CHAPTER EIGHT

Pictures, Words, and Media Influence: The Interactive Effects of Verbal and Nonverbal Information on Memory and Judgments

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Rambo had conquered Asia. In China, a million people raced to see First Blood within ten days of its Beijing opening, and black marketers were hawking tickets at seven times the official price... In Chengdu I heard John Rambo mumble his First Blood truisms in sullen machine-gun Mandarin and saw the audience break into tut-tuts of head-shaking admiration as our hero kerpowed seven cops in a single scene... "I think he's very beautiful" cooed a twenty-three year old Chinese girl to a foreign reporter. "So vigorous and so graceful. Is he married?"

Pico Iyer (1988, p. 3)

The darkened hall of the movie theatre lulls us into a zone where we can play out our fantasies. We mentally cheer as the good guys win over the evil ones. We watch with bated breath as apocalyptic events threaten our planet. We get teary eyed when a character beats all odds to find happiness. When we finally step out of the movie theatre into the glare of the lobby, our return to reality may not be completely successful.

The images created by the entertainment media, whether encountered in a darkened movie theatre or in sitcoms, soaps, news reports, and advertising, do appear to blur the lines between reality and what we perceive it to be. These images can have a persisting influence on people’s attitudes, beliefs, and behavior in ways that we have only recently begun to uncover. O'Guinn and Shrum (1997) paint a compelling picture of the consequences of excessive television viewing. They
find that heavy viewers of television are more likely than infrequent viewers to overestimate the frequency with which individuals drive luxury cars, have swimming pools in their backyards, or manifest other characteristics of an affluent lifestyle (see Shrum, Burroughs, & Rindfleish, this volume). These effects occur in part because people are typically unmotivated or unable to identify the sources of information they have acquired (Hasher, Goldstein, & Toppin, 1977; Jacoby, Kelley, Brown, & Jaseckko, 1989; Johnson, Hashtroudi, & Lindsay, 1993). Thus, they fail to distinguish between their memories for actual events they have read about or personally experienced and their memories of fictional events they have seen on television. Consequently, they often retrieve and use these latter events to estimate the likelihood that the events occur in daily life. In many instances, people are unaware of the biasing influence of the media on their estimates. But even when they are conscious of bias, they do not know how much they should adjust to compensate for it (Petty & Wegener, 1993). Consequently, they can often fail to adjust enough or, at other times, can adjust too much. In the latter case, the biasing factors could have a negative, contrast effect on the judgments they report (for evidence of these overadjustments, see Isbell & Wyer, 1998; Ottati & Isbell, 1996).

However, the impact of the entertainment media on reactions to real-world events may be even more pervasive than Shrum et al.’s (this volume) research suggests. For example, concepts and knowledge that become easily accessible in memory as a result of exposure to movies and television can affect the interpretation of new information and the implications that are drawn from it. To this extent, the concepts can influence the impact of the information on judgments and decisions to which it is relevant.

These effects are discussed in this chapter. We focus in particular on the way in which visual images, stimulated by pictures or video presentations of the sort people encounter in movies or on television, can influence the impact of information that people receive subsequently. We first discuss how concepts activated by visual stimuli can influence reactions to information to which these stimuli are objectively irrelevant. We then consider how people’s visual image of a stimulus person can influence the criteria they use to assess the implications of other, verbal information about the person and the effectiveness of applying these criteria. These effects can depend on whether the stimuli that induce these visual images are conveyed at the same time as the written information or are created beforehand. The influences of verbal and visual information on one another are reciprocal, however. In the final section of the chapter, we consider the way in which people’s communications about events they have experienced visually (e.g., in a movie) can influence their later memory for these events and, therefore, their beliefs and opinions. The research we discuss, most of which was conducted in our own laboratory, was generally not designed to have a direct bearing on the interface between entertainment and persuasion. However, its implications for this interface should be apparent.
EFFECTS OF MEDIA-CREATED VISUAL IMAGES ON RESPONSES TO ACTUAL PEOPLE AND EVENTS

To reiterate, Shrum et al.'s (this volume) research clearly demonstrates that exposing television viewers to fictional events can influence their perceptions that similar events actually occur in the real world. To this extent, it can influence their beliefs and attitudes about the persons and objects to which the events are relevant. This influence could occur for two reasons.

First, people might come to regard situations that occur frequently on television as normative. This could have both desirable and undesirable consequences. On one hand, exposure to women and African Americans as heads of state, lawyers, or scientists could increase people's perceptions that their occupancy of these roles is commonplace and, therefore, could also increase their acceptance of individuals holding these positions in the real world. On the other hand, individuals might use the situations and events that occur frequently on television as standards of comparison in evaluating their own life circumstances and may be motivated to engage in behavior that attains these standards. Thus, if heavy television viewers overestimate the proportion of people with possessions that exemplify an affluent lifestyle (O'Guinn & Shrum, 1997), they may be more inclined than other individuals to evaluate their own life circumstances unfavorably in relation to this implicit standard of affluence and may try to acquire these possessions or engage in other activities that require them to live beyond their means. These influences of television could underlie the acquisition of materialistic values at a very early age.

Other considerations arise when the situations that occur on television are undesirable. For example, exposure to violence and aggression on television could increase people's perceptions that this behavior is common and, perhaps, inevitable. If this is so, it could decrease their concern about the violence they encounter in the real world. (For a more detailed discussion of the effects of television violence on desensitization to aggression, see Drabman & Thomas, 1975.)

