

## 7

# Strategies of Attitude and Behaviour Change

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## KEY CONCEPTS

central route to persuasion  
 cognitive response model  
 counterattitudinal  
 behaviour  
 dissonance theory  
 distraction  
 dual-process theories of  
 persuasion  
 elaboration  
 elaboration likelihood  
 model (ELM)  
 habits  
 heuristic processing  
 heuristic-systematic model  
 (HSM)  
 intrinsic motivation  
 need for cognition  
 over-justification effect  
 peripheral route to  
 persuasion  
 reactance theory  
 sufficiency principle  
 systematic processing  
 thought-listing



## CHAPTER OUTLINE

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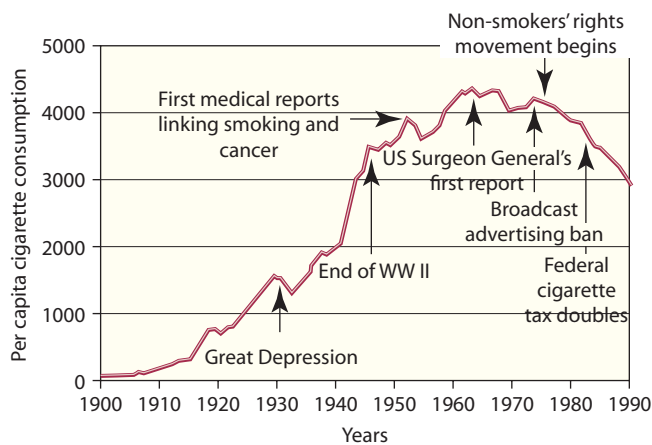
This chapter discusses two strategies of attitude and behaviour change, namely persuasion and the use of incentives (e.g., taxation, legal sanctions). We will discuss when, how and why persuasion results in attitude and behaviour change and review empirical studies that have been conducted to assess the validity of these theoretical interpretations. Finally, we will apply these theories to the area of advertising. The second part of the chapter will focus on the use of incentives. Instead of relying on the uncertain effects of persuasion to induce people to use seatbelts or give up smoking, governments often employ legal sanctions or taxation to influence behaviour directly. These strategies are quite effective in influencing behaviour, but it is much less clear whether they can also result in attitude change.

# Introduction

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The notion of using social psychological knowledge to change attitudes and to influence behaviour conjures up visions of advertising executives planning mass media campaigns to sell cars, refrigerators, alcoholic drinks or margarine. And this vision is certainly not incorrect. However, social psychology is equally useful in persuading people to change unhealthy behaviour patterns such as smoking, drinking or engaging in unsafe sex. In fact, one of the most effective campaigns in recent times, achieving substantial changes in attitudes and behaviour, has probably been the war against smoking. It began in 1964 with the publication of the report of the United States Surgeon General's Advisory Committee on Smoking and Health (USDHEW, 1964). The persuasive information on the substantial health impairment suffered by smokers was quickly adopted by the news media and thus reached a wide audience. The material not only persuaded many smokers to stop, it also convinced politicians that it was time to act and, some years later, compulsory health warnings were introduced on tobacco advertisements and cigarette packets. Finally, in the 1980s, Federal cigarette tax was doubled and various states introduced additional excise taxes on cigarettes. Largely as a result of this anti-smoking campaign, smoking is now generally recognized as a health risk and an addiction. Moreover, especially in the USA, smoking has declined substantially (see Figure 7.1).

This chapter focuses on the two major strategies of attitude and behaviour change, namely (1) the use of *persuasion* and (2) the use of *incentives* or *sanctions*. In each section, we will discuss the effectiveness of these strategies and theoretically analyse the psychological processes which are responsible for their impact.



**Figure 7.1** Per capita cigarette consumption per year among adults and major smoking and health events in the USA, 1900–1990 (based on Novotny, Romano, Davis, & Mills, 1992).



**Plate 7.1** Thanks to effective anti-tobacco campaigns, smoking is now generally recognized as a health risk and an addiction.

## PERSUASION

Persuasion involves the use of communications to change the beliefs, attitudes and behaviour of others. Research on persuasion received a big boost during World War II when the American army looked for strategies to counteract enemy propaganda and to boost the morale of their own troops (Hovland, Lumsdaine & Sheffield, 1949). After the war, Carl Hovland, the director of the mass communication program within the US Army's information and education division, assembled a group of eminent researchers at Yale University (e.g., Abelson, Janis, Kelley, McGuire, Rosenberg) and this group was instrumental in making the study of persuasion and attitude change one of the central areas of social psychology.

### Theories of systematic processing

*What are the cognitive processes which mediate the impact of persuasive communications on attitudes and behaviour?*

*Is attitude change determined by our comprehension of persuasive arguments or by the favourable and/or unfavourable thoughts stimulated by these arguments?*

*What determines whether persuasive arguments stimulate favourable or unfavourable thoughts?*

**systematic processing** thorough, detailed processing of information (e.g., attention to the arguments contained in a persuasive communication); this kind of processing relies on ability and effort

Before 1980, most of the theories of persuasion and attitude change emphasized **systematic processing**. They assumed that attitude change was mediated by the message recipient's detailed processing

of the persuasive arguments contained in the communication. The two most influential theories of systematic processing have been the information processing model (McGuire, 1969, 1985) and the cognitive response model (e.g., Greenwald, 1968; Petty, Ostrom & Brock, 1981).

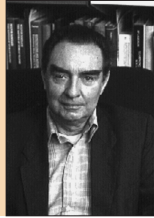
**The information processing model of persuasion** The paradigm proposed by McGuire (1969, 1985) provides a useful framework for thinking about the stages involved in the processing of persuasive communications. According to this model, the persuasive impact of a message is the product of at least five steps: (1) attention, (2) comprehension, (3) yielding, (4) retention and (5) behaviour. For example, the ultimate objective of speeches given on television by politicians is to get the members of the audience to vote for their party. If viewers use the break between programmes to go to the bathroom (failure to attend), the appeal will not result in attitude change. Even if viewers attend to the communication, it will have little impact if they find the arguments too complex (failure to comprehend) or if they do not accept the communicator's conclusions (failure to yield). But even if the candidate manages to persuade the audience, this will be of no use if viewers change their attitudes again before election day (failure to retain) or if bad weather keeps them away from the ballot box (failure to act). Since the message receiver must go through each of these steps if the communication is to have the ultimate persuasive impact, and since it is unlikely that the probability of any given step will be maximal, McGuire's framework offers one explanation of why it is often difficult to induce behaviour change through information campaigns.

In social psychological studies, the impact of a communication is typically assessed immediately following exposure to the message. Thus, our analysis is restricted to the first three steps of the chain. Moreover, attention and comprehension have usually been combined into a single step of reception of the message content in



## PIONEER

**William J. McGuire** (b. 1925) was born in New York, USA. After a brief stint in the army, he studied psychology at Fordham University, where he received his BA (1949) and MA (1950). He then spent a year as a Research Fellow at the University of Minnesota at the time Festinger was there (see Chapter 1, this volume). In 1951 he went to Yale University for his PhD, which he received in 1954. He stayed on at Yale for four more years, and after holding positions at various other universities (Illinois, Columbia and San Diego) he returned to Yale as Professor of Psychology in 1971, remaining there until his retirement in 1999. Bill McGuire dominated research on attitude and attitude change until the 1980s. During his early time at Yale, he was a member of the famous Yale Communication and Attitude Change Program headed by Carl Hovland (see Chapter 1, this volume). When he returned to Yale ten years after the death of Hovland, he continued the research tradition of the Yale program. He made numerous empirical and theoretical contributions to the area and also authored the highly influential chapters on attitude and attitude change in the second and third edition of the *Handbook of Social Psychology* (McGuire, 1969, 1985).



order to simplify measurement. Thus McGuire's model can be reduced to a two-step version, which states that the probability of a communication resulting in attitude and opinion change is the joint product of reception and acceptance (yielding).

Few studies have supported the claim that the reception of message arguments determines attitude change. In general, message reception, when measured by the recall of message arguments, is not found to correlate significantly with attitude change (see Eagly & Chaiken, 1993). This failure to find correlations between argument recall and attitude change raised doubts about McGuire's two-stage model, in particular the role of attention to and comprehension of the arguments presented in persuasive communications. Even more critical for the model was the fact that it lacked specific theoretical principles that would allow one to predict the factors which affect acceptance and to understand the processes

which mediate the relationship between acceptance and attitude change. The cognitive response model provides such a theory.

**The cognitive response model: A theory of yielding** The *cognitive response model* of persuasion was developed by Greenwald and

his colleagues at Ohio State University partly to explain the absence of a correlation between argument recall and attitude change (Greenwald, 1968; Petty, Ostrom & Brock, 1981). According to this model, it is not the reception of arguments which mediates attitude change but the thoughts (cognitive responses) stimulated in the recipient by those arguments. Listening to a communication is like a mental discussion. Listeners are active participants, who relate the communication to their own knowledge. In doing this, the person may consider much cognitive material that is not contained in the communication itself to generate thoughts for or against the arguments presented in the communication. It is these self-generated thoughts and not the presented arguments *per se* which mediate attitude change. Messages persuade if they evoke predominantly favourable thoughts, and they fail to persuade if they evoke predominantly unfavourable thoughts. Thus, the impact of persuasion variables on attitude change depends not on the extent to which they facilitate argument reception but on the extent to which they stimulate individuals to generate their own favourable or unfavourable thoughts about the information presented.

On first reading, this does not appear to be a very impressive theory. It is also not terribly new. Writing in 1949, Hovland, Lumsdaine and Sheffield had already suggested that audiences may resist persuasion by going over their own arguments against the position during exposure to the communication. Hovland (1951) later emphasized that the best way to study internal processes of attitude change was to have respondents verbalize their thoughts as they responded to the communication. However, although cognitive responses were everybody's favourite concept to be invoked when non-obvious findings of persuasion studies had to be explained (e.g., Festinger & Maccoby, 1964), research on the role of cognitive responses as mediators of persuasion had been hampered by the absence of accepted measures.

One major methodological contribution of the Ohio State researchers to the study of persuasion was therefore the development of a measure of cognitive responses: **thought-listing** (Greenwald, 1968; Osterhouse & Brock, 1970). This enabled them to assess the processes assumed to mediate attitude change. With this thought-listing task recipients of a message are asked to list the thoughts they had whilst listening. These thoughts are later categorized into those which are favourable or unfavourable to the position advocated by the message. Thoughts which do not fit either of these categories (e.g., neutral or irrelevant thoughts) are not considered.

The second major contribution of the Ohio State researchers was theoretical. Previous conceptualizations of cognitive responses had focused only on the production of counterarguments which *reduce* persuasion (e.g., Festinger & Maccoby, 1964). In an important theoretical contribution, Petty, Wells and Brock (1976) broadened the concept of cognitive responses by arguing that strong and well-argued messages are likely to produce predominantly favourable thoughts which should *enhance* persuasion.

**cognitive response model** assumes that attitude change is mediated by the thoughts, or 'cognitive responses', which recipients generate as they receive and reflect upon persuasive communications, and that the magnitude and direction of attitude change obtained by a persuasive communication are functions of the extent of message-relevant thinking as well as its favourability

**thought-listing** a measure of cognitive responses. Message recipients are asked to list all the thoughts that occurred to them while being exposed to a persuasive message. These thoughts are categorized as favourable or unfavourable to the position advocated by the message. Neutral or irrelevant thoughts are not considered

This extended cognitive response model accounts for a number of inconsistent findings in the attitude change literature. Thus, it helps to explain why there is often no correlation between argument recall and attitude change. If it is the thoughts stimulated by arguments and not the arguments themselves which are responsible for attitude change, then the message arguments that a recipient remembers could not be expected to be related to attitude change. What one would expect, however, is a correlation between the extent to which these thoughts are favourable or unfavourable towards the arguments presented by the communicator and the amount of attitude change. The newly developed thought-listing measure enabled researchers to test (and to support) this assumption (e.g., Osterhouse & Brock, 1970).

