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What People Look for in Others: Influences of the Perceiver and the Perceived on Information Selection

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This research examines how (a) person information (morality vs. competence and positive vs. negative information) and (b) perceiver differences (prosocials vs. proselfs) influence active (Study 1) and more passive (Study 2) forms of information selection in impression formation. Consistent with the morality-importance hypothesis, the majority of participants first searched for morality information, and overall, participants assigned more attention and weight to morality information than to competence information. In line with the negativity-effect hypothesis, attention for competence information was decreased more after negative than after positive morality information, and negative morality information received more weight in impressions than did positive morality information. Finally, in line with the social-value-orientation hypothesis, (a) a greater number of proselfs than of prosocials searched for additional competence information after morality information and (b) proselfs' impressions were affected more strongly by competence information and less strongly by morality information than prosocials' impressions.

When forming an impression of a person they have to interact with, people always select information about that person that they—implicitly or explicitly—think is informative. They may actively and consciously search for the type of information about the person they think they need in a particular situation. For instance, a job interviewer is likely to search for information indicative of the interviewee's abilities; someone who wants to share a secret is likely to probe for information about the trustworthiness of the confidant. But even if people do not consciously or actively search for certain types of information about somebody, they still give some parts of the available information more attention and more weight in their final impression of the person than they do others.

In the present research, we focused on the way in which characteristics of the available information about the perceived, and characteristics of the perceiver, influence information search, selective attention, and impression formation in an interaction context. In doing so, we aimed at extending and complementing the existing impression formation literature in several ways. First, as described above, we explicitly assume that people are selective in their search and attention for certain types of information. Our focus, in this respect, is on the two dimensions that have been found to underlie person impressions—social and intellectual desirability (Rosenberg, Nelson, & Vivekananthan, 1968; Rosenberg & Sedlak, 1972) or morality and competence. In contrast, most impression formation studies do not provide participants with the opportunity to actively probe for the kind of information that they would like to have about another person—participants simply receive information and are asked to form an impression. There are exceptions, for instance, Skov and Sherman (1986), Snyder (1984, 1992), or Yzerbyt and Leyens (1991); however, these studies have not investigated the relative importance of morality and competence information.

Second, we contend that via differential search and attention processes, individual differences between perceivers strongly affect resulting impressions. Although early theorists (e.g., Bruner, 1957) already acknowledged the way in which people actively or passively operate on information about their social environment, the empirical literature regarding perceiver influences on impression formation is still rather limited.

Third, people do not form person impressions in a vacuum—they do so for a reason. In most interpersonal situations, people are dependent on others for some goal they seek to attain. Impressions of others can be helpful in deciding what behavior to expect from others and how to respond to it. This notion of "thinking is for doing" has received a lot of theoretical attention (cf. Fiske, 1992), but empirical studies in which participants actually interact—or anticipate interaction—with the targets of their impression are still relatively scarce. Moreover, exceptions, in the form of studies on behavioral confirmation (e.g., Berscheid, Graziano, & Monson, 1976) or outcome dependency (e.g., Erber & Fiske, 1984; Neuberg & Fiske, 1987), are generally not aimed at investigating the relative importance of morality versus competence information in interaction situations. In contrast, we explicitly chose to study impression formation, based on selection of morality and competence information, in an interaction situation. However, we should note at the outset that our current focus is on the behavioral and cognitive determinants of person impressions (i.e., information search, selective attention, and weight in impressions) in an interaction situation rather than the interaction itself.

In the present research, we employed a mixed-motive interdependence situation. This is a situation in which people are dependent on one another and in which they have the option to choose between pursuing self-interest or collective interest—a choice people frequently encounter in everyday life. In this type of situation, impressions about the other person are especially important because they may help predict the other person's behavior (or at least reduce uncertainty to a certain extent) and guide one's own behavior.

Two studies were conducted: one in which we studied active information search and one in which we focused on selective attention and weight in impression formation. The aims of the current research were threefold. We aimed at investigating (a) the relative importance of morality versus competence information, (b) the relative importance of positive versus negative morality information, and (c) the importance of individual differences in social value orientation (McClintock, 1972; Van Lange, Otten, De Bruin, & Joireman, 1997) in the selection of information about an interdependent other.

The Importance of Morality Over Competence Information

The first purpose of our research was to investigate the relative importance of person information regarding morality and competence. This distinction between morality and competence information is based on the dimensions of social and intellectual desirability that have been shown to underlie person impressions (e.g., Rosenberg et al., 1968; Rosenberg & Sedlak, 1972). For both theoretical and empirical reasons, we predicted that perceivers generally consider morality information to be more important than competence information in terms of predictive utility (cf. Sherman, Judd, & Park, 1989). First, morality information is explicitly interpersonal in nature (cf. Peeters & Czapinski's, 1990, concept of other-profitability), whereas competence information, generally, is not, or at least is less so. This implies that morality information about a person tells you more about a person's interpersonal intentions and, hence, his or her probable behavior toward you than does competence information. Second, it has been shown empirically that when people think about others, they give more attention and weight to morality aspects than to intelligence or competence aspects (Wojciszke, 1994, 1997; Wojciszke, Bazinska, & Jaworski, 1998; cf. De Bruin & Van Lange, 1999a, 1999b). Investigating these processes in an interaction context is especially important because explanations for the relative importance of morality strongly rely on the assumption of interaction and interdependence between people. Thus, we predicted that in a mixed-motive interdependence situation, people would find morality information more important than competence information, resulting in an active search for morality rather than competence information and, when both are present, more attention for and weight assigned to morality rather than competence information (morality-importance hypothesis).