A second possible effect of exposure to violence is quite different. Lerner, Miller, and Holmes (1976; see also Lerner & Simmons, 1966) suggest that people are motivated to believe that the world is just (i.e., that people not only get what they deserve but also deserve what they get). Movies and television shows in which individuals are maimed or killed could activate viewers' concerns about injustice and, therefore, could increase their need to reestablish their belief in a just world when they encounter actual situations. In other words, heavy television users might be more inclined than occasional viewers to believe that perpetrators of violence will be punished. At the same time, they might also be inclined to believe that the victims of violence and aggression are responsible for their victimization and, therefore, that they deserve the fate that has befallen them. (For a summary of evidence that just-world considerations often mediate perceptions of rape, see Wagstaff, 1982). Perhaps ironically, this tendency should be most evident when
the aggression has extremely negative consequences and hence the threat to one's belief in a just world is particularly great.

**Media Influences on Reactions to Rape: An Empirical Example**

*Effects of Exposure to Aggressive Acts and Outcomes*

To summarize, exposure to violence in the media could increase tolerance for aggression in the real world for two somewhat opposing reasons. On one hand, it could increase perceptions that aggression is normal and socially sanctioned and that one should not be particularly upset by its occurrence. This is most likely to occur if the aggression is relatively mild. If the aggression is extreme and ostensibly hard to justify, however, it could stimulate the need to believe in a just world, leading individuals to believe that the victims of aggression deserve their fate.

Wyer, Bodenhausen, and Gorman (1985) examined these possible effects in a study of the beliefs that mediate reactions to rape. We were interested in the extent to which activating aggression-related concepts in one context would influence reactions to rape situations that people encounter in an unrelated context. To do so, we asked participants to engage in two apparently different experiments. The first study was ostensibly concerned with the things shown in the media that college students find objectionable. On this pretense, we exposed participants to slides of 12 pictures. Nine of these pictures showed objects and events that participants were unlikely to consider offensive. The other three pictures varied over conditions. In one case, these pictures showed aggressive acts that were relatively common (police subduing a criminal, a boxing match, etc.) and, therefore, were likely to activate concepts that aggression is normal and socially sanctioned. In a second condition, the pictures portrayed severely negative outcomes of aggression that activated the concept that human beings were cruel and inhumane (a lynching episode, a dead soldier with a hole in his head, etc.). (Our assumptions concerning the concepts activated by the pictures were confirmed on the basis of normative data obtained prior to the experiment.) The third, control set portrayed stimuli that might be considered unpleasant but were unrelated to aggression (deformed babies, a smoking advertisement, etc.).

Participants rated each of the 12 pictures in terms of how objectionable it was. Then, they were told that the experiment (which took about 10 min) was over but that, because there was time remaining, we would like them to help another faculty member who was conducting a study in a different room down the hall. When they arrived at this room, however, they found a sign on the door indicating that the experimenter would return shortly and that while they were waiting they should complete a questionnaire that was lying on the table. This questionnaire introduced the "new" study as an investigation of the factors people consider important in judging criminal cases, that different participants were being asked to
consider different types of crimes, and that the one they would personally be asked
to consider was rape. (The nature of the crime was handwritten on the instruction
page to give the impression that participants were assigned this type of crime by
chance.) The questionnaire contained descriptions of four rape cases that varied
in terms of whether the alleged rapist was an acquaintance of the victim or a total
stranger and whether the victim did or did not try to resist. Participants read each
scenario and then reported several reactions. Two questions concerned (1) their
belief that the defendant should be convicted and (2) their belief that the defendant
actually was convicted. Three others concerned the victim's responsibility for the
incident (whether she provoked the rape, whether she could have avoided it, etc.).

We assumed that the pictures to which participants were exposed in the first
experiment would activate concepts that they would use to construe the implications
of the rape scenarios they encountered in the second experiment. Therefore,
if socially sanctioned acts of aggression activate the concept that aggressive
behavior is normal, exposure to these acts should decrease beliefs that the defendant
should be convicted and, for that matter, that he actually was. This was not the
case, however. Participants' beliefs that the defendant was and should be convicted
are shown in the first two rows of Table 8.1, averaged over the four scenarios. Expos-
ure to aggressive acts only slightly decreased beliefs that the defendant was
convicted relative to control conditions and actually increased beliefs that he should
be convicted. Neither of these effects was significant.

Exposure to extremely negative outcomes of aggression also failed to influence
beliefs that the defendant should be convicted. However, it increased the belief that
the defendant actually was convicted. This pattern of results is consistent with the
hypothesis that exposure to extremely negative consequences of aggression threat-
ened participants' perception that the world is just. Consequently, it motivated them
to reaffirm this perception by believing that the defendant got what he deserved.

If this interpretation is correct, however, it should also be manifested in the
participants' belief that the victim deserved what she got, as reflected in judgments

<table>
<thead>
<tr>
<th>TABLE 8.1</th>
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<tr>
<td>Judgments of the Defendant and Victim As a Function of Concepts Activated by Priming Stimuli</td>
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<table>
<thead>
<tr>
<th>Primed Concept</th>
<th>Control</th>
<th>Aggression Is Normal and Socially Sanctioned</th>
<th>Humans Are Cruel and Inhumane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belief that defendant should be convicted</td>
<td>8.97</td>
<td>9.62</td>
<td>8.70</td>
</tr>
<tr>
<td>Belief that defendant was convicted</td>
<td>3.95</td>
<td>3.47</td>
<td>5.10</td>
</tr>
<tr>
<td>Belief that victim was responsible</td>
<td>2.97</td>
<td>3.07</td>
<td>4.20</td>
</tr>
</tbody>
</table>

*Note. Judgments are reported along a scale from 0 (not at all likely) to 10 (very likely). Based on data from Wyer, Bodenhauen, and Gorman (1985).*
that she was partly responsible for her fate. This was also the case, as shown
in the third row of Table 8.1. Although exposure to socially acceptable acts of
aggression had relatively little influence on participants’ perceptions of the victim’s
responsibility, exposure to severely negative outcomes of aggression substantially
increased these perceptions. Moreover, this was true regardless of whether the
rapist was a stranger or an acquaintance and regardless of whether or not the
victim resisted. Thus, activating concepts that the rapist was cruel and inhumane
not only increased the belief that the defendant got what he deserved but also
increased the belief that the victim deserved what she got.

