Chapter 7

Confirmation and Disconfirmation: Their Social Advantages

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ABSTRACT

In this chapter, we review theory and research on strategies of hypothesis testing. We propose that confirmation is the default option in information processing; however, and contrary to common belief, it is not necessarily a lazy strategy and can even have social advantages. Disconfirmation, on the other hand, may be spontaneous and effortless. We also propose that both strategies, confirmation and disconfirmation, can fulfill inclusionary or exclusionary goals. Finally, a last series of experiments illustrates how perceivers can create ingroup biases without resorting either to confirmation or to disconfirmation. In general, we offer a perspective on perceivers as very flexible gatherers and interpreters of information, who use diverse strategies to their functional advantage.

It is January 1998 as we begin to write this chapter. Belgian newspapers are divided over the testimony of young women who claimed to have been victims of paedophile networks from their early childhood through their adolescence. Some newspapers, in favor of the women, list facts designed to convince readers that these witnesses were victimized by networks involving important political figures. Other newspapers, in an attempt to discredit the women, report evidence suggesting that their testimony is either outright invention or nothing but compliance with police officers and their biased interrogation of them. A psychiatrist is then called to diagnose the most famous witness. He concludes that, if she is telling the truth, then she must have gone through terrible traumas; but that, if she is telling lies, she must have suffered through terrible traumas. In the end, the Department of Justice hires foreign experts to go through the files and find out what really happened.

Clearly, in this example, taken from the pages of the newspapers of Belgium, the news media are reporting evidence that confirms their own points of view, whether that view supports or challenges the accusers. Even the psychiatrist, although he is more subtle in his presentation, also manages to confirm not only his theories about victimization, on the one hand, but also his claims of "mythomania" on the other. Apparently, it is only the outside experts who are deemed sufficiently competent to sort through the accumulations of evidence that could confirm or disconfirm the claims of victimization and thereby be capable of finding "the truth".

In this chapter, we review research (mostly conducted in our own laboratories) on person perception from the perspective of its relevance for confirming and disconfirming strategies in making judgments about other people. We will argue that these two strategies are both used, but tend to be used in somewhat different situations, and that each strategy may actually have social advantages associated with it.

BACKGROUND AND PLAN OF THE CHAPTER

Most likely, almost everybody would agree that social judgments should ideally be based on evidence obtained after searching for both confirming and disconfirming evidence. Nevertheless, many researchers have suggested that people may not always be so diligent in the even-handed pursuit of both that which would confirm and that which could disconfirm their hypotheses. For instance, Snyder and Gangestad (1981) asked students to design an experiment in order to test the following hypothesis: women are particularly susceptible to flattery and thus tend to comply with requests when smiled at and when given compliments. Virtually all individuals included the "confirmatory" condition where women were flattered, but only one-third of them proposed the optimal 2 (flattery vs. no flattery) × 2 (women vs. men) design.

More generally, there has been a long tradition of research showing that people actively seek out confirming evidence at the same time as they tend to neglect disconfirming evidence. For some theorists, this restriction in hypothesis-testing has been attributed to incapacity or laziness, and has even been considered faulty (e.g., Nisbett & Ross, 1980). For other researchers, this confirmatory approach to information gathering and evaluation has been seen as setting the stage for self-fulfilling prophecies to occur (e.g., Snyder, 1984, 1992). Indeed, when they look for confirmation of their hypothesis, people often ask for information that is most accessible, given the hypothesis. This selection of information may distort judgment and also shape reality in accordance with the hypothesis.

More recently, however, decision-making researchers (e.g., Friedrich, 1993; Klayman & Ha, 1987, 1989) have demonstrated that, in many circumstances, a confirmatory, or positive, testing strategy can lead to correct results. This defense of positive strategy has only been partially heard. Thus, although some researchers no longer criticize people for preferentially asking questions confirming their hypothesis, they do continue to try to show that questioners using such a strategy anticipate "yes" more often than "no" responses, and that they actually induce such "yes" responses (e.g., Hodgins & Zuckerman, 1993; Zuckerman, Knee, Hodgins, & Miyake, 1995; see Trope & Liberman, 1996). Thus, there remains a trend in social psychology to characterize people as restricting themselves to confirmation of hypotheses and to consider this testing strategy as less than completely adequate.

We begin this chapter by postulating that, for pragmatic reasons, people are often unable to use both confirmatory or disconfirmatory evidence. Not only may they not have enough time to engage in both confirmatory and disconfirmatory processing, they simply may not have the time to test all of their hypotheses. Also, the information available to people is not always sufficient to permit optimal hypothesis testing. Often people must deal with less than complete information, of less than perfect validity. Yet people must make decisions and they must act, even if they might prefer to wait until they have more and better evidence to work with.

Within this pragmatic context, we will argue that, for most intents and purposes, the confirmatory strategy is the default option, and we will try to show why. We will also provide evidence that confirming one's hypothesis is not necessarily a lazy solution, and that it can take as much effort and as much time as a disconfirmation strategy. In the next section of this chapter, we will present the idea that confirmation may lead to either inclusion or exclusion, depending on the valence of the expectations. The disconfirmation strategy is discussed in the next section. People sometimes want to deny membership of a given category. Such exclusion can be as easy or effortful as the inclusive confirmation strategy. It also has social advantages, in that disconfirmation is used to maintain the integrity of the self or of the ingroup category when there

is a potential danger for this category. Finally, we introduce a new line of research showing neither confirmation nor disconfirmation when these two strategies do not allow the perceiver to restore a self-image that has been threatened.

THE CONFIRMATORY STRATEGY

The essence of a confirmatory strategy is a perceiver's privileged search for characteristics that confirm the category. When this strategy is applied, the hypothesis is deemed correct as soon as a reasonable number of confirming features have been identified. When disconfirming features are encountered, the perceiver keeps on searching for additional confirming features.

Confirmation is the Default Option

There is an abundant literature in impression formation, showing that people are keen to confirm their theories. They attend to confirmatory information, select information, reinterpret it, and retrieve it so as to preserve their theories or hypotheses. Thus, perceivers may often be tempted to devote a great deal of attention to information that is likely to confirm their stereotypic expectations. At the same time, they often end up neglecting information that potentially contradicts their *a priori* beliefs.

Such a combination of attention to the confirmatory and neglect of the disconfirmatory is highly likely to confirm expectations. Such an outcome occurred in a recent series of studies by Goodwin, Gubin, Fiske, and Yzerbyt (in press). Participants in these experiments expected to work in small groups and read short personality profiles, supposedly completed by other individuals. Whereas some portions of the profiles were consistent with the gender of the respondent, others were inconsistent. Self-paced presentation of the individual pieces of information on a computer allowed the researchers to measure with great precision the attention devoted to each piece of information. Two processes were expected for powerholders, that is, people controlling the outcomes of others. A first process, stereotyping by default, was predicted to be based on powerholders' lack of dependence on subordinates and corresponds to a relative lack of attention of perceivers to individuating, stereotype-inconsistent information. A second process, stereotyping by design, was expected to emerge because of powerholders' active control over subordinates. Stereotyping by design leads people to pay effortful attention to stereotype-consistent information. The pattern of results obtained by Goodwin *et al.* (in press, Experiment 3) not only confirms that powerful people fail to take into account evidence that may contradict their *a priori* beliefs, i.e., stereotyping by default, but shows that power leads people to pay closer

attention to information that corroborates their expectations, i.e., stereotyping by design.