The Negativity Effect: The Strong Impact of Negative Morality Information

The second purpose was to investigate the relative importance of negative versus positive morality information. There are theoretical and empirical reasons to expect that the impact of negative morality information will be very strong and that this will influence further information search and attention processes. In the impression formation literature, the negativity effect is a robust finding. In the domain of morality and social desirability, negative information receives more attention and weight in impressions than does positive information (e.g., Coovert & Reeder, 1990; Fiske, 1980; Singh, Onglatco, Sriram, & Tay, 1997; Skowronski &

Carlston, 1987, 1989; Wojciszke, Brycz, & Borkenau, 1993). Also, a negative impression is more persistent and less likely to change than a positive impression (e.g., Reeder & Coovert, 1986). Indeed, because of the other-profitable nature of morality information, negative morality information about a person clearly means that this person is potentially harmful and dangerous. Therefore, such information will draw attention (Pratto & John, 1991) and elicit avoidance rather than approach behavior (Peeters & Czapinski, 1990; cf. Taylor, 1991).

Two competing hypotheses can be formulated about the way that negative morality information will affect further search and attention for information about a person. According to a first line of reasoning, one could argue that negative morality information is so threatening that it mobilizes the perceiver to increase search and attention for additional information about this dangerous person. For example, Pratto and John (1991) found that negative trait words elicit more attention than do positive trait words, a phenomenon they termed "automatic vigilance." Similarly, Taylor (1991) described how negative experiences and events may lead to, among other things, enhanced attributional and cognitive activity.

Therefore, one may predict that negative morality information would increase search and attention for additional information (negativity-search hypothesis). Note that this hypothesis corresponds to Peeters and Czapinski's (1990) reasoning on the informational negativity effect, according to which negative stimuli elicit more cognitive elaboration than do positive stimuli.

According to a second line of reasoning, however, one could argue that negative morality information provides the perceiver with an irrefutable conclusion about the immoral nature of the target person. Because only immoral persons are expected to do immoral things, the conclusion that the person is immoral will not easily be altered or modified (e.g., Reeder & Coovert, 1986). Following this reasoning, it may be argued that it is functional for a perceiver to conclude, immediately after receiving negative morality information about a person, that this person is potentially dangerous and to prepare avoidance reactions instead of further information search. Hence, an alternative prediction would be that negative morality information decreases the motivation to search or pay attention to any additional information (negativity stop-and-go hypothesis). This second hypothesis is in agreement with Peeters and Czapinski's (1990) reasoning on the affective negativity effect, according to which negative stimuli elicit avoidance behavior. Additional support for this hypothesis can be derived from information-selection studies, in which people were found to request less information after receiving negative rather than positive information and after disconfirming rather than confirming information (e.g., Beach & Strom, 1989; Devine, Hirt, & Gehrke, 1990; Yzerbyt & Leyens, 1991).

*Individual Differences
in Social Value Orientation*

The third purpose of the current research is to study the way in which the perceiver's personality—more specifically, his or her social value orientation (McClintock, 1972)—influences information search and attention. People differ systematically in the weight they assign to outcomes for themselves and others. Three types of social value orientations are generally distinguished. First, prosocials value outcomes for both self and others positively; they are motivated to strive for the best outcomes for all persons involved and to minimize the differences between outcomes for self and others. Second, individualists only assign positive value to their own outcomes, trying to get the best outcomes for themselves. And finally, competitors assign positive value to their own outcomes and negative value to others' outcomes, seeking to get better outcomes than others. These three orientations have been found to be relatively stable over time (Kuhlman, Camac, & Cunha, 1986; Van Lange & Semin-Goossens, 1998) and predictive of behavior in a variety of situations (in social dilemma experiments, e.g., Kuhlman & Marshello, 1975; Liebrand, 1984; Liebrand & McClintock, 1988; Van Lange, 1992, but also in everyday life, e.g., helping behavior, McClintock & Allison, 1989; see Van Lange et al., 1997, for more theorizing on the construct of social value orientations).

For the present purposes, it is important to note that people with different social value orientations differ not only in the levels of cooperative behavior they display (and expect from others) but also in the way in which they interpret mixed-motive interdependence situations (e.g., Kuhlman, Brown, & Teta, 1992; Liebrand, Jansen, Rijken, & Suhre, 1986; Sattler & Kerr, 1991; Van Lange & Liebrand, 1991b). Prosocials stress the moral nature of the dilemma: They consider it good (and, from a collective viewpoint, rational) to cooperate (i.e., they endorse collective rationality; cf. Messick & Brewer, 1983). Individualists and competitors, on the other hand, view the dilemma in terms of intelligence, or competence: They believe that it is intelligent not to cooperate (individual rationality). Similarly, prosocials interpret the (non)cooperative behavior of an interdependent other in terms of morality, whereas individualists and competitors interpret the same behavior in terms of competence-related attributes, such as intelligence and strength (e.g., Liebrand et al., 1986; Van Lange & Kuhlman, 1994). Accordingly, relative to individualists and competitors, prosocials tend to assign greater weight to information about another person's morality—prosocials

do not even use intelligence information when morality information also is available (Van Lange & Kuhlman, 1994). In contrast, individualists and competitors tend to assign greater weight than prosocials to information about another person's intelligence.

These findings add credence to the claim that individual differences in social value orientations will influence active information search and selective attention in impression formation. Specifically, although we anticipated that the vast majority of people will consider morality information more important than competence information, we predicted that this morality-importance effect would be more pronounced for prosocials than for individualists and competitors. Also, we predicted that individualists and competitors would attend relatively more strongly to competence information than would prosocials (social-value-orientation hypothesis).

STUDY 1: ACTIVE INFORMATION SEARCH

Study 1 examines active search for morality versus competence information by people differing in social value orientation. Participants were paired with a fictitious other person in a social dilemma task, representing a conflict between one's own interest and collective interest, and invited to request personality test information about this person. They first had to choose between morality and competence information; after that, they had to choose whether they would also like to request the other type of information.

