Reprinted from:

Wyer, R. S., & Srull, T. K. (Eds.) (1991). *Advances in Social Cognition* (Vol. 4, pp. 147-161). Hillsdale, NJ: Erlbaum.

8 Thought Systems, Argument Quality, and Persuasion

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Our goal in this chapter is to draw out some of the implications for persuasion of the McGuires' intriguing analysis of thought systems. At the center of their analysis is the "core event." A core event is simply some event that may occur in the world or to some person in particular. These events can vary in their perceived likelihoods of occurrence and their desirabilities. At the most general level, the presentation of a persuasive communication can be viewed as a core event. A person may view a specific message as likely or unlikely to be presented, and this message may be seen as relatively desirable or undesirable. The perceived likelihood of occurrence of a message and its expected desirability are relevant to work on such topics as "selective exposure" to communications (see Frey, 1986) and anticipatory attitude change (see Cialdini & Petty, 1981).

An alternative to analyzing the expected message as the core event is to view a specific message assertion or conclusion (e.g., drivers will be required to wear seat belts by Federal law) in this manner. This is the approach to attitude change that the McGuires have taken in their chapter, and they have distinguished two methods of persuasion. In the first or "external/passive" approach, a source induces a change directly by asserting a position that conflicts with the recipient's initial viewpoint with respect to the likelihood or desirability of the core event (e.g., "Nine of ten safety experts believe that passage of a federal law requiring seat belts is highly desirable"). In this approach, attitude change occurs whenever there is sufficient incentive for the person to learn and accept whatever the source asserts (cf. Hovland, Janis, & Kelley, 1953). In a second method, change is produced by the more "internal/active" process of enhancing the salience of information that a person already has in memory (e.g., participants are requested

to list as many desirable consequences as they can of a federal law requiring use of seat belts).

It is understandable that the McGuires would emphasize these two forms of attitude change, because the primary focus of their chapter is not on understanding the processes leading to attitude change per se but instead concerns the *effects* of induced attitude changes on the thought system. In contrast, the focus of much recent work on persuasion concerns how the thought system is responsible for attitude change when a person is confronted with a persuasive communication containing various message arguments that justify and support the assertion (see Chaiken, 1987; Petty & Cacioppo, 1986a; Tesser & Shaffer, 1990). Because of this focus in contemporary persuasion work, we explore the utility of analyzing each of the arguments in a persuasive communication as a core event.

Specifically, a persuasive argument offered in support of some advocated position (e.g., "the Federal government should pass a seat belt law") could point to a good consequence that is likely to occur, if the advocated position is adopted (e.g., "A seat belt law will save lives"), or a bad consequence that is likely to be avoided (e.g., "A new law will prevent many injuries"). Alternatively, a persuasive argument might point to a negative consequence that is likely to occur, if the advocated position is *not* adopted (e.g., "If a law is not passed, injuries will be increased") or to a positive consequence that is unlikely (e.g., "If a law is not passed, lives won't be saved;" cf. Fishbein & Ajzen, 1975).

Our research on persuasion over the last decade shows that externally originated persuasion need not occur by a passive process in which the person simply accepts an assertion based on salient reinforcing cues. Instead work guided by the Elaboration Likelihood Model (ELM) of persuasion (Petty & Cacioppo, 1981, 1986b) and others (cf. Chaiken, 1987) shows that people accept (or reject) assertions based on simple cues (e.g., source attractiveness) primarily when they are relatively unmotivated or unable to think about the arguments provided. This occurs, for example, when the assertion is on a topic of low personal relevance, or the message recipients have little supporting knowledge to guide thinking. On the other hand, when motivation and ability to think about the assertion are high, people scrutinize the available arguments in an active fashion, accepting the advocacy only if the arguments are found to be compelling and rejecting the assertion (and perhaps even showing boomerang) if the arguments are found to be weak (see Petty & Cacioppo, 1986a, for a review).

Although much recent work on persuasion focuses on uncovering the variables that increase or decrease the tendency for people to think about the message arguments (e.g., distraction, Petty, Wells, & Brock, 1976; need for cognition, Cacioppo, Petty, & Morris, 1983) or that serve as peripheral cues (e.g., the mere number of arguments in the message, Petty & Cacioppo, 1984; whether the audience supports or rejects the speaker, Axsom, Yates, & Chaiken, 1987), hardly any work focuses on the specific nature of the thought processes that occur when the elaboration likelihood is high. The model of thought systems outlined

by the McGuires provides a rich context from which to analyze how externally provided arguments are processed. Our primary goal here is to draw out some of these implications.

