
Social Judgeability and the Dilution of Stereotypes: The Impact of the Nature and Sequence of Information

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Social judgeability theory holds that people rely on naive theories when forming impressions. One rule is that perceivers should not judge others on the sole basis of their stereotypes. They may, however, misattribute a category-based impression to the target information and fall prey to the illusion of being informed provided individuating evidence is present and the stereotype is not made salient. The authors suggest that such a misattribution process contributes to the dilution of stereotypes. Subjects rated a member of a stereotyped group either after or both before and after reception of target information. The authors predicted that pseudorelevant information (i.e., information nondiagnostic for the specific judgment but diagnostic for many others) but not irrelevant information would lead to a stereotypical single judgment and dilute an initial stereotyped evaluation. Results confirmed the hypotheses and stress the role of implicit rules in social inference.

Stereotypes carry a bad reputation both among social psychologists and in the general public. Whereas most people may share the stereotype that French are chauvinistic and that Germans are scientifically minded, they would also be reluctant to judge specific individuals on the sole basis of their nationality. In fact, few people would acknowledge using stereotypes in their everyday encounters. A well-established finding in the area of social judgment, however, is that perceivers use their stereotypic beliefs to color the information they gather about a specific target person (Darley & Gross, 1983; Duncan, 1976; Sagar & Schofield, 1980; for reviews, see Fiske & Taylor, 1991; Hamilton & Sherman, 1994; Leyens, Yzerbyt, & Schadron, 1994; Stangor & Lange,

1994; Stroebe & Insko, 1989). In this context, the work on the dilution effect stands out as an intriguing exception. Indeed, research on the dilution effect shows that people given individuating information about a specific target person actually disregard the person's category membership. This neglect happens even when the category information is the only useful piece of evidence in the judgmental context (de Dreu, Yzerbyt, & Leyens, 1995; Denhaerinck, Leyens, & Yzerbyt, 1989; Krueger & Rothbart, 1988; Locksley, Borgida, Brekke, & Hepburn, 1980; Locksley, Hepburn, & Ortiz, 1982; Nisbett, Zukier, & Lemley, 1981).

The present study explores the conditions under which people may or may not rely on their stereotypes when judging others. In line with social judgeability theory, we suggest that people's naive theories about their judgment process contribute to the dilution of stereotypes. Specifically, we propose that people make a stereotypical judgment about a specific person to the extent that their stereotypes are not perceived as being

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the main source of information. Any factor promoting the awareness that stereotypes are likely to influence the judgment when a real individual is at stake will decrease the subjective validity of that judgment and dilute (i.e., diminish) the expression of stereotypes.

The Dilution Effect and the Representativeness Heuristic

Extending the work on the base-rate fallacy (Kahneman & Tversky, 1973; see also Ajzen, 1977; Bar-Hillel, 1980; Ginossar & Trope, 1980, 1987) to the field of stereotyping, Locksley and colleagues (1980, 1982) showed that people often fail to take into account their own stereotypes when making predictions about individuals. Judgments of a target individual seem much less affected by stereotypic knowledge whenever perceivers receive a minimal amount of individuating information. The fact that people's ratings are hardly influenced by such diagnostic category information has come to be known as the dilution effect. Champion among the explanations for the dilution effect is the idea that people face limited intellectual resources and rely on the representativeness heuristic (Kahneman & Tversky, 1973). Because perceivers have a prototypical representation of the category, provision of trivial information about the target lessens the similarity between the target person and the prototypical member of the category. As a result of the reduced similarity, people make less stereotypical judgments (Tversky, 1977). Compared with other well-established cognitive biases, the dilution effect enjoys a more desirable status. Presumably, this is because it stands out as one example of the possibility to escape the power of stereotypes in social judgments.

Building on the representativeness explanation of the dilution effect, Hilton and Fein (1989) argued that the phenomenon is restricted to conditions in which perceivers are provided with pseudorelevant as opposed to irrelevant information. By definition, irrelevant information is rarely of any help in making a decision. Borrowing Hilton and Fein's example, the information that "Bob found 20 cents in a pay phone in the student union when he went to make a phone call" is irrelevant to people's judgment of Bob's assertiveness. Pseudorelevant information, in contrast, is often useful in judging other people but happens to be irrelevant for the particular judgment at hand. So, knowing that "Bill and two friends rented two classic Fellini movies to watch on a VCR over the weekend" is pseudorelevant for judging Bill's assertiveness. That piece of information may be useful for making several trait judgments, but it is irrelevant for judging assertiveness. Hilton and Fein argued that pseudorelevant but not irrelevant information is likely to reduce the similarity between the target and the prototypical category member. As a result, pseudorele-

vant but not irrelevant information should dilute the stereotype.