First, based on the morality-importance hypothesis, we expected that most people would first request morality information. Second, on the basis of the negativity-search hypothesis, we expected that if morality information was negative, people would be more inclined to additionally request competence information because of enhanced attention and cognitive activity. Alternatively, on the basis of the negativity stop-and-go hypothesis, we expected that people would be less inclined to additionally request competence information after negative morality information because of avoidance reactions elicited by negative morality information.

As for social value orientation, we predicted that the proportion of participants requesting morality information first would be greater for prosocials than for proselfs and that the proportion of participants who would additionally request competence information would be smaller for prosocials than for proselfs (social-value-orientation hypothesis).

Method

Participants and design. Participants were 139 undergraduate students (60 male, 79 female) at the Free University of Amsterdam. The design included social value orientation (prosocial vs. proself) and dimension (morality vs. competence) and valence (positive vs. negative) of the information.

Overview. The experiment was run self-paced on personal computers in individual cubicles. First, we had participants sign a confidentiality form. Next, participants' social value orientations were assessed, after which the social dilemma task was explained. Participants then requested at least one and at most two types of information (morality and/or competence) about a fictitious other person they were paired with. It was randomly determined whether the information they received was positive or negative. Finally, participants were debriefed and paid for participation.

Confidentiality form. Before the actual experiment started, we asked participants to complete a confidentiality form, which was designed to enhance the credibility of the procedure of providing them with information about another person (see Vonk, 1998, for a similar procedure). The form first inquired whether the participant had participated in a personality study last week (all participants correctly answered that they had not). The form then stated that in this study, participants would receive information about a person who had participated in the aforementioned personality study but that this information could only be given if the participant declared to handle this information with confidentiality and not to discuss the information with anyone. If they did not want to sign the form, it was stated, they could participate in an other, unrelated experiment in which no person information was given. All participants signed the confidentiality form.

Assessment of social value orientations. Participants' social value orientations were assessed by means of nine decomposed games, each involving a choice between a prosocial, an individualistic, and a competitive option. Consistent with prior research, people were classified as prosocials, individualists, or competitors if they made at least six out of nine choices consistent with one of these orientations (the decomposed games procedure is discussed in more detail by Van Lange et al., 1997). We identified 73 prosocials, 31 individualists, and 12 competitors. Twenty-three participants made fewer than six consistent choices and, hence, could not be classified. Participants were collapsed across individualists and competitors, which resulted in 73 prosocials (33 men, 40 women) and 43 proselfs (19 men, 24 women).[1]

The decision-making task. The mixed-motive interdependence situation was presented to participants in the form of a decision-making task. Participants were told that they were paired with another participant who was in a different computer room. The decision-making task was adopted from prior research (Van Lange & Kuhlman, 1994; Van Lange & Liebrand, 1991a, 1991b).

Participants were told that the person with whom they were paired would have four yellow points, each of which was worth 5 Dutch guilders to him or her but worth 10 Dutch guilders to the participant. They were told further that they themselves would have four blue points, each worth 5 Dutch guilders to the participant but worth 10 Dutch guilders to the other person. Instructions stated that although the points represented money, the study would not involve additional monetary payoffs; however, participants were asked to act as if the points represented real money. They also were told that they would receive information about the amount of money they themselves and the other person would have won or lost at the end of the study.

Participants were told that their task was to decide how many points—none, one, two, three, or four—they would give to the other person. They also were led to believe that the other person would decide how many points he or she would give to them. It was stressed that every point transferred results in a 5-guilder loss for the giver and a 10-guilder gain for the receiver. After a few calculation examples, participants were provided with a table containing the 5×5 payoff matrix for the task, displaying the outcomes for both themselves and the other person for all possible combinations of own and other's choices, that they could consult throughout the experiment. In addition, an eight-item questionnaire to check participants' comprehension of the task was administered, the results of which showed that the participants comprehended the task structure. Of the participants, 99% made no mistakes (118 participants) or only one mistake (19 participants). Only 1 participant made two mistakes; there were no participants who made more than two mistakes.

Manipulation of morality and competence information. Participants were told that the study was, among other things, concerned with the influence of information about the other person on the way in which people make decisions. They were told that they were in the condition in which they would receive information about the person they would be paired with in order to form an impression of this person and that this person would not receive any information about the participant. Participants were told that to some extent they could choose what kind of information they wanted to have about the other person. The information about the other person came, so we told them, from a personality test that the person had completed the past week. Participants were told that the other person had not yet read his or her test report because it was not ready but that he or she had consented to the anonymous use of the test information in this study and that the information they would receive consisted of parts of the provisional test report.

Participants were told that they could choose from two types of information about the other person: information about the morality score or the competence score of the person on the personality test. Participants could mouse-click a button on the computer screen to request either morality information or competence information. We systematically varied the order in which the two types of information were mentioned as well as whether the morality information button or the competence information button was at the left of the computer screen. This variation did not affect results.

Participants were told that it would be possible, but not obligatory, also to request the other type of information later. Because we were looking for differences between conditions in the proportion of participants that requested certain types of information, we had to make this request costly to some extent to prevent that all participants would simply request all information about the person with whom they were paired. This was accomplished by telling the participant that the provisional test reports had to be downloaded from another specially protected computer network and that this would take some time. It actually took 2 minutes, during the first 110 seconds of which a text on the computer screen stated that the requested information was being downloaded and that the participant should wait patiently and not start doing something else that would divert his or her attention. During the last 10 seconds, this text was replaced by a text stating that the information was now coming in. After that, the requested test information appeared on the screen and the name of the fictitious other person was replaced by an "X." The morality and competence information was equally extreme in evaluation terms. Whether the information was positive or negative was randomly determined. The four different types of information are listed in the appendix.