**distraction** while listening to a persuasive communication, individuals are distracted by having to perform an irrelevant activity or by experiencing sensory stimulation irrelevant to the message

Another inconsistency resolved by the cognitive response approach related to findings of research on the impact of **distraction** on attitude change. We have probably all had the experience of being distracted while listening to some communication. The station on our car radio might have faded in the middle of a broadcast or the people next to us might have started a loud conversation. Since being distracted whilst listening to a communication should impair reception, one would expect distraction to reduce the persuasive impact of a communication. Although some studies reported findings consistent with this prediction (e.g., Haaland & Venkatesan, 1968), others found distraction to strengthen the persuasive impact of a communication (e.g., Festinger & Maccoby, 1964).

According to the cognitive response model, such discrepant results are to be expected. Distraction reduces the recipient's ability to generate cognitive responses to a message. The impact of distraction on attitude change should therefore depend on the favourability of the thoughts produced by a message (Petty et al., 1976). If these dominant thoughts are mainly unfavourable, distraction should enhance persuasion. However, for messages which elicit predominantly favourable thoughts, distraction should work to inhibit persuasion.

But how can we manipulate the favourability of a listener's dominant thoughts? Since we have put so much emphasis on self-generated thoughts as a mediator of persuasion in this section, it is easy to forget that these thoughts are cognitive responses to persuasive arguments and are therefore likely to be influenced by the quality of these arguments. Thus, communications which present several strong arguments (e.g., arguments which are coherent, logical and compelling) are likely to elicit cognitive responses which are predominantly favourable to the position argued, whereas messages consisting mainly of weak arguments should elicit predominantly unfavourable responses. This process is depicted in Figure 7.2.

Petty and colleagues (1976, Experiment 1) exposed students to messages which argued for an increase in tuition fees at their university. These communications consisted of either very strong or very weak arguments. Distraction was manipulated by having participants record visual stimuli (briefly flashed on a screen at a rate of 0, 4, 12 or 20 flashes per minute) while listening to the

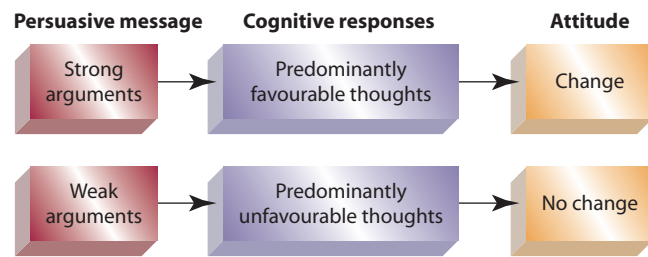


Figure 7.2 The cognitive response model of persuasion.

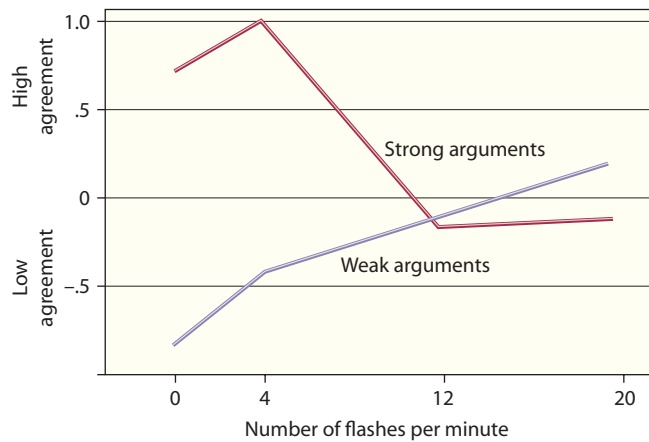


Figure 7.3 Mean attitudes (shown as z-scores) in relation to message and level of distraction (adapted from Petty et al., 1976).

message. In line with predictions, increases in distraction enhanced persuasion for the message which consisted of weak arguments, but reduced persuasion for the message containing strong arguments (Figure 7.3). The participants' thought-listing data provided support for the assumption that both the increase and the decrease in persuasion were due to thought disruption. The distraction manipulation decreased recipients' ability to generate counter-arguments for the weak message but reduced the number of favourable thoughts they were able to generate for the strong version of the message.

## Dual-process theories of persuasion

*Do people sometimes change their attitudes without systematic processing of persuasive arguments?*

*What factors determine whether people process messages systematically or superficially?*

*How can we explain attitude change which is not based on systematic processing of arguments?*

That attitude change is mediated by detailed processing of the arguments may strike one as a plausible way to analyse the psychological processes that mediate persuasion. After all, is there any other way to be persuaded, if not through the arguments

contained in a persuasive communication? However, if we think of the hundreds of advertisements we are exposed to every day, we might become doubtful. Does anybody really think about the arguments contained in advertisements about soft drinks or toothpaste? Do these advertisements even contain arguments? And yet if people were not influenced by them, these companies would not spend millions on their advertising budgets.

The answer to these questions is that advertisements often work through processes of classical conditioning or mere exposure, which we discussed in the previous chapter. But how are classical conditioning and mere exposure related to systematic

processing? Under which conditions does each of these processes operate? These are the types of questions which we will address in our discussion of *dual-process theories of persuasion*. Dual-process theories integrate both theories of systematic processing and persuasion processes that are not based on systematic analysis of message arguments (e.g., classical conditioning, self-persuasion, heuristic processing). Dual-process theories also specify the conditions under which people will engage in each of these processes. There are two dual-process theories of persuasion, the *elaboration likelihood model* (Petty & Cacioppo, 1986a; Petty & Wegener, 1999) and the *heuristic-systematic model* (e.g., Chaiken, Liberman & Eagly, 1989; Chen & Chaiken, 1999). There is, however, so much overlap between these theories in their core assumptions that we will focus mainly on the elaboration likelihood model. After having presented the elaboration likelihood model, we will briefly discuss the major aspects

in which this theory differs from the heuristic-systematic model of Chaiken and her colleagues.

**The elaboration likelihood model (ELM)** When people receive a communication and are faced with the decision whether to accept or reject the position advocated, they will try to form an opinion of its validity. This assessment may be arrived at by two routes of information processing, namely a *central* and a *peripheral* route to persuasion. These two routes mark the endpoints of a continuum that ranges from thoughtful to very non-thoughtful strategies (i.e., the elaboration likelihood continuum). Petty and

#### dual-process theories of persuasion

theories of persuasion postulating two modes of information processing, systematic and non-systematic. Modes differ in the extent to which individuals engage in content-relevant thoughts and critical evaluation of the arguments contained in a message in order to accept or reject the position advocated. The mode used is assumed to depend on processing motivation and ability

#### elaboration likelihood model (ELM)

assumes that attitude change in response to persuasive communications can be mediated by two different modes of information processing (central and peripheral). Elaboration denotes the extent to which a person thinks about the issue-relevant arguments contained in a message. The probability that a recipient will critically evaluate arguments (the elaboration likelihood) is determined by both processing motivation and ability

#### heuristic-systematic model (HSM)

assumes that attitude change in response to persuasive communications can be mediated by two different modes of information processing, heuristic and systematic processing, which can operate concurrently. When motivation and ability are high, systematic processing is likely; when they are low, individuals rely on heuristic cues to accept or reject the attitudinal position recommended



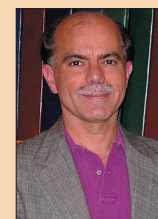
## PIONEER

**Shelly Chaiken** (b. 1949) studied mathematics at the University of Maryland (College Park) and received her BA in 1971. She then became a graduate student in social psychology at the University of Massachusetts (Amherst), where she received her MS in 1975 and her PhD in 1978. After brief spells at the University of Toronto and Vanderbilt University, she moved to New York University as Professor of Psychology in 1985, where she stayed until 2005. She is now associated with the University of Wisconsin (Madison). At the University of Massachusetts, she did her graduate studies with Alice Eagly (see Chapter 6) and developed the idea for the heuristic-systematic model during her work for her PhD. She continued her close collaboration with Eagly even after her PhD and co-authored with her the *Psychology of Attitudes* in 1993, which has been the defining book on that topic for many years. She has published numerous empirical articles testing and extending her heuristic-systematic model. In 1999 she also edited (jointly with Yaacov Trope) an important volume on *Dual-process theories in social psychology*.



## PIONEER

**Richard E. Petty** (b. 1951) received his BA in political science and psychology from the University of Virginia in 1973. He then moved to Ohio State University for his graduate studies, where he received his PhD in 1977. He began his academic career the same year at the University of Missouri, from where, after a sabbatical at Yale in 1986, he returned to Ohio State in 1987. Since 1998 he has been Distinguished University Professor at Ohio State University. At Ohio State he began a fruitful collaboration with fellow PhD student John Cacioppo. At that time persuasion research was plagued by inconsistency in empirical findings, which could not be explained by available theoretical models. In their attempt to reconcile these conflicting findings and to integrate different theoretical approaches ranging from cognitive response theory to theories based on classical conditioning, Petty and Cacioppo developed the idea of the two routes to persuasion which formed the basis for their general theory of attitude change, the elaboration likelihood model (ELM). It is probably fair to say that Petty has taken over the mantle of Bill McGuire as the dominant figure in the area of attitude and attitude change research.



**elaboration** refers to the extent to which a person thinks about the issue-relevant arguments contained in a message

The probability that a recipient will critically evaluate arguments contained in a message (i.e., elaboration likelihood) is determined by both *processing motivation* and *processing ability*. Processing motivation is important because such elaboration requires time and effort. Processing ability is important because, in order to be able to scrutinize arguments, a person needs both issue-relevant knowledge and sufficient time. For example, if a computer salesperson gives us a highly technical speech about the advantages of a computer he or she is trying to sell us, we will not be able to evaluate these arguments if we lack the necessary computer knowledge. But even if we have the necessary knowledge, we might not be able to think about these arguments if we have no time to do so, because we have to come to a decision immediately. If, however, individuals are motivated and able to think about the arguments contained in a

**central route to persuasion** a person's careful and thoughtful consideration of the arguments presented in support of a position

Cacioppo (1986a) use the term **elaboration** to denote the extent to which a person thinks about the issue-relevant arguments contained in a message.

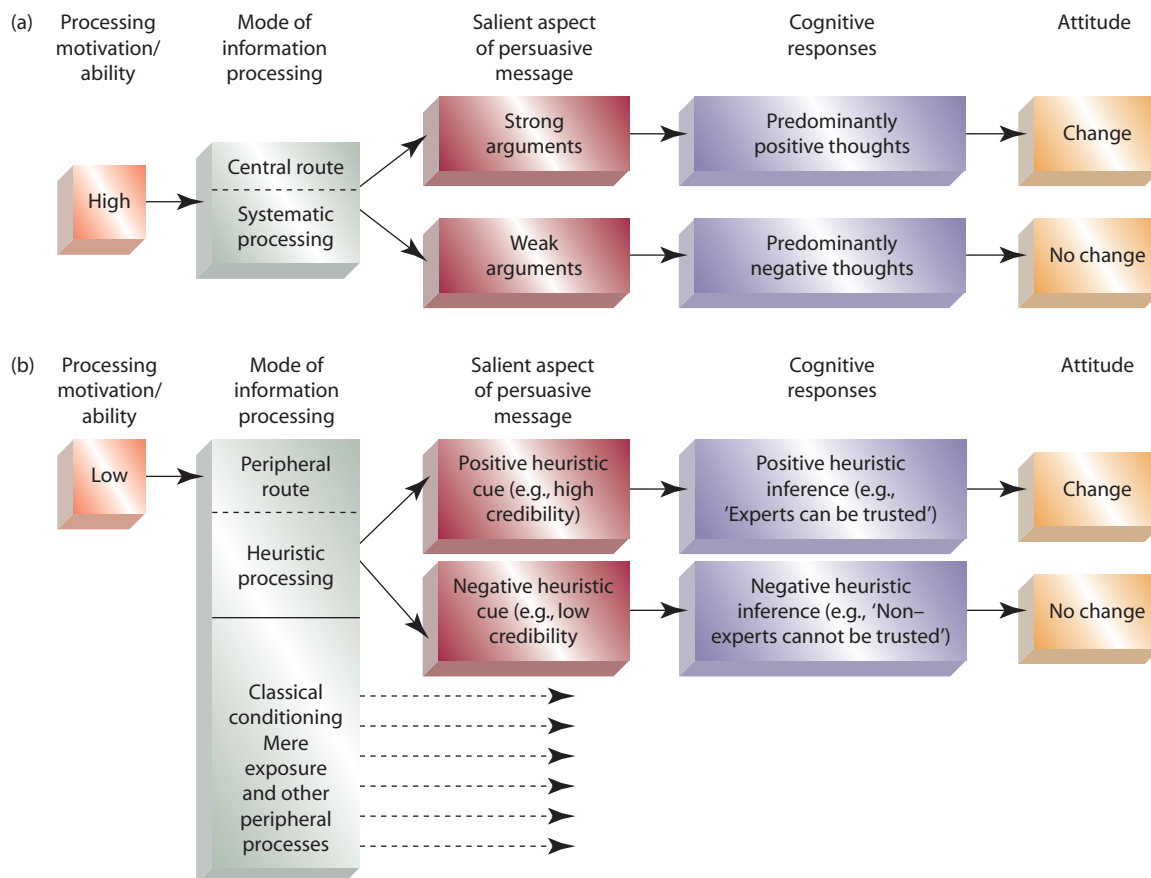
the arguments contained in a communication, they will engage in systematic processing and follow the **central route to persuasion** (Figure 7.4a). This mode of information

processing is identical to the processes assumed by the cognitive response model. However, sometimes recipients may not be motivated (e.g., the issue is trivial) or able (e.g., they have no time or lack the knowledge) to engage in an extensive process of message evaluation. Under these conditions attitudes will be formed according to the **peripheral route to persuasion** (see Figure 7.4b). This type of persuasion refers to any attitude change mechanism that does not involve systematic processing. The peripheral route thus encompasses cognitive processes such as the use of heuristic decision rules (e.g., 'experts can be trusted'), affective processes such as classical conditioning and mere exposure, and use of information about the attitudes held by relevant others (see Chapter 11 on Social influence).