In another series of experiments relevant to the formulation and use of confirmatory stragegies, Snyder (for review, see Snyder, 1984) has shown that people preferentially *select* confirmatory information. When given the task of evaluating whether someone was an extravert, for example, interviewers selected from a pre-established list of questions those dealing with extraversion. By comparison, they neglected introverted and neutral questions. The reverse occurred when the task was to test hypotheses about introversion. To be sure, there has been considerable controversy concerning this line of research. Trope and Bassok (1982) noticed that Snyder's questions could not only be seen as matching the hypothesis under scrutiny, but also constituted leading questions. For instance, the question, "Do you like parties?" matches the extraversion hypothesis, but it is considered diagnostic because interviewees may respond, "No". The question, "What do you do to liven up parties?", on the other hand, is a leading question in that it presupposes that interviewees are extraverted and in some way forces them to give examples and, thus, to respond in an extraverted way. Trope and Bassok (1982) defended the idea that, in general, people show a preference for diagnostic questions and only favor matching ones when the hypothesis is extreme or very strong. At this point, it can safely be concluded that, when diagnosticity is held constant, people prefer matching over non-matching questions (Devine, Hirt, & Gehrke, 1990; Skov & Sherman, 1986; for review, see Dardenne, Leyens, & Yzerbyt, 1997). Moreover, Trope, Bassok, and Alon (1984) reported that, given the opportunity to formulate their questions themselves, participants never asked leading questions, and preferred diagnostic questions regardless of matching, with a distinct preference for bidirectional diagnostic questions ("Do you like parties or do you prefer to spend evenings reading?"). Leyens (1989) partly replicated these findings; however, when participants were asked to formulate their questions during an interview, and not before, they did use biased questions; in every case, Leyens showed that participants preferred open and matching questions.

Research on confirmatory strategies has also examined how people *interpret* information with respect to their hypotheses. For example, the information "regularly attends meetings" tends to be interpreted as evidence of altruism when applied to a theologian and as a sign of ambition when it concerns a business major (de Dreu, Yzerbyt, & Leyens, 1995). Similarly, a man hitting someone may be regarded as more aggressive than a woman hitting someone; when the man hits, it may be interpreted as a brutal attack, whereas when the woman does the hitting, it may be seen as merely slapping (Kunda & Sherman-Williams, 1993). Examples of confirmatory "interpretations" abound. When a White student shoves a classmate, his movement may be interpreted as a friendly gesture by both White and Black judges; when the actor

is Black, however, the same movement may become an attack (Sagar & Schofield, 1980; see also Duncan, 1976).

At least when the hypothesis does not have special importance, people are quick to use *pseudo-diagnostic* information (i.e., information that is often useful but not for the judgment at hand) to confirm their hypothesis, as in the case of the information "regularly attends meetings". Studies conducted to test social judgeability theory offer clear examples of this strategy (for reviews, see Leyens, Yzerbyt, & Schadron, 1992, 1994; Yzerbyt, Dardenne, & Leyens, 1998). According to this theory, people express a judgment about a target only to the extent that they feel entitled to do so. Because there is a social rule forbidding judgement of individuals only on the basis of their category, people will refrain from expressing a judgment about individuals characterized only by their group membership. In spite of this social rule, people are quick to find, interpret, and believe they have adequate individuating information about the targets.

In one relevant study, Darley and Gross (1983) showed their participants two versions of a video of a young girl. From the neighborhood of her home and school, it was clear that the girl came either from a poor or a well-off socio-economical background. Whichever version of the video participants saw, they did not differ in their ratings of the girl's academic performance. Other participants saw not only this video but also another that showed the girl taking an intelligence test, but performing in a way that was ambiguous with respect to her ability. This time, the rich girl was judged to perform better in school; moreover, participants thought that her performance in the intelligence test was superior and that the test was harder than for the poor girl. Darley and Gross interpreted these data as confirmation of a hypothesis that could not be expressed on the mere basis of social class (as in the first video).

Yzerbyt, Schadron, Leyens, and Rocher (1994) reasoned that confirmation on the basis of individuating information was perhaps not necessary for a stereotypical judgement to occur. According to them, the illusion of receiving information should suffice. In their research, participants thought that they were participating in a social perception experiment designed to simulate real life events. They first heard the beginning of an interview with a man; the only diagnostic information in the interview was his profession: comedian (linked to extraversion) or archivist (linked to introversion). Participants then performed a dichotic listening task in which they had to repeat aloud what they heard in one ear, knowing that something else was transmitted to the other ear. Immediately after this task, half the participants received a questionnaire and were asked to answer as they thought the man in the interview would have answered; they were also offered the possibility of answering, "Don't know". Many items dealt with introversion and extraversion, but these participants preferentially selected the "don't know" solution. The other half of the participants were given the same questionnaire but were told that they had

received information about the interviewee in the unattended ear. These participants described the interviewee as introverted or extraverted, depending on his profession. In other words, as soon as people believed they were in a position to judge (because they thought they had received individuating information, and not only categorical information such as the profession), they "confirmed" their pre-existing beliefs (see also Schadron, Yzerbyt, Leyens, & Rocher, 1994; Yzerbyt, Leyens, & Corneille, 1998).

When *retrieving* information, people also tend to favor confirmation. In one study of this process, Snyder and Uranowitz (1978; but see Bellaga & Bower, 1981; Clark & Woll, 1981) described to their participants the life of Betty K. Immediately after the description or one week later, they informed their participants that Betty was either heterosexual or lesbian, or they did not say anything about Betty's sexual orientation. The case study contained information in line with homosexuality and heterosexuality as well as details irrelevant to sexuality. One week after the description, Snyder and Uranowitz provided all the participants with a questionnaire testing their memory for the case. Some of the items dealt with sexuality and offered incorrect responses implying heterosexuality or homosexuality. Whereas non-informed participants replied with caution, informed ones "retrieved" information that confirmed the label: lesbian or heterosexual.

In conclusion, a considerable amount of evidence suggests that individuals are disposed to attend to, select, retrieve, interpret, and reinterpret information that confirms their theories or hypotheses. That this strategy seems to occur in so many contexts suggests to us that it may be a "natural" or a default option.

Why is Confirmation the Default Option?

There are several explanations of why the confirmation strategy may constitute the default option. Certainly, these different reasons are not mutually exclusive and not incompatible with each other; to be sure, people may opt for confirmation because of a conjunction of these reasons. To begin with, just about any classic textbook in social and cognitive psychology stresses that confirmation is the default option in person and object perception. For instance, according to the Continuum model (Fiske & Neuberg, 1990; see also Brewer, 1988), people initially categorize each other automatically (or at least spontaneously) and they then attempt to confirm this initial categorization. Confirmation is the default option because it needs only minimal, if any, motivation and cognitive resources. Here, we present some other, perhaps less well-known, reasons for confirmation. Several of them refer to the constraints of the cognitive system (i.e., heuristics) while others deal with a fundamental orientation of the mind (i.e., cognitive consistency, acceptance of things and survival theory).

First of all, information processing is rarely exhaustive and most of the time it is a process that occurs "under time pressure". In order to face this state of affairs, people use cognitive devices, or heuristics, that enable them to be quite effective even if not totally rational. Confirming evidence is usually more *accessible* than disconfirming evidence (Tversky & Kahneman, 1973). Also, confirming instances receive more weight in the impression formation process because they are more *representative* of the activated stereotype, or because confirming instances have a higher subjective utility (Swann & Giuliano, 1987; Van Avermaet, 1988). Stereotypes may serve as *anchors* that lead to a search for confirmatory information. Finally, the greater ease of processing positive-confirming information rather than negative-disconfirming information is an example of the *simulation heuristic.*

It may also be that confirmation is the default option because of a funda-mental orientation of the mind. That is, the mind may be, by default, in what can be characterized as an "approach" state. If nothing special signals that the environment deserves more attention, people will process the information in a confirmatory way. As soon as the person is alerted, this positive strategy is eliminated in favor of a more detailed processing of the information.