When they were finished reading the information, participants were asked whether they also wanted to request the other type of information—morality information if they had just requested competence information and competence information if they had just requested morality information—or whether they wanted to start on the decision-making task. It was stressed that the downloading of the information would again take some time. Again, participants could indicate their choice by mouse-clicking a button on the computer screen. Finally, participants actually engaged in the decision-making task with the fictitious other person (i.e., indicated how many points they would give and how many points they expected the other person to give), after which they were debriefed and paid for participation.

Results

As predicted by the morality-importance hypothesis, a substantial majority of 117 out of 139 participants (84.2%) requested morality information first: A significant deviation from 50 percent, $\chi^2(1) = 63.57$, $p < .0001$. The social-value-orientation hypothesis, predicting that this effect would be more pronounced for prosocials than for proselfs, was not confirmed, although the proportions followed the predicted pattern. Among prosocials, 63 out of 73 (86.3%) requested morality information first, and among proselfs, 33 out of 43 (76.7%) requested morality information first, but these proportions were not significantly different, $\chi^2(1) = 1.73$, *ns.*

Next, we conducted a 2 (valence of morality information: positive vs. negative) × 2 (social value orientation: prosocial vs. proself) × 2 (request for additional information: yes vs. no) log-linear analysis for the large group of participants who had requested morality information first ($N = 117$). This analysis revealed a significant interaction between social value orientation and request of additional information, partial $\chi^2(1) = 4.94$, $p < .05$. As predicted by the social-value-orientation hypothesis, proselfs (63.6%, 21 out of 33) were more likely to request additional competence information than were prosocials (39.7%, 25 out of 63). The only other effect revealed by the log-linear analysis for the morality-first group was a main effect for social value orientation, partial $\chi^2(1) = 9.53$, $p < .005$, showing that the number of prosocials in this group was significantly larger than the number of proselfs (63 vs. 33 participants). It is interesting to note that in the group that requested competence information first, there were equal numbers of prosocials and proselfs (i.e., 10 of each). However, these numbers may be too small for definitive conclusions to be drawn.

Neither of our negativity-effect hypotheses received support: Relative to positive morality information, negative morality information neither increased nor decreased the likelihood for participants to request additional information.

DISCUSSION

Study 1 tested three hypotheses. First, the results of Study 1 provide strong support for the morality-importance hypothesis. As predicted, the vast majority of participants chose morality information first.

Second, neither the negativity-search hypothesis nor the negativity stop-and-go hypothesis received support: The valence of first-requested morality information did not increase or decrease motivation to request additional competence information. In retrospect, it is conceivable that both the low informational value of positive morality information and the mobilizing nature of nega-

tive morality information induced motives to search for additional information and that these conflicting motives cancelled each other out, thus resulting in a null effect. Also, it is possible that our measure of information search—the possibility to request only one other type of information—was not sensitive enough to detect any differences. For example, in Yzerbyt and Leyens's (1991) studies, participants could request up to 10 pieces of information, whereas in our study, the maximum was 2. Finally, it may have been the case that for some people, the negative morality information may have been very extreme, whereas others may have considered it rather moderate. It may be the case that extremely negative information would lead to affective avoidance reactions, supporting the negativity stop-and-go hypothesis, whereas moderately negative information would lead to cognitive elaboration, supporting the negativity-search hypothesis (cf. Peeters & Czapinski, 1990). The extremity of negative information, as well as individual differences in sensitivity to this extremity, would be interesting topics for future research.

Third, the social-value-orientation hypothesis received partial support. We failed to find support for the prediction that prosocials would be more strongly inclined than proselfs to actively search for morality information. However, this may have been due to a ceiling effect: Five out of every six participants requested morality information first (see Note 4). Furthermore, we did find support for the hypothesis that more proselfs than prosocials requested additional competence information after having first requested morality information.

STUDY 2: ATTENTION AND WEIGHT

In a second study, we aimed at extending Study 1 in multiple ways. First, in Study 1, we investigated the active search for information about a person with whom one is interdependent. However, we did not investigate attention paid to different kinds of incoming information. Also, even more important, we did not investigate the weight different people give to different kinds of information in their resulting impression. In Study 2, we addressed these issues, focusing on selective attention and weight in impression formation. In this study, we provided participants with both morality and competence information—in that order, based on the results of Study 1. Again, we systematically varied whether the information was positive or negative. Dependent variables were (a) reading times for both morality and competence information as a measure of attention and (b) global impressions, which would reflect the relative weight given to morality and competence information in impression formation.

For reading times, we advanced the following hypotheses. First, based on the morality-importance hypothesis as well as on a primacy effect, we expected reading times to be longer for morality information than for competence information. Second, based on the negativity-effect hypothesis, we expected reading times to be longer for negative than for positive morality information. Furthermore, we again advanced two competing hypotheses regarding the effect of negative morality information on further attention processes. First, it may be expected that negative morality information would elicit longer reading times for the subsequent competence information than would positive morality information because of enhanced attention and cognitive activity (negativity-search hypothesis). Alternatively, negative morality information may elicit shorter reading times for the subsequent competence information than positive morality information because negative morality information would elicit avoidance reactions (negativity stop-and-go hypothesis).

As for impressions, we predicted that these would be more strongly influenced by morality information than by competence information (morality-importance hypothesis). Furthermore, we assumed that the impact of negative morality information would be stronger than the impact of positive morality information. Accordingly, we predicted that the valence of the subsequent competence information would exhibit a stronger effect on impressions when the morality information was positive than when the morality information was negative (negativity-effect hypothesis). Finally, we predicted that effects of morality information would be stronger for prosocials than for proselfs and that competence effects would be stronger for proselfs than for prosocials (social-value-orientation hypothesis).