The peripheral process which has been most extensively examined in studies of dual-process theories of persuasion has been **heuristic processing** (Figure 7.4b), which focuses on the simple decision rules which people use to judge the validity of messages. For example, people may have learned from previous

**peripheral route to persuasion** subsumes those persuasion processes that are not based on issue-relevant thinking (e.g., classical conditioning, heuristic processing)

**heuristic processing** assessing the validity of a communication through reliance on heuristics, i.e., simple rules like 'statistics don't lie', 'experts can be trusted', 'consensus implies correctness', rather than through evaluation of arguments



**Figure 7.4** The elaboration likelihood model: (a) central route to persuasion; (b) peripheral route to persuasion.

experience that statements by experts tend to be more accurate than statements by non-experts. They may therefore apply the rule 'Experts can be trusted' in response to indications that the communicator is an expert (Eagly & Chaiken, 1993). Or they may have learned to trust people they like and, on finding a communicator likeable, they will apply the 'liking-agreement' heuristic, such as 'People agree with people they like' or 'People I like usually have correct opinions' (Eagly & Chaiken, 1993).

*Assessing elaboration.* Petty, Cacioppo and their colleagues developed two strategies which allowed an assessment of the extent to which recipients of a message engage in message processing. One method, which was mentioned earlier, is the thought-listing technique. This technique gives some indication of the number of supportive or unsupportive thoughts stimulated by a message. If attitude change is due to central processing, then (1) recipients of a message should have generated several positive thoughts about the arguments contained in the message and (2) the relative favourability or unfavourability of these thoughts to the advocated position should be correlated with the extent of attitude change. More specifically, a favourability index based on thought-listing (e.g., ratio of favourable thoughts to total number of relevant thoughts) should act as a mediator of attitude change under central processing, but not under peripheral processing.

An even more powerful tool to assess the degree to which message recipients engage in systematic processing is the systematic variation of argument quality. With this technique, recipients are exposed to communications which consist of either strong or weak arguments. (The categorization of arguments as strong or weak is decided beforehand on the basis of a pilot study.) Exposure to strong arguments should stimulate predominantly favourable thoughts about the message in recipients who engage in central route processing. As a result, there should also be significant attitude change. On the other hand, if arguments are weak, central route processing should produce predominantly unfavourable thoughts about the message, and therefore very little attitude change. The less recipients are motivated and able to engage in central route (i.e., systematic) processing of a message, the weaker should be the effect of a manipulation of argument quality on cognitive responses and attitude change. The combined use of both thought-listing (as one of the dependent measures) and manipulation of argument quality (as one of the independent variables) therefore provides a valid tool for diagnosing the extent to which individuals engage in central processing of the content of a message.

*Processing ability, elaboration and attitude change.* Variation in processing ability should affect information processing mainly when individuals are motivated to process a message. Thus studies of variables which influence processing ability have typically used issues which were highly relevant to the students who were the recipients of these communications (e.g., tuition fee increase, change in exam system). Among the most important variables influencing a person's ability to systematically process persuasive arguments are distraction and message repetition. Since we have already considered research on distraction earlier, we will focus here on message repetition. In contrast to distraction, which reduces processing ability, (moderate) argument repetition should provide recipients with more opportunity for cognitively

elaborating a communication. Thus, repetition should enhance attitude change for messages consisting of strong arguments and reduce attitude change for weak messages. Cacioppo and Petty (1990) tested this hypothesis by exposing respondents either one or three times to a message that contained either strong or weak persuasive arguments. Consistent with their predictions, increasing exposure to the same message led to higher agreement with high-quality messages, but led to decreased agreement with low-quality messages. However, the positive impact of repetition on high-quality messages will only occur if recipients are motivated to think about the communication (Claypool, Mackie, Garcia-Marques, McIntosh & Udall, 2004). Furthermore, when messages are repeated too often, boredom sets in, which can result in rejection of even high-quality arguments in high-relevance messages (Cacioppo & Petty, 1979).

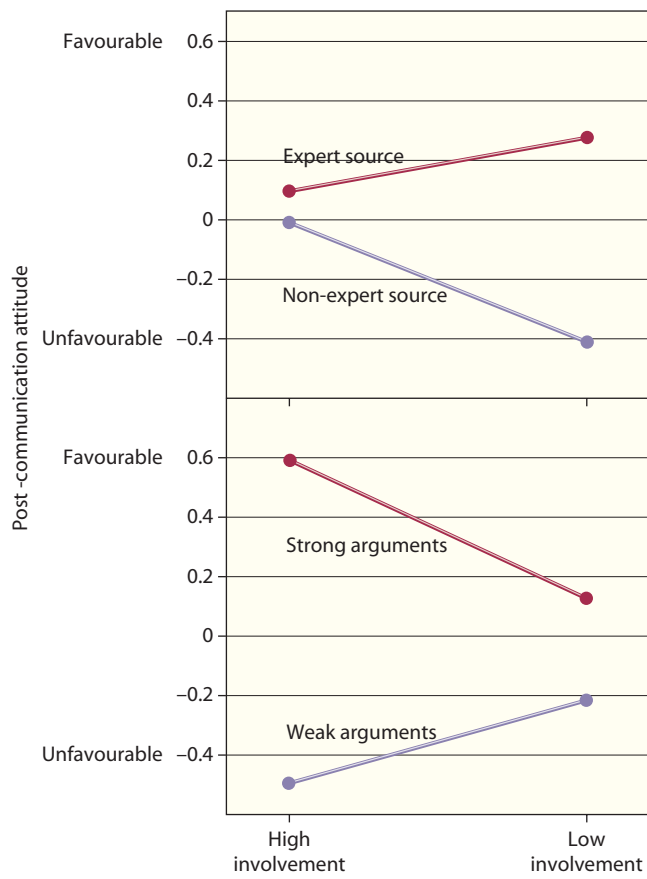
*Processing motivation, elaboration and attitude change.* The most influential determinant of a person's motivation to think about the argument contained in a message is the perceived *personal relevance* of the communication. Only if the issue is important to them personally should recipients of a communication be motivated to critically evaluate the arguments contained in a message. With low involvement, when the issue of the communication is of little relevance, recipients are likely to rely on peripheral cues to assess the validity of the position advocated by the communication.

Petty, Cacioppo and Goldman (1981) tested these predictions experimentally. They exposed college students to an attitude-discrepant communication advocating major changes to the examination system. This communication, on a topic about which students are very knowledgeable, contained either strong or weak arguments and was attributed either to a source with high expertise (the Carnegie Commission on Higher Education) or to one with low expertise (a class at a local high school). The researchers manipulated personal relevance by informing students either that these changes were going to be instituted the following year and would thus affect them, or that they would take effect only in ten years' time. Petty and colleagues (1981) predicted that when students believed that the changes would affect their own fate (high personal relevance), they should be motivated to scrutinize the arguments and to engage in issue-relevant thinking. For these highly involved students, argument quality would be a major factor in persuasion. Students who believed that these changes would only be instituted long after they had left the university (low personal relevance) would not be motivated to think a great deal about the communication. Instead, they would use heuristic rules such as 'Experts can be trusted' to assess the validity of the advocated position. The results strongly supported these predictions (Figure 7.5).

The extent to which individuals scrutinize message arguments is affected not only by situational factors but also by individual differences in their motivation to think about persuasive communications (see Individual Differences 7.1, p. 142). For example, people who frequently engage in and enjoy effortful cognitive activity (high *need for cognition*) should be more likely to form

**need for cognition** an individual difference variable which differentiates people according to the extent to which they enjoy thinking about arguments contained in a communication. When exposed to a persuasive message, individuals high in need for cognition are assumed to engage in more content-relevant thinking than individuals who are low on this dimension





**Figure 7.5** Top panel: interactive effect of involvement and source expertise on post-communication attitudes. Bottom panel: interactive effect of involvement and argument quality on post-communication attitudes (Petty, Cacioppo & Goldman, 1981).

attitudes on the basis of the arguments contained in a communication than are people who are low in need for cognition. Cacioppo and Petty (1982) constructed a scale to measure need for cognition (see Individual Differences 7.1). Since need for cognition reflects a cognitive motivation rather than an intellectual ability, it correlates only moderately with verbal intelligence ( $r = .24$ ; Cacioppo, Petty, Feinstein & Jarvis, 1996). Consistent with expectations, argument quality affected attitude change mainly for individuals with high rather than low need for cognition. A study by Haugtvedt and Petty (1992) further demonstrated that attitude change in respondents with a high need for cognition was more persistent and more resistant against counterargumentation than in individuals with low need for cognition.

**Multiple roles by which variables can influence persuasion.** By contrasting peripheral cues with content information and by arguing that peripheral processing is determined by peripheral cues and systematic processing by the content of the message, we have given a somewhat oversimplified presentation of the elaboration likelihood model. One of the unique features of this model, but also a feature which complicates predictions, is the assumption that persuasion variables can influence persuasion in multiple ways, depending on the elaboration likelihood. Specifically the model states that at a low level of elaboration, a peripheral variable (e.g., communicator credibility, mood) will influence persuasion

## INDIVIDUAL DIFFERENCES 7.1

### The need for cognition

This scale (short version) assesses need for cognition, the tendency of individuals to engage in and enjoy effortful cognitive endeavours (Cacioppo et al., 1996). When exposed to a persuasive message, people high in need for cognition are assumed to engage in more content-relevant thinking (i.e., systematic processing) than individuals low in need for cognition.

**Instructions:** Indicate to what extent each statement is characteristic of you, using the following response alternatives:

- 1 = extremely uncharacteristic of me (not at all like me)
- 2 = somewhat uncharacteristic of me
- 3 = neither uncharacteristic nor characteristic of me
- 4 = somewhat characteristic of me
- 5 = extremely characteristic of me

- 1 I would prefer complex to simple problems.
- 2 I like to have the responsibility of handling a situation that requires a lot of thinking.
- 3 Thinking is not my idea of fun.
- 4 I would rather do something that requires little thought than something that is sure to challenge my thinking ability.
- 5 I try to anticipate and avoid situations where there is a likely chance I will have to think in depth about something.
- 6 I find satisfaction in deliberating hard and for long hours.
- 7 I only think as hard as I have to.
- 8 I prefer to think about small, daily projects to long-term ones.
- 9 I like tasks that require little thought once I've learned them.
- 10 The idea of relying on thought to make my way to the top appeals to me.
- 11 I really enjoy a task that involves coming up with new solutions to problems.
- 12 Learning new ways to think doesn't excite me very much.
- 13 I prefer my life to be filled with puzzles that I must solve.
- 14 The notion of thinking abstractly is appealing to me.
- 15 I would prefer a task that is intellectual, difficult and important to one that is somewhat important but does not require much thought.
- 16 I feel relief rather than satisfaction after completing a task that required a lot of mental effort.
- 17 It's enough for me that something gets the job done; I don't care how or why it works.
- 18 I usually end up deliberating about issues even when they do not affect me personally.