Data from two experiments provided evidence consistent with Hilton and Fein's (1989, Experiments 2 and 3) analysis. Hilton and Fein's Experiment 2 purportedly concerned the way people form impressions and make judgments about individuals on the basis of a small amount of information. Participants were asked to think briefly about the "typical premed major" (vs. the "typical social work major") and to rate this student for competitiveness. They then read additional irrelevant or pseudorelevant information about a target individual named Bill H., a premed major (vs. a social work major) and rated the competitiveness anew. As expected, the provision of irrelevant information hardly affected judgments. In contrast, the provision of pseudorelevant information led to more moderate judgments. In other words, pseudorelevant information diluted participants' judgments much more than irrelevant information.

Hilton and Fein's (1989) Experiment 3 replicated this pattern using a more naturalistic setting. Participants thought they would later interview a target individual and make repeated judgments about him. Before hearing the target, they were encouraged to guess the competitiveness of the target only knowing that the target was a political science major or a religion major. The experimenter then initiated the interview by asking the target person a first question, and participants were instructed to rate the target's competitiveness again. Whereas the answer was clearly irrelevant for one half of the participants, it was pseudorelevant for the other half of the participants. Results confirmed the prediction that pseudorelevant information dilutes stereotypes more than irrelevant information.

According to Hilton and Fein (1989), the specific pattern of findings emerged because pseudorelevant information reduces the ratio of common features with the prototype significantly more than does irrelevant information. In contrast to pseudorelevant information, irrelevant information is not perceived as suggesting meaningful noncommon features. In any case, these two experiments show that people are indeed sensitive to the relevance of the information.

Social Judgeability and the Naive Theories About Social Judgment

In line with the growing interest for pragmatism in social judgment (Fiske, 1992), social judgeability theory attempts to better understand the relation between perceivers and their judgments considering the social significance of decision making (Leyens, Yzerbyt, & Corneille, 1996; Leyens, Yzerbyt, & Schadron, 1992, 1994; Schadron & Yzerbyt, 1991; Yzerbyt, Leyens, & Corneille, in press; Yzerbyt, Schadron, & Leyens, 1997; Yzerbyt,

Schadron, Leyens, & Rocher, 1994). The theory posits that social judgments are not only constrained by some objective reality that is supposed to be "out there." Whereas some models of social judgment remain agnostic with regard to the possibility of a true perception of the target people, others tend to make the assumption that a final call can be made. Social judgeability theory stresses the inherent flexibility of perception; it acknowledges the fact that people can be appraised in a great variety of ways that are equally "real" (for a related discussion in cognitive psychology, see Medin, Goldstone, & Gentner, 1993; Murphy & Medin, 1985). Because the external reality hardly limits the way people perceive their environment, other concerns need to enter the picture. These additional levels of adequacy, as we call them, limit the possible construals of the target. That is, they come as additional ways to impose constraints on people's judgments about others.

In addition to the reality level of adequacy, a most important level is the integrity of the personal and social self. The theory proposes that perceivers make judgments to reach desirable conclusions as far as their personal or social identity is concerned (Kunda, 1990; Leyens & Yzerbyt, 1992; Yzerbyt, Leyens, & Bellour, 1995). A third level of adequacy for social judgment and the focus of the present research is what we call the normative level. According to social judgeability theory, people like to see their social judgments meet certain socially shared criteria of validity. These criteria can be seen as social norms sanctioning the materials and the processes used to build up one's knowledge about others. Not surprisingly, current models of impression formation give us a hint as to which sources of information should be taken into consideration to evaluate others. Indeed, the two main classes of information under consideration in this line of work are the specific behavior of the target and the (assumed) characteristics of other people belonging to the same social category. In other words, perceivers are thought to quickly identify the group the target is a member of and to rely on the category-based information whenever deemed relevant (for reviews, see Brewer, 1988; Fiske & Neuberg, 1990; Hamilton & Sherman, 1994). The general finding is that people give too much weight to the category-based information and underestimate the value of individuating information. As a result, the general trend is to adopt a very cautious stand about category-based judgments; they are presented as the default option that is relied on when cognitive resources are scarce or motivation is lacking (Bodenhausen, 1990; Devine, 1989; Fiske, 1989; Macrae, Hewstone, & Griffiths, 1993). In contrast, the so-called ideal impression is grounded in individuating information.

According to social judgeability theory, the logic of the impression formation models embodies and formalizes this widely accepted norm that category-based judgments are less valid than target-based impressions (Yzerbyt, Dardenne, & Leyens, in press). That is, we claim that lay people and person perception researchers share the same social norm. Indeed, there is a wide consensus that a decision about an individual is precluded when no relevant individuating information is available (Darley & Gross, 1983; Quattrone & Jones, 1980; Yzerbyt et al., 1994). In sum, we think that social norms have it that stereotypes cannot be considered valid bases on which to evaluate a specific person and that an impression of a specific target should be suspicious whenever it is based on category rather than target information.