Moreover, in the late 1950s, several theories were proposed that had in common the idea that people are consistency seekers and that perceived inconsistency is uncomfortable. At the heart of these theories lies Heider's (1958) balance theory. He argued that there is a psychological force that compels people to make their mind balanced and consistent. For a state of complete cognitive harmony to exist, a person's judgment or expectation may not contradict but should confirm, or be in line with, another judgment or expectation. Balanced relationships, for instance, are easier to learn than unbalanced ones, because the former are stored as single cognitive units, whereas the latter are stored less efficiently (e.g., Sentis & Burnstein, 1979). Festinger's (1957) version of Heider's balance theory also claimed that people often look for consistent cognitions. Although the evidence is sometimes mixed, people selectively seek consistent information and pay more attention to it than to inconsistent information (Frey, 1986).

Yet another reason why confirmation may be the default option lies in the way mental systems operate. According to Gilbert (1991; Gilbert, Krull, & Malone, 1990), people's first and spontaneous reaction is to accept things. It is only during a second stage that people verify the bases of acceptance. Fol-lowing Gilbert, comprehending and accepting ideas or propositions are the same thing. Any proposition that is represented in mind for the first time has an initial truth value. At the opposite extreme, lay people often think that a proposition is first comprehended and then accepted or rejected.

In order to illustrate their theory, Gilbert, Krull, & Malone (1990; but see Leyens, Yzerbyt, & Rogier, 1997) reasoned that if people are distracted imme-diately after comprehending a proposition, they should later on remember this

proposition as true even if the proposition is in fact false. In one experiment, participants learned to associate an ostensible Hopi noun, in fact a nonsense word, and its English translation (e.g., *twyrin* = doctor). These associations appeared on a computer screen. Some associations were then followed by the word "true" while some others were followed by the word "false". Some associations were also immediately followed by a distractor (interruption task: pushing a button in response to a tone), while the remaining associations were not followed by a distractor. Results were perfectly in line with the hypothesis. In a subsequent identification task, interruption did not affect the correct identification of true associations, while it did affect the correct identification of false associations. When a false association was followed by an interruption, it was later often incorrectly recognized as a true association.

Other authors have also provided evidence that the human mind is by default in a confirmation state. According to behavioral-adaptive theory (Peeters, 1971; Peeters and Czapinski, 1990), people should first accept as positive all they can and then be very careful about any negative event. The theory is quite complex and beyond the scope of this chapter, but some of its principles are worth mentioning here. The authors first note that the strategy people use in testing hypotheses is, most of the time, a "successive scanning", that is, if people hold the hypothesis that the environment is positive, their minds will be tuned to the detection of consistent information, even if this is not the most rational way of dealing with the environment. They then relate this cognitive positivity bias to a behavioral approach bias, which can be a restricted or a generalized one. In its restricted form, the approach bias consists of seeking or approaching only (fully) confirmatory information. In its generalized form, however, the approach bias consists of seeking or approaching broader information, which can then be sometimes threatening or disconfirmatory. Peeters (1971) also stressed the idea that the restricted approach bias—seeking only a small number of positive or confirmatory elements—has a "survival" benefit: it helps people to keep any beneficial or positive state of affairs as positive as it can be. People will manifest a generalized approach bias only when the situation is "safe" enough or when they feel a need for cognitive validity.

In conclusion, then, a variety of theoretical and empirical traditions converge on the proposition that confirmation is a default option. People "naturally" accept the hypothesis and the validity of the facts; that is, they are spontaneously oriented towards confirmation and consistency.

A Confirming Strategy Is Not Necessarily a Lazy Strategy

As we indicated earlier in this chapter, hypothesis confirmation has often been criticized because it was thought to be an easy strategy. We believe that this criticism is wrong for two reasons. First, it postulates that effort *per se* is

deserving. This axiom is, we suggest, more a matter of ideology (Protestant ethic ideology) than scientific proposition. Second, confirming one's hypothesis is not necessarily an easy and lazy task. This assertion is, we suggest, empirically testable. Accordingly, in this section, we illustrate efforts at confirmation that take different forms, including those that are not necessarily easy or lazy.

Kunda and her colleagues have demonstrated that "people motivated to arrive at a particular conclusion try to be rational and to construct a justification of their desired conclusion that would persuade a dispassionate observer. They draw the desired conclusion only if they can muster up the evidence necessary to support it" (Kunda, 1990, pp. 482–3). In one study (Sanitioso, Kunda, & Fong, 1990), for instance, participants were led to believe that either introversion or extraversion predicted academic success. Participants subsequently recalled more autobiographical episodes consistent, rather than inconsistent, with success. They were also faster at recalling such episodes (see also Pyszczynski & Greenberg, 1987).

A second effortful way of confirming one's hypothesis consists in the amount of information one is ready to attend to in order to reach a verdict. This strategy is illustrated by a study reported by Ditto and Lopez (1992, Experiment 2). Their participants had to take a saliva test to see whether or not they were suffering from an enzyme deficit with potentially serious consequences. However, these participants thought they were in good health and their reactions to feedback about the test were guided by this hypothesis. Not surprisingly, those participants who received non-threatening feedback were satisfied, and 82% did not take a second chance at verifying the presence of the enzyme. However, when the first saliva test ostensibly showed a deficiency, only 48% did not try another test, and those who did were very creative at changing the test procedure in the hope of a different outcome. But when all the tactics failed, as they were destined to do given the design of the study, they decided that the test was faulty. It would have been interesting to vary the kind of feedback in the threatening condition and see whether participants would have stopped replicating the saliva test once they received non-threatening feedback. We will come back to this aspect when examining the disconfirmation strategy.

A third energy-consuming way of confirming resides in the reconciliation of consistent and inconsistent information. Obviously, in their search for confirming data, people sometimes face disconfirming evidence, or at least information that would appear inconsistent with the hypothesis. Dealing with the inconsistencies requires resources, as shown by the research of Yzerbyt, Coull, and Rocher (in press, Study 2). These researchers provided their participants with portraits of a series of targets. Importantly, the participants were or were not made busy during the presentation of the information, which con-

sisted of the targets' category (computer analyst) and a mixture of behaviors that were consistent (reflecting introversion), inconsistent (reflecting extraversion), and neutral (e.g., married) with respect to the category. In contrast to the busy participants who changed their stereotype of the computer analysts in general after their confrontation with the deviant targets, the non-busy participants did not alter their views of the category. Closer inspection of the data reveals that the lack of cognitive resources interfered with the participants' ability to construe the targets as atypical members of the category. From the present perspective, these data provide a clear demonstration that a confirming strategy may require the expenditure of effort.

Finally, Snyder (1992) and Snyder and Haugen (1994) have shown that the motivation to get to know people may very well promote the use of confirmatory strategies. In their study, a man and a woman face the task of getting acquainted through a telephone conversation. The man receives a picture, ostensibly of the woman, who is unaware that her conversation partner has a picture of her. The picture, as a result of an experimental manipulation, depicts either an obese or a normal weight person. As a result of another experimental manipulation, the man is instructed to use the conversation as an opportunity "to get to know" the other person, "to get along" with this other person, or does not receive special instructions. Some theoretical perspectives would seem to suggest that a motivation to "get to know" might encourage the interviewer to obtain as much and as correct information as possible, with the consequence that there would be no differences in the treatment of, and the subsequent behavior of, the supposedly obese and normal weight persons. However, and contrary to this line of reasoning, it was only in the condition in which the man sought to get to know her, that the woman came to behave in ways that appeared to confirm the negative stereotype of obese people, and was perceived as such by the interviewer and by outside observers. Presumably, the knowledge motivation induces the perceiver to base his first exchanges on what he knows about the other person, that is, that she is obese; this strategy in turn orients the responses and reinforces the interviewer's idea that he received useful information before conducting his getting-acquainted conversation.