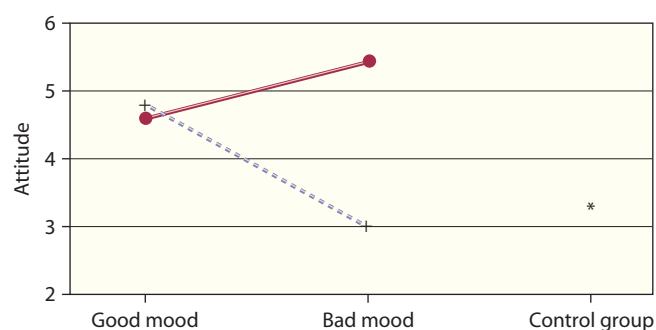
**Scoring:** First, reverse your scores on items 3, 4, 5, 7, 8, 9, 12, 16 and 17. On any of these items, if you gave a 1 to the question, change it into a 5. If you gave a 2, change it into a 4; if you gave a 4, change it into a 2; and if you gave a 5, change it into a 1. If you gave a 3, leave it as a 3. Scores are added, and the higher your score, the higher your need for cognition.

through heuristic processing or other non-thoughtful means. When elaboration is at a medium level, the same variable might influence persuasion by influencing the extent of the elaboration. And finally, when elaboration is high, a peripheral variable may have no impact at all, may bias processing or even act as an argument.

We will use the message recipient's *mood* as an example of how a factor can influence persuasion in different ways depending on the level of elaboration likelihood (Petty & Wegener, 1999). Under conditions of *low elaboration* mood might be linked to attitude objects via classical conditioning. There is evidence that conditioning of attitudes appears to work best when prior knowledge of the stimulus is low (Cacioppo, Marshall-Goodell, Tassinary & Petty, 1992). Another way mood can influence attitudes under conditions of low elaboration is by acting as a heuristic cue. According to the 'feelings-as-information' hypothesis (e.g., Bless, Bohner, Schwarz & Strack, 1990), people might use the 'how do I feel about it heuristic' to infer their attitude from their present mood. In line with this assumption, Schwarz and Clore (1983) found that people interviewed about their life satisfaction on a sunny day reported more satisfaction than people interviewed on cloudy days. The 'feelings-as-information' hypothesis further suggests that this type of misattribution should be eliminated when individuals are given reason to discount their mood state as information about the issue to be evaluated. In support of this assumption, the impact of weather conditions on life satisfaction disappeared when the interviewers (during the phone interview) casually asked about the local weather conditions. Presumably, this made people attribute their mood to the weather. Clore, Schwarz and Conway (1994) argued that the 'how do I feel about it heuristic' is most likely to be used when the evaluation task is affective in nature, when there are time constraints and when there is not much other information available.



**Plate 7.2** How does the weather affect your life satisfaction?



**Figure 7.6** Attitude change as function of mood and message quality (●—● strong message quality; +---+ weak message quality) (adapted from Bless et al., 1990, Experiment 1).

Under moderate elaboration, mood can influence the recipient's motivation to elaborate on the content of a message. When in a good mood, individuals seem to be more likely to engage in simplified heuristic processing, whereas in a bad mood they may engage in more effortful systematic processing strategies. There is a great deal of support for this assumption (for a review, see Bless, 2001). For example, Bless et al. induced good or bad mood in participants in a laboratory experiment by having them dwell on either a positive or a negative life event (Bless et al., 1990). When the participants were subsequently exposed to an attitude-discrepant communication (arguing for an increase in student service fees), consisting of either high-quality or low-quality arguments, argument quality affected attitude change only for participants who were in a bad mood (Figure 7.6).

There are a number of different explanations for this effect. According to the 'feelings-as-information' hypothesis, individuals use their feelings as information about the state of their environment. Thus, happy moods inform people that their environment is safe, thereby reducing their motivation to scrutinize information in the environment (Bless et al., 1990). An alternative interpretation in terms of mood maintenance has been suggested by Wegener, Petty and Smith (1995). Wegener et al. argued that since the messages used in these studies have been either counterattitudinal or on depressing topics (e.g., fee increases, acid rain), individuals who were happy might have avoided processing these messages in order not to spoil their current pleasant state. Wegener et al. (1995) provided some evidence that with messages which could be expected to be uplifting, sad and happy individuals engaged in equally high levels of elaboration. With a message which could clearly be expected to be depressing, the pattern observed by Bless et al. (1990) was replicated.

At very high levels of elaboration, when people are already processing message arguments systematically, mood can influence information processing by affecting the material that is brought to mind when the merits of an attitude object are being considered (Petty & Wegener, 1999). There is a great deal of evidence that positive moods activate positive material in memory, whereas negative moods activate negative material (e.g., Bower, 1981). Thus, when individuals engage in effortful processing and elaboration of message arguments, positive moods might encourage positive interpretation of the information more than do negative moods. This bias in information processing is most likely when the information is relatively ambiguous.

*The consequences of elaboration.* The elaboration likelihood model predicts that persuasion induced by systematic processing (i.e., central route) is more persistent than persuasion induced by peripheral or heuristic processing. High levels of issue-relevant cognitive activity are likely to require frequent accessing of the attitude and the related knowledge structure. This activity should therefore increase the number of linkages between structural elements, making the attitude schema more internally consistent, enduring and also more resistant to counterarguments. Since examination of persistence requires a second, delayed point of attitude measurement, only a few studies have addressed this issue. These studies support the conclusion that attitude changes which are accompanied by high levels of issue-relevant cognitive activity are more persistent than changes that are accompanied by little issue-relevant thought (e.g., Haugvedt & Petty, 1992; Petty & Cacioppo, 1986a). However, as Eagly and Chaiken (1993) pointed out, heuristic processing could also result in enduring attitude change if the cue became associated with the attitude and remained salient over time (for example, I might persistently recall that my drinking two glasses of wine a day was recommended by my trusted physician). Nonetheless, such an attitude would be vulnerable to counterpropaganda, because it lacks elaborate cognitive support. Beyond the fact that my physician recommended it, I would have no rationale for supporting the habit.

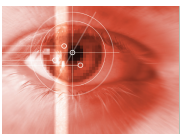
**The heuristic-systematic model: How does it differ from the ELM?** As we said earlier (see p. 139), the ELM and the HSM are similar both with regard to their core assumptions about determinants of persuasion and in their predictions about the impact these variables will have on persuasion. And yet, there are some differences between the two theories in the processes which they assume to mediate these effects. In our discussion of these differences, we will focus on four issues: (1) the unidimensionality of the processing continuum; (2) the interplay of processing modes;

(3) the sufficiency principle; and (4) the multiple motive assumption of the HSM.

*The unidimensionality of the processing continuum.* Like the ELM, the HSM assumes two modes of processing, namely, an effortful systematic mode that is identical to central route processing of the ELM and an effortless heuristic mode. Since heuristic processing is also one of the low-effort processes subsumed under the broad category of peripheral route processes by the ELM, we have already discussed it in the section on the ELM. However, in contrast to the ELM, where heuristic processing is only one of a variety of central route processes, it is the *only* low-effort process assumed by the HSM. Thus, according to the HSM, information processing ranges from heuristic processing at the low-effort end of the continuum to systematic processing at the high-effort end.

*The interplay of processing modes.* Like the ELM, the HSM assumes that individuals need to have high processing motivation and ability to engage in systematic processing. When people are unmotivated or unable to scrutinize the arguments contained in a persuasive message, they base their decision whether to accept or reject the position advocated in the persuasive communication on heuristic cues only. In contrast, when they are motivated to scrutinize message arguments and able to do so, they base their decision on their evaluation of these arguments, but not exclusively so. The HSM does not assume that individuals necessarily disregard the informational value of heuristic cues once they have begun to engage in systematic processing. Thus, at high levels of motivation and ability, *both* processing modes are likely to affect persuasion. The HSM makes several theoretical assumptions specifying the conditions of such interplay of processing modes (Bohner, Moskowitz & Chaiken, 1995).

According to the *additivity hypothesis* both heuristic cues and content information exert independent main effects on persuasion. This is most likely to happen when heuristic and systematic



## RESEARCH CLOSE-UP 7.1

### How heuristic processing can bias systematic processing

Chaiken, S. & Maheswaran, D. (1994). Heuristic processing can bias systematic processing: Effects of source credibility, argument ambiguity, and task importance on attitude judgment. *Journal of Personality and Social Psychology*, 66, 450–473.

#### Introduction

Dual-process theories regard systematic processing as more effortful and capacity limited than heuristic processing. They therefore assume that heuristic processing predominates when processing ability and motivation are low, whereas systematic processing becomes the dominant mode when processing ability and motivation are high. The heuristic-systematic model does not assume a trade-off between these processing

modes. Instead, it assumes that both processing modes affect persuasion at the high-effort end of the processing continuum, whereas only heuristic processing dominates at the low-effort end. Since systematic processing usually provides much more information than heuristic processing, the effect of heuristic processing on persuasion will often be obscured (*attenuation hypothesis*). However, there are conditions under which this will not be the case. For example, when the persuasion information is ambiguous and thus amenable to differential interpretations, the expectancies established by the individual's processing of heuristic cues can bias the interpretation of the message content (*bias hypothesis*). The present experiment manipulated task importance, source credibility and message ambiguity to test this hypothesis. With an ambiguous message and high task importance, source credibility was expected to positively bias systematic processing when credibility was high and to negatively bias systematic processing when credibility was low.

## Method

### Participants

Three hundred and sixty-seven students participated in this study.

### Design and procedure

Participants were told that they would read and give their opinions about a new telephone answering machine, the 'XT-100'. They then read a 4-page booklet that conveyed the source credibility, message type information and task importance. A questionnaire that assessed participants' attitudes and other dependent measures followed.

### Independent variables

**Source credibility.** The information was attributed either to the sales staff of a supermarket chain (low credibility) or to a respected consumer report magazine (high credibility).

**Message type.** The product description compared the XT-100 with two competing brands on six product attributes, and asserted that the XT-100 was superior to those brands. The recommendation was based either on strong arguments (superior on important attributes), weak arguments (superior on unimportant attributes) or, in the ambiguous condition, on some arguments in favour and some against the XT-100.

**Task importance.** Participants were told either that they were part of a small selected group being canvassed by the producers of XT-100 to decide whether the machine should be sold in their area (high task importance) or that they were part of a very large group to be canvassed and that the machine would only be sold outside the state in which the respondent lived (low task importance).

### Dependent variables

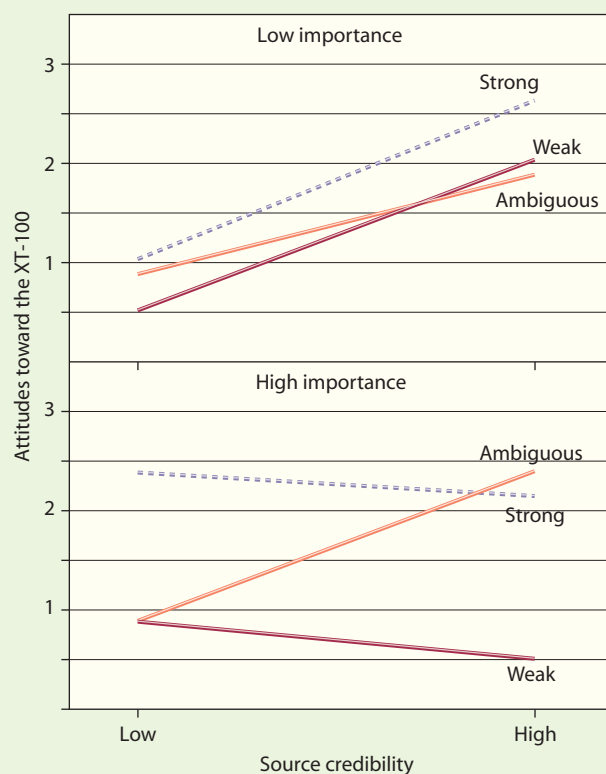
**Attitudes.** Participants rated the extent to which they would consider buying the XT-100, their favourability towards it and the extent to which they regarded it a good product.