The implications of these findings for the impact of the media on perceptions
of rape must remain speculative. The effects of situationaly primed concepts on
judgments are often of short duration. However, the effects of frequent exposure to
stimuli on concept accessibility are much more enduring (Higgins, 1996; Higgins,
Bargh, & Lombardi, 1985). It therefore seems reasonable to assume that frequent
exposure to extreme violence could induce a chronic tendency to maintain a belief
in a just world that is manifested in a variety of contexts. To this extent, it could
have effects similar to those that Wyer et al. (1985) observed.

Other Determinants of Reactions to Rape

Concepts associated with aggression are not the only mediators of reactions to
rape. Zillman and Bryant (1982) found that exposing college students to massive
doses of pornography over a period of several weeks increased their tolerance for
rape, and this effect was reflected in the attitudes that participants reported several
months later. Pornography could activate concepts of women as sex objects who
enjoy being dominated and as interested in sexual pleasure alone. These concepts
could stimulate empathy with the defendant in a rape case and could also influence
judgments of the victim’s responsibility for the incident.

Additional data obtained by Wyer et al. (1985) bear on this possibility. In two
additional conditions, the priming stimuli portrayed women as sex objects. In
one case, the stimuli were sexually arousing, consisting of nude centerfolds, one
of which showed a woman masturbating. In a second set, however, the pictures
included a cartoon, a picture of a stripper, and a branded woman, none of which
elicited sexual arousal.

Pictures had no influence on either the belief that the defendant should have
been convicted or the belief that he actually was. However, pictures did have
an impact on judgments of the victim’s responsibility for the rape, the nature of
which depended on participants’ sex. Specifically, pictures that depicted women
as sex-objects increased men’s perceptions that the victim was responsible for the
incident but decreased women’s perceptions of her responsibility. In other words,
exposing male participants to the stimulus pictures appeared to activate concepts
of women as sex objects, as we expected. However, exposing female participants
to these stimuli appear to have activated the concept that men think of women as
sex objects, inducing reactance and, therefore, decreasing perceptions of the rape victim’s responsibility.

The implications of these findings for the impact of the media, like the effects of activating aggression-related concepts, should be treated with caution. Nevertheless, to the extent that frequent activation of concepts increases their chronic accessibility in memory, these findings suggest that frequent portrayals of women as sex objects in the media is likely to polarize existing differences between males and females in their attitudes toward the victims of rape without necessarily influencing their beliefs that the rapist should be punished.

Effects of Image-Activated Stereotypes on Behavior

As we speculated earlier in this section, frequent portrayals of minority group members in responsible social roles could increase perceptions of their suitability for these positions in the real world. This increase may be accompanied by a decrease in stereotype-based beliefs about the attributes of these individuals. As Devine (1989; see also Lepore & Brown, 1997) points out, however, people may have knowledge of the stereotype even if they do not consider it to be valid. Consequently, exposure to members of the stereotyped group can activate trait and behavioral concepts that are associated with the group, and these concepts, once activated, can be applied in other situations to which the stereotype is objectively irrelevant. Moreover, these effects can occur without awareness.

This possibility was demonstrated by Bargh, Chen, and Burrows (1996) in research on the effects of concept activation on overt behavior. In one study (Bargh et al., 1996, Experiment 3), European Americans were subliminally exposed to either Black or White faces while they performed a boring task. After completing the task, participants were told that, due to a computer malfunction, they would have to perform the task again. Participants’ nonverbal reactions to this request were unobtrusively observed. Participants manifested more signs of irritation and antagonism if they had been exposed to Black faces than if they had been exposed to White faces. This suggests that exposure to the faces of African Americans, who are stereotyped as being hostile and aggressive (Devine, 1989), activated concepts associated with this behavior, and this disposed participants to behave similarly. Moreover, these effects occurred without awareness of the stimuli that led to the stereotype’s activation.

That activating a stereotype influences the behavior of individuals to whom the stereotype does not apply is intriguing. The processes that underlie this effect, however, are not completely clear. One possible explanation is suggested by Prinz’s (1990) speculation that to comprehend another’s behavior people spontaneously imagine performing the behavior themselves, thereby establishing an association between a representation of others’ behavior and a representation of their own. As a result of this association, factors that activate concepts about another’s behavior
can increase the disposition to behave similarly under conditions in which the behavior is applicable.

The activation of a stereotype alone is unlikely to stimulate the behaviors that exemplify it, of course. Participants in Bargh et al.’s (1996) study would undoubtedly not have conveyed hostility spontaneously if the situation had not been one that disposed them to feel irritation for other, stereotype-unrelated reasons (i.e., the request to repeat a boring task). In other situations, the same stereotype could activate quite different behaviors. This was demonstrated in an unpublished study by Colcombe and Wyer (2001). In this study, participants who had been exposed to priming conditions identical to those administered by Bargh et al. were asked to perform a mathematics test. In this study, participants performed less well on the test if they had been subliminally exposed to Black faces than if they had been exposed to White ones. African Americans are stereotyped as unmotivated to try hard in academic achievement situations, so activating the stereotype increased participants’ own disposition to behave similarly. These results, in combination with Bargh et al.’s (1996) findings, suggest that the particular behavior that is influenced by activating a stereotype depends on situational factors as well as the stereotype itself.

Moreover, the concepts associated with the stereotype may need to be activated without participants’ awareness. In other conditions of Colcombe and Wyer’s (2001) study, Black and White faces were primed overtly rather than subliminally. In these conditions, participants performed better when they had been exposed to Black faces. Consciousness of the stereotype of African Americans as doing poorly in achievement situations apparently stimulated participants to try harder, so they could distance themselves from the stereotyped group.