In conclusion, existing research shows that people will sometime spend substantial effort in confirming hypotheses. Kunda's (1990) work illustrates the fact that people will select specific hypotheses and try hard to gather evidence for those hypotheses that bring about pleasant outcomes. Ditto and Lopez (1992) insist on the amount of processing but recognize that, given a quantity of unsuccessful attempts, people may change their hypothesis. Yzerbyt, Coull, and Rocher (in press) verified that individuals try to reconcile inconsistencies, but that this elaboration requires cognitive resources. Snyder's (1992) research, finally, supports the view that confirmation may result from a desire

to know who other people are and to use existing information to guide and channel interaction in a way that creates evidence that people are as they are expected to be.

Confirmation Can Be Socially Useful

Traditionally, confirmatory strategies have been considered cognitively economical but rationally erroneous ways of dealing with social information. Yet, as illustrated by Macrae, Milne, and Bodenhausen's (1994) studies, resorting to theories, or stereotypes, may help people devote their attention to other kinds of information. And, as we have just pointed out, this cognitive economy does not necessarily accompany confirmation. However, if confirmatory strategies are used for pragmatic reasons, they should offer some advantages to those who use them. We believe that there are reasons to propose that there are such advantages, and that these advantages are social ones.

Social interactions imply interdependence between people, and interdependence is mostly a mixed-motive state of affairs: interactants have an incentive to cooperate in order to do well together, and an incentive to compete in order to be the best. Both cooperation and competition may be well served by confirmation. If cooperation is assumed to underlie specific interactions, trust in other people's statements and behaviors should dominate and, thus, it may follow that people will spontaneously adopt a confirmation orientation. If there exists a risk of competition, confirmation may also be helpful in the sense that confirmation of competition may prevent naiveté and may avoid potential loss (Kelley & Stahelski, 1970).

The results of an experiment conducted by de Dreu, Yzerbyt, & Leyens (1995, Experiment 3) show that people selectively confirm the hypothesis that will be most useful for them. Participants played a dilemma game against a business or theology student who was sometimes presented with completely irrelevant individuating information (e.g., recently got a haircut) or pseudo-relevant information (e.g., regularly attends meetings). The pseudorelevant information had been pretested to apply equally to both a business major (because meetings will be part of the future job) and a theologian (who meets people in order to help them). In line with the dilution phenomenon (Yzerbyt, Leyens, & Schadron, 1997), no difference in behavior emerged when irrelevant individuating information was given. However, and as expected, the pseudorelevant information had an effect upon behavior, but only in the case of the business major opponent, that is, when confirmation of the competitive stereotype was sufficient to guarantee, in the participants' mind, a fair outcome in the game.

Further evidence of the social advantages of confirmatory orientations is provided by a series of experiments that Dardenne and Leyens (1995) conducted using an interview setting. They wanted to illustrate the social

advantages of a confirmatory strategy in cooperative settings. For instance, they hypothesized that the preference for matching questions may be a matter of social skill. Indeed, to the extent that the hypothesis is true, matching questions reveal that one has understood, and is respecting of, who the other is. High vs. low self-monitors had to select questions to interview an equal vs. higher-status target. The questions did or did not match the hypothesis. Dardenne and Leyens hypothesized that the high status of the interviewee should motivate the participants to select the most appropriate questions. They also proposed that self-monitoring should play a role, with high self-monitors being most motivated to handle the situation appropriately because they are "particularly concerned about managing their social behavior in order to create, facilitate, and maintain a smooth and pleasing flow of conversation throughout the course of the social interaction" (Snyder, 1979, p. 100). Low self-monitors, on the contrary, are thought to be less concerned with their public appearance and more reliant on their own inner dispositions. The results supported the hypotheses. Figure 7.1 shows that matching questions were selected most by high self-monitoring participants having to interview a higher-status person. In other words, and as interpreted by Dardenne and Leyens, it would appear that using a confirmatory strategy may be a sign of social skill on the part of interviewers.
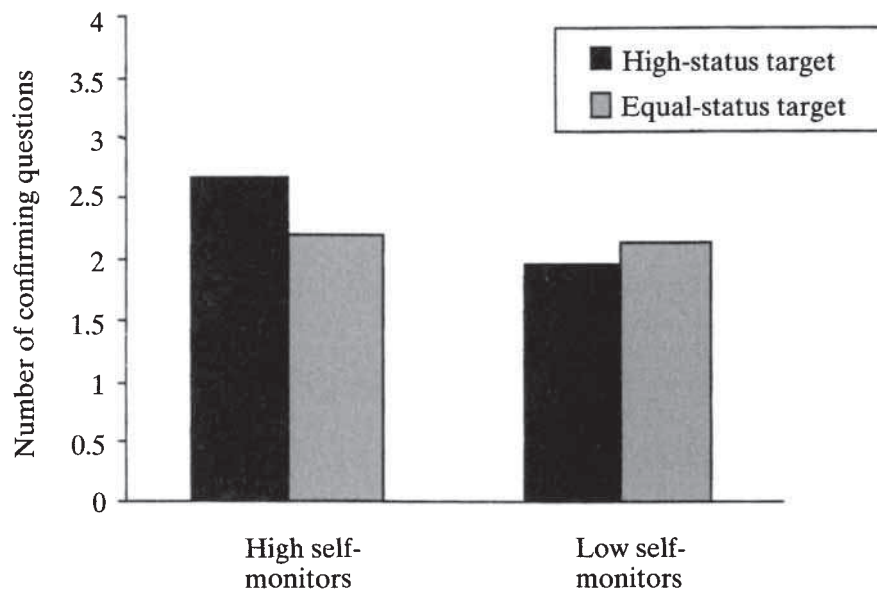

Figure 7.1 Number of confirming questions selected as a function of status and self-monitoring (adapted from Dardenne & Leyens, 1995)

Leyens and Dardenne also looked at the perspectives of observers, interviewers and interviewees. When observers were confronted with excerpts of interviews comprising different types of questions, they rated matching questions as more empathic and informative than non-matching ones (Leyens, Dardenne, & Fiske, 1998, Study 1). Interviewers showed the same preference, especially when they had to conduct an interview with the goal of showing empathy with the interviewee (rather than the goal of obtaining as much information as possible) (Leyens, Dardenne, & Fiske, 1998, Study 2).

In order to be socially useful, a confirming strategy needs to please not only the interviewers and external observers but also the interviewees themselves. In a series of experiments, Dardenne (1998) manipulated the type of questions, confirming or disconfirming of the personality of the interviewee, and asked the interviewee's impression about the interviewer. Also, the interviewee could help the interviewer in a subsequent task. After the experiment was allegedly over, participants were told by the experimenter that they could register for a study conducted by the interviewer. The results of a first experiment showed that participants were sensitive to confirmatory information and that this effect was a function of their personal need for structure (Neuberg & Newsom, 1993). For those high in need for a structured view of the world and of themselves (i.e., people who like order and clear-cut situations), confirmatory questions led to a more positive impression of the interviewer than disconfirmatory questions. Participants low in need for structure were not sensitive to the kind of questions asked during the interview (see Table 7.1).