**Cognitive responses.** Subjects were given 3 minutes to list their thoughts about the product or product description. These thoughts were then categorized by two independent raters according to whether they related to the source or to the product attributes and whether they expressed positive, negative or neutral evaluations of source or product.

**Manipulation checks.** Participants were asked to indicate their level of motivation to read the product description, their perception of the credibility of the source and the extent to which the product description contained many (few) positive or negative features.

## Results

Results supported predictions. Under low task importance, attitudes were mainly determined by source credibility (Figure 7.7, top panel). Under high task importance and unambiguously strong or weak messages, attitudes were mainly determined by argument quality, an effect mediated by systematic processing.



**Figure 7.7** Attitudes towards the XT-100 as a function of task importance (low vs. high), source credibility (low vs. high) and message type (strong vs. ambiguous vs. weak). Theoretical and actual range of attitude scores was  $-4$  to  $4$ , where higher numbers imply more positive attitudes.

However, respondents under high task importance who had received an ambiguous message showed a strong source credibility effect, despite high levels of systematic processing (Figure 7.7, bottom panel). Under these conditions, the impact of source credibility on attitudes was mediated by both heuristic processing and biased systematic processing. Source credibility exerted a direct effect through heuristic processing and an indirect effect by positively biasing systematic processing when credibility was high and negatively biasing systematic processing when credibility was low.

## Discussion

Results under low task importance as well as under high task importance with an unambiguously strong or weak message replicated previous research. Evidence for the bias hypothesis comes from respondents in the high task importance condition, who were exposed to an ambiguous message. Although these motivated participants displayed evidence for systematic processing, their attitudes were mainly affected by source credibility. Analysis of their cognitive responses revealed that source credibility exerted an indirect effect by positively biasing systematic processing when credibility was high and negatively biasing systematic processing when credibility was low.

processing lead to the same conclusion, for example, if an expert communicator also presents strong arguments. However, the greater the number of strong arguments presented by the expert communicator, the greater the probability that the independent effect of the heuristic cue will be submerged under this wealth of content information. As a result, the effect of the heuristic cue on persuasion may no longer be detectable (*attenuation hypothesis*). Most interesting is the *bias hypothesis* of the HSM, which predicts an interaction between the two processing modes. Such biasing is most likely to occur when the persuasive information is ambiguous and thus amenable to differential interpretations. Recipients might then give more weight to arguments which are consistent with the recommendation made by a source which is credible than by a source which is not credible. A study by Chaiken and Maheswaran (1994; Research close-up 7.1) provides support for the bias hypothesis.

*The sufficiency principle: a theory of processing motivation.* The HSM and the ELM agree in their assumptions about the factors which determine processing motivation, but the HSM makes more explicit assumptions about processes which mediate the impact of these determinants on processing motivation. According to the

**sufficiency principle** the heuristic-systematic model assumes that people strive for sufficient confidence in the validity of their attitudinal judgements. When people's actual confidence is below their desired level of confidence or sufficiency threshold, they will process additional information in order to close this gap

model's *sufficiency principle*, recipients of a message try to achieve sufficient confidence in their judgement before accepting an attitudinal position (Eagly & Chaiken, 1993). What a person will consider sufficient is determined by two factors, a *sufficiency threshold*

reflecting the desired level of confidence a person would like to have and the person's *actual confidence*. As long as the individual's actual confidence is below the desired level, the person will continue to process information. The desired level of confidence is likely to be higher for issues of great personal relevance than for trivial issues. Large discrepancies between actual and desired levels of confidence are therefore most likely to develop for issues which are personally relevant to recipients. Since systematic processing usually provides more information than heuristic processing, large gaps between desired and actual confidence are likely to motivate systematic rather than heuristic processing, but only if individuals expect that systematic processing will enable them to reduce this gap (Bohner, Rank, Reinhard, Einwiller & Erb, 1998). Whether recipients will actually succeed in their attempts to process a message systematically will depend on the availability of relevant resources (i.e., processing time, message-relevant knowledge).

*Multiple motives.* So far we have described the information processing underlying attitude change as a relatively objective and unbiased activity. The ELM, as well as the original version of the HSM, postulates a single motive: people are motivated to hold correct attitudes. This accuracy motivation determines the processing goal, namely to assess the validity of persuasive messages.

Chaiken and her colleagues (1989; Bohner et al., 1995) have extended the HSM and incorporated two further motives or goals for heuristic and systematic processing. Whereas accuracy motivation encourages objective and unbiased information processing, the other two motives are assumed to bias the processing of

persuasive information, that is, to induce individuals to hold particular preferred attitude positions. One class of motives likely to bias information processing has been labelled *defence motivation*. The processing goal of defence-motivated individuals is to confirm the validity of preferred attitude positions and to disconfirm the validity of positions which are not preferred (Eagly & Chaiken, 1993). A number of conditions can motivate individuals to defend their present attitudinal position, such as vested interest, attitudinal commitment or a need for consistency. Defence-motivated processing can be either heuristic or systematic. The defence-motivated message recipient is assumed to use the same heuristics as somebody who is accuracy-motivated, but to use them selectively so as to support preferred attitude positions. Defence-motivated systematic processing is similarly selective. Attitude-relevant information that supports favoured positions or opposes non-favoured ones should receive more attention and be more positively interpreted than information that supports positions which are not favoured by the recipient (e.g., Das, de Wit & Stroebe, 2003; De Hoog, Stroebe & de Wit, 2005).

A second class of motives likely to bias information processing has been termed *impression motivation*. This motive refers to the desire to express attitudes that are socially acceptable. It is assumed to be aroused in influence settings, in which the identities of significant audiences are salient or when people must communicate their attitudes to others who may have the power to reward or punish them. The processing goal of impression-motivated recipients is to assess the social acceptability of alternative positions in order to accept attitudinal positions which will please or appease potential evaluators. Like accuracy- and defence-motivated processing, impression-motivated processing can be both heuristic and systematic. Impression-motivated heuristic processing is assumed to involve the use of simple rules to guide one's selection of socially acceptable attitude positions (for example, 'moderate positions minimize disagreement'). In impression-motivated systematic processing the same goal is reached through scrutinizing the available information in terms of its acceptability to the social influence context (e.g., Chen, Shechter & Chaiken, 1996).

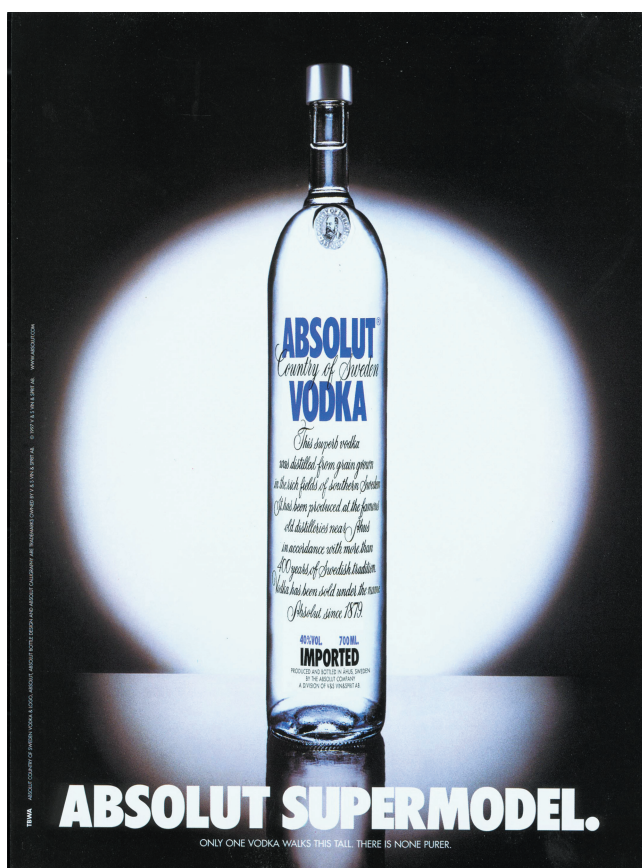
The incorporation of impression motivation links the HSM to theories of social influence such as the model of Deutsch and Gerard (1955) discussed in Chapter 11, this volume. This model postulates that group members may accept opinions from other members either because they believe them to be valid (informational social influence) or because they think that acceptance of these beliefs will raise their status within the group (normative social influence). Informational social influence should predominate in settings which arouse accuracy motivation, whereas normative social influence should occur under conditions which arouse impression motivation.

## Advertising as applied persuasion

### *Is subliminal advertising possible?*

### *How can we apply dual-process theories of persuasion to advertising?*

In the course of this chapter, we have already related some of the findings of persuasion studies to advertising. However, those of



**Plate 7.3** Advertising helped propel Absolut Vodka from an inconsequential brand to become America's leading premium vodka.

you who think of advertising as a powerful force that creates consumer needs and shapes the competition in markets today might have been slightly disappointed by our discussion of persuasion techniques. After all, it is hard to imagine that the processes we discussed here can have powerful effects like creating the image of the Marlboro Man or helping to propel Absolut Vodka in the United States from an inconsequential brand with fewer than 100,000 bottles sold in 1980 to become America's leading premium vodka brand with a sales volume of 40 million litres in 2006. You might suspect that other factors have been at work (e.g., marketing, pricing strategy) or that there is some secret ingredient, a 'silver bullet' persuasion strategy which we have not discussed so far.

**Subliminal advertising** One candidate for such a weapon, albeit not a very secret one, is *subliminal advertising*. The term subliminal refers to the presentation of a message so briefly (or faintly) that it is below the threshold of awareness. Subliminal advertising was made notorious in 1957 through publicity surrounding James Vicary, a private market researcher, who claimed to have increased sales of Coca-Cola by 18.1 per cent and popcorn sales by 57.7 per cent in a movie theatre by secretly and subliminally flashing the message 'Drink Coca-Cola' or 'Eat popcorn'. People became so upset by the idea that they could be manipulated without their

awareness that subliminal advertising has subsequently been banned in Australia, Britain and the United States (Pratkanis & Aronson, 2001). However, while people do not want to be manipulated against their will, they quite like the idea of their willpower being buttressed by subliminal suggestion. American consumers appear to spend more than \$50 million annually on audiotapes that contain subliminal messages to help them to improve their self-esteem, their memory and their study **habits** or to help them to lose weight and to stop smoking. (Pratkanis & Aronson, 2001).

**habits** learned sequences of behaviour that have become automatic responses to specific cues and are functional in obtaining certain goals

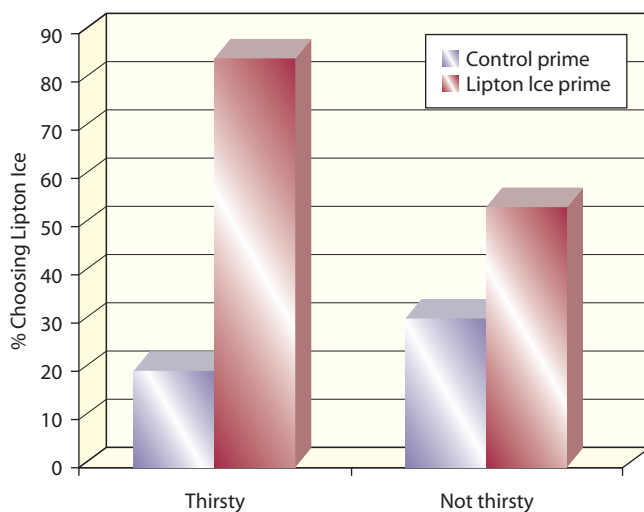
Nobody has ever been able to replicate the findings reported by James Vicary. The study has never been published and is now believed to have been a publicity hoax (Pratkanis & Aronson, 2001). Similarly, studies of the effectiveness of self-help tapes have found no evidence of any effects. Greenwald, Spangenberg, Pratkanis and Eskenazi (1991) conducted a study in which they measured participants' self-esteem and memory and then presented them with tapes that, according to the manufacturers, contained subliminal messages that should either improve self-esteem ('I have high self-worth and high self-esteem') or memory ('My ability to remember and to recall is increasing daily'). Crosscutting the manipulation of the subliminal content of the tapes, half the respondents were led to believe that they listened to the memory tape, the other half that they listened to the self-esteem tape. Respondents took the tapes home and listened to them daily for five weeks. When their self-esteem and their memory were reassessed on their return to the laboratory, no improvements could be detected. It is interesting, though, that those participants who thought that they had received the memory tape (regardless of whether they really had been given the memory tape or had been given the self-esteem tape) believed that their memory had improved. Similarly, respondents who believed that they had received the self-esteem tape reported substantial improvements in their self-esteem. Thus, whereas the actual content of the tapes had no effect whatsoever, the *assumed* content resulted in a 'placebo effect'. Participants believed that their memory (or their self-esteem) had improved, even though, objectively, there had been no improvements at all. Obviously, such beliefs guarantee satisfied customers and the continued sales of self-help tapes.