These contingencies become particularly important when evaluating the implications of these findings for the effects of the media on behavior. It obviously would be inappropriate to assume that exposing television viewers to members of a stereotyped group increases their likelihood of manifesting stereotype-related behavior in general. This should only occur if situations arise in which the stereotype-activated behavior is applicable. Moreover, if people are conscious of the stereotype at the time a behavioral decision is made, they may try to compensate for its influence and thus might be less inclined to make a stereotype-related decision than they otherwise would.

On the other hand, people do not need to be unaware of the stereotype itself for it to have an impact. They need only be unaware of the potential relatedness between the situation in which the stereotype is activated and the situation in which the behavior occurs. It is therefore conceivable that frequently exposing people to members of a stereotyped group in the media will increase the likelihood of behaving in stereotype-related ways under conditions in which the behavior is relevant. Moreover, this may occur primarily when individuals are not consciously thinking about the group and the behaviors associated with it. To avoid these effects, it may be necessary to change people’s perceptions of the stereotype itself. Media exposure to stereotyped group members who behave in stereotype-inconsistent ways might be one way to accomplish this.
EFFECTS OF VISUAL STIMULI ON INFORMATION PROCESSING

To reiterate, visual portrayals of persons and social events can influence people's attitudes and behaviors to which these portrayals are objectively irrelevant. Visual images are even more likely to influence the processing of information about individuals and events to which they directly pertain. The nature of this influence is less obvious than it might appear, however. For example, pictures might seem intuitively likely to provide information about their referents and, therefore, to have a direct impact on judgments of these referents. In fact, however, research in the consumer domain has provided very mixed evidence that pictures of a product have an impact on product evaluations over and above the effects of verbal product descriptions (Costley & Brucks, 1992; Edell & Staelin, 1983; but see Sengupta & Fitzsimons, 2000, for an alternative view).

An understanding of the combined influence of verbal and visual information is complicated by the fact that the two types of information can elicit different types of cognitive activity. Pictures, for example, are likely to be processed holistically or configurally, creating a general impression that is independent of any particular feature (for a theoretical analysis of this possibility, see Wyer & Radvansky, 1999). Verbal information, however, might be processed either holistically or more analytically, depending on the type of information and the format in which it is conveyed. For example, a person's opinions on a set of social issues might be evaluated in terms of their implications for whether the person is socially liberal or conservative. However, the favorableness of each opinion could also be assessed independently and these individual assessments later combined mechanistically to form an overall evaluation (cf. Anderson, 1971; Fishbein & Hunter, 1964). When verbal information can be easily evaluated using either a piecemeal or a holistic processing strategy, the presence of pictures may create a cognitive set to think holistically, therefore influencing the conclusions drawn from it relative to conditions in which the pictures were not conveyed. Other verbal information, however, might be presented in a way that is much easier to process in one way than the other. In this case, the holistic strategy activated by pictures could facilitate or interfere with this processing, depending on its compatibility with that required.

Two quite different sets of studies bear on these possibilities. Although the studies were conducted in the domain of political judgment, they have more general implications.

The Effects of a Politician's Image on Responses to Issue Stands

The media often show political figures in situations that have little objective relevance to an evaluation of their qualifications for public office. Yet these portrayals create an image of these individuals that influences people's general perceptions of their sincerity, integrity, self-confidence, and general personality. These perceptions can be used as a basis for evaluating the individuals independently of their
stands on specific issues. The role of image has been well known in the political arena since the 1960 Kennedy-Nixon debates, which increased Kennedy’s popularity despite the fact that Nixon’s positions on the issues were more compelling (Englis, 1994).

However, a politician’s image not only can have a direct influence on judgments of the candidate but also can affect responses to other, more substantive information. For example, persons who receive information about a politician’s stands on social issues might normally assess each individual issue position and evaluate the candidate on the basis of the number of these positions with which they agree. However, if people have formed a global image of the politician, and if this global criterion for judgment is salient, it could induce a tendency to use general criteria to evaluate the implications of other available information as well. Thus, for example, it might stimulate individuals to assess the implications of the person’s issue stands for his or her general political ideology and to base their judgments on this ideology independently of their agreement with specific issues.

A study by Wyer et al. (1991) suggests that this may be the case. Nonacademic employees were recruited for a study of the way people make judgments of political candidates on the basis of the sort of information they might receive during an election campaign. On this pretense, they were given two types of information about a member of the U. S. House of Representatives who had recently run for the Senate in a neighboring state. First, participants were shown a videotaped, nonpolitical speech of the candidate’s remarks at a bicentennial celebration at which he was asked to present an award to a local dignitary. The speech, delivered by a graduate student in theatre who was an accomplished character actor, was identical in content in all conditions. However, it was delivered in either a forceful, articulate manner that conveyed a favorable image or in a bumbling manner, with inappropriate pauses, fidgeting, and other mannerisms, that conveyed an unfavorable impression.

The second type of information was ostensibly an audiotaped portion of a radio program that had been sponsored by the League of Women Voters. In this program, commentators reviewed the candidate’s votes on several recent bills that had come before the House. His votes on six of the bills (e.g., a proposal to increase military spending by 15%, a proposal to allow prayer in public schools) conveyed either a consistently conservative or consistently liberal ideology. (Votes on four other bills had no ideological significance.)

This information was conveyed in three conditions. In *no-delay* conditions, participants listened to the radio program describing the candidate’s issue stands immediately after they watched the videotape of his speech. Then, after doing so, they reported their impression of the candidate along a 100-point “feeling thermometer.” The procedure in two other conditions was similar, except that a 24-hour delay was introduced either (a) between seeing the videotaped speech and exposure to the candidate’s issue positions (*delayed-information* conditions)
or (b) between exposure to the candidate’s issue stands and judgments (delayed-judgment conditions).