In another study, Dardenne (1998) extended the logic of Leyens, Dardenne, and Fiske's (1998) second experiment and manipulated the interviewer's goal. Half of the participants believed that the interviewer's goal was to get as much information as possible during the interview, whereas the remaining participants thought that the interviewer's goal was to create an interpersonal link or "social bond". In line with Leyens, Dardenne, and Fiske's (1998) study,

Table 7.1 Interviewee's impression of the interviewer as a function of the questions asked and interviewee's need for structure (Dardenne, 1998, Study 1) or interviewer's goal (Dardenne 1998, Study 2)

Questions	Interviewee's need for structure (Study 1)		Interviewer's goal (Study 2)	
	Low	High	Information	Social bond
Confirmatory	6.67	7.01	6.25	6.80
Disconfirmatory	6.63	5.90	6.27	5.81

Ratings correspond to the interviewee's positive impression of the interviewer from 1 (not at all) to 9 (a lot).

participants' impression of the interviewer was more positive after a confirmatory than after a disconfirmatory interview, but only in the social bond condition (see Table 7.1). Importantly, in both studies more help was systematically obtained after confirmatory questions (in about 70% of the cases) than after disconfirming ones (in about 35% of the cases), regardless of the interviewee's personal need for structure (Study 1) or of the interviewer's goal (Study 2).

It should be noted that Dardenne and Leyens set up studies where the hypothesis was correct, that is, interviewees agreed with the interviewers' hypothesis. This situation is not always the case and problems may arise for the interviewees when the hypothesis is a negative one. Let us take the example of the alleged obese person in the Snyder and Haugen (1994) study. She was expected to be unpleasant and, as a result of the confirming process, she indeed came to behave in an unpleasant manner. It is mainly for this kind of consequences over the course of the interaction that negative stereotypes are so widely condemned. If negative stereotypes are false, confirmation may lead to their becoming true (Fazio, Effrein, & Falender, 1981; Snyder, 1984); if they are true, confirmation will prevent any change. None of this is to the advantage of the stereotyped targets. Actually, confirmation based on positive expectations and confirmation based on negative expectations follow two different dynamics, as we will now see.

INCLUSIONARY AND EXCLUSIONARY
ORIENTATIONS

Further perspective on the social values of confirmatory strategies is provided by considering some of the motivations that may be associated with them. That is, by going beyond the "facts" of the confirmation scenario to the motivational purposes that such scenarios may be serving for those who formulate and enact them, we may be able to understand the social purposes that are associated with confirmation scenarios. The facts of the confirmation scenario are that perceivers act as though their expectations were true and, as a result, targets come to behave in accordance with the perceivers' expectations. Thus, and more specifically, targets expected to possess positive attributes come to display positive behaviors, whereas targets expected to possess negative attributes come to display negative behaviors. Although there may appear to be a complete comparability and symmetry to the confirmation scenario for positive and negative expectations, it has been suggested that there are some fundamental differences in the interpersonal and motivational orientations behind the confirmation scenarios in the cases of positive and negative expectations (Snyder & Stukas, 1999). These differences may be revealing about what, from a social perspective, perceivers are accomplishing, or at least may

be seeking to accomplish with the confirmatory strategies that they formulate and that they enact in social interaction.

To explicate these differences in orientations, consider the likely consequences of targets' displaying positive and negative behaviors in their interactions with perceivers. Targets who display positive behaviors are, all other things being equal, likely to be invited by perceivers to engage in further interaction with their perceivers; after all, it is not unreasonable to propose that people would prefer to spend time with those whom they view positively. However, targets who display negative behaviors are unlikely to be favored with such invitations (again, it is not at all unreasonable to propose that people would prefer to stay away from those whom they view negatively). In fact, perceivers who witness negative behaviors on the part of their targets may even feel perfectly justified in actively excluding those targets from further social contact. These desires for further social contact with targets who display positive behaviors have been referred to as an inclusionary orientation, whereas motivations to avoid further social contact with targets who display negative behaviors have been referred to as an exclusionary orientation (Snyder & Stukas, 1999).

The difference between inclusionary and exclusionary orientations becomes all the more important when one considers the origins of so many of the expectations that can and do guide individuals' treatment of other people. Many expectations are the products of stereotypes about social groups, with negative expectations often being derived from negative stereotypes about outgroups and positive expectations often being derived from positive stereotypes about ingroups. The behavioral confirmation scenarios associated with inclusionary and exclusionary orientations may thus promote and reinforce the acceptance and inclusion of ingroups and the rejection and exclusion of outgroups, with the consequent strengthening, reinforcing, and solidifying of the boundaries between ingroups and outgroups (for elaboration of this argument about the ways in which stereotypes serve to "detach" people from the targets of their stereotypes, see Snyder & Miene, 1994).

Behavioral confirmation is often thought to be a flow of influence that moves from relatively powerful perceivers to relatively powerless targets (e.g., Copeland, 1994). It follows that it will perpetuate existing social orders. Indeed, the targets of negative expectations are likely to be relatively powerless and disadvantaged minority outgroups, whereas the holders of negative expectations are likely to be members of relatively powerful and advantaged majority groups. Further, any indications that members of social outgroups are desirous of crossing over the boundaries and having social commerce with members of the ingroup, or of taking advantage of the resources of the ingroup, are likely to accentuate and exacerbate an exclusionary orientation and the behavioral confirmation of negative expectations.

In conclusion, it would seem that a consideration of these inclusionary and exclusionary orientations can help to make clear the importance of consider-

ing confirmation scenarios in their interpersonal and motivational contexts. Confirmation scenarios are not simply chains of events that link together perceivers' expectations and, ultimately, targets' behavior. Rather, they are meaningfully embedded in the social and motivational agendas that people bring to bear on their dealings with others (e.g., Snyder & Cantor, 1998). These motivational and interpersonal agendas are intricately intertwined with the social boundaries that demarcate intergroup relations.

THE DISCONFIRMATORY STRATEGY

In this section, we turn our attention to disconfirmatory strategies. Even though existing theory and research has been somewhat more concerned with confirmatory than disconfirmatory strategies, we will argue that there are important insights to be provided by considering disconfirmatory strategies. In particular, we will argue that people preferentially adopt a disconfirmatory strategy when there is a potential danger for them or for their group. The association between disconfirmation and danger immediately addresses the question of social advantages of this strategy. If it is adopted because of a possible danger, it is assuredly meant to reduce this danger for oneself or for one's group. In this sense, then, the disconfirmatory strategy may be seen to possess social advantages, or at least the potential for such.

The danger or threat can come from several sources. Its source may be intellectual. This possibility will arise, for instance, when you have been warned that you are accountable for your judgments, or when you know that your judgment may lead others to consider you as being a racist. There is an abundance of research showing that these conditions will lead to some kind of equilibrium between confirmation and disconfirmation. In this case, you take your time to "rationally" scrutinize the available information in order to achieve the "best" possible solution, that is, the one that has all the chances to satisfy your audience or, at least, that you feel able to defend in front of this audience (e.g., Tetlock, 1992).

The danger may also be more affective, and it is on this source of threat that we will concentrate our analysis. In this case, you may want to exclude somebody from a given category because confirming his/her membership in this category may have threatening implications. Thus, you may favor disconfirmation. This situation will occur when stakes are involved so that inclusion in the selected category would prevent gains or would cost you something.

The prevention of gains is clearly illustrated by Fiske's research on outcome dependency (see Fiske, Neuberg, Beattie, & Milberg, 1987). When participants have to collaborate with a schizophrenic person, for instance, and a bad relationship may cost them a reward, they are particularly interested in investigating the information that is inconsistent with the label. Stated otherwise, they are motivated to disconfirm the possibility that the partner is a proto-

typical schizophrenic person and that their bad relationship will cost them the reward (Goodwin et al., 1998).