That these subliminal messages were ineffective is hardly surprising (see Chapter 4 on Social cognition). First, subliminal verbal primes have to consist of one or perhaps two (very short) words to be effective and not of whole sentences. Second, successful priming does nothing more than increase the accessibility of the primed concept and of thoughts related to that concept. Thus, even if it were possible to prime subliminally sentences like 'My ability to remember is increasing daily' or 'I have high self-worth', they would be unlikely to improve our memory or our self-esteem. Third, effects of subliminal priming can only be demonstrated under very controlled conditions. For example, the lighting has to be right, viewers must focus on the exact spot where the prime will be displayed and there must be nothing to distract them. One could never be sure that these conditions would be met in a movie theatre or with people watching TV at home.

Coca-Cola is a relatively short brand name and thus meets the first condition for a subliminal prime. Thus, if clever advertising technicians developed a technique that enabled them to successfully prime movie or TV audiences, could Coca-Cola sales be improved through subliminal priming? This would depend on a number of conditions. First, it would depend on the thoughts members of the audience associate with Coca-Cola. If they find it too sweet a drink, priming will not change their opinion. On the other hand, if they associate it with great taste and great thirst-quenching qualities, then priming might make them want to have a Coke, but only if they are thirsty at that particular moment.

When we tried to put this hypothesis to a test, we found in a pre-test that our Dutch students attributed the greatest thirst-quenching qualities to Lipton Ice (an ice tea). We therefore decided to use Lipton Ice in our studies (Karremans, Stroebe & Claus, 2006). We conducted two experiments, in which we primed half of our participants subliminally with Lipton Ice, the other half with a neutral control word containing the same letters. The primes were presented 25 times, but each time for only 23 milliseconds, so that our participants were unaware of the priming procedure. Whereas in our first experiment we used self-ratings of thirstiness to divide participants into thirsty and non-thirsty groups, we decided to manipulate thirstiness in the second study. Participants had to suck a salty sweet (*dropje*), supposedly to see whether they could identify with their tongue the letters that were impressed on one side of the sweet. (This sweet, which is popular in the Netherlands, is known to produce thirst.) Both experiments resulted in significant prime by thirstiness interactions on choice. When offered a choice between a brand of mineral water or Lipton Ice, participants who had been primed with Lipton Ice were significantly more likely to choose it over the mineral water, *but only if they were thirsty* (Figure 7.8). They also expressed greater intentions to choose Lipton Ice in a hypothetical situation (if they were now sitting on a terrace and ordering a drink).

These findings suggest that subliminal advertising could be feasible. Exposing individuals subliminally to the brand name of a drink can increase the probability that they choose that drink, but



**Figure 7.8** Percentage of participants choosing Lipton Ice as a function of thirst and prime (Karremans et al., 2006, Study 2).

only under certain conditions. First, the drink has to be considered thirst-quenching and second, people have to be thirsty. But third, they also have to be in a situation in which they are able to make that choice. A known limitation of the priming procedure is that effects wear off very quickly. Thus, even thirsty, movie audiences would want their Lipton Ice immediately after they had been primed and not three days afterwards. Thus, subliminally priming movie audiences with the concept 'Lipton Ice' just before the break might induce those who are thirsty to buy a Lipton Ice during the break. However, it would not motivate them to stock up with it the next time they are at the supermarket.

But all is not lost for advertisers. There are conditions under which subliminal priming of brand names might have long-term effects. One possibility is that thirsty, Lipton Ice-loving TV audiences who, after a subliminal prime, would like to drink Lipton Ice but have none at home might decide to put it on their shopping list. A second possibility is that TV or movie audiences who are subliminally primed with the concept 'thirst' and immediately afterwards exposed to a soft drink ad emphasizing the thirst-quenching qualities of this drink might be more persuaded by this ad than they would have been otherwise. Support for this assumption comes from an experiment conducted by Strahan and colleagues (2002). They exposed respondents immediately after they had been subliminally primed with either 'thirst' or with a neutral prime to two drink advertisements, one for a thirst-quenching drink called 'Super-Quencher' and one for an electrolyte-restoring sports drink called 'PowerPro'. Respondents who had been primed with 'thirst' were more persuaded by the ad for 'Super-Quencher' (but not by the ad for 'PowerPro') than individuals who had been presented with the neutral prime.

A third possibility would be to use methods of subliminal exposure in a procedure of classical conditioning. There is evidence that classical conditioning can affect attitudes towards brand names. For example, one study on the long-term effects of conditioned attitudes towards a brand name associated positively evaluated images with a fictitious brand of mouthwash (Grossman & Till, 1998). Even three weeks after exposure, conditioning effects could still be observed. There is also evidence that classical conditioning of attitudes can work when the evaluative stimuli are presented subliminally (e.g., DeHouwer, Baeyens & Eelen, 1994; Krosnick et al., 1992). Thus, one could pair a brand name with evaluative stimuli (e.g., pictures of positive events), which are presented subliminally. The main shortcoming of this procedure would be that as a form of initial, affect-based attitude acquisition, classical conditioning may not be effective with brands of high familiarity.

**A dual-process analysis of advertising** Social psychological research on message processing and persuasion has focused mainly on the processing of verbal information. In contrast, advertising uses pictures, fonts, colours, music and sound effects to draw attention, evoke associations and convey meaning. All of these non-verbal modalities may affect evaluative judgements directly or through their impact on message processing. Despite these differences, the insights into persuasion processes we gained from social psychological research can be very helpful in understanding advertising.

Advertisements can adopt a variety of appeals. The three most common are arguments, emotions and endorsements (Tellis, 2004). The effectiveness of each of these strategies will depend



**Plate 7.4** In this advertisement endorsement by an expert is used as an advertising strategy.

mainly on two factors, namely the *type of product* being advertised and the *involvement of the audience*. Products can be classified as either feeling or thinking products (Tellis, 2004). Feeling products such as wine, paintings or soft drinks are evaluated primarily by personal preference. Examples of preference attributes are taste, flavour, style and design. In contrast, thinking products, such as washing machines, computers and most cars, are purchased because of reason attributes such as performance, reliability, quality or fit (Tellis, 2004). Obviously, some products combine aspects of both types (e.g., sports cars).

Since the attitudes towards feeling products will be mainly based on affect and will have very little cognitive content, emotional appeals are preferable for feeling products. It would be difficult to make an argument-based appeal for a particular brand of cola, given that different brands are not all that different and that purchasing decisions for soft drinks are rarely based on objective qualities. Soft drink ads therefore play on people's emotions, trying to associate these products with feelings of youth, energy and sexual attractiveness.

In contrast, the advertising strategies for thinking products usually rely on arguments praising such attributes as the performance characteristics, reliability and quality of the service. As we have discussed earlier, the problem with using argumentative appeals is that even strong arguments are only effective with audiences that are motivated and able to process the information. This may be less of a problem with ads for dishwashers or hair dryers. Although

they are not objects of great interest to most people, advertisements for these household appliances are mainly directed at those who want to buy such an appliance and would therefore be motivated to think about the arguments in an advertisement.

But what strategy should one use to advertise products such as toothpaste, washing powder or mouthwash, which neither arouse a great deal of emotion nor are considered of sufficient importance by most people to devote a great deal of effort to processing arguments? One possibility is to use endorsements by celebrities or experts. We have all seen the actor who, dressed like a dentist (i.e., expert), praises the qualities of a particular toothpaste. Another possibility is to use emotional appeals to increase the perceived importance of a product. One could try to induce guilt feelings in parents who neglect their children's welfare by not making them brush their teeth with toothpaste X.

Alternatively, one could use fear appeals (Das et al., 2003; De Hoog et al., 2005). This approach was taken by Gerald Lambert, who in 1922 hired an ad agency to improve the sluggish sales of Listerine, at the time a product used as an antiseptic in surgery and to fight throat infections (Pratkanis & Aronson, 2001). Seeking a wider market, Lambert decided to promote it as a mouthwash. The problem was that nobody in those days really used a mouthwash. Furthermore, accusing people of having 'bad breath' would not have been a popular message. Thus, the ads for Listerine used the obscure medical term 'halitosis' instead of bad breath. The slogans of this famous campaign played on people's fear of being rejected by their social environment. 'Even your best friend won't tell you. Listerine is good for halitosis.' Or, 'Often a bridesmaid . . . never a bride.' The campaign was extremely effective, turning Listerine into a household name.

But such brilliant campaigns are the exception rather than the rule, as studies of advertising effectiveness indicate (Tellis, 2004). So how can advertising contribute to such dramatic sales increases as in the example of Absolut Vodka mentioned earlier? The answer is simple: through the accumulation of small effects over a long period of time. It took 19 years and an immense advertising budget to achieve this result.

## SUMMARY

This first part of the chapter has reviewed the theoretical developments that have substantially increased our understanding of the cognitive processes which mediate the impact of persuasion. Whereas McGuire's information processing model illuminated some of the processes involved in the interplay between message reception and acceptance, the cognitive response model provided powerful insights into the processes underlying the acceptance of a message. Both theories, however, still focused exclusively on systematic processing of message content. The dual-processing theories of persuasion (i.e., ELM and HSM) integrated theories of systematic processing with theories based on more peripheral processes and, furthermore, made predictions about the factors that determine whether individuals engage in systematic or peripheral processing.



## INCENTIVE-INDUCED ATTITUDE CHANGE

*Does the use of incentives (e.g., taxation, legal sanctions) constitute an effective strategy of behaviour change? Can incentives also be used to change attitudes?*

Powerful institutions often influence behaviour directly through incentives or legal sanctions rather than relying on the uncertain effects of persuasion. For example, when Swedish drivers could not be persuaded to use their seatbelts, the government introduced a law that made seatbelt use compulsory for front-seat passengers in private cars. The introduction of this law increased the frequency of seatbelt use from 30 per cent to 85 per cent within a few months (Fhanér & Hane, 1979). Similarly, in New York, where seatbelt use ranged from 10 to 20 per cent prior to the introduction of a seatbelt law in 1984, it increased to 45–70 per cent after the law entered into force in early 1985. The introduction of these laws also resulted in substantial reductions in the deaths of vehicle occupants (Robertson, 1986).



**Plate 7.5** The introduction of compulsory seatbelt laws has increased seatbelt use and reduced deaths of vehicle occupants.

Governments can also use taxation to reduce the occurrence of undesirable behaviour patterns. Thus, there is ample evidence that the demand for alcoholic drinks and cigarettes, like the demand for most commodities, responds to changes in price and income (see Stroebe, 2001). A review of available research from several countries concluded that, everything else remaining equal, a rise in alcohol prices generally led to a drop in the consumption of alcohol, whereas an increase in the income of consumers generally led to a rise in alcohol consumption. There is similar evidence for smoking (Stroebe, 2001).

Thus, there is ample evidence that use of incentives is an effective strategy of behaviour change. It is also likely that incentive-induced behaviour change results in a change in attitudes towards the behaviour. According to the value-expectancy models discussed in the previous chapter, one's attitude towards a given behaviour reflects the perceived consequences of engaging in that behaviour. Therefore, changes in the price of, for example, alcoholic drinks should influence one's attitude towards buying alcoholic drinks. It should have no effect, however, on one's attitude towards drinking them. Consequently, although a marked increase in the price of alcoholic drinks is likely to induce people to buy fewer of them, they might drink at their old level of consumption when not constrained by price (e.g., at a party where drinks are freely available). Furthermore, should alcohol prices come down again, people's attitude towards buying alcoholic drinks would again become more positive.

With regard to the effectiveness of legal sanctions, governments have the added problem that, to be effective, these sanctions may require continuous monitoring. It would therefore be desirable if the behaviour change induced by legal sanctions resulted in a change in attitudes. In the following sections, we will discuss conditions under which incentive-induced behaviour change might lead to attitude change.