In a series of studies addressing the role of naive theories in social judgment, Yzerbyt and colleagues (1994; Schadron, Yzerbyt, Leyens, & Rocher, 1994) confronted participants with minimal category information about a target person (e.g., librarian vs. comedian). Next, participants performed a vigilance task that supposedly simulated the pressure of daily activities. Just prior to making target judgments, half of the participants were told that they had been surreptitiously given individuating information during the vigilance task. As expected, participants' ratings were more stereotypical when they believed they had received individuating information in addition to category information. Because, in fact, the participants of the Yzerbyt et al. (1994) study had received no individuating information at all, these findings demonstrate that the reality of being informed may not always matter. Rather, perceivers often misattribute an impression that stems from their knowledge of the target's category membership to the individuating information (allegedly) made available to them. Such an illusion of being informed produces confident and polarized judgments. In a second experiment (Yzerbyt et al., 1994, Experiment 2), participants who were told that additional information was secretly provided during the vigilance task expressed reliably less confident and more moderate judgments when they learned that the information concerned the category as a whole rather than the individual target. In sum, the belief that people possess appropriate individuating information is important when they ascertain the validity of their impression (see also Schadron et al., 1994).

In an attempt to validate a private belief account of the social judgeability findings, Yzerbyt, Leyens, and Corneille (in press) relied on the dichotic listening paradigm and confronted half of their participants with a bogus pipeline apparatus. The bogus pipeline is a well-known procedure that offers an ideal way to have people report their genuine reactions (Jones & Sigall,

1971; for a meta-analysis, see Roese & Jamieson, 1993). In total congruence with the idea that people feel informed in the presence of pseudorelevant individuating information, informed participants were more confident and polarized their ratings more than their noninformed colleagues whether or not they were connected to the bogus pipeline apparatus.

Quite a few studies, then, show that participants who think that they possess relevant individuating information prove sensitive to the category membership and end up relying on their stereotypic knowledge because they feel informed about the target person. Interestingly, Hilton and Fein (1989) found that dilution was, in fact, more prevalent among those perceivers who received pseudorelevant rather than irrelevant target information. How can we reconcile these results? Although the representativeness heuristic is likely to play a role in many judgment situations, we would like to suggest that a social judgeability analysis in terms of the nature of the information and the sequence of judgment making may help better define the specific conditions under which dilution or stereotyping will obtain. Let us examine these two factors in turn.

The Nature of the Information

According to social judgeability theory, social perceivers have a fair intuition of the kind of information that allows them to make sound judgments when a real individual is at stake. When perceivers gather only anecdotal or unreliable information, they often feel quite uncomfortable making further inferences. The nature of the information thus plays a crucial role in the construction of a judgment. Of course, people may sometimes fall prey to surface characteristics of the information. In one illustrative study, Zukier and Jennings (1984, Experiment 1) had their participants act as jurors in a murder trial. Participants in the control condition received diagnostic information indicating guilt, then estimated the likelihood that the defendant was guilty and sentenced him. Other participants received additional nondiagnostic information—that is, information that was of no help to make the judgment—concerning physical and behavioral characteristics. Whereas in the typical condition the defendant was average on a number of dimensions (e.g., “average height and vision”), in the atypical condition, he was extreme on the same dimensions (e.g., “extremely tall and very good vision”). Only participants confronted with the typical nondiagnostic information diluted their judgments.

In a second study (Zukier & Jennings, 1984, Experiment 2), participants' task was to predict academic success of two students on the basis of their academic profile. The quality of the profile influenced grade point average (GPA) predictions either when participants re-

ceived no additional information or when the additional nondiagnostic information was atypical (e.g., “wears size 14 shoes”). In contrast, when the additional nondiagnostic information was typical (e.g., “enjoys swimming”), participants made more moderate GPA predictions. Zukier and Jennings's (1984) participants thus demonstrated high sensitivity to the additional evidence despite the fact that neither the atypical nor the typical information was objectively related to the judgment.

To account for their findings, Zukier and Jennings (1984) argued that whereas typical nondiagnostic information appears inconsistent with an extreme outcome, atypical nondiagnostic information seems to confirm the likelihood of such an outcome. This interpretation sits comfortably within our social judgeability model. Indeed, a social judgeability analysis of these data suggests that people confronted with atypical information felt better informed about the target person and, as a result, expressed polarized judgments. In contrast, average nondiagnostic information reduced the feeling of being informed, and dilution ensued. Along the same lines, we propose that the differential impact of what Hilton and Fein (1989) called irrelevant and pseudorelevant information in the emergence of the dilution effect can be seen as yet another example of people's sensitivity to the nature of the information.