RELATIVELY OBJECTIVE PROCESSING

In order to assess whether some variable has increased, decreased, or had no effect on argument processing, a typical ELM study varies the quality of the arguments employed in the persuasive communication (see Petty & Cacioppo, 1986a, chapter 2). Specifically, some subjects receive "strong" arguments, whereas others receive "weak" ones. Argument quality is defined empirically such that strong arguments are those that elicit favorable thoughts and attitudes when subjects are instructed to think about them, whereas weak arguments are those that elicit unfavorable thoughts and attitudes under these conditions. By manipulating argument quality along with some other variable, it is possible to assess whether that variable enhances or reduces argument processing over some baseline condition. Specifically, attitudes in response to strong and weak arguments should be more differentiated when argument processing is high rather than low.

The target chapter by the McGuires, as well as prior analyses of the nature of belief systems (e.g., Fishbein & Ajzen, 1975; McGuire, 1960; Wyer, 1974), suggests that there are at least two components to argument quality. Table 8.1 summarizes four of the arguments that we have used on the topic of instituting comprehensive exams for university seniors (e.g., Petty & Cacioppo, 1984). Argument "A" states that, if comprehensive exams are instituted, the quality of undergraduate instruction will be improved. This argument will be strong or compelling to the extent that the person sees high quality instruction as both *desirable* and *likely to occur* as a result of instituting comprehensive exams. What differences might be expected between the thoughts of a person who minimally processes this argument versus one who thinks about it diligently? The minimal processor may merely recognize the form of the argument—that the speaker thinks that something presumably good will happen, if the exams are

TABLE 8.1
Possible Likelihood and Desirability Ratings of Consequences Associated with Instituting Senior Comprehensive Exams

Senior Comprehensive Exams Will:	*Likelihood*	*Desirability*
A—Enhance undergraduate instruction	7	7
B—Increase student anxiety	7	3
C—Reduce campus discrimination	3	7
D—Increase student enrollment	3	3

adopted. It is possible for the minimal processor to assign an average desirability and an average likelihood to the consequence without even knowing what it is. The attentive processor, on the other hand, will find this argument more persuasive than the minimal processor to the extent that the consequence is seen as higher than average in desirability and/or greater than average in likelihood.[1]

As the McGuires outlined, a consequence will seem more likely if elaboration leads the person to generate possible antecedents. For example, a person might reason that if faculty members face the prospect of having their students assessed by a comprehensive exam, then they might be motivated to prepare better for courses. This better preparation would then lead to higher quality instruction. Without the motivation or ability to reflect on possible antecedents, the consequence might not seem especially likely. Alternatively the person's thoughts might elaborate the consequences of better teaching. A student might think that better instruction in courses would lead to more enjoyment in class, better grades, and so forth. If these favorable consequences are generated, then better teaching would seem more desirable under high than under low elaboration conditions.

As shown in Arguments B, C, and D in Table 8.1, arguments can be weak according to this analysis, because they propose: (a) a consequence that is just as likely as found in a strong argument but one that seems less desirable (Argument B), (b) a consequence that seems equally desirable but is much less likely (Argument C), or (c) a consequence that seems both less desirable and less likely (Argument D).[2] As is the case with strong arguments, the minimal processor confronted with weak arguments may assign an average likelihood and an average desirability to each consequence, whereas the attentive processor will be more discriminating. The active elaborator should downgrade the likelihood of a consequence when thought fails to elicit ways in which the consequence might come about, and the desirability of the consequence should be devalued when thinking elicits undesirable ramifications of its occurrence. Research clearly shows that, when people are actively processing a message, strong arguments elicit more favorable thoughts, and weak arguments elicit more unfavorable thoughts, but persuasion researchers have not yet examined the extent to which the thoughts focus on elaborating antecedents or consequences of the core event mentioned in the argument.

[1]Other dimensions, such as the perceived importance of the core event or novelty of it, may also be important for persuasion (cf. Vinokur & Burnstein, 1974). Here we focus on the two dimensions highlighted in the target chapter by the McGuires.

[2]Although Table 8.1 shows weak arguments as varying in both likelihood and desirability, a content analysis by Areni and Lutz (1988) of the messages employed in some of our research (i.e., Petty, Cacioppo, & Schumann, 1983; Petty, Harkins, & Williams, 1980) shows that our strong arguments have differed from our weak ones primarily in rated desirability rather than likelihood. It is also important to note that a message arguing in favor of senior comprehensive exams could point to negative consequences that are likely if the exams are *not* instituted, or positive consequences that are unlikely (see Table 8.2).