In all conditions, participants, after evaluating the candidate, reported their personal positions on each of the issues to which the candidate’s votes pertained. Finally, they indicated their own party affiliation and ideological orientation. These latter data, in combination with the candidate’s issue stands, were used to define two independent variables. First, participants’ reported ideology was coded as either similar or dissimilar to the candidate’s, as implied by the liberal or conservative orientation of his issue stands. Second, participants were classified as either generally in agreement or generally in disagreement with the candidate’s specific issue positions, based on the proportion of ideologically relevant issue stands with which they agreed. (Each participant agreed with at least one liberal and one conservative issue position, regardless of his or her general ideology. Therefore, indices of ideological similarity and agreement level could be obtained for each participant.)

Evaluations of the candidate are shown in Table 8.2 as a function of each informational variable and delay conditions. These evaluations were obviously affected by the favorableness of the candidate’s image as conveyed in the videotape. Moreover, the candidate’s image had more effect when it was salient at the time of judgment (i.e., under no-delay conditions) than when it was not. The effects of agreement and ideological similarity are of greater interest, however. When the candidate’s image was not salient to participants at the time they received

<p>| TABLE 8.2 |</p>
<table>
<thead>
<tr>
<th>Candidate Evaluations As a Function of Delay Conditions, Image, Agreement With the Candidate’s Issue Stands, and Ideological Similarity</th>
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<tbody>
<tr>
<td><strong>No-Delay Conditions</strong></td>
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<tr>
<td>Candidate’s image</td>
</tr>
<tr>
<td>Favorable</td>
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<tr>
<td>Unfavorable</td>
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<tr>
<td>Difference</td>
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<tr>
<td>Participants’ agreement with issue stands</td>
</tr>
<tr>
<td>Agree</td>
</tr>
<tr>
<td>Disagree</td>
</tr>
<tr>
<td>Difference</td>
</tr>
<tr>
<td>Ideological similarity to candidate</td>
</tr>
<tr>
<td>Similar</td>
</tr>
<tr>
<td>Dissimilar</td>
</tr>
<tr>
<td>Difference</td>
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</tbody>
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*Note. Judgments are reported along a 100-point “feeling thermometer” from 0 (very unfavorable) to 100 (very favorable). Based on data from Wyer et al. (1991).*
information about his issue stands (under delayed-information conditions), they based their evaluations of the candidate on their agreement with his issue positions, and the candidate’s similarity to them in general ideology had virtually no effect. However, when participants learned about the candidate’s issue stands immediately after they had viewed his image-inducing speech, they based their evaluations on the candidate’s general ideology, and their agreement with him on specific issues had little influence. This was true under both no-delay and delayed-judgment conditions. Thus, the indirect effect of the candidate’s image on the processing of issue information (unlike its direct effects on judgments) was not a function of its salience at the time judgments were reported. Rather, it depended on the salience of the candidate’s image at the time the issue stand information was conveyed.

In summary, the salience of the candidate’s image at the time his issue stands were learned altered the way in which the implications of these issue stands were construed. That is, when a global image of the candidate was not salient, participants assessed their agreement with his stands on specific issues and based their judgments on this criterion independently of the ideological implications of the candidate’s positions. When the candidate’s image was salient at the time his issue positions were learned, however, participants applied a global criterion in assessing the implications of his issue positions as well. Consequently, their agreement with the candidate on specific issues had relatively little effect.\(^1\)

It is important to keep in mind that the influence of the candidate’s image in this study was only evident when it was particularly salient at the time the issue stand information was presented. As we have noted earlier, however, the accessibility of previously acquired knowledge is likely to be a function of the frequency with which participants have been exposed to it as well as the recency with which they have encountered it, and the effects of frequency are much more enduring (Higgins, 1996; Higgins, Bargh, & Lombardi, 1985). To this extent, Wyer et al.’s (1991) results suggest that the frequent exposure to politicians in the media could produce a general tendency to evaluate them on the basis of their general ideology independently of their specific issue positions. It is interesting to speculate that an incumbent president, who is often shown in newspapers or on television, is more likely to be evaluated on the basis of global ideological criteria, whereas less

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\(^1\)An alternative interpretation of these results might be that participants experienced overload when the candidate’s videotaped speech and his issue stands were conveyed in temporal proximity, and, therefore, they devoted less cognitive effort to an assessment of the candidate’s issue positions. If this were the case, however, they would presumably be inclined to use the candidate’s image as a heuristic, leading it to have greater effect on judgments than it otherwise would. In fact, the candidate’s image had no greater effect under delayed-judgment conditions (when the two types of information were presented together) than under delayed-information conditions. Therefore, this alternative interpretation does not seem viable.
well-known challengers, whose public images are less well established, are more often evaluated on the basis of their stands on specific issues.

**Facilitative and Interfering Effects of Visual Images on Verbal Information Processing**

The preceding studies suggest that when verbal information can be evaluated easily using either holistic or piecemeal criteria, making salient visual images of the individual may influence the criterion that is applied. Similar considerations suggest that when the information is conducive to only one type of processing, visual images that are salient at the time could either facilitate or interfere with this processing, depending on the type of information involved.

A series of studies by Adaval and her colleagues (Adaval, Isbell, & Wyer, 2003; Adaval & Wyer, 1998) bear on this possibility. Based on earlier research by Pennington and Hastie (1986, 1988, 1992), Adaval and colleagues assumed that when information about a person or object is conveyed in the form of a narrative (i.e., a temporally related sequence of events), people would construct a story about the sequence of events as a whole and would base their judgments on the implications of the story without considering the implications of each individual event in isolation. In contrast, individuals who receive the same information in an unordered list might be more inclined to engage in piecemeal processing of each feature separately and to integrate its implications using a mechanistic computational strategy (cf. Anderson, 1971; Fishbein & Hunter, 1964). If this is so, and if pictures dispose individuals to employ a global processing strategy, they should facilitate the processing of the first type of information, leading the information to have more effect. However, pictures could interfere with processing of the second type of information, leading the information to have less impact.