The costs of making an unwanted choice were also investigated in a study by Yzerbyt and Leyens (1991). This study showed that disconfirmation is not necessarily an effortful process that takes time and additionally requires extensive motivational and cognitive resources. The experimenter explained to the participants that she wanted to know how lay people select actors for a play. "Professional directors", she went on, "often choose an actor on the basis of the correspondence between the image they have in mind and the way the actor understands the character. Of course, one given character can be understood in several ways, but only one way usually suits the director's idea." The experimenter then asked participants to imagine that each was a director who saw the role as being a "rather likable" (vs. "rather unlikable") person. Fourteen candidates for the role had allegedly been presented with a set of personality traits and had circled the 10 traits that best conveyed the way they believed the role should be portrayed. The participants' task was to select as many actors as possible whose conceptions fitted their specific reading of the scenario. Also, participants learned that, to the extent they could make a confident decision, they were expected to use fewer than the 10 pieces of information available for each candidate. Some of the candidates presented all positive or negative traits. Others presented mixed patterns of traits that were in majority either positive (i.e., + + + + − − − − + + / + + + − − − + + + − / + + − − + + − − + +) or negative (i.e., − − − − + + + + − − / − − − + + + − − − + / − − + + − − + + − −).

When the director's expectation for the role was positive, and when the traits were totally or mainly negative, it took only a few traits to decide that the actor did not correspond to the role (about four traits; see Table 7.2). Exclusion thus worked immediately, showing that participants were extremely vigilant not to accept the "rotten apple" in the basket. Disconfirmation needed much more evidence when the traits were positive, indicating that participants were never sure that a positive person would always be positive (see also Rothbart & Park, 1986).

The weight of negative information is especially visible when participants expected a pleasant portrait and were confronted with mixed lists comprising

Table 7.2 Number of traits requested by participants (out of a maximum of ten traits)

	Nature of the lists			
Role	All positive	All negative	Mainly positive	Mainly negative
Rather likable	6.17	3.75	5.75	4.40
Rather unlikable	4.93	4.99	5.28	4.82

Adapted from Yzerbyt & Leyens (1991, Experiment 1).

four positive, four negative, and two positive traits (see Table 7.3). Because participants were much more cautious when they faced the mainly positive rather than the mainly negative list, they often asked for more than four traits (i.e., 15 times out of 24), ended up encountering a negative trait, and decided in 80% of the cases that the candidate was unsuitable for the role. In line with our reasoning, the additional negative information almost always led to the rejection of the candidate.

Clearly, then, social perceivers are not always obliged to invest a lot of cognitive resources if they want to disconfirm a given hypothesis. Depending on the specific goals at work, confirmation of membership in certain categories may require substantial intellectual means. In contrast, disconfirmation may turn out to be extremely simple. Presumably, this is because the feedback given by the information is much clearer in one direction than in the other. In the present case, negative information weighs more heavily in people's decision-making process.

This differential diagnosticity of positive and negative information is related to the work of Reeder and his colleagues (Reeder, 1985; Reeder & Brewer, 1979; Reeder, Messick, & Van Avermaet, 1977) on the implicational schemata linking personality traits and behaviors. According to this line of research, some behaviors are more indicative of the underlying disposition than others. For instance, extraverted behaviors can hardly be performed by introverts. In contrast, although introverted behaviors are likely to be performed by introverts, extraverts are also capable of displaying such behaviors. This means that some traits can be ascertained more easily than others. The work by Skowronski and Carlston (1987, 1989) constitutes another line of work rele-

Table 7.3 Proportion of candidates accepted as a function of the nature of the list, the valence of the role, and the number of traits requested

	Nature of the list	
Role	Mainly positive (++++----++)	Mainly negative (----++++--)
Rather likable		
Four or less	0.89 (9)	0.00 (19)
Five or more	0.20 (15)	0.40 (5)
Rather unlikable		
Four or less	0.00 (11)	0.63 (16)
Five or more	0.39 (13)	0.63 (8)

Number in parentheses refers to the number of participants in the different cells. Adapted from Yzerbyt & Leyens (1991, Experiment 1).

vant to the issue of information diagnosticity. These authors argue that some behaviors, those low in morality and high in ability, are less common than their counterparts and therefore provide more conclusive evidence as far as the presence of the underlying trait is concerned. For example, you must be intelligent if you win a Nobel prize, but if you fail an entrance examination, there is much less certainty about your true level of intelligence. Similarly, a bank employee needs only steal once to be called dishonest, but no matter how long a person appears to act honestly, one may never be sure whether he or she really is honest.

The above research looks at social perception from a structural point of view and has done a great deal to clarify the dynamics of confirmation and disconfirmation. Still, one additional message of Yzerbyt and Leyens' (1991) data is that confirmation in general may be more demanding than disconfirmation. In other words, the participants seemed to see the decision to hire an actor not well suited for the role as a costly one. As a result, they collected the information with great care. Obviously, the association between circumspection and confirmation on the one hand, and impetuosity and disconfirmation on the other hand, is not at all surprising once one takes the stakes of the decision into account.

Decisions about people's group membership offer another example of the association between disconfirmation and caution. After the Second World War, some social psychologists wondered about the accuracy of denouncement—was denouncing Jews the consequence of anti-Semites being particularly good at detecting Jewish cues? To answer this question, they presented anti-Semitic and unprejudiced participants with a set of pictures, half of them of Jews and the other half non-Jewish. The task of the participants was to distribute these pictures into two piles, one Jewish and one non-Jewish. In general, results indicated that anti-Semitic individuals were better judges than unprejudiced participants. More important for our concern is that in almost all cases, anti-Semitic persons placed significantly more pictures in the Jewish pile than unprejudiced people did (for review, see Leyens, Yzerbyt, & Bellour, 1993).

Two competing explanations were offered for these results. The first refers to an artifact in the data: better accuracy is obtained by the prejudiced participants because they simply put more pictures in the outgroup pile, thereby decreasing their chances of missing a Jew (Quanty, Keats, & Harkins, 1975). The second explanation is derived from the New Look approach and attributes the differential accuracy results to perceptual vigilance (Dorfman, Keeve, & Saslow, 1971). As Allport and Kramer (1946, p. 37) put it: "people prejudiced against any minority group are sensitized to the visible signs of identity of members of such groups". Different as they may be, these two explanations both focus on the outgroup: anti-Semitic people were looking for *confirming* evidence that the targets were Jewish. A very

different interpretation is that prejudiced individuals were looking for *disconfirming* evidence that ambiguous (and threatening) targets were non-Jewish like them.

To test the alternative explanation of what they called the "ingroup over-exclusion effect", Yzerbyt and Leyens asked participants to decide whether a target belonged to an ingroup or to a threatening outgroup. They took advantage of the linguistic situation in Belgium, where there is a long conflict between Dutch-speaking- (= Flemish) and French-speaking (= Walloon) people. In a first study (Leyens & Yzerbyt, 1992), French-speaking students received stereotypic information that corresponded to either Flemish or Walloon targets. Their task was to decide whether these targets were Walloon. As expected, students reported less often that the targets were Walloon (ingroup) than Flemish (outgroup). Also, they needed more information for the Walloon targets than for the Flemish ones. In a second study (Yzerbyt, Leyens, & Bellour, 1995), participants were either Walloon or Flemish. Moreover, they were asked to decide whether the target was an ingroup member or an outgroup member on the basis of sentences pronounced in either French or Dutch by Walloon or Flemish persons. As predicted, more errors were produced for ingroup targets, especially when the available information was ambiguous, that is, short sentences pronounced in the outgroup language. Decision time was longer for ingroup members who read sentences in the outgroup language. These results have since been replicated with North Italians judging North or South Italian stereotypes (Capozza, Dazzi, & Minto, 1996).