A number of interesting possibilities are worth exploring. For example, when the persuasive message is on an issue for which control is possible (the McGuires suggested that issues affecting one's personal life fall into this category) or the message recipients are high in their desire for control (cf. Burger & Cooper, 1979), thoughts under high-elaboration conditions might focus on the antecedents of the core events mentioned in the arguments, and persuasion would be mediated by changes in the likelihood component of each argument. On the other hand, when the issue is one for which control is less possible (the McGuires suggested that many social issues fall into this category), or the message recipients are low in their desire for control, thoughts under high-elaboration conditions might focus on the consequences of the core events, and persuasion would be mediated by changes in the desirability component of each argument.[3]

RELATIVELY BIASED PROCESSING

As noted previously, some variables have been found to enhance (or reduce) information processing activity in a relatively objective fashion. Other variables have been found to impart a systematic bias to the thought content under high-elaboration conditions. A good case in point concerns a person's mood. Current work outlines at least three ways in which a person's mood can have an impact on attitude change (Petty, Cacioppo, Sedikides, & Strathman, 1988). First, when people are not particularly motivated or able to think about a message, mood acts as a simple cue, enhancing persuasion when the mood is pleasant but reducing persuasion when it is unpleasant. When motivation and ability are moderate, mood appears to determine how much thinking occurs (Worth & Mackie, 1987). When the elaboration likelihood is high, however, mood appears to determine the extent of persuasion by influencing the nature of the thoughts that come to mind.

In one study demonstrating multiple roles for mood, the impact of a person's transient feelings were examined under high- and low-elaboration likelihood conditions (Petty, Schumann, Richman, & Strathman, 1991). In this study, subjects were exposed to an advertisement for a new pen in the context of a relatively pleasant television program (an episode of a popular situation comedy) or a more neutral program (a segment from a documentary). The likelihood of thinking about the critical ad was varied by telling some subjects that they would be allowed to select a free gift at the end of the experiment from a variety of brands

[3]The McGuires' analysis of thought systems also allows some novel persuasion predictions. For example, the congruent-origins postulate suggests that a potentially effective, indirect persuasion technique would be to focus a message on the desirability of the antecedents of some core event (e.g., wearing seat belts). If the factors that would bring about the core event are seen as more positive, the core event may be viewed more favorably, because good is presumed to come from good.

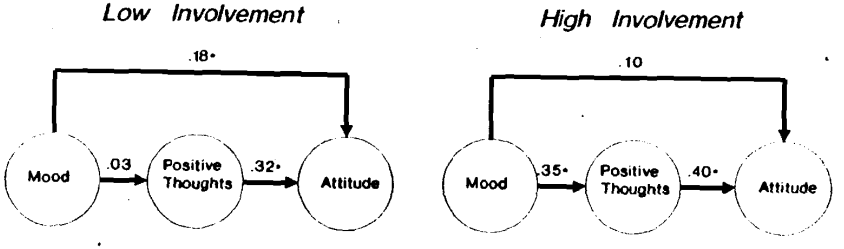

FIG. 8.1. Central and peripheral effects of mood on attitudes under low- and high-involvement conditions (data from Petty et al., 1991).

of the target product (high-elaboration likelihood) or that they would be allowed to select a free gift from another product category (low-elaboration likelihood). Following exposure to the ad, subjects reported on their mood, rated their attitude toward the product, and listed the thoughts they had during the message. The results of this study revealed that the pleasant program led to a more positive mood and more positive evaluations of the product under both high- and low-elaboration conditions. Importantly and consistent with the notion that pleasant mood produced positive attitudes by different processes under high- and low-elaboration conditions was the finding that pleasant mood was associated with more positive thoughts about the product under high- but not low-elaboration conditions. That is, when the elaboration likelihood was high, positive mood appeared to increase the accessibility of positive thoughts and ideas (Bower, 1981; Isen, 1987), but it did not do so when the elaboration likelihood was low.