### Counterattitudinal behaviour and attitude change

One condition for attitude change following **counterattitudinal behaviour** could be that individuals find performing that behaviour much less

**counterattitudinal behaviour** behaviour (usually induced by monetary incentives or threats) which is inconsistent with the actor's attitude or beliefs

aversive than they had anticipated. For example, seatbelt users in the 1980s, who reluctantly used their belts because of the sanctions threatened by the law, may have found them much less restrictive than they anticipated. Thus, they may have realized that their negative attitude towards seatbelt use was unjustified. This attitude change is likely to have been accompanied by a process of habit formation. Over time, putting on their seatbelts may have become habitual for most people. Thus, what was originally a conscious action, requiring cognitive resources and performed purely to avoid being sanctioned, may have turned into effortless and automatic behaviour. There is evidence that behaviour becomes habitual if it is performed frequently and in contexts which are likely to be stable (Ouellette & Wood, 1998). We would further

argue that behaviour is unlikely to become habitual if it is effortful and associated with negative consequences. Seatbelt use fulfils all of these conditions, at least for regular car users. However, all is not lost, if performing the behaviour is really as unpleasant as they anticipated, because *dissonance theory* would still lead us to expect that people will change their attitudes towards greater consistency with their behaviour, at least under certain well-specified conditions.

**Dissonance theory** According to *dissonance theory*, individuals who are induced to behave in a way which is discrepant with

**dissonance theory** a consistency theory which assumes that dissonance is an aversive state, which motivates individuals to reduce it. Strategies of dissonance reduction include belief, attitude and behaviour change as well as the search for consonant or the avoidance of dissonant information

their attitude will experience dissonance (Festinger, 1957). Dissonance is an aversive state, which motivates individuals to reduce it. This motivation will be stronger, the greater the dissonance. One way to reduce dissonance is to change one's attitude towards the behaviour.

To explain this prediction, we will have to describe dissonance theory in more detail. Whenever an individual chooses between alternative courses of action, there have to be reasons that justify the chosen action (consonant cognitions) otherwise the person would not have made that particular choice. However, there are usually also reasons which would have argued for choosing the rejected alternative (dissonant cognitions). The more reasons there are that would have justified choosing the rejected alternative, and the more important these reasons are, the greater will be the dissonance the person experiences and the greater the pressure to reduce it. For example, if Susan buys a car and decides for a Mini over a Golf, the good looks of the Mini and the sporty feel of the car would be consonant cognitions. However, the Golf would probably have cost less, had a larger luggage compartment and a more comfortable ride. These qualities of the Golf, which she gave up by choosing the Mini, will contribute to her dissonance (i.e., dissonant cognitions). Since, once made, choices are difficult to reverse, the most likely means for her to reduce dissonance is to persuade herself that the Mini is even more fun and the Golf more bourgeois than she always thought. There is empirical evidence that people's evaluations of two objects are more discrepant some time after a choice between them than before the choice took place (e.g., Brehm, 1956).

If drivers use seatbelts to avoid paying a fine, their behaviour is not completely voluntary. And yet, since they could have decided to risk the fine, it is still a free decision. It is in this situation where dissonance theory makes its most counterintuitive prediction. Since the threatened sanctions are consonant cognitions for those who comply with the law, dissonance would be greater the less severe these sanctions. If death was the penalty for not using one's seatbelt, few seatbelt users would feel dissonance. On the other hand, if the penalty was \$1, people who comply would probably feel considerable dissonance. After all, a fine of \$1 is not a very substantial justification to engage in behaviour that one did not really want to engage in. Thus, if an individual behaves counter-attitudinally to avoid a penalty or gain some benefit, dissonance

(a)



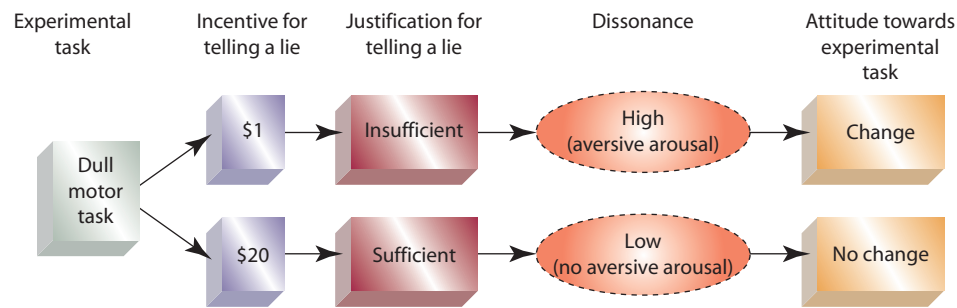
(b)



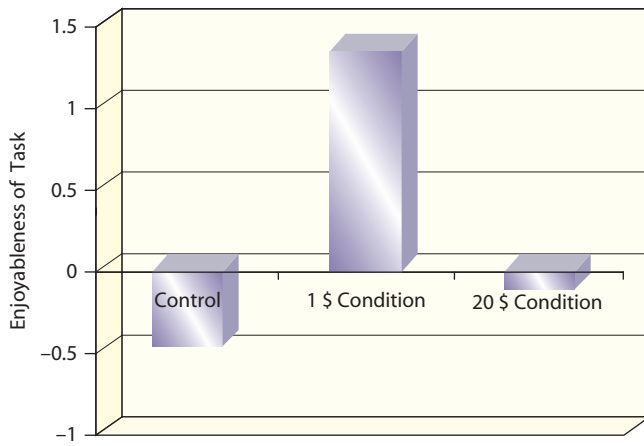
**Plates 7.6a and b** After buying one of these two cars, how are you likely to view the other?

will be greater if the penalty or the benefits are small rather than large.

Festinger and Carlsmith (1959) tested these predictions in their classic experiment. Participants had to perform two dull motor tasks for an hour and were then asked, under some pretext, whether they would be willing to tell the next participant that the experimental task was really interesting. They were offered either \$20 or \$1 for telling this lie. According to dissonance theory, participants who had been offered \$20 should have less problem in justifying their behaviour than individuals who received only \$1: after all, \$20 was then (and still is) a large sum of money. Participants in the \$20 condition should therefore experience less dissonance and less need to reduce it than those who had only been offered \$1 for telling a lie (Figure 7.9). In line with these predictions, Festinger and Carlsmith found that, when asked afterwards to indicate how enjoyable they had found the two motor tasks, participants in the \$1 condition rated it more enjoyable than did individuals who had been paid \$20 or than individuals in the



**Figure 7.9** Dissonance interpretation of the Festinger & Carlsmith (1959) experiment.



**Figure 7.10** Ratings of task enjoyableness by condition (adapted from Festinger & Carlsmith, 1959).

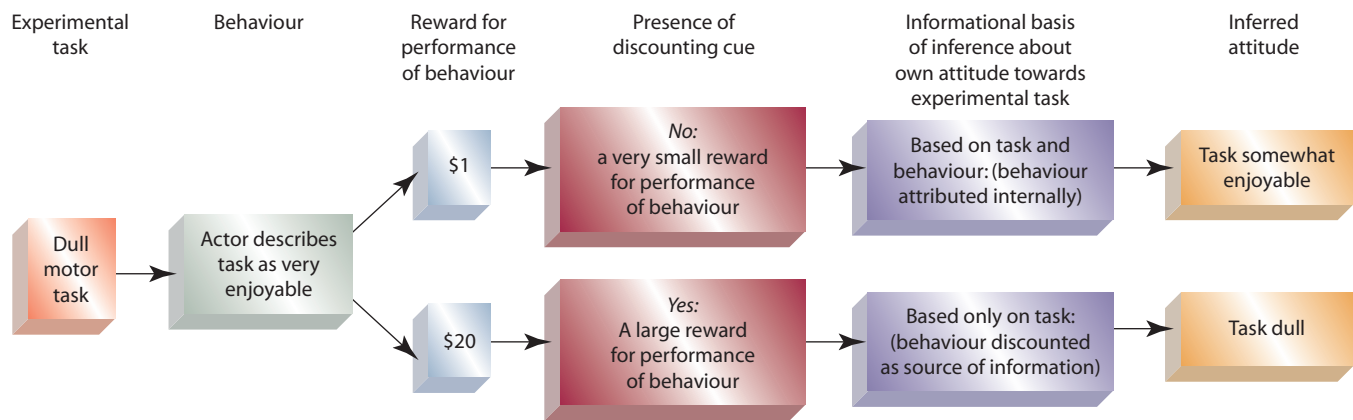
control group who had merely rated the motor task without having been asked to tell a lie (Figure 7.10).

Festinger and Carlsmith intuitively built two features into their experimental situation which, though not specified by the original version of the theory, turned out to be essential for dissonance arousal. First, since the experimenter's request was not ostensibly part of the experiment, participants were free to refuse the request and thus experienced high freedom of choice. However, since most people are absolute suckers when it comes to refusing requests made in face-to-face situations (see Chapter 11, this volume), Festinger and Carlsmith did not have to worry that many participants would refuse, even in the \$1 condition. Second, since the target of the lie (actually a confederate of the experimenters) had indicated that she had originally not intended to participate in the experiment because of an exam, the participants' behaviour led to aversive consequences. Both freedom of choice (Linder, Cooper & Jones, 1967) and negative consequences (Cooper & Worchel, 1970) are necessary for counterattitudinal behaviour to arouse dissonance.

**Self-perception theory** Dissonance theory provoked some controversy in its heyday. The major challenge to the dissonance interpretation came from *self-perception theory* (Bem, 1965, 1972). This theory assumes that people often do not know their own

attitudes and, when asked about them, are in the same position as an outside observer (see Chapters 5 and 6, this volume). As we have learned in the discussion of attribution theory (see Chapter 3), people usually infer attitudes of others from relevant instances of past behaviour. Thus, when asked to state their attitude towards the motor task, participants in the Festinger and Carlsmith experiment would have remembered that they told another participant that the task was interesting. They would have used this knowledge as information about their own attitude towards the task, unless there were reasons to *discount* their own behaviour as a source of information. Being paid a large sum of money to behave in a certain way is a good reason to discount one's behaviour as a source of information about one's attitude. Thus, in the latter case, they would probably evaluate the experimental task merely on the basis of how they remembered it. Self-perception theory can thus account for the Festinger and Carlsmith findings without referring to aversive states and clashing cognitions (see Figure 7.11).

It is now generally accepted that the two theories should be regarded as complementary formulations with each theory being applicable to its own specialized domain. According to Fazio, Zanna and Cooper (1977), self-perception theory accurately characterizes attitude change in the context of less discrepant behaviour where the individual argues for a position close to his or her own initial attitude. Fazio and colleagues term such behaviour attitude-congruent and define it as any position that is still acceptable to an individual, even though it may not be in accordance with his or her actual attitude. For example, people who believe that all atomic power stations should be closed down immediately would probably also find acceptable the position that no new atomic power stations should be built and the existing ones should be phased out within 10 years. However, these opponents of atomic power stations would find completely unacceptable the argument that we need new atomic power stations to ensure future energy needs. Since it can be assumed that individuals are motivated to put considerably more cognitive effort into justifying their action if it is counterattitudinal rather than attitude-congruent, this integration is consistent with expectations from dual-process theories: low-involvement individuals (those still behaving in an attitude-congruent manner, hence exerting little effort in justification) should rely predominantly on peripheral processes (i.e., they will take their own behaviour as a source of information). In an extension of this argument, Stroebe and Diehl (1988) further demonstrated that self-perception theory can also account



**Figure 7.11** Interpretation of the Festinger & Carlsmith (1959) experiment in terms of self-perception.

for attitude change following highly attitude-discrepant behaviour, provided it is performed under conditions unlikely to arouse dissonance (e.g., when individuals were given no choice to refuse performing the behaviour, or when the behaviour was not associated with negative consequences).

### Dissonance, self-perception and the use of incentives

Will people who smoke less or drink less because of taxation-induced price increases also change their attitudes towards smoking or drinking? Individuals who smoke less because cigarette prices have increased, or drink less because alcohol prices have gone up, may experience some dissonance. After all, their decision to reduce their consumption of cigarettes or alcohol will be the result of a decision about how to allocate their income. They would have been able to consume at the old level if they had decided to reduce *other* expenses (on food, vacations, etc.). Like all freely chosen decisions, such a decision is likely to result in dissonance and one of the ways to reduce dissonance would be to persuade oneself that one was better off by smoking and drinking less.