Studies in both the political domain (Adaval et al., 2003) and consumer decision making (Adaval & Wyer, 1998) suggest that this is true. In two studies by Adaval et al. (2003), participants received information about the events that occurred in the course of a politician’s career and were asked to form an impression of him. The information was conveyed in a brochure that began with a brief overview of the politician’s career, followed by more specific descriptions of the events that had occurred. In one case, however, the information was conveyed in a narrative. For example, the brochure describing one politician (“Thomas Winters”) began:

Thomas Winters was a well-known political figure between 1950 and 1975. He was a veteran of World War II and served as an executive of General Motors before becoming Governor of Michigan. He then served two years as a U. S. Senator, and ended his career as a special envoy to China.

This paragraph was followed by a series of paragraphs, each describing a different event that occurred during the politician’s career and the point at which it occurred,
for example:

He left General Motors to become Governor of Michigan. There, he showed sensitivity to public interests. Upon assuming office, for example, he went on television to oppose the construction of a nuclear waste processing plant near Detroit that would contaminate the city’s water supply.

Other activities included urging the government to halt the bombing in Vietnam, donating his summer home for use by a charitable organization, hosting the Pope during his visit to America, and helping to revise the state budget to provide support for crime prevention.

In contrast, the brochure, under list-format conditions, described the events in the politician’s life in bullet form and did not indicate their temporal relatedness. Thus, the brochure pertaining to Winters began:

Thomas Winters was a well-known political figure between 1950 and 1970. He was:

- A member of the U. S. Senate
- A World War II veteran
- A General Motors executive
- Governor of Michigan
- Special envoy to China

Although the individual events were conveyed in the same order they were presented in narrative-format conditions, they were also conveyed in bullets that had no temporal implications:

- Was sensitive to the interests of the public while Governor of Michigan.
- Went on television to oppose the construction of a nuclear waste processing plant that would contaminate the city’s water supply.

In some conditions, the verbal description of each life event was accompanied by a black-and-white photograph of the politician ostensibly engaged in activities related to the event (giving a speech, talking to someone, etc.) or, in some cases, the event itself. (Thus, for example, a statement that the politician had headed a committee to investigate how to decrease violent crime was accompanied by a picture of a policeman at the scene of a killing.) The pictures were taken from books and magazines. (Pictures of Henry Kissinger were used for one of the two politicians, and pictures of Robert McNamara were used for the other. Pretesting indicated that neither politician’s face was familiar to the college student population from which participants were drawn.) Participants, after reading the brochures, reported their impressions of each politician along a scale from \(-5\) (very unfavorable) to \(+5\) (very favorable) and then recalled the events they had read about.

Evaluations of the politicians are shown in Table 8.3 as a function of information presentation format and the presence or absence of pictures. As these data show, participants in no-picture conditions evaluated politicians less favorably
TABLE 8.3
Impressions of Politicians and Number of Events Recalled As a
Function of Format, the Presence of Pictures, and Presentation Order

<table>
<thead>
<tr>
<th></th>
<th>Narrative Format</th>
<th>List Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impressions of politician</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pictures</td>
<td>3.98</td>
<td>3.63</td>
</tr>
<tr>
<td>No pictures</td>
<td>3.58</td>
<td>3.95</td>
</tr>
<tr>
<td>Number of items recalled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pictures</td>
<td>5.79</td>
<td>4.92</td>
</tr>
<tr>
<td>No pictures</td>
<td>5.04</td>
<td>4.98</td>
</tr>
</tbody>
</table>

Note. Judgments are reported along a scale from −5 (very unfavorable) to 5 (very favorable). Based on data from Adaaval et al., 2003, Experiment 1.

When the information about them was conveyed in a narrative than when it was listed. However, introducing pictures increased evaluations in the former condition and decreased it in the latter. As a result, evaluations of the politicians when pictures were presented were more favorable when the information was conveyed in a narrative than when it was listed. Although these differences were small in magnitude, the interaction of format and pictures was reliable (p < .05). As shown in the bottom half of Table 8.3, the number of events that participants recalled in each condition showed a similar pattern. This is consistent with the assumption that differences in processing difficulty mediated the effects we observed.

The information-processing strategies that underlie these effects may be activated and applied spontaneously, with little conscious awareness. This was suggested in a second study in which participants were explicitly told the strategy they should use. That is, participants in piecemeal-instruction conditions were told to “imagine the specific events that occurred in each politician’s life,” and to “use these individual events as a basis for your impression.” In contrast, participants under holistic-instruction conditions were told to “imagine each politician’s life as a whole and to use this as a basis for your impression.” Participants’ self-reports of the strategy they employed confirmed the assumption that they attempted to comply with these instructions. Nevertheless, participants’ candidate evaluations showed a pattern very similar to that observed in the first study. These data are summarized in Table 8.4. That is, pictures increased judgments based on information that was conveyed in a narrative and decreased the extremity of judgments based on information that was conveyed in a list, and these effects did not depend significantly on the criteria participants were told to use.

The interfering effects of pictures when verbal information was conveyed in a list may be limited to conditions in which the pictures accompany this information. If an image of a person or event is constructed before verbal information about it is received, as in the study by Wyer et al. (1991), this interference might not be apparent. This possibility was examined in an additional study by Adaaval et al. (2003). The design of this experiment was similar to that of the earlier ones. In
TABLE 8.4
Impressions of Politicians As a Function of Format, Task Demands, the Presence of Pictures, and Presentation Order

<table>
<thead>
<tr>
<th></th>
<th>Narrative Format</th>
<th>List Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holistic instructions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pictures</td>
<td>3.94</td>
<td>3.61</td>
</tr>
<tr>
<td>No pictures</td>
<td>3.46</td>
<td>4.03</td>
</tr>
<tr>
<td>Piecemeal instructions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pictures</td>
<td>3.76</td>
<td>3.12</td>
</tr>
<tr>
<td>No pictures</td>
<td>4.00</td>
<td>4.02</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pictures</td>
<td>3.85</td>
<td>3.37</td>
</tr>
<tr>
<td>No pictures</td>
<td>3.73</td>
<td>4.03</td>
</tr>
</tbody>
</table>

Note. Judgments are reported along a scale from –5 (very unfavorable) to 5 (very favorable). Based on data from Adaval et al., 2003, Experiment 2.