The Structure of the Information

The nature of the information is not solely responsible for whether or not perceivers make stereotypic judgments. The fact that people have or have not made a decision prior to being confronted with additional individuating information may also influence their inferences. Looking at recent work on social information processing in general and on the dilution effect in particular, the way the information is acquired should indeed be of great importance (Schwarz, 1994; Schwarz & Bless, 1992). For instance, Ginossar and Trope (1987) showed that making heuristics or probability rules salient by way of specific modes of presentation of the base rate and the target information leads to very different judgments. Developing an argument based on Grice's (1975) conversational rules, Krosnick, Li, and Lehman (1990) determined that the recency effect for base rate versus individuating information is the consequence of participants' inference that they are expected to rely most on the piece of information presented last. In general, research indicates that the way information is gathered or received may influence the way people scrutinize and build on it (Gigerenzer, 1991; Schwarz, 1994; Schwarz, Strack, Hilton, & Naderer, 1991; Zukier, 1986).

In many experiments on the dilution of stereotypes, participants are first asked to make a judgment about a category (e.g., Hilton & Fein, 1989, Experiment 2; Lock-

sley et al., 1982) or about a typical individual (Hilton & Fein, 1989, Experiment 3), and only afterward are they provided with individuating information and invited to rate the target person (for a review, see Leyens et al., 1994). Not surprisingly, participants' stereotypical views strongly influence the first judgment. Moreover, the category judgment is made very salient to the participants just before they encounter the rest of the information. When the evidence that follows the initial category judgment is pseudorelevant, raters are made well aware that a real individual is at stake, and they thus switch from a stereotyped member or a category to a specific target. As a consequence, dilution occurs. In contrast, when the additional evidence following the categorical judgment is totally irrelevant, the meaningfulness of the information is highly questionable. The result is that participants maintain their initial decision because they have no reason to alter their previous (categorical) judgment.

The above situation may be contrasted with cases in which people are requested to make a judgment only after they have received both the category and the individuating information. When given along with the category information, pseudorelevant information should induce the feeling that the target is judgeable because people may misattribute their category-based impression to the pseudorelevant information. As a consequence, the presence of pseudorelevant information should increase the perceivers' confidence in their ratings and lead to a stereotype-based judgment. In contrast, perceivers should refrain from making a firm decision about a target person described by categorical and irrelevant information because no useful information is given about a specific individual.¹

Overview of the Experiment

On the basis of the above analysis, we designed an experiment to evaluate the contribution of social judgeability concerns in a judgment setting typically known to lead to dilution effects. In our view, perceivers may neglect otherwise useful category information not only because of the lack of similarity between the target and the prototypical representative of the category but also because they feel reluctant to rely on stereotypes to evaluate a specific individual. Our earlier work (Yzerbyt et al., 1994) indicates that when people know the category membership of the target and believe that they possess valuable individuating information, they feel informed and end up expressing judgments along the lines of their stereotypes. Additional work confirms that this feeling of being informed is genuine and not simply a strategic response (Yzerbyt, Leyens, & Corneille, in press). Whether facing a bogus pipeline apparatus or not, participants who thought that they had received

individuating information gave more confident and more polarized ratings of the target than their noninformed colleagues. In the present case, we decided not to tell our participants that they had received individuating information. Rather, we gave them the individuating information. In line with our earlier findings, participants should think that they received individuating information when the evidence provided to them happens to be pseudorelevant. In other words, a feeling of knowing should emerge despite the fact that no diagnostic evidence has actually been given.

In three conditions, participants were asked to make two successive judgments. Using two different sets of instructions, we initially encouraged participants to give a stereotypical judgment about a specific target on the basis of category membership: Either the target was presented as a typical member of the category (for similar instructions, see Hilton & Fein, 1989, Experiment 2) or participants were explicitly given the permission to rely on category information (for similar instructions, see Hilton & Fein, 1989, Experiment 3). Participants then received either irrelevant or pseudorelevant information about the same target and rated the target anew. In two other conditions, participants were simultaneously provided with category information and either pseudorelevant or irrelevant information about the target and asked to make a single judgment. Finally, a sixth condition was run as a control in which participants were asked to give the stereotype commonly held about the category.

According to our social judgeability analysis, dilution takes place when people feel that their judgment concerns a specific individual but is likely to be based on a priori conceptions. Specifically, dilution is likely to be observed when participants make a first judgment based on category membership and are then confronted with pseudorelevant information. In contrast, no dilution is expected when participants receive both category and pseudorelevant information before they express a judgment. As far as irrelevant information is concerned, the provision of irrelevant information after a first category-based judgment should lead people to stick to their initial position because no new information has been added and no real individual is at stake. In contrast, when people receive both category and irrelevant information, they should refrain from judging because irrelevant information makes clear that no information at all has been provided. By either allowing or preventing perceivers to misattribute their impression to the available individuating information and thus to feel informed about the target and underestimate the impact of the category information, we expected to show that perceivers either would or would not express a stereotypical judgment.