The research on the ingroup overexclusion is consistent with the proposition that disconfirmation is often perceived as a better tactic than confirmation. Of course, the relative superiority of one strategy over the other is not to be gauged in terms of the objective nature of facts but in light of the identity concerns of the perceiver. Simply, although the use of disconfirmation does not prevent people from making classification mistakes, the erroneous inclusion of a threatening outgroup member is considered a more consequential mistake than the incorrect exclusion of an ingroup member. As it happens, recent work suggests that the ingroup overexclusion effect is much stronger for highly identified people (Yzerbyt & Castano, 1998) or for members of high-status groups (Capozza, Voci, & Toaldo, 1998).

In sum, the research presented in this section strongly questions the traditional view about disconfirmation. Disconfirmation is not always a costly and accurate strategy, quite the opposite in fact. Depending on circumstances, the desire to disconfirm a particular hypothesis requires fewer resources and less effort than confirmation. Also, objective reality is not the only concern that perceivers have in mind. Their personal and group integrity is of central importance. This preoccupation is also well illustrated in the following section, where we revisit one of the best known paradigms in cognitive and social psychology.

NEITHER CONFIRMATION NOR DISCONFIRMATION: THE WASON SELECTION TASK

In cognitive psychology, the Wason selection task may well be the most famous and most extensively studied deductive problem. In the traditional abstract version of the task, people are presented with four cards and told that each card has a letter on one side and a number on the other side. Only one side of the cards is visible. Participants see a consonant (e.g., K), a vowel (e.g., E), an even number (e.g., 4), and an odd number (e.g., 7). The participants' task is to choose the cards they need to turn over in order to discover whether the experimenter is lying when asserting the conditional statement, "If a card has a vowel on one side, then it has an even number on the other side", corresponding to the conditional "If p, then q" (Wason, 1968).

According to propositional logic, the correct answer is E and 7 (i.e., p and non-q) cards. Indeed, the rule would be violated if there was an odd number behind the E, or a vowel behind the 7. However, it has been repeatedly shown that people preferentially choose only the E card, or the E and 4 cards, that is, p or p and q. Less than 10% of participants choose the logically correct selection. The scope of this chapter (as well as the available space) does not permit a full review of the extensive literature on the topic (see Newstead and Evans, 1995, for a complete review or, e.g., Liberman & Klar, 1996; Fiedler & Hertel, 1994).

Let us now consider how the Wason selection paradigm can be used to study stereotypes in an intergroup context. In a series of experiments, Leyens and Scaillet (1998; Scaillet & Leyens, 1998) presented participants with sentences such as, "If someone belongs to Group G, then he/she has trait T". Group G was either the ingroup or the outgroup, trait T was positive or negative and was either typical of the ingroup or common to both groups. For example, in one study, psychology students received the rule: "If someone is registered in psychology, then he/she wants to help others", and they had to select two cards among the following four: psychology, engineering, wants to help others, not interested in others. The relationship between the ingroup and outgroup allowed us to vary the threat: depending upon the experiments, the material was either given via questionnaires or presented on a computer which recorded the inspection time for each card. Participants were free to select the number of cards they wanted to turn, or their choice was restricted to two cards. The presence or absence of threat involved natural or manipulated groups. (Contrary to several experiments run on content, the structure of the task is identical across conditions.)

The hypothesis of concern here is that the involvement of the ingroup in the statement, as well as the typicality and valence of the trait, would have an impact on the interpretation of the statement, which in turn could influence the selection of cards. For instance, psychology students confronted with engi-

neering students, and given the rule, "If a student is majoring in engineering, then he/she wants to help others", could understand the rule as, "only engineering students want to help others" and choose the (necessary) cards "psychology" and "wants to help others". And they could interpret the rule, "if a student is majoring in psychology, then he/she has personal problems" as "a psychology student automatically has personal problems" and select the "psychology" and "well-balanced" (sufficient) cards. Actually, Scaillet and Leyens (1998) verified the interpretation of the rules as a function of the conditions, and did not find any difference between the different selected pairs of cards; moreover, the card selection was not mediated by the interpretation of the conditional statement.

Which cards do participants choose? Because the results are completely congruent across studies, we will summarize only one experiment and present its main results. Participants were first year psychology students recruited to participate individually in a personality study. They were first asked to answer a set of items from the MMPI. While the computer examined their responses, they were told that previous studies with the test had shown that it was possible to distinguish between two general personality types: type P and type O. Then the computer gave them the feedback from the test. "Your answers show that you belong clearly to the type P group . . . Compared to type O, persons of type P differ in this way: . . .". Here the traits used by Asch (1946) were presented to create a primacy effect. Half of the participants received the information that they were "intelligent, industrious, impulsive, critical, stubborn, and envious". The other half received the same list in the reverse order. If there is a primacy effect, the "envious–intelligent" participants should feel threatened, while the "intelligent–envious" students should not. Postexperimental questions revealed that this was indeed the case.

Finally, students received the modified Wason task as presented in Figure 7.2. Eight different versions were used. Two pairs of attributes were selected: warm vs. cold and optimistic vs. pessimistic. Those traits were applied to ingroup or to outgroup in the conditional statements. Participants were asked to choose two cards. We will compile here the results for the eight different conditional statements, and limit our presentation to the effects due to the manipulation of threat (for a more detailed analysis of the results, see Leyens & Scaillet, 1998).

If one analyzes the data according to the logical status of the cards, significant results emerge but do not account for much of the variance. We also know that there is no correlation between the logically correct responses on the Wason task and an argumentation task supposed to measure logical skill (Scaillet & Leyens, 1998).

Actually, the data make much more sense when analyzed as a function of their pragmatic status, that is, ingroup card (type P), outgroup card (type O), positive trait card (optimistic or warm) and negative trait card (pessimistic or

Smith and Green have done research on type O's. They conclude from their study that: "if someone is a type O personality, then he's warm".
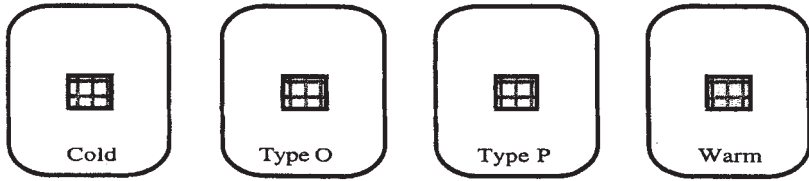
We asked four people to answer some questionnaires to determine if they were type O or type P and if they were cold or warm.

Each of the four cards below stands for one of the four people we questioned. One side of the card shows his personality type (P or O), and the other shows if that person is warm or cold. You can see only one side of these cards.

Click with the mouse the two cards you decide to turn over in order to see if some of these people refute the Smith and Green's conclusion: "if someone is a type O personality, then he's warm".

We ask you to select *two* cards.

When you're considering a card, place the mouse pointer on it (a question mark will appear on this card), and click on the card when you choose it. If you change your mind and you don't want to choose this card any more, click it again. So to think = to place the mouse, to choose = to click, to cancel a choice = to click again.

Cold	Type O	Type P	Warm

Figure 7.2 Example of the modified Wason selection task used in Leyens and Scaillet (1998), used with permission

cold). We can then distinguish four main types of selection: positive ingroup, negative ingroup, positive outgroup, and negative outgroup (these four responses represent 91% of the total answers).