In this case, however, pictures of the politicians were presented at the beginning of the brochure, before the written descriptions of the candidate’s life events were conveyed, rather than in the context of these events. Under these conditions, pictures tended to increase evaluations of the politicians regardless of the format in which the information was conveyed. Interestingly, this increase was particularly pronounced among individuals who typically were not disposed to form visual images spontaneously on the basis of verbal information. Participants who typically formed visual images apparently formed these images on their own without the aid of pictures, so the addition of these pictures had little effect.

These results suggest that stimulating people to form visual images of a person or object at one point in time can sometimes increase the influence of verbal information they receive later. In this regard, Nisbett and Ross (1980) have argued that concrete, imageable information about an object often has greater impact on judgments than abstract (“pallid”) consensus information that objectively is more reliable. Moreover, this impact can often increase as time goes on (cf. Reyes, Thompson, & Bower, 1980). The results of the present study expand on this possibility. That is, pictures of a person or object at one point in time may increase the ability to imagine the events described by subsequent information about their referent, thereby concretizing these events and leading the events to have more impact than they otherwise would.

Implications for Images Conveyed in the Media

In the research described in this section, the visual information we presented concerned the same people to whom the verbal information pertained. However, it was not particularly relevant to an understanding of this information. Nevertheless, it had an impact on the way the verbal information was processed and the inferences that were drawn from on it. Thus, a political candidate’s videotaped
speech that had no implications for his political orientation influenced the way in which descriptions of his issue stands were processed and the conclusions drawn from them. Pictures of a politician that were peripheral to the verbal descriptions of events in his life likewise influenced the inferences that recipients made about the politician on the basis of these events.

Communications about people in the media usually consist of both visual and verbal material, presented either simultaneously or at different times. The results we obtained suggest that even though the verbal descriptions of an individual might provide an accurate characterization of him or her, nonverbal components of media communications (presented either simultaneously or separately) can affect the impact of these descriptions. In other words, although the visual characterizations of a person and his or her activities might be intended solely to stimulate interest and provide enjoyment, it could actually influence the conclusions people draw from the verbal information about the person and the extent to which they are persuaded by it.

COMMUNICATING ABOUT MEDIA CONTENT: THE EFFECTS OF VERBAL CODINGS OF VISUAL INFORMATION ON MEMORY

Our discussion thus far has implications for the way in which visual stimuli of the sort people encounter in the media can influence the interpretation of verbal information to which it is often remotely relevant. However, the influence of visual and verbal information on one another can be reciprocal. In some instances, verbal descriptions of observations that people communicate to others, perhaps for the purpose of being entertaining, can later influence their memory for the events that were observed and, therefore, can potentially influence the impact of these events on judgments they make at a later point in time.

These possibilities are suggested indirectly by evidence that once people have made an initial judgment of a person or object, they often retrieve and use this judgment as a basis for later ones without consulting the information on which the first judgment was based (Carlston, 1980; Higgins & Lurie, 1983; Lingle & Ostrom, 1979; Sherman, Ahlm, Berman, & Lynn, 1978). More directly relevant is a study by Higgins and Rholes (1978). They showed that when people describe a person to someone who either likes or dislikes this person, they tend to tailor their communication to the values of the intended recipient. Once they have done so, however, they base their own liking for the person on the implications of the message they wrote, rather than on the original information they received about the person. Participants in the course of preparing their communication apparently formed a new representation of the person they were describing, and this representation was later retrieved from memory and used to attain goals to which it was relevant independently of the implications of the information on which it was based.
This possibility has potentially important implications for the issues of concern in this chapter. When people watch a movie or television show, they are likely to construct a mental representation of it that is coded in a modality similar to that in which it was presented (i.e., both visually and acoustically; see Wyer & Radvansky, 1999). Later, however, they may be called on to describe the events they saw to another. Alternatively, they may communicate their impressions of one or more of the characters. In doing so, they presumably encode their initial observations in terms of more abstract concepts that are relevant to the communication they are generating. If they are later asked to make judgments of the people or events conveyed in the original movie, they might retrieve and use this verbally coded representation in the course of communicating about it, without considering the original, nonverbally coded material. To this extent, their judgments may be less accurate than they would be if this more abstract representation had not been used.

Two studies by Adaval and Wyer (2003) examined these effects. Participants watched the initial 12-min segment of Albee’s *Who’s Afraid of Virginia Woolf*. The segment portrays an animated conversation between a man and woman after coming home from a late-night party. Some participants were told before watching the movie that they would later be asked to describe what went on, whereas others were told they would be asked to report their impressions of the protagonists. In two other conditions, participants were told at the outset to watch the movie as they would if they were seeing it in a theatre and were not informed of the task they were asked to perform until afterward. After watching the movie, participants in all four conditions were asked to spend 5 min either writing down what went on or describing their impressions, depending on the objective they had been assigned. Participants in a fifth, control condition did not receive specific objectives either before or after watching the movie and spent 5 min after watching the movie describing a typical day at school. After completing the writing task, all participants were then administered a recognition memory task in which they were asked to identify both things the protagonists said during the interaction or things they had done.