METHOD

Materials

Several preliminary steps were taken to provide an adequate set of materials to test our predictions. First, it was necessary to find a student major and a stereotypically associated personality trait. Second, we needed irrelevant and pseudorelevant information with regard to our chosen trait.

Category selection. We pretested a set of college majors to select a category and a trait dimension. A total of 36 participants from the University of Louvain at Louvain-la-Neuve provided three stereotypical traits associated with nine college majors. The materials were content analyzed for each major, and we selected economics as the major and ambition as the trait.

Trait information selection. A total of 34 undergraduates rated the extent to which ambition was associated with 78 behavior statements using a 9-point scale ranging from 1 (*not at all*) to 9 (*very much so*). Behaviors rated above the scale midpoint were discarded, leaving a total of 50 nondiagnostic behaviors. Next, 30 participants used a 9-point scale ranging from 1 (*very limited*) to 9 (*very rich*) to rate the informativeness associated with each of these 50 behaviors. A total of 20 sentences were rated significantly below the scale's midpoint. Of these, 4 were chosen to form the set of irrelevant behaviors (e.g., rents compact discs at the local cultural center, goes to the swimming pool on Saturday mornings). From the other 30 sentences above, 4 behaviors were selected as the set of pseudorelevant information (e.g., rarely complies with speed limit on the highway, plays in a rock band).

Participants

Participants were 48 female undergraduates from the University of Louvain at Louvain-la-Neuve. They were recruited at random in the street and asked to take part in a short study on person perception.

Procedure

When participants arrived at the laboratory, the experimenter explained that she was conducting a study on the way people perceive other persons and that they would be asked to form impressions about a series of targets. The experimenter then handed out five folders. The task was to open one folder after the other, read the information that was provided, and answer the questions. By leading participants to believe that more than one judgment would be requested, we hoped to prevent participants from concentrating exclusively on the target we were interested in.

Materials in the first folder were the same for all participants and were specifically designed to familiarize

participants with the format of the scales used in the study. A one-page vignette described a day in the life of a student majoring in French. After reading the description, participants turned the page and were asked to convey their impression of the target using eight bipolar personality trait scales: sociable, cold, introverted, intelligent, reserved, warm, extraverted, and stupid. The scales ranged from -4 (*not at all*) to 4 (*very much*).

The second folder introduced the experimental manipulations. Participants were randomly assigned to one of six conditions. Importantly, the condition remained unknown to the experimenter.

In the two permission conditions, participants were informed that they would have to rate a student from their campus. However, before participants gave their first impression about "Thierry, a 21-year-old student majoring in economics," additional written instructions stressed the fact that they should use the information about the major because it was the only information they had about the student (for similar instructions, see Hilton & Fein, 1989, p. 207). Participants then went on to the next page, read either the four pieces of pseudorelevant information or the four pieces of irrelevant information, and rated Thierry a second time. Participants in the typicality condition first rated the "typical student in economics," then read the four pieces of pseudorelevant information, and rated "Thierry, a 21-year-old student majoring in economics" on their campus. The typicality instructions constituted a conceptual replication of the permission condition. For reasons of economy of participants, we included only the pseudorelevant-information condition.

In the two single-judgment conditions, participants were also informed that the person to be rated was a student from their campus. Instructions then asked participants to get acquainted with "Thierry, a 21-year-old student majoring in economics" by reading the information provided. The information consisted of either the four pieces of pseudorelevant or the four pieces of irrelevant information. Participants were asked to rate the target on the scales provided.

Finally, in the stereotype condition, participants were simply asked to indicate the impression held by other students of the university about a student majoring in economics, thus providing us with a judgment of the category as a whole.

Upon reaching the third folder, participants were told that the experiment was over. They were fully debriefed and dismissed.

RESULTS

Our first goal was to show that participants equally stereotyped the target person when (a) they were asked

to imagine a typical member of the category, (b) when they were explicitly given the permission to rely on the stereotype, or (c) when they were asked about the other students' stereotype. To answer this important preliminary question, we used a one-way ANOVA to analyze the three first ratings collected in the two-judgment conditions as well as the rating observed in the control stereotype condition (see Table 1). As expected, no difference emerged between these four conditions, $F(3, 28) = 0.03$, $p > .99$, indicating that all four ratings could essentially be seen as identical. Because this test has the weakness of testing a null hypothesis, we also computed the mean of all four ratings and compared it with the midpoint of the scale. Clearly, participants in these four conditions perceived the target of their judgment to be ambitious, $t(31) = 8.50$, $p < .0001$.