Figure 8.1 depicts the results from causal path analyses that simultaneously estimate the three paths between: (a) self-reported mood and attitude toward the pen, (b) self-reported mood and proportion of positive thoughts listed during the thought listing period, and (c) proportion of positive thoughts and attitude. The analysis for subjects in the low-elaboration conditions revealed that mood had a direct effect on attitudes but mood did not influence thoughts (see left panel). In contrast, under high-elaboration conditions, mood had no direct effect on attitudes. Instead mood influenced the positivity of thoughts, which in turn had an impact on attitudes (see right panel).

An interesting question that remains unexamined is: What is the specific effect of mood on the thought system? That is, when a pleasant mood made thoughts in response to the message arguments more positive in the high elaboration conditions, how did this occur? Following the McGuires' thought-system analysis, there are at least three plausible ways for mood to have affected processing of the message arguments. First, mood could have influenced the perceived desirability of the attributes of the pen that were presented in the advertisement. Second, mood could have influenced the likelihood that the pen possessed these attributes. Third, mood could have influenced both perceived desirability and likelihood.[4]

Mood and Likelihood Judgments

What is the expected impact of mood on likelihood judgments? In a relevant study, Johnson and Tversky (1983) examined the impact of both positive and negative moods on the perceived frequency of events. In this research, affect was manipulated by having subjects read newspaper stories (e.g., describing tragic or happy events) that produced either positive or negative mood states. Following exposure to the stories, subjects were asked to provide frequency estimates of a number of negative occurrences (e.g., fatalities due to heart disease, floods) that were either related or unrelated to the newspaper accounts. The induction of negative affect produced a global increase in the estimated frequency of the negative events, but positive affect produced a global decrease in estimates of these events. Although Johnson and Tversky did not have subjects judge the frequency of positive events, it may be reasonable to assume that parallel results would have been obtained. That is, positive mood would have increased frequency estimates of positive events, but negative mood would have decreased frequency estimates of these events.

In constructing a persuasive message, a speaker can focus on the positive consequences that will occur and the negative consequences that will not occur as a result of following a recommendation, or the negative consequences that will occur and the positive consequences that will not occur as a result of failing to follow the advocacy. Column 4 in Table 8.2 summarizes the expected effect of mood on likelihood judgments for various types of message arguments. Considering the effect of mood on likelihood judgments alone leads to the expectation that arguments stressing the positive consequences that would occur (e.g., living longer) or the negative consequences that would be avoided (e.g,. premature death) by carrying out a recommendation (e.g., stopping smoking) should be more persuasive for people in a pleasant than an unpleasant mood, because the good consequences will seem more likely, and the bad consequences will seem less likely. On the other hand, arguments stressing the negative consequences that would occur (e.g., lung cancer) or the positive consequences that would not occur (e.g., living longer), if the person fails to carry out a recommendation, should be more persuasive for people in an unpleasant mood, because the bad consequences will seem more likely, and the good consequences will seem less likely. Although some research has examined the general persuasiveness of messages employing different framing of arguments (e.g., Meyerowitz & Chaiken,

[4]It is also possible that positive mood could have led to the generation of new positive attributes with their own desirabilities and likelihoods.

TABLE 8.2
Anticipated Effects of Positive and Negative Mood on the Perceived Desirability and Likelihood of Consequences Mentioned in a Persuasive Communication

	Type of Argument in Message	*Type of Mood*	*Effect of Mood on Desirability*	*Effect of Mood on Likelihood*	*Persuasion Outcome*	*Motivational Outcome*
If Advocacy Is Adopted	Positive consequence likely	Pleasant	consequence seems more desirable*	consequence seems more likely*	Good	Favorable
	Negative consequence unlikely	Pleasant	consequence seems less desirable*	consequence seems less likely*	Good	Favorable
	Positive consequence likely	Unpleasant	consequence seems more desirable*	consequence seems less likely	Mixed	Unfavorable
	Negative consequence unlikely	Unpleasant	consequence seems less desirable*	consequence seems more likely	Mixed	Unfavorable
If Advocacy Is Not Adopted	Positive consequence unlikely	Pleasant	consequence seems more desirable*	consequence seems more likely	Mixed	Favorable
	Negative consequence likely	Pleasant	consequence seems less desirable*	consequence seems less likely	Mixed	Favorable
	Positive consequence unlikely	Unpleasant	consequence seems more desirable*	consequence seems less likely*	Good	Unfavorable
	Negative consequence likely	Unpleasant	consequence seems less desirable*	consequence seems more likely*	Good	Unfavorable

Note. * indicates mood effect is good for persuasion.