We expected that participants who watched the movie would form a detailed mental representation of it that (like the movie itself) was coded both visually and acoustically. However, when they later conveyed their impressions of the protagonists, or described the sequence of events that occurred, they presumably formed a semantically coded representation that was relevant to their communication objective. However, the features of this latter representation were likely to be coded more abstractly than features of the representation they had formed while watching the movie. Consequently, if participants use the representation as a basis for their recognition responses, they are likely to be less accurate than they would be if this abstract verbal representation had not been formed.

The content of the abstract representation that participants form, however, should depend on their communication objective. If participants are describing the sequence of events that occurred, both things the protagonists said and things they did are relevant. Consequently, protagonists’ statements and their nonverbal
behaviors should both be depicted in the abstract representation they formed when they were asked to describe this sequence. We therefore expected that participants who had formed this representation would use it to verify both protagonists’ statements and their behaviors, so their accuracy in identifying both types of items would be diminished relative to conditions in which they had not performed this task.

In contrast, suppose participants are describing their impressions of the protagonists. In the particular movie segment that participants observed, protagonists’ statements were quite relevant to an understanding of their personality but their nonverbal behaviors were generally uninformative. Therefore, the representation that participants construct in the course of describing their impressions should convey the implications of things the protagonists said but not the things they did. If this is so, these participants should be likely to consider this representation to be a sufficient basis for verifying protagonists’ statements but might resort to the less-accessible representation they had formed while watching the movie to verify nonverbal behaviors. Consequently, their accuracy in recognizing statements should be adversely affected, but their accuracy in recognizing nonverbal behaviors should not.

Results were largely consistent with these conjectures. The two studies differed primarily in the nature of the recognition task that the participants performed. In one experiment, recognition items were verbal descriptions of the things protagonists said and did along with an equivalent number of items that were not conveyed in the movie. In the second study, recognition items consisted of acoustic recordings of protagonists’ actual utterances and visual frames extracted from the movie. The results of both studies are summarized in Table 8.5, which shows

| Event-description objectives | Experiment 1 | | | Experiment 2 |
|-----------------------------|-------------|-------------|-------------|
|                            | Statements  | Behavior    | Statements  | Behavior    |
| Induced before watching movie | -.189²      | -.360       | -.070       | -.046       |
| Induced after watching movie | -.065       | -.297       | -.044       | -.095       |
| Impression-description objectives | | | | |
| Induced before watching movie | .130        | .000        | .045        | .046        |
| Induced after watching movie | -.108       | .021        | -.022       | .046        |

Note. Based on Adaval and Wyer (2003).
²Recognition accuracy in Experiment 1 was based on a measure that controls for guessing (Hilgard, 1951). This measure could not be applied reliably in Experiment 2 because there were too few distractors. Consequently, accuracy in this study was inferred from the proportion of items that participants identified correctly. In each case, cell entries refer to differences between the accuracy obtained under each task-objective condition and accuracy observed in comprehension-only conditions.
the difference in recognition accuracy at each combination of task objectives and the time these objectives were induced and the accuracy under control conditions. Asking participants to communicate the sequence of events that occurred decreased their recognition accuracy relative to control conditions, and this was true regardless of when these objectives were induced. In contrast, asking participants to describe their impressions of the protagonists after watching the movie only decreased their accuracy of identifying things the protagonists said and did not appreciably influence their recognition of nonverbal behaviors. Moreover, the effects of impression-formation objectives were evident only when task objectives were induced after participants had watched the movie.\(^2\)

More generally, these studies show not only that conclusions drawn from verbal information can be influenced by visual stimuli but also that memory for visually coded information can be influenced by verbal communications. In the studies we conducted, the events described in the visual material were fictitious. However, it is reasonable to suppose that similar effects could occur when people communicate about actual events they see on television. To this extent, not only may exposure to information in the entertainment media influence the impact of other information, but also communications about media content, perhaps for the purpose of being entertaining, can influence memory for the original events and, therefore, beliefs and attitudes to which the events are relevant.

**CONCLUDING REMARKS**

Much of the information conveyed in the media is intended to entertain or to stimulate interest. This is particularly true of information that is conveyed in pictures or video vignettes. The research reviewed in this chapter suggests that this information can have an impact on how people think about verbal information they receive in either the same context or in different contexts and, therefore, the conclusions they draw from it. To this extent, it can have an impact on the attitudes

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\(^2\)The effects of inducing task objectives before participants watched the movie require further consideration. Participants are likely to include all of the statements and behaviors that they consider to be of sufficient interest to communicate to others in the representation they formed spontaneously in the course of comprehending what went on. Thus, the content of the representation that participants formed when they had an event-description objective was likely to be similar in content regardless of whether they were informed of this objective before or after they saw the movie, so the goal-specific representation they formed was also likely to be similar in the two cases. As this reasoning implies, describing the sequence of events that occurred decreased recognition accuracy, regardless of when participants were informed they would have to generate this description. In contrast, participants who expect to communicate their impressions of the participants may include things in the representation they form while watching the movie that are relevant to their impressions but would not be depicted in the representation they would form when they are only trying to comprehend what is going on. The implications of these additional features may then be included in the communication they generate later, and their recognition may benefit, as results suggest.
and beliefs that are formed from this information in ways in which recipients are often unaware and that the communicator may not always intend.

As we acknowledged at the outset, the research we have reported was not designed with the explicit intention of examining the impact of the media on attitudes, values, and behavior. Moreover, the effects we discussed were largely induced by situation-specific factors, the effects of which are likely to dissipate over time. As we have noted, however, frequent exposure to stimuli is likely to increase their chronic accessibility and, therefore, to have an influence that persists over time and situations. Enduring effects of the sort we have described nevertheless remain to be established. The work we have summarized suggests directions in which future research might take.

ACKNOWLEDGMENTS

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REFERENCES


8. EFFECTS OF VERBAL AND NONVERBAL INFORMATION