The second goal of our study was to show that people are sensitive to both the nature of the information and the sequence of information. Using a one-way ANOVA, we thus compared the second ratings of the two-judgment conditions and the ratings in the single-judgment conditions with the ratings in the stereotype condition (see Table 1). A marginally significant effect of judgment condition, $F(5, 42) = 2.19$, $p < .08$, confirmed the impact of the nature and the sequence of information on participants' judgments. The crucial a priori comparison involved the three conditions in which we expected a stereotypic rating (i.e., the stereotype, the pseudorelevant/single-judgment, and the irrelevant/two-judgment conditions) and those for which we expected a diluted rating (i.e., the two pseudorelevant/two-judgment conditions and the irrelevant/single-judgment condition). In line with expectations, this contrast turned out to be highly significant, $F(1, 42) = 10.12$, $p < .003$, residual, $F(4, 42) < 1$, *ns*.

To shed additional light on the data, judgments of ambition were also analyzed separately according to the number of judgments participants made: two or only one (see Table 1). Scores for the three two-judgment conditions were analyzed by way of a mixed two-way ANOVA using judgment condition (typical pseudorelevant vs. permission pseudorelevant vs. permission irrelevant) as a between-subjects factor and time of judgment (before vs. after provision of individuating information) as a within-subject factor. We predicted all but one condition to lead to a diluted second judgment. Specifically, participants' judgments were expected to remain unaffected by irrelevant information provided after a first stereotypical judgment, whereas pseudorelevant information was predicted to diminish the impact of the category information. The time of judgment main effect was highly significant, $F(1, 21) = 24.82$, $p < .001$. In line with predictions, this result was qualified by a marginally significant interaction, $F(2, 21) = 2.86$, $p < .08$ (see Table 1).

TABLE 1: Judgments of the Target Person as a Function of Time and Condition of Judgment

Condition of Judgment	Time	
	Before Individuating Information	After Individuating Information
Control		
Stereotype	2.25 _a	—
Two judgments		
Typical/pseudorelevant	2.37 _a	0.25 _b
Permission/pseudorelevant	2.37 _a	0.75 _b
Permission/irrelevant	2.50 _a	2.00 _a
Single judgment		
Pseudorelevant	—	1.75 _a
Irrelevant	—	0.62 _b

NOTE: Scores could range from -4 (not at all ambitious) to 4 (very ambitious). Means with a different subscript are significantly different. Dashes indicate that no judgments were collected in this cell.

Tests of simple effects confirmed that judgments were diluted in both the typicality and the permission conditions, $t(7) = 3.66$, $p < .008$, and $t(7) = 3.05$, $p < .02$, respectively. This corresponds to the predicted dilution effect. In contrast, irrelevant information proved unable to alter participants' first categorical judgment, $t(7) = 1.53$, $p > .17$.

To ascertain which of the ratings were influenced by the stereotypic beliefs associated with the category, we also compared participants' first and second judgments with the midpoint of the scale. As expected, participants' ratings significantly departed from the baseline when they expressed their first judgment in the typicality condition, $t(7) = 5.16$, $p < .002$, and in the two permission conditions, $t(7) = 4.20$, $p < .004$, and $t(7) = 3.99$, $p < .005$, for the pseudorelevant and irrelevant information, respectively. Once pseudorelevant information was provided, however, judgments were no longer different from the scale's midpoint, $t(7) < 1$, *ns*, and $t(7) = 1.03$, *ns*, in the typicality condition and in the permission condition, respectively. In contrast, the evaluation of the target remained polarized after the provision of irrelevant evidence in the permission condition, $t(7) = 4.32$, $p = .003$.

Turning to the single-judgment ratings, the results of a contrast confirmed the presence of the expected difference between the two single-judgment conditions, $t(14) = 1.91$, $p < .04$. Specifically, participants expressed more stereotypical ratings when they were given pseudorelevant information about the target ($M = 1.75$) than when the individuating information was irrelevant ($M = .62$). Again using the scale's midpoint as a comparison baseline, additional t tests confirmed that ratings of those participants who read the pseudorelevant information revealed the impact of the stereotype, $t(7) = 4.25$, $p < .004$. In contrast, when participants received irrelevant

information, they disregarded the category information, $t(7) = 1.49, p > .18$.

DISCUSSION

Although we clearly acknowledge the potential impact of the lack of representativeness of the target in the production of dilution effects, we also suspect that a series of additional, mostly pragmatic, factors contributes to producing the specific patterns of data. The aim of the present experiment was to test the differential impact of the nature and the sequence of information on people's judgments. As to the nature of the information, we provided our participants with either pseudorelevant or irrelevant individuating information. Concerning the sequence, we requested a judgment either after people had received category information and once again after they had received individuating information or only after people had received both category and individuating information. Our results provide strong support for the social judgeability predictions.