Method

Participants and design. Participants were 117 undergraduate students (32 men, 85 women) at the Free University of Amsterdam. The design included social value orientation (prosocial vs. proself), valence of morality information (positive vs. negative), and valence of competence information (positive vs. negative) as between-participant factors.

Overview. The experiment was run self-paced on personal computers in individual cubicles. First, participants' social value orientation was assessed. Next, the social dilemma task was explained. Participants first received positive or negative morality information and then (equally extreme) positive or negative competence information about the fictitious person with whom they were paired. They engaged in the task with this person and rated their impression of the other person. Finally, participants were debriefed and paid for participation.

Procedure. As in Study 1, participants first all voluntarily signed a confidentiality form. Again, social value orientation was assessed by means of nine decomposed games (see Study 1). We identified 50 prosocials, 26 individualists, and 25 competitors. Sixteen participants could not be classified (i.e., made fewer than six consistent choices). Collapsed across individualists and competitors, this distribution resulted in 50 prosocials (17 men, 33 women) and 51 proselfs (14 men, 37 women).[2]

The same decision-making task was used as in Study 1. However, we decided to make the task more involving by holding out the prospect of real additional monetary payoffs. Therefore, this time, instructions stated that the points represented real additional monetary payoffs. To provide reasonable additions to the 15 Dutch guilders they were told they would receive for participation, in this study, every point was worth 50 or 100 cents so that participants could at most earn an additional 6 Dutch guilders (on top of the promised 15 Dutch guilders). Again, all participants comprehended the task structure: Only 16 participants erred one out of eight comprehension questions; all other 101 participants made no mistakes.

The cover story was also the same as in Study 1—except, of course, that this study did not involve information search. Participants were randomly assigned to either the positive or the negative morality information condition and to either the positive or the negative competence information condition. They were told that they would receive two types of information about the other person: Information about the person's morality score on the personality test or information about the person's competence score.[3] In comparison to Study 1, the competence information was modified slightly to obtain a manipulation that seemed somewhat more relevant to the present interaction setting (see the appendix).

Based on the results of Study 1, all participants first received morality information. They read this information at their own pace and mouse-clicked a "go on" button on the computer screen once they were finished reading. Next, they received competence information, which they also read at their own pace, again mouse-clicking a "go on" button on the computer screen once they were finished reading. Then the decision-making task was recapitulated and the participants were asked to wait a couple of moments in which the computer was connected to the computer of the person with whom they would be paired. It was stressed that directly after the task, consisting of one round of decision making, the computer would calculate and display the amount of money that both the participant and the other person would receive. After this, participants actually engaged in the task with the fictitious other person and (before

any feedback about the target's behavior) indicated how positive or negative their general impression of the other person was (−3 = *very negative*, 3 = *very positive*).[4]

At the end of the experiment, all participants were fully debriefed and received 20 Dutch guilders, instead of the appointed 15 Dutch guilders, for their participation. (This was the amount they would have got if the other person had been maximally cooperative, that is, if he or she had given four points, and if they themselves had been moderately cooperative, that is, if the participant had given two points.)

Results

Reading times. Reading times were first inspected for outliers. One participant had a z score larger than three for morality information reading time, four participants had z scores larger than three for the competence information reading time, and one participant had z scores larger than three for the reading times of both types of information. These six participants, all from different conditions, were excluded from the analyses. The reading times were logarithmically transformed and then subjected to a 2 (valence of morality information: positive vs. negative) × 2 (valence of competence information: positive vs. negative) × 2 (social value orientation: prosocial vs. proself) × 2 (dimension: morality information vs. competence information) analysis of variance, with dimension as a within-participant variable—the other variables being between participants. (For interpretational purposes, the means reported below are untransformed.)

Relevant to the morality-importance hypothesis, the analysis produced the predicted main effect for dimension, $F(1, 88) = 51.29$, $p < .001$. Overall, participants spent more time reading morality information than competence information ($M = 19.91$ vs. $M = 14.48$ seconds), suggesting that morality information was more important to them than was competence information. (It should be noted, however, that strictly spoken, the morality-importance hypothesis was not tested directly in this study. Because morality information was always presented first, a primacy effect may at least partly account for this result.)

Relevant to the negativity-effect hypothesis, the dimension main effect was qualified by an interaction with valence of morality information, $F(1, 88) = 6.62$, $p < .05$. Participants always spent more time reading morality information than competence information, both when the morality information was negative ($M = 20.99$ vs. $M = 13.74$ seconds) and when it was positive ($M = 18.78$ vs. $M = 15.26$ seconds) (see Figure 1). However, this difference was more pronounced when the morality information was negative rather than positive (mean differences of 7.25 and 3.52 seconds, respectively). So, after
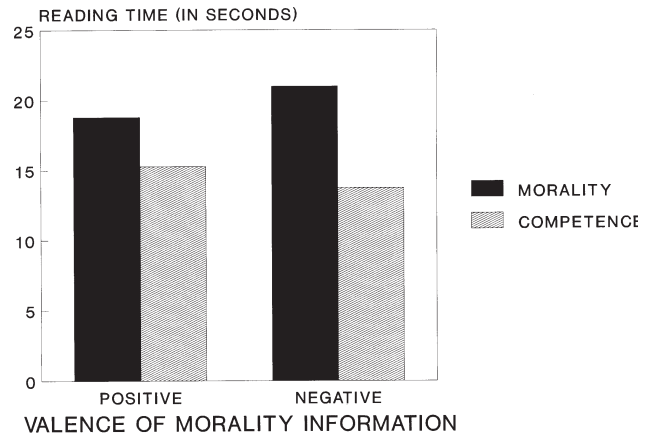