1987), no researchers have yet examined possible interactions of recipient mood with message type.[5]

Mood and Desirability Judgments

Of course the perceived likelihood of a consequence is only one part of argument evaluation. A more complete understanding requires examination of the effect of mood on judgments of desirability as well. A number of studies explore the impact of mood on judgment, with some work supporting the view that people assimilate judgments to their current mood (cf. Schwarz, 1990). For example, in one study, people were more optimistic about political leaders and future events, if questioned right after viewing a happy rather than a depressing movie (Forgas & Moylan, 1987). On the other hand, some research provides support for the view that judgments are contrasted from one's current mood. For example, in one study, individuals who imagined negative events (such as a friend's death) rated aspects of their lives as better than subjects who imagined positive events (Dermer, Cohen, Jacobsen, & Anderson, 1979).

A person's mood is directly experienced as either good or bad (desirable or undesirable); therefore, it is reasonable to assume that the goodness or badness of one's mood can be used as a judgmental anchor against which one might evaluate the goodness or badness of other events. If mood serves as a judgmental anchor, then social judgment theory (Sherif & Hovland, 1961) provides a guide as to whether assimilation or contrast is to be expected. Specifically people should assimilate to their moods events that are evaluatively congruent but contrast those that are incongruent (cf. Herr, Fazio, & Sherman, 1983). That is, people in a pleasant (desirable) mood should judge positive events to be even more positive than people in a neutral mood (assimilation) but judge negative events to be worse (contrast). People in an unpleasant (undesirable) mood should behave in an analogous manner. That is, when in a bad mood, negative events should be assimilated (seen as more bad), but positive events should be contrasted (seen as more good). These expectations are summarized in Column 3 in Table 8.2.

In a recent attempt to provide evidence regarding the effects of mood on judgments of the desirability of core events, college students were placed in one of three moods (happy, sad, neutral) using an imagination and visualization task and then were asked to rate the goodness of various events stated as sentence

[5]Strictly speaking, the probabilities with which we are concerned are the conditional probabilities that the consequence will occur *given that* the advocacy is and is not followed. For example, consider a message which advocates that stopping smoking will cause one to live longer. Positive mood would make this argument seem stronger to the extent that the person comes to believe that living longer seems more likely if smoking is stopped, but that living longer does not seem more likely if smoking is not stopped. On the other hand, if the person came to believe that the positive consequence of living longer is more likely regardless of one's smoking habits, the argument would not be rendered stronger by the pleasant mood. In fact, the argument could even become less powerful!

fragments (Gleicher, Baker, & Petty, 1989). Subjects judged 27 events in all. Nine of the events were assessed in pretesting as being generally positive (i.e., hosting a reunion for college friends); nine were negative (e.g., getting a speeding ticket), and nine were neutral (e.g., using a 24-hour film developing service). Within each category, three of the events were rated in pretesting as being very unlikely; three were moderately likely, and three were very likely to occur. The events were presented in one of two random orders, and subjects rated how positive or negative the events were on an 11-point scale anchored at "0" (very negative) and "10" very positive. Following this, all subjects completed the "need for cognition" scale (Cacioppo & Petty, 1982), which assesses the extent to which a person tends to engage in and enjoy thinking.

Individuals low in need for cognition showed little evidence of judgmental distortion, but high-need-for-cognition individuals provided support for the assimilation/contrast model. As shown in Fig. 8.2, when in a positive mood, high-need-for-cognition subjects assimilated positive events and contrasted negative ones. When in a negative mood, negative events were assimilated, and positive events were contrast. The joint operation of assimilation and contrast meant that valenced events were judged more extremely when a person was in either a