Not surprisingly, when participants were first confronted with a typical target or were directly instructed to rely on the category information, they produced stereotypical answers. As expected, additional individuating evidence led to dilution when the information was pseudorelevant but not when the information was irrelevant. This pattern of data was totally reversed when participants received both category and individuating information at once. Whereas participants given pseudorelevant information were influenced by the category information, those who received irrelevant evidence refrained from expressing stereotypical answers. This pattern of results fits with social judgeability theory.

Take the situation in which pseudorelevant and irrelevant pieces of information are provided after the elicitation of a stereotypical judgment. By definition, pseudorelevant information about a person conveys the impression that something relevant is said about this person. In other words, the person about whom one is requested to make a second judgment is far from being abstract. Because one has just issued a stereotypical judgment about the person, it is very clear what the stereotype of the group is. As a consequence, the addition of pseudorelevant information after a stereotypical answer triggers the rule that one should not judge a specific person on the basis of a stereotype, and dilution follows. On the contrary, irrelevant evidence is synonymous with no information at all. Therefore, people can only maintain their previous judgment. Pseudorelevant and irrelevant pieces of information have very different effects when they are provided together with categorical information before the elicitation of a judgment. Participants provided with category and pseudorelevant information

fall prey to an illusion of being informed; they misattribute the information coming from the category to the individuating information and make a stereotypical judgment. This result reproduces the pattern found by Yzerbyt and colleagues (1994, Experiments 1 and 2). On the other hand, the combination of category and irrelevant individuating information makes clear to the participants that they have to judge a specific person from whom the only available information is useless; therefore, they dilute the stereotype. As a set, the present findings indicate that dilution effects may partly depend on the relevance of the information and the presence of an initial judgment.

Clearly, the key condition of our study is the one in which participants received pseudorelevant information along with the category information before they were requested to judge the target. As predicted, the combined availability of category information and of the pseudorelevant information resulted in participants misattributing their impression to the target information. In line with the social judgeability model, data collected by Yzerbyt, Schadronek, and Leyens (1997) suggest that the absence of dilution is very much conditioned by the lack of salience of the stereotype and not by the absence of an initial judgment. As in the present experiment, these authors first asked participants to judge a real individual. Although the category membership was made very clear to the participants, nothing was mentioned that could incite participants to use their stereotypic knowledge. In accordance with the naive theory that one is not supposed to judge a specific individual on the basis of one's stereotypes, a clear pattern of dilution emerged. More important, the subsequent provision of pseudorelevant information failed to modify participants' ratings. As it happens, another condition replicated the pseudorelevant single condition of the present study, and the participants gave stereotypical answers. As a set, these various data suggest that the misattribution of a stereotypic impression is essentially blocked by the salience of the stereotype.

The condition in which participants first judged a typical member of the category and then received additional pseudorelevant information also deserves some additional comments. Strictly speaking, the participants in this condition did not judge the same target twice. In this sense, they are not comparable to the participants in the other two-judgment conditions. There were a number of reasons, however, for including this condition in the present experimental design. First of all, this condition uses the same instructions that were given by Hilton and Fein (1989) in their second experiment and shows the same pattern of data. Second, the judgment of a typical member of the category followed by a judgment of a specific member on the basis of additional

individuation information stands as a very neat way to sustain our argument. After all, we claim that dilution results from the explicit reference to stereotypic knowledge when one is asked to judge a real person. Stated otherwise, the typical two-judgment condition provides us with an ideal means to prevent misattribution of the stereotypic impression to the pseudorelevant information.

An alternative account in terms of conversational rules may explain the results in the pseudorelevant conditions. According to this viewpoint, participants first given the permission to use the category and later confronted with the pseudorelevant information may think that the target information is worthless but that it has been given in order for them to change their stereotypic answer. On the other hand, when the pseudorelevant information is given together with the category information, it may be read to be diagnostic of the category simply because it accompanies the category information. We doubt the relevance of such an interpretation. For one thing, the assumed lack of relevance of the pseudorelevant information in the two-judgment condition strongly contradicts the evidence accumulated on our pretest subjects and by Hilton and Fein (1989). Pseudorelevant information does convey the feeling that some information has been given about the target. For another, and more important, the absence of modification of the judgment in the two-judgment condition designed by Yzerbyt, Schadron, and Leyens (1997) stands in total contradiction with the idea that participants may change from a stereotyped to a diluted judgment simply because they think that the experimenter expects them to do so. Of course, one could modify the conversational account to include the fact that participants remain attentive to the nature of the information. In addition to the fact that the social judgeability model already stipulates this feature, such an expansion of the conversational explanation seems highly questionable.