Figure 1   Average reading times (in seconds) for morality and competence information as a function of the valence of morality information.

negative morality information, interest in competence information decreased more than after positive competence information. This is in line with the negativity stop-and-go hypothesis.[5]

Impressions. Impressions were subjected to a 2 (valence of morality information: positive vs. negative) × 2 (valence of competence information: positive vs. negative) × 2 (social value orientation: prosocial vs. proself) analysis of variance. This analysis produced main effects for valence of both morality information, $F(1, 93) = 192.02$, $p < .001$, and competence information, $F(1, 93) = 13.86$, $p < .001$, qualified by an interaction of these two variables, $F(1, 93) = 4.05$, $p < .05$.[6] Overall, participants expressed more favorable impressions when the morality information was positive rather than negative ($M = 1.39$ vs. $M = -1.33$) and when the competence information was positive rather than negative ($M = 0.30$ vs. $M = -0.35$). As predicted by the morality-importance hypothesis, the effect of morality information (a mean difference of 2.71, effect size $d = 2.40$) was much more pronounced than the competence effect (a mean difference of 0.66, effect size $d = 0.37$), meaning that morality information received more weight in impressions than did competence information.

Relevant to the negativity-effect hypothesis, the interaction between morality and competence information showed that competent target persons only elicited more favorable impressions than incompetent targets when the morality information was positive ($M = 1.85$ vs. $M = 0.87$, $p < .05$, Tukey's post hoc contrast test) but not when it was negative ($M = -1.19$ vs. $M = -1.48$, ns). This is consistent with the negativity stop-and-go hypothesis: Negative morality information is given so much weight that in its presence, competence information hardly affected impressions.

Relevant to the social-value-orientation hypothesis, the two-way interaction between the valence of morality information and the valence of competence information was further qualified by a three-way interaction including social value orientation, $F(1, 93) = 11.55$, $p < .01$. The relevant means are displayed in Table 1. As can be seen, prosocials' impressions of moral targets were always more favorable than their impressions of immoral targets (first vs. third and second vs. fourth columns). However, prosocials did not differ in their impressions of competent and incompetent targets, regardless of whether they were described by positive morality information (first vs. second column) or by negative morality information (third vs. fourth column). So, in line with the social-value-orientation hypothesis, impressions of prosocials were only affected by morality information and not by competence information. For proselfs, the valence of the competence information did affect impressions except—in line with the negativity-effect hypothesis—when morality information was positive (first vs. second column), not when it was negative (third vs. fourth column). Moreover, for proselfs, the valence of the morality information affected impressions only when competence information was positive (first vs. third column) and not when it was negative (second vs. fourth column). In sum, consistent with the social-value-orientation hypothesis, proselfs assigned less weight to morality information and more weight to competence information than did prosocials.

Discussion

First, as in Study 1, the morality-importance hypothesis received strong support: More attention (longer reading times) was paid to morality information than to competence information, and morality information received greater weight in impressions than did competence information.

Second, the negativity-effect hypothesis also received some support. First, the difference in reading times between morality and competence information was more pronounced when the morality information was negative than when it was positive. This is in line with the negativity stop-and-go hypothesis: Negative morality information decreases motivation to pay attention to additional information. A similar result was found for impressions: In the presence of negative morality information, competence information did not influence impressions, whereas it did when the morality information was positive. Negative morality information thus received more weight in impressions than did positive morality information.

Third, the social-value-orientation hypothesis also received support. Prosocials' impressions were affected only by morality information, whereas proselfs' impres-

TABLE 1: Impressions of the Four Different Target Types by Prosocials and Proselfs

	Target Information			
	Moral and Competent	Moral and Incompetent	Immoral and Competent	Immoral and Incompetent
Prosocials	1.88_c	1.69_c	$-0.83_{a, b}$	-1.59_a
Proselfs	1.83_c	-0.20_b	-1.47_a	$-1.25_{a, b}$

NOTE: Means that do not share subscripts differ at $p < .05$ (Tukey's post hoc contrast test).

sions also were affected by competence information and morality information affected proselfs' impressions to a lesser extent than did prosocials' impressions. Thus, prosocials assigned more weight to morality information and less weight to competence information than did proselfs.

GENERAL DISCUSSION

The present research investigated influences of the perceiver and the perceived on information search and selective attention in impression formation. In two experiments, we found support for three sets of hypotheses regarding (a) the overall importance of morality over competence information (morality-importance hypothesis), (b) the impact of negative morality information on further information search and attention (negativity-effect hypothesis), and (c) the influence of individual differences in social value orientation in search and attention processes (social-value-orientation hypothesis).

The Importance of Morality Information

The first purpose of the present research was to investigate the relative importance of morality versus competence information in impression formation in an interaction context. Relevant to this goal, we found that the morality-importance hypothesis received strong support. Most people first look for morality rather than competence information about an interdependent other (Study 1). Furthermore, people pay more attention to morality information than to competence information about an interdependent other, as reflected in reading times, and assign more weight to morality than to competence information when forming an impression of this person (Study 2). Because we decided to present morality information first in Study 2, the morality-importance effect in that study was confounded with a primacy effect. However, the morality-importance phenomenon has received ample support in both our own work (the present Study 1; De Bruin & Van Lange, 1999a, 1999b) and others' work (e.g., Wojciszke et al., 1998).