It is more doubtful whether dissonance or self-perception processes play an important role in mediating attitude change in the context of behaviour change induced by legal sanctions. According to dissonance theory, counterattitudinal behaviour will only result in attitude change if the incentive offers an insufficient justification for the behaviour change. A similar prerequisite according to self-perception theory is that individuals do not attribute their behaviour change to the incentive. Since legal sanctions only work if individuals are aware of the sanction and if these sanctions are *sufficiently severe* to persuade individuals to abstain from the prohibited behaviour, it is unlikely that individuals who comply will experience a great deal of dissonance or attribute their behaviour to internal causes. Support for the assumption that this type of behaviour change is rarely accompanied by attitude change comes from studies of the use of motorcycle helmets in American states which changed their helmet laws. For example, when Texas and Arkansas changed their law requiring all motorcyclists to wear helmets in 1997 to one requiring this only for riders under the age of 21, helmet use decreased from 97 per cent to 66 per cent in Texas and from 97 per cent to 51 per cent in Arkansas (Waller,

2002). This suggests that helmet use also failed to become habitual, probably because wearing a helmet is effortful and cumbersome.

## Some paradoxical effects of incentives and sanctions

Unfortunately, some evidence suggests that legal sanctions or positive incentives can have paradoxical effects on attitudes, with sanctions making the behaviour seem more attractive and positive incentives decreasing the attractiveness of the behaviour they stimulate. There seems to be some truth in the old saying that forbidden fruits are the sweetest, at least for those fruits which had originally been freely available. According to **reactance theory** (Brehm, 1966), the elimination of behavioural freedom should result in reactance, a motivational state directed towards the re-establishment of this behavioural freedom. Obviously, the most direct form of the threatened or lost freedom would be to exercise it. Reactance will therefore frequently result in an intensified form of the behaviour that has been sanctioned. However, regardless of whether or not one violates the sanctions, reactance will increase the motivation to engage in the sanctioned behaviour and thus make it appear more desirable. According to this perspective, introducing a law which forbids smoking could not only induce smokers to smoke whenever they think they can get away with it, it could also make smoking for them an even more desirable activity.

There are also reasons to expect that the introduction of positive incentives to motivate individuals to engage in a particular behaviour could have negative consequences on their attitudes (e.g., Deci, Koestner & Ryan, 1999; Lepper & Greene, 1978). Paradoxically, this is most likely to happen when individuals already engaged in the behaviour before the introduction of the law because they enjoy the behaviour. Imagine that health

**reactance theory** reactance is an aversive state caused by restriction of an individual's freedom of choice over important behavioural outcomes. Reactance is assumed to motivate the individual to re-establish the restricted freedom

insurance companies became persuaded by evidence that physical exercise extends life expectancy, reduces illness risk and saves health costs. They therefore decided to offer financial rewards (i.e., reduced premiums) for individuals who jogged regularly. This might induce many people to jog who would not have done so otherwise. But at the same time, it might also undermine the motivation of people who enjoy jogging and are already jogging regularly. At least, this is the prediction one would derive from research on the effects of external (e.g., monetary) rewards on *intrinsic motivation* and performance.

**intrinsic motivation** behaviour is said to be intrinsically motivated if people perform it because they enjoy it. This enjoyment is sufficient to produce the behaviour and no external reward is required. In fact, external rewards (e.g., financial contributions) are likely to reduce intrinsic motivation

Intrinsically motivated behaviours are performed out of interest and because they are enjoyed. This research has demonstrated that both enjoyment and performance of an intrinsically enjoyable task can decrease once people

have been given some reward for performing that task (e.g., Deci et al., 1999; Lepper & Greene, 1978).

Lepper, Greene and Nisbett (1973) conducted one of the early investigations of this hypothesis. They introduced an attractive drawing activity during the free-play time of nursery school children. After they had observed the baseline interest of children during free play, children who showed an initial interest in the activity were chosen as participants and asked to perform the activity under one of three conditions: In the *expected reward* condition, children were promised a reward for their performance (and later, given it); in the *unexpected reward* condition, children were unexpectedly given a reward afterwards; in the *no reward* condition, children were neither promised nor given a reward. Two weeks later the material was again provided in the classroom and interest in the activity was unobtrusively observed. As predicted by the researchers, participants who expected a reward showed a significant decrease in interest in the activity from the baseline to post-experimental observation, whereas participants in the *no reward* or

**over-justification effect** providing external rewards for performance of a task, which individuals previously performed because they found it enjoyable, reduces individuals' liking for, and enjoyment of, the task

*unexpected reward* conditions showed no significant change in overall interest. Lepper and colleagues (1973) interpreted these findings in terms of Bem's self-perception theory as an **over-justification effect**.

They argued that when people are rewarded for engaging in what is already an enjoyable activity, they are likely to attribute their behaviour to the reward (i.e., discounting cue), and thus discount their interest in the activity as a cause of their behaviour. As a consequence, they will enjoy the behaviour less and, once the rewards are discontinued, they will be less likely to perform it.

In the meantime, the findings reported by Lepper and his colleagues (1973) have been replicated in numerous studies. Based on a meta-analysis of over a hundred studies conducted with participants ranging from preschool children to college students, Deci and colleagues (1999) concluded that tangible (but not verbal) rewards have a significant negative effect on intrinsic motivation for interesting tasks. Thus, although an offer of reduced insurance premiums to people who jog regularly might persuade people who

never jogged to take it up, it would also spoil the enjoyment regular joggers may have had in engaging in this activity.

## Further limitations of the effectiveness of incentive-induced change

Since people are interested in attitude change rarely as an 'end in itself' but as a means to changing behaviour, influencing behaviour through monetary incentives or legal sanctions would seem to be the most effective of the strategies discussed in this chapter. As we have seen, there is ample evidence to support this notion. Seatbelt laws succeeded not only in increasing seatbelt use substantially, they also resulted in a change in attitudes towards seatbelt use, at least among those who complied (Fhanér & Hane, 1979). In view of the apparent effectiveness of incentive-induced behaviour change, one wonders why people still bother with persuasion.

There are actually a number of considerations to be taken into account. The most obvious is lack of power. Only governments have the power to enact laws and even they are constrained in the use of this power. For example, although the behavioural factors which are detrimental to people's health (e.g., smoking, overuse of alcohol) are well known, governments rely on persuasion as well as legal action to change behaviour.

An additional constraint on strategies of influence based on the use of monetary incentives or legal sanctions is that these strategies can only be used for behaviour that can be monitored. Thus, while efficient for publicly identifiable behaviour such as seatbelt use or speeding, positive or negative incentives are difficult to apply if the behaviour that one wishes to influence is difficult to monitor objectively. For example, in the area of race relations, governments can eliminate some of the objective and observable instances of discrimination (e.g., by introducing quotas for employment of members of racial minorities), but they cannot force people to be nice to members of outgroups, to invite them to their homes or let their children marry one of them. This is one of the reasons why the American Supreme Court mandated the end of segregated schooling. Since they could not outlaw prejudice, they attempted to reduce it by increasing interracial contact.

Finally, the effectiveness of legal sanctions is likely to depend on the acceptance of the law and on individual perception that violation of the law is associated with a high risk of sanction. For example, it is quite likely that the introduction of the law making seatbelt use compulsory would not have been effective had people not accepted that such a law was in their own best interest. In fact, without the persuasion campaigns that made it widely known that the wearing of seatbelts substantially reduced the risk of injuries in traffic accidents, it is unlikely that such a law would have been introduced. Similarly, the increases in Federal cigarette tax that occurred in the USA during the 1970s and 1980s would not have been possible without the anti-smoking campaign. The anti-smoking campaign in the USA also illustrates the fact that persuasion and incentive-related strategies do not preclude each other and are probably most effective when used in combination. Thus, the anti-smoking campaign resulted in a non-smoking ethos that was probably responsible for the legislative successes of the non-smokers' rights movements during the 1970s and 1980s.

## SUMMARY

Powerful institutions often use incentives or legal sanctions rather than persuasion to influence behaviour. There is evidence that such strategies are often effective in changing behaviour. It is less clear, however, whether these strategies also achieve a change in relevant attitudes. For incentive-induced counterattitudinal behaviour to induce dissonance, the incentive has to be small enough to offer insufficient justification for the behaviour. Similarly, self-perception theory would require that individuals do not attribute their behaviour change to the incentive. Since governmental institutions and other powerful organizations usually choose their incentives to be sufficiently powerful to persuade everybody (or nearly everybody) to change their behaviour, these incentives are not only likely to offer sufficient justification for behaviour change, but it is also likely that compliance will be attributed to these incentives. Whereas the magnitude of these incentives makes attitude change (i.e., finding the dull task enjoyable) due to dissonance or self-perception processes unlikely in the case of counterattitudinal behaviour, it increases the likelihood of attitude change (i.e., finding the previously enjoyable task less enjoyable) in the case of pro-attitudinal behaviour. This somewhat paradoxical effect is due to the fact that the presence of a discounting cue (e.g., large payment or expected reward) leads individuals to discount their counterattitudinal behaviour (i.e., describing the dull task as interesting) as well as the pro-attitudinal behaviour (performing an enjoyable drawing task) as information about their attitude.



## SUMMARY AND CONCLUSIONS

- The chapter discussed two major strategies of attitude and behaviour change, namely persuasion and the use of incentives (e.g., taxation, legal sanctions).
- Persuasion involves the use of communications to change beliefs, attitudes and behaviour of others.
- Early theories of persuasion (information processing model, cognitive response theory) focused on persuasion resulting from the systematic processing of the semantic content of persuasive messages.
- More recently, dual-process theories (elaboration likelihood model, heuristic-systematic model) have accepted that people often adopt attitudes on bases other than their systematic processing of arguments. Dual-process theories integrate theories of systematic processing and persuasion processes that are based on low-effort processes (e.g., classical conditioning, self-perception, heuristic processing) and they specify the conditions under which people engage in each of these processes.

- According to dual-process theories, individuals will engage in systematic processing of message arguments only if they are motivated and able to do so.
- Processing motivation is determined by situational factors such as personal relevance of the attitude issue and by individual difference variables such as need for cognition.
- Processing ability is determined by factors such as time, absence of distraction or message repetition. Whenever individuals are unmotivated or unable to engage in systematic processing of message content, they base their decision of whether to accept or reject a persuasive communication on low-effort processing.
- Applying dual-process theories to advertising, we argued that the effectiveness of the most common appeals used in advertising (arguments, emotions, endorsements) depends on the type of product being advertised (i.e., thinking products or feeling products) and the involvement of the audience.
- Rather than relying on the uncertain effects of persuasion, powerful institutions often influence behaviour through incentives. Thus, governments may use taxation or legal sanctions to make certain behaviours like smoking, drinking alcohol or the non-use of seatbelts more costly to individuals.
- Such strategies have been effective in promoting the targeted behaviour, but less successful in also inducing attitude change.
- Since private acceptance of these government strategies is likely to aid compliance, we argued that the use of incentives *and* of persuasive appeals should be considered as complementary rather than competing strategies.

## Suggestions for further reading

- Bohner, G. & Wänke, M. (2002). *Attitudes and attitude change*. Hove: Psychology Press. A well-written, state-of-the-art introduction. It provides students with a comprehensive and accessible overview of theories and empirical findings in the area of attitude change.
- Chen, S. & Chaiken, S. (1999). The heuristic-systematic model in its broader context. In S. Chaiken & Y. Trope (Eds.), *Dual-process theories in social psychology* (pp. 73–96). New York: Guilford Press. This chapter presents the most recent version of the heuristic-systematic model and reviews research conducted to test the theory.
- Eagly, A.H. & Chaiken, S. (1993). *The psychology of attitudes*. Fort Worth, TX: Harcourt, Brace, Jovanovich. For many years the definitive text on attitudes and attitude change, the book is becoming a bit dated. And yet, it is still the most comprehensive book on the development of the field up to 1990.
- Petty, R.E. & Wegener, D.T. (1999). The elaboration likelihood model: Current status and controversies. In S. Chaiken & Y. Trope (Eds.), *Dual-process theories in social psychology* (pp. 41–72). New York: Guilford Press. This chapter presents the most recent version of the elaboration likelihood model and reviews research conducted to test the theory.