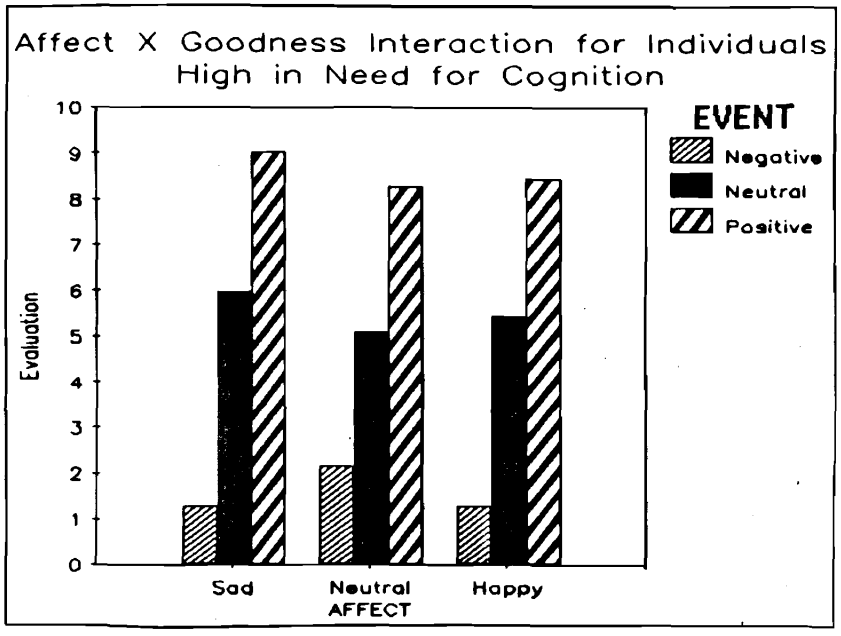

FIG. 8.2. Effects of sad, neutral, and happy moods on desirability judgments of negative, neutral, and positive life events (data from Gleicher et al., 1989).

positive or negative mood than when in a neutral mood. The a priori likelihood of the events had no impact on these results.

Implications for Persuasion

Previous research on the effects of mood suggests that a person's mood is capable of influencing both likelihood and desirability judgments (at least when people are engaged in thought). What are the implications of these effects for the persuasiveness of message arguments? Column 5 of Table 8.2 summarizes the possible persuasion consequences of the judgmental effects outlined previously. This table suggests that pleasant (e.g., happy) mood may be effectively paired with positive/likely arguments in support of a recommendation (e.g, "If you stop smoking, it is likely that you will live longer"), because the positive consequence (living longer) will seem both more desirable and more likely when mood is pleasant rather than neutral. Positive mood should also enhance the persuasiveness of negative/unlikely arguments in support of a recommendation ("If you stop smoking, it is unlikely that you will get cancer"), because the negative consequence that the person wishes to avoid (getting cancer) will seem more negative but less likely. The more negative the outcome that a person can avoid, the more beneficial it is to follow the recommendation.

The bottom half of Table 8.2 suggests that an unpleasant (e.g., sad) mood can be effectively employed, if the message outlines the consequences of *not following* an advocacy. Specifically when outlining the consequences of not following a recommendation, negative mood may be effectively paired with negative/likely arguments ("If you don't stop smoking, it is likely that you will get cancer"), because the negative consequence will seem worse and more likely, and with positive/unlikely arguments ("If you don't stop smoking, it is unlikely that you will live longer"), because the positive consequence will seem more positive but less likely. All other pairings in the table provide a mixed situation. For example, when unpleasant mood is paired with a positive/likely argument framed positively (e.g., "If you stop smoking, it is likely that you will live longer"), the positive event seems better, which is good for persuasion, but it also seems less likely, which is not good for persuasion.

In sum, our analysis of the effects of mood on the processing of the desirability and likelihood components of arguments suggests that either pleasant or unpleasant mood can enhance persuasion over a neutral mood depending on the framing of the message and the type of arguments employed. Our analysis, based on extant research on mood and judgments, suggests that, when people are in a positive mood, it is best to employ optimistic messages emphasizing the positive consequences that will occur or the negative consequences that can be avoided, if the recommendation is followed. On the other hand, when people are in a negative mood, it is best to employ more pessimistic or threatening messages emphasizing the negative consequences that will occur or the positive conse-

quences that will be withheld, if a recommendation is not followed. Interestingly the idea that threatening messages are more effective for people in a negative mood may be relevant to the findings in the fear appeals literature in that fear may enhance perceptions that bad things will happen and good things will not, if teeth are not brushed, smoking is not stopped, seat belts are not worn, and so on (e.g., Schwarz, Servay, & Kumpf, 1985). Importantly the literature on fear appeals further suggests that fear is effective only when message recipients perceive some direct personal relevance of the threat (e.g., Rogers, 1983). According to the current framework, this may be a requirement, because personal relevance enhances the elaboration likelihood so that fear can bias perception of the consequences presented (cf. Petty & Cacioppo, 1990). If personal relevance was low, fear might have served as a negative cue causing decreased liking for the message rather than increased persuasion as mediated by changes in the desirabilities and likelihoods of the consequences presented. The current analysis also suggests that the phenomenon observed in the fear appeals literature may be more general than originally thought, that is, it may be that undesirable states other than fear (e.g., sadness, anger) would also enhance the effectiveness of pessimistic or threatening messages.[6]