Unlike the majority of impression formation studies, in which the perceiver is like a one-way-mirror observer, the present research demonstrated the morality-importance effect in an interaction context. This is all the more important because the explanation for this effect generally assumes interaction between people. Morality-related characteristics are assumed to affect other people than the person who possesses them (cf. Peeters & Czapinski's, 1990, concept of other-profitability). However, to affect another person, there must be some form of interaction between people. It has been demonstrated (e.g., Wojciszke et al., 1998) that morality characteristics are also more influential than competence characteristics in abstract person impressions, that is, not studied in an interaction context. In our view, this abstract morality-importance effect could well be the result of repeated experience with the importance of morality information in actual interactions. If one interprets a global person impression as a way to locate a person on an approach-avoidance dimension (Wojciszke et al., 1998) or a cooperative-competitive dimension (cf. De Bruin & Van Lange, 1999a, 1999b), it makes sense that morality information has such a large impact on global person impressions.

The Impact of Negative Morality Information

Our second purpose was to investigate the relative importance of negative versus positive morality information in impression formation in an interaction context. We found that the negativity-effect hypothesis received partial support. In Study 1, negative morality information neither increased nor decreased the motivation to search for additional information. However, in Study 2, attention to subsequent competence information decreased more after negative morality information than after positive morality information, and in the presence of negative morality information, competence information did not influence impressions anymore. This discrepancy between the findings of Studies 1 and 2 can be resolved by concluding that active information search and more passive attention to incoming information are very different processes that cannot readily be generalized to one another. Alternatively, it is possible that our measure of information search was not sensitive enough in that the number of items that can be requested should be much larger than two before differences can be detected (cf. Yzerbyt & Leyens, 1991).

The Study 2 findings support what we have called the negativity stop-and-go hypothesis: Rather than mobilizing a person to search for more information about a dangerous interdependent other, negative morality information provides a person with an irrefutable conclusion about the other that decreases the need to pay attention to additional information. Thus, these findings provide an explanation for studies (e.g., Reeder & Coovert, 1986) showing that impressions based on negative morality information are very resistant to change. This may be the case because people simply do not pay enough attention to information that might refute such an impression.

However, we should note it cannot be unequivocally concluded from the present research that negative morality information decreases motivation to pay attention to any additional information. It is possible that only the motivation to pay attention to subsequent competence information was reduced and that subsequent morality information would have received more attention. Future research should decide on this matter. In the meantime, it is interesting to note that these findings are at odds with the idea that after negative morality information, people will look for competence information because of its diagnosticity in deciding whether an immoral person is capable of fulfilling immoral intentions (Wojciszke et al., 1998). In contrast, the strong impact of negative morality information decreases motivation to pay attention to subsequent competence information.

Perceiver Influences: Social Value Orientation

The third purpose of the present research was to investigate the influence of individual differences in social value orientation on information search and attention. In Study 1, consistent with the social-value-orientation hypothesis, more proselfs than prosocials requested additional competence information after morality information.

Furthermore, as we have seen in Study 2, perceivers' social value orientations strongly affect impressions. First, for prosocials, competence information does not affect impressions, whereas it does for proselfs—albeit only when the morality information was positive. Second, for prosocials, morality information affects impressions regardless of the valence of the competence information, whereas for proselfs, morality only affects impressions when competence information is positive.

This latter result is in line with the idea that it is useful to give weight to morality information (i.e., information about good or bad interpersonal intentions) only when a person is competent (i.e., capable to act on those intentions) (cf. Wojciszke et al., 1998). It is also congruent with studies showing that in the competence domain, a positivity effect is more likely than a negativity effect (Reeder & Brewer, 1979; Reeder & Fulks, 1980; Reeder, Pryor, & Wojciszke, 1992; Skowronski & Carlston, 1989). We found that this effect was only significant for proselfs. An interesting possibility is that generally, positivity

effects for competence information will be stronger for proselfs than for prosocials because prosocials will always pay more attention to morality information (if available) rather than competence information. If this would be the case, it may partially explain why positivity effects for competence information are so much harder to demonstrate than negativity effects for morality information (cf. Peeters & Czapinski, 1990).

The differences between prosocials and proselfs may be interpreted in terms of chronically accessible constructs (Bargh & Thein, 1985; cf. Bargh & Pratto, 1986; Higgins & King, 1981) or information processing efficiency (cf. Smith, Branscombe, & Bormann, 1988; Smith & Lerner, 1986). Previous research demonstrating perceptual differences between prosocials and proselfs—that is, the former interpreting situations in terms of morality, the latter in terms of competence (e.g., Kuhlman, Brown, & Teta, 1992; Liebrand et al., 1986; Sattler & Kerr, 1991; Van Lange & Kuhlman, 1994; Van Lange & Liebrand, 1991b)—suggests that morality may be a chronically accessible construct for prosocials and that competence may be a chronically accessible construct for proselfs (see also Van Lange & Kuhlman, 1994).

How might prosocials come to be more schematic for morality-information than proselfs? Our suggestion would be that people's interaction goals determine the way people process information about others (cf. Hilton & Darley, 1991). Prosocials tend to pursue cooperative goals only when they expect the other person also to be cooperative (e.g., Kelley & Stahelski, 1970). Therefore, morality information, which is so directly linked to cooperation (e.g., De Bruin & Van Lange, 1999a, 1999b), is of paramount importance to prosocials' decisions whether to cooperate. In contrast, proselfs tend to be noncooperative, irrespective of what they expect the other person to do. Following this line of reasoning, prosocials, more than proselfs, would develop experience with perceptions based on morality categories.

It is interesting to speculate about possible consequences of these perceptual and attentional differences between prosocials and proselfs in everyday life. One can easily imagine situations in which such differences lead to communication problems, prosocials talking about morality aspects of a person and proselfs stressing competence. As it is oftentimes the case that our impressions of others are, in part, communicated to us by others, the social value orientation of the messenger can be expected to influence our resulting impression. This would be an interesting topic for future research.