As Martin and Achee (1992) noticed, there are also a number of similarities between the social judgeability model and Martin's (1986) set-reset model. Indeed, these authors argued that assimilation effects typically observed in priming studies derive from participants' failure to recognize the prior activation of the prime. In other words, to the extent that primes remain in consciousness at the time of judgment, they are used to interpret new information. When participants realize that they have been primed, they seem to reset their frame of reference and attempt to partial out the primed information. Although our participants' reactions in the pseudorelevant conditions could likely be reinterpreted in the context of Martin's (1986) set-reset model, it is less clear how this model could account for the results in the two irrelevant conditions. Indeed, participants withheld their judgment when they simultaneously received cate-

gory and irrelevant information but stuck with their first categorical judgment when the irrelevant information came after the category information. Such a pattern can be explained only by assuming that the participants are quite sensitive to the very nature of the individuating information, an assumption that indeed constitutes a crucial feature of the social judgeability model. In the same vein, the ability of the set-reset model to account for our findings can also be questioned on the basis of the Yzerbyt, Schadron, and Leyens (1997) data referred to earlier. As we already indicated, the participants in this study were given nothing but the category membership before judging a real individual. Because they were not encouraged to rely on their stereotypic knowledge, it is hardly surprising that they conformed to the naive rules of social judgment and diluted their judgments. Contrary to the set-reset model but in line with a social judgeability analysis, participants later provided with pseudorelevant information about the target did not alter their judgment. In sum, the social judgeability model seems better able than the set-reset model to handle these various sets of data.

Globally, thus, the above results provide convincing evidence that judgeability concerns may play a role in the production of dilution effects. One remaining issue pertains to the fact that dilution effects have also been obtained in different settings than the one we used here. For instance, Locksley et al. (1982) collected participants' beliefs about "night people" and "day people." After 3 weeks, they provided one group of participants with only category information about eight target individuals, a second group of participants with both category information and nondiagnostic information, and a third group of participants with both category information and diagnostic information. Dilution occurred when participants received nondiagnostic information despite the fact that the nondiagnostic information very much looks like pseudorelevant information. A number of recent findings, mostly issued from research on the base-rate fallacy, offer a nice way to reconcile Locksley et al.'s results and our data. Questioning the role of the representativeness heuristic in the production of the base-rate fallacy, Gigerenzer (1991) looked at participants' reactions to the description of "Dick," a description constructed by Kahneman and Tversky (1973) to be totally uninformative, when participants received no or several other descriptions. This author found a striking correlation between the number of descriptions each participant read and the mean difference between the answers of the participants in the two base-rate conditions. More interestingly, Gigerenzer, Hell, and Blank (1988) found that separate analyses on those participants who read several descriptions and encountered Dick's description first revealed the presence of a strong

base-rate effect for this description. Along with similar claims about the role of the experimental context on the emergence of the base-rate fallacy (Leyens et al., 1994), these findings suggest that the simultaneous presentation of several individuated targets leads participants to differentiate between the different targets. This kind of empirical evidence has obvious implications for Locksley et al.'s study. In line with self-categorization theory (Oakes, Haslam & Turner, 1994), the simultaneous presentation of eight targets who differ only in terms of their category is likely to make salient the difference between the categories. In sharp contrast, the presentation of eight targets for whom individuating information is provided is likely to lead participants to differentiate the eight targets from one another, resulting in much less discrimination between the two categories (Abele-Brehm, 1996; Gigerenzer, 1991; Leyens et al., 1994). Clearly, additional research is needed to better understand how various content and context aspects of the judgmental situation influence impression formation.

The above findings indicate that people judge when they feel informed and that they feel informed when certain criteria are met. The present study did not include a measure of people's feeling of being informed and thus precludes a direct test of a mediational model. Although we found strong support for a private belief interpretation rather than an impression management account of earlier social judgeability findings (Yzerbyt, Leyens, & Corneille, in press), it would be desirable to find alternative ways to provide evidence with respect to the mediational issue. Imagine a typical confirmation hypothesis study in which people would be confronted with individuating information about a target. One could examine the kind of questions people select to form an impression. To the extent that pseudorelevant rather than irrelevant information is provided about the target, one would expect people to feel better informed and, as a consequence, to ask a higher proportion of confirming questions. Alternatively, one could look at the time people use to come up with a particular set of questions. In other words, the selection strategy would reveal people's feeling of being informed. Clearly, an important goal of future research should concern the mediating status of the illusion of being informed.

NOTE

1. It is worth noting that Hilton and Fein (1989, Experiment 1) found exactly that pattern in their very first experiment. Participants evaluated the assertiveness of a series of men and women. The difference in ratings between male and female targets was less pronounced when pseudorelevant rather than irrelevant information was also provided. This result led the authors to favor a representativeness explanation for the dilution effect. However, consistent with our social judgeability analysis but not with a representativeness explanation, pseudorelevant information led to more polarized judgments than irrelevant information. Because both female and male targets were

judged to be somewhat assertive in the absence of additional information, ratings from participants given both the gender and the pseudorelevant information went into the direction of more assertiveness.

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