Our analysis so far has considered only the direct implications for persuasion of mood outlined in Table 8.2. Based on this, one would conclude that pleasant mood and unpleasant mood could be equally effective in inducing persuasion, if matched with the appropriate arguments. However, the other postulates presented by the McGuires suggest that this conclusion might be in error. For example, viewing positive events as more desirable and more likely, and negative events as less desirable and less likely, are consistent with wishful-thinking and rationalization, but seeing positive events as more desirable but less likely, and negative events as less desirable but more likely, are inconsistent with it (see Column 6 in Table 8.2). This suggests that the techniques based on pleasant affect may be more successful overall than the suggested pairings based on unpleasant affect, because the latter must fight the tendencies outlined in the wishful-thinking and rationalization postulates. In any case, Table 8.2 is intended to be illustrative of the insights that might be generated by a systematic analysis of the effects of some variable (in this case mood) on the thought system as the McGuires outlined.[7]

[6]Alternatively, the judgmental effects of mood might be much more specific. For example, fear might especially increase the likelihood of fearful consequences and render them more negative, but sadness might increase the likelihood of sad consequences and render them more negative.

[7]Additional refinements are possible to the predictions by considering other postulates. For example, the McGuires' positivity bias notion suggests that it may be better for a speaker to talk about the good things that will happen, if the person agrees with the message, rather than the bad things that can be prevented. This indicates that positive mood may work better with positive/likely arguments supporting an advocacy than negative/unlikely arguments, although the persuasion and motivational outcomes depicted in Table 8.2 are identical.

CONCLUSIONS

Although the McGuires viewed the analysis of attitude change as merely a means to an end, their analysis of thought systems has some interesting implications for the processes responsible for attitude change. Specifically, although current theories of persuasion emphasize the process of active elaboration of message arguments when people follow the central route to persuasion or engage in systematic message processing (Chaiken, 1987; Petty & Cacioppo, 1986b), little work focuses on the specific nature of the information processing activity. As described in this chapter, if each argument in a persuasive communication is viewed as presenting a core event, then the McGuires' analysis of thought systems provides a relevant framework for investigating and understanding the cogency of message arguments.

ACKNOWLEDGEMENT

Preparation of this chapter was supported in part by National Science Foundation grant BNS 90-21647.

REFERENCES

Areni, C. S., & Lutz, R. J. (1988). The role of argument quality in the Elaboration Likelihood Model. *Advances in Consumer Research, 15*, 197–203.

Axsom, D., Yates, S., & Chaiken, S. (1987). Audience response as a heuristic cue in persuasion. *Journal of Personality and Social Psychology, 53*, 30–40.

Bower, G. H. (1981). Mood and memory. *American Psychologist, 36*, 129–148.

Burger, J., & Cooper, H. M. (1979). The desirability of control. *Motivation and Emotion, 3*, 381–393.

Cacioppo, J. T., & Petty, R. E. (1982). The need for cognition. *Journal of Personality and Social Psychology, 42*, 116–131.

Cacioppo, J. T., Petty, R. E., & Morris, K. (1983). Effects of need for cognition on message evaluation, recall, and persuasion. *Journal of Personality and Social Psychology, 45*, 805–818.

Chaiken, S. (1987). The heuristic model of persuasion. In M. P. Zanna, J. Olson, & C. Herman (Eds.), *Social influence: The Ontario Symposium* (pp. 3–39). Hillsdale, NJ: Lawrence Erlbaum Associates.

Cialdini, R. B., & Petty, R. E. (1981). Anticipatory opinion change. In R. E. Petty, T. M. Ostrom, & T. C. Brock (Eds.), *Cognitive responses in persuasion* (pp. 217–235). Hillsdale, NJ: Lawrence Erlbaum Associates.

Dermer, M., Cohen, S., Jacobsen, E., & Anderson, E. A. (1979). Evaluative judgments of aspects of life as a function of vicarious exposure to emotional extremes. *Journal of Personality and Social Psychology, 37*, 247–260.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.

Forgas, J. P., & Moylan, S. (1987). After the movies: Transient moods and social judgments. *Personality and Social Psychology Bulletin, 13*, 467–477.

Frey, D. (1986). Recent research on selective exposure to information. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 19, pp. 41–80). New York: Academic Press.

Gleicher, F., Baker, S. M., & Petty, R. E. (1989, May). *The influence of affect on judgments of life events.* Paper presented at the Midwestern Psychological Association, Chicago.