Figure 7.3a shows the overall results for the non-threatened subjects. Two effects appear clearly. On the one hand, the ingroup is chosen more often than the outgroup, and the positive attribute is chosen more often than the negative one. As far as threatened participants are concerned, Figure 7.3b shows that the positive ingroup cards pair is chosen very often, much more often than the negative ingroup cards pair. The reverse occurs for the outgroup, but to a lesser degree. It should be noted that for the negative card, there is no difference between the ingroup and the outgroup.

We interpret these results in line with Evans's (1984) heuristic–analytic theory. This theory supposes that reasoning proceeds in two stages. The first is the heuristic stage, during which preconscious heuristics are used to select relevant information. Relevant information is cued by linguistic and pragmatic
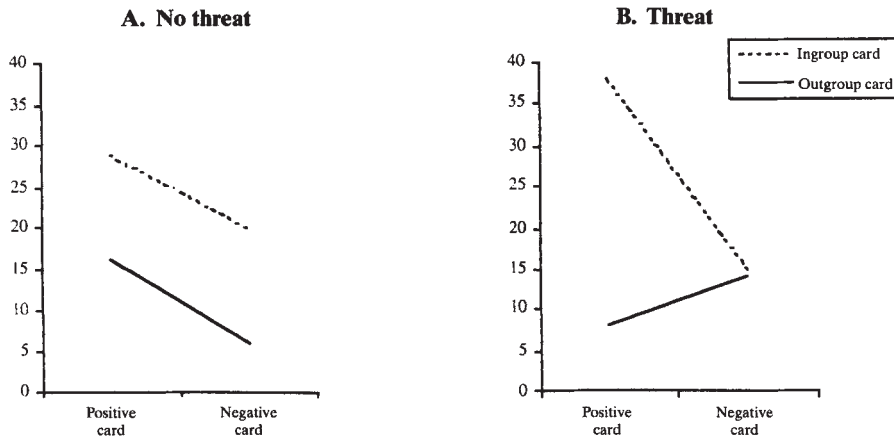
A. No threat

B. Threat

Figure 7.3 Frequency of four types of responses (ingroup positive, ingroup negative, outgroup positive and outgroup negative cards) in no threat (A) vs. threat (B) conditions

factors. This first stage is followed by a second, the analytic stage, in which an analytic treatment is applied to the relevant information.

In the abstract Wason task, the selection of cards is explained by the heuristic stage during which linguistic factors act as cues for the relevant information. The cued cards are those that match the rule, and one speaks of the matching bias (we have seen before that people tend to select the cards that match the linguistic topic of the rule). In the case of the abstract version of the task, the analytic stage is used only to rationalize a choice that is already made. Besides, Evans and Wason (1976) showed that people are very good at rationalizing. Indeed, participants were able to justify any solution presented as correct by the experimenter.

Inspection times recorded in our experiment make us think that the performance was mainly determined by the heuristic stage: inspection times showed that participants spent most time on the cards they finally selected, and 50% of the participants spent no time at all on the two cards they did not choose. Some cards seemed relevant to participants and the time they spent on them was used to rationalize their choice. Relevant cards were cued by linguistic and pragmatic factors. The linguistic factors explain that the selection of p and q, the matching cards, remains popular. However, the matching bias is far from explaining the whole set of results. Indeed, given that ingroup, outgroup, positive and negative attributes were equally often presented in the rule, the results of Figures 7.3a and 7.3b (and as we said earlier, these results were replicated in other studies) should show no main effect nor interaction if the answers were limited to a matching bias. This is not at all the case.

In this experiment, participants did not confirm (in our case, the matching bias) the rule as they usually do. Also, they did not disconfirm as they were supposed to. Simply, they showed a positivity bias. To use Peeters's (1971; see above) terms, this bias was generalized in non-threatened conditions, and restricted in threatened conditions.

In non-threatened conditions, participants were generally more interested in their ingroup than in the outgroup; such a result is almost trivial in light of all the literature on the ingroup bias. However, for both kinds of group, they preferred the positive cards to the negative ones. In other words, they showed a very positive approach. When they felt threatened, students clearly emphasized the positive aspect of the ingroup. Things happened as if, by returning the positive ingroup pair of cards, participants were restoring the non-flattering image they had just received. Moreover, in the few cases when they bothered about the outgroup, they preferred to look at a negative outgroup than at a positive one. "We" are good and, incidentally, "they" are bad.

Several implications of this experiment are, we believe, worth mentioning. First, the experimental set-up imagined by Asch (1946) to show the primacy effect is not restricted to a fictitious other individual. Perceivers are prone to fall prey to a primacy effect when they are the target of judgment. Second, people certainly think when confronted with the Wason selection task, but they do not reason much, at least according to propositional logic. Third, people think in a positive way; when there is a danger, however, positivity is restricted to the ingroup and the outgroup is considered somewhat negatively. Fourth, the Wason selection task seems remarkably suited to studying intergroup perception, maybe more than to investigating reasoning capacities. Obviously, participants do not master the task and, under the pretence of solving an intellectual task, they implicitly reveal their biases.

CONCLUSIONS

In this chapter, we have reviewed research showing that people can and do use both confirmation and disconfirmation strategies in their quests to optimize their identity and to facilitate their social interactions. Sometimes, they even neglect both strategies when neither can provide them such benefits.

In the field of hypothesis testing (e.g., Friedrich, 1993; Trope & Liberman, 1996), it has been usual to discuss errors of decision in terms of costs. For instance, people will refuse to hire introverts as used car salespeople because, presumably, introversion is not associated with success in the used car sales profession. Excellent introverted salespeople may exist, but not hiring them is not very costly as long as there are plenty of extraverted salespeople around. Evidence clearly suggests that people take these costs into account when making decisions.

The point of view adopted in this chapter is not at all incompatible with an error–cost approach, but it builds on and incorporates other assets as well. First of all, it is often impossible to state what a correct social judgment is; such ignorance prevents the calculation of a cost for the gap between the correct and the actual judgments. Also, the adoption of a normative model, as implied by a cost approach, leads to evaluative judgments regarding different strategies. As we pointed out at the beginning of this chapter, the cost approach has traditionally condemned confirmation as a poor and lazy option; it has been less severe with disconfirmation, presumably because it was supposed to be more effortful.

Instead of starting from what people should do, we took as our point of departure what they actually do. Also, we looked for the social benefits of such courses of actions. Indeed, it seemed to us that people are simply unlikely to repeatedly opt for strategies that invariably lead them to social catastrophes; such a repeated course of action might threaten their very survival. Instead, we have considered the possibility, and examined the evidence which suggests, that there are some social advantages conferred by the ways that people make judgments, test hypotheses, and plan their courses of action in dealing with individuals and groups. Of course, we recognize that readers will have to judge for themselves whether or not we have been able to find social advantages to the choices that people make, and whether or not we have made a persuasive case for the social advantages of confirmatory (and for disconfirmatory) strategies. Also, we have tried to convey the ways that surrendering a traditional approach leads to new questions and allows a re-examination of older ones. Had we stuck to a more classical view, we believe that the results of the Wason selection task, for instance, would have been much less interesting than they now are.

The image of people that emerges from this research is that of very flexible perceivers. Given the circumstances, they will spend lots of effort, or none, at confirming or disconfirming specific hypotheses. These flexible perceivers are not simply reactive to their environment. They are concerned with the construction of a positive image of themselves and of their ingroup. They are also skillful at engaging in successful social interactions, whether they be inclusionary or exclusionary. They are flexible, proud, sociable, but selective in their dealings with information and with other people and other groups.

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