didn't hurt their conversations as much as television. This may be a result of radio acting to set a mood for respondents, resulting in more casual and relaxed conversations, whereas 10% of the respondents reported they were irritable when talking in the presence of television. Indeed television embedded interactions were reported to be more sarcastic and critical. Television provoked more comments than radio, and a much greater proportion of television embedded interactions were directly related to the programming. For television more respondents reported definite habits they had developed in their interactions, most of these habits reflecting diminished levels of involvement with other interactants, and a greater concern with the form rather than the substance of the interaction. Overall a substantial number of respondents volunteered that radio had less of an effect on their interactions than did television.

There are at least two explanations for the greater effect of television: the level of involvement required to experience the different medium and differential socialization of interactants to the two situations. There are three primary reasons why television requires greater sensory involvement to experience than radio. One, the television experience is relayed primarily by two sensory channels, while radio is relayed by only one. Two, television is primarily a visual medium, arguably the most important sense, while radio
is exclusively an aural one. Three, television demands that people focus attention to attend to the picture, this was dramatically demonstrated when respondents reported the habits they had developed while watching television, radio doesn't require the same manner or degree of focused attention.

Although probably less important, differential socialization to the two media situations may play a role in their relative effects on social interaction. Individuals may be trained to use media in differing ways or to behave differently in the presence of various media. For radio, whose primary programming is music, this may be particularly important. We have been constantly conditioned, through the use of music in stores, elevators, etc., to have music playing in the background. Most of the time this background music is very similar to, if it isn't in fact, radio content. Thus we have grown accustomed to conversing and engaging in other activities when radio is present. In fact radio is frequently thought of as a means of setting a mood for other activities, rather than as being the primary focus of situations. Conversely television is often the dominant feature in the environment and the primary focus of activities. Thus customary behaviors and experience with different media may result in the more pronounced effects of television.

The results also suggest a substantial mediating effect of interactants on the impact of media messages. In fact the only thing respondents appear to like about conversing in the presence of television are comments related to programming. For most respondents there is a substantial difference in their reactions to programming when others are present. When alone respondents indicate that they are less critical of programming, more inclined to
express their emotions, and more involved with the media. The results of the mailed questionnaire also demonstrated that the presence of other interactants distracted the attention of potential audiences and diminished their level of involvement with programming. Thus the presence of other interactants appears to distract attention from the media and to provide interpreters for media messages; these factors should be taken into account in any study of media effects (Lang & Lang, 1978; Steiner, 1963).

Conclusion

In sum, media embedded interactions differ substantially from interactions in other situations, with the effects of radio being less substantial than those of television. Media can have effects on relationships, communication fluency, and the topics discussed during an interaction. These effects can have important implications for family life either through affecting relationships among family members or affecting the levels of tension felt among family members. In addition, interaction can mediate the effects of mass media by diminishing levels of involvements or interpreting the meaning of messages. As a result of these factors research into the nature of media embedded interactions and their potential effects on media messages merits more investigation than it has received in the past.
REFERENCES


NOTES

1. This research was supported by a grant from the National Association of Broadcasters. I would like to express my appreciation to Sherrie, Mazingo and Edward L. Fink for their assistance in the early stages of this project.

2. The qualitative questionnaire consisted of a large number of open-ended questions related to social interaction in non-media, television, and radio situations. The primary purpose of this open-ended (or qualitative) questionnaire was to discover how respondent's view interaction in the presence of the media. Sixty-seven college students at a large midwestern university completed this questionnaire. The answers to this questionnaire were quite diffuse, it was often noteworthy when 10% of the respondents answered a question in a similar fashion. Further, the nature of the sample makes it difficult to generalize directly to the population at large. But this was exploratory research designed to identify problems and generate hypotheses in an area where little systematic research has been done, not to provide systematic, authoritative conclusions to a well identified set of problems.

The mail questionnaire responses reported in this paper consist of both open-ended and closed questions designed to explore particular problems identified in the qualitative questionnaire. A systematic random sample of 545 adults from a large midwestern city were asked to complete this questionnaire. One hundred and twenty-four returned the questionnaire. Since a substantial proportion of the general population
does not interact in the presence of the media (Lo Sciuto, 1972; Maccoby, 1951), the topic with which this questionnaire was exclusively concerned, this may partially account for the relatively low response rate.

Unless otherwise specified results are from the qualitative questionnaire. Because of the qualitative nature of the results, the questions and associated procedures won't be described in great detail here; however, both questionnaires are described in detail elsewhere (Johnson, 1976).

3. When there is more than one number contained in a parentheses the first number is for situations when one other person is present and the second is for situations in which there is more than one other person present.