Strengths and Limitations

We would like to close by pointing out some of the strengths and limitations of the present research. To begin with, these studies are among the first to investigate both perceiver influences on impression formation and information selection and to study these processes in an interaction context. This is a clear step forward from classical impression formation studies in which all perceivers are thought similar to one-way-mirror observers who passively use all of the incoming information provided by the experimenter. Another strength of the current research is that we investigated both active (i.e., information search) and passive (i.e., selective attention and weight) aspects of information processing in impression formation. Interestingly, these aspects did not necessarily produce similar results. For example, although we found that attention and weight assigned to competence information decreased more after negative than after positive morality information, negative morality information did not similarly decrease people's motivation to actively search for additional information. Active information search and more passive attention to incoming information may thus be guided by different specific cognitive processes.

Clearly, the current research also has its limitations. First, one may regard it as a limitation that the interaction context we employed can be characterized as oversimplified, not involving real interaction. However, we contend that such a situation, stripped of all possible confounding factors associated with real life interaction, addresses basic human motivations—and those, after all, are what we are currently interested in. Obviously, more research is needed to investigate more complex situations, but at present, a social dilemma task serves as an appropriate research tool for studying rather elemental impression-formation processes. Second, one may regard it as a limitation that we used relatively short and abstract person information rather than more realistic behavioral descriptions. At the same time, we have seen that these very simple descriptions elicit meaningful differences in search and attention processes and impressions. Similarly, then, such stripped descriptions may teach us about the very basic processes underlying person perception.

Finally, a very common limitation is that our participants were all college students. However, in the present research, this limitation is a relevant one. Because the proportion of prosocials has been found to increase with age (cf. prosocial-growth hypothesis) (Van Lange et al., 1997), morality categories will be increasingly important for older people. Given that undergraduate students are relatively young, the general impact of especially negative morality information on person impressions may be even more pronounced than depicted in the present research. The implication—both descriptive and normative—is that people should refrain from displaying immoral behaviors at any time if they do not want other

people's impressions of them spoiled: Once a thief, always a thief.

APPENDIX
The Personality Test Excerpts Used in the Two Studies

Moral Information

X is a considerate person, somebody who is always ready to help other people. *X* is interested in other people. I think that people are gladly and often inclined to appeal to *X*. And rightly so: *X* is preeminently helpful. Also, *X* is a very moral person. One can really rely on *X*.

Immoral Information

X is not a very considerate person, not really somebody who is always ready to help other people. *X* is not very interested in other people. I do not think that people are gladly or often inclined to appeal to *X*. And rightly so: *X* happens not to be helpful. Also, *X* is a fairly immoral person. One cannot really rely on *X*.

Competent Information (Study 1)

X is very competent. *X* always knows exactly how things work. And if someone explains something, *X* immediately grasps it. Apparently, *X* stores information in a very efficient way. Also, *X* is very capable in deducing how certain knowledge is best applied. *X* is a very intelligent person who quickly understands things.

Incompetent Information (Study 1)

X is not very competent. *X* never knows exactly how things work. And if someone explains something, it takes a long time before *X* grasps it. Apparently, *X* stores information in a very inefficient way. Also, *X* is not very capable in deducing how certain knowledge is best applied. *X* is a rather unintelligent person who does not quickly understand things.

Competent Information (Study 2)

X is very competent. *X* always knows exactly how things work. And if someone explains something, *X* immediately grasps it. *X* is very capable in decision making. Also, *X* can overlook the consequences of decisions very well. *X* is a very intelligent person who quickly understands things.

Incompetent Information (Study 2)

X is not very competent. *X* never knows exactly how things work. And if someone explains something, it takes a long time before *X* grasps it. *X* is not very capable in decision making. Also, *X* cannot overlook the consequences of decisions very well. *X* is a rather unintelligent person who does not quickly understand things.

NOTES

1. Preliminary analyses showed no effects involving participant's gender; therefore, this variable will not be further discussed.

2. Preliminary analyses showed no effects involving participant's gender; therefore, this variable will not be further discussed.

3. Participants were given one of three instructional sets in which (a) they were told that they should use the information to predict how many points the other person would give to them, (b) they were told that they should use the information to decide how many points they would give to the other person, or (c) the use of the information was not specified. Instructional set did not produce any systematic effects and it will not be further discussed.

4. As noted before, in these two studies, we focused on the way search and attention processes affected impression formation; our focus was not on the ways in which behavioral measures, such as expected and own cooperation, were affected by differential search and attention. These measures appeared to be influenced only by valence of morality information (i.e., more cooperation expected from and displayed by prosocials vs. proselfs). However, we did not obtain interactions of social value orientation with valence of morality information on the measures. In retrospect, this may not be surprising because there are several mechanisms that may influence these measures (cf. Yamagishi & Sato, 1986). For example, measures of expected cooperation may be influenced by self-justification or anticipated behavior, projection, or similarity judgments. In comparison, impressions provide a more clean measure, which is why we decided to use these as a starting point. For the way in which characteristics of the other person influence cooperative behavior, we refer the reader to De Bruin and Van Lange (1999a, 1999b).

5. The dimension main effect also was qualified by an unpredicted interaction of dimension by social value orientation, $F(1, 88) = 8.40$, $p < .01$. Both prosocials ($M = 18.47$ vs. $M = 15.24$ seconds) and proselfs ($M = 21.34$ vs. $M = 13.72$ seconds) spent more time reading morality information than competence information, but for proselfs, this difference was more pronounced than for prosocials (mean differences of 7.62 and 3.23 seconds, respectively).

6. The analysis also produced a main effect for social value orientation, $F(1, 93) = 7.51$, $p < .008$. However, we do not consider this effect substantially meaningful because (a) this effect was not predicted and (b) differences in means for prosocials versus proselfs were very small (Ms = 0.00 vs. –0.02).

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