Herr, P., Fazio, R. H., & Sherman, S. J. (1983). On the consequences of priming: Assimilation and contrast effects. *Journal of Experimental Social Psychology, 19,* 323–340.

Hovland, C. I., Janis, I. L., & Kelley, H. H. (1953). *Communication and persuasion.* New Haven, CT: Yale University Press.

Isen, A. M. (1987). Positive affect, cognitive processes, and social behavior. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 20, pp. 203–253). San Diego: Academic Press.

Johnson, E., & Tversky, A. (1983). Affect, generalization, and the perception of risk. *Journal of Personality and Social Psychology, 45,* 20–31.

McGuire, W. J. (1960). A syllogistic analysis of cognitive relationships. In M. J. Rosenberg & C. I. Hovland (Eds.), *Attitude organization and change* (pp. 65–111). New Haven, CT: Yale University Press.

Meyerowitz, B. E., & Chaiken, S. (1987). The effect of message framing on breast self-examination attitudes, intentions, and behavior. *Journal of Personality and Social Psychology, 52,* 500–510.

Petty, R. E., & Cacioppo, J. T. (1981). *Attitudes and persuasion: Classic and contemporary approaches.* Dubuque, IA: Brown.

Petty, R. E., & Cacioppo, J. T. (1984). The effects of involvement on responses to argument quantity and quality: Central peripheral routes to persuasion. *Journal of Personality and Social Psychology, 46,* 69–91.

Petty, R. E., & Cacioppo, J. T. (1986a). *Communication and persuasion: Central and peripheral routes to attitude change.* New York: Springer-Verlag.

Petty, R. E., & Cacioppo, J. T. (1986b). The Elaboration Likelihood Model of persuasion. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 19, pp. 123–205). New York: Academic Press.

Petty, R. E., & Cacioppo, J. T. (1990). Involvement and persuasion: Tradition versus integration. *Psychological Bulletin, 107,* 367–374.

Petty, R. E., Cacioppo, J. T., & Schumann, D. T. (1983). Central and peripheral routes to advertising effectiveness: The moderating role of involvement. *Journal of Consumer Research, 10,* 134–148.

Petty, R. E., Cacioppo, J. T., Sedikides, C., & Strathman, A. (1988). Affect and persuasion: A contemporary perspective. *American Behavioral Scientist, 31,* 355–371.

Petty, R. E., Harkins, S. G., & Williams, K. D. (1980). The effects of group diffusion of cognitive effort on attitudes: An information processing view. *Journal of Personality and Social Psychology, 38,* 81–92.

Petty, R. E., Schumann, D., Richman, S., & Strathman, A. (1991). *Multiple roles for positive affect in persuasion.* Unpublished manuscript, Ohio State University, Columbus.

Petty, R. E., Wells, G. L., & Brock, T. C. (1976). Distraction can enhance or reduce yielding to propaganda: Thought disruption versus effort justification. *Journal of Personality and Social Psychology, 34,* 874–884.

Rogers, T. (1983). Cognitive and physiological processes in fear appeals and attitude change: A revised theory of protection motivation. In J. T. Cacioppo & R. E. Petty (Eds.), *Social psychophysiology: A sourcebook* (pp. 153–176). New York: Guilford.

Schwarz, N. (1990). Feelings as information: Informational and motivational functions of affective states. In E. T. Higgins & R. Sorrentino (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (Vol. 2, pp. 527–561). New York: Guilford.

Schwarz, N., Servay, W., & Kumpf, M. (1985). Attribution of arousal as a mediator of fear-arousing communications. *Journal of Applied Social Psychology, 15,* 178–188.

Sherif, M., & Hovland, C. I. (1961). *Social judgment: Assimilation and contrast effects in communication and attitude change.* New Haven, CT: Yale University Press.

Tesser, A., & Shaffer, D. (1990). Attitudes and attitude change. *Annual Review of Psychology, 41,* 479–523.

Vinokur, A., & Burnstein, E. (1974). The effects of partially shared persuasive arguments on group induced shifts: A group problem solving approach. *Journal of Personality and Social Psychology, 29,* 305–315.

Worth, L. T., & Mackie, D. M. (1987). Cognitive mediation of positive affect in persuasion. *Social Cognition, 5,* 76–94.

Wyer, R. S. (1974). *Cognitive organization and change: An information processing approach.* Hillsdale, NJ: Lawrence Erlbaum Associates.