

# Interpretation versus Reference Framing: Assimilation and Contrast Effects in the Organizational Domain

Diederik A. Stapel and Willem Koomen

*Department of Social Psychology, University of Amsterdam*

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**We examined conditions under which contextually activated information affects strategic decision-making and found that the subjective framing of organizational issues may be affected by variables other than semantic manipulation. Context information may be used as an interpretation frame (and lead to assimilation) or as a reference frame (and lead to contrast). Whether context information instigates assimilative interpretation or contrastive comparison processes may depend on the level of categorical context–target similarity. This is demonstrated in three experiments in which participants read an unambiguous business threat or opportunity scenario prior to judging an ambiguous, strategic issue. Findings are discussed in the light of previous judgment and decision-making studies of framing and context effects.** © 1998 Academic Press

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Imagine an organizational decision-maker who is wading through the contents of an in-basket. She is making judgments and decisions based on the pieces of information she has been given by others in her organization. Some of the issues she finds in her in-basket will be clear-cut and easy to act upon, but most of them are probably somewhat equivocal (Highhouse, Pease, & Leatherberry, 1996). What factors may influence the ways in which a decision-maker interprets and evaluates ambiguous organizational issues?

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Address correspondence and reprint requests to Diederik A. Stapel, Department of Social Psychology, University of Amsterdam, Roetersstraat 15, 1018 WB Amsterdam, The Netherlands. E-mail: sp\_stapel@macmail.psy.uva.nl

A look at the relevant literature suggests that there may be at least two kinds of answers to this question. Research on *context effects* suggests that contextually activated information (e.g., previous experience) may influence judgments of equivocal behaviors, issues, or events (see Higgins, 1996). Research on *framing effects* has shown that the way in which an issue is presented semantically (e.g., in terms of losses or gains) may affect decision-makers' judgments (e.g., Tversky & Kahneman, 1981).<sup>1</sup>

Judgment and decision-making research has excelled in showing how semantic manipulation can influence the framing of organizational issues (see Bazerman, 1984, 1990; Tversky & Kahneman, 1981). Typically, in framing studies decision-makers are presented with an issue, such as the outbreak of an Asian disease, and are asked to choose between two alternatives (i.e., a sure thing and a risky option) that are semantically manipulated to alter decision-makers' valuation of the (objectively) same outcomes (see Highhouse *et al.*, 1996).

Several investigators of framing effects have suggested that besides *semantic* manipulations, *contextual* manipulations should also be able to influence the interpretation and judgment of an organizational issue (e.g., Highhouse *et al.*, 1996; Tversky & Kahneman, 1981). Unfortunately, however, to date the framing and context effects literatures have led mostly separate lives. Whereas framing effects have typically been studied in judgment and decision-making research (e.g., Bazerman, 1984), context effects have mostly been the focus of attention in social cognition (Higgins, 1996; Wyer & Srull, 1989) and social judgment research (e.g., Manis, Nelson, & Shedler, 1988). A notable exception to this state of affairs is the research program of Highhouse and his colleagues (Highhouse & Pease, 1996; Highhouse *et al.*, 1996.).

### BEYOND SEMANTIC FRAMING: CONTEXTUAL CONTRAST EFFECTS IN STRATEGIC DECISIONS

Highhouse *et al.* (1996) demonstrated convincingly that, in addition to the *semantic* framing effects made famous by Tversky and Kahneman (1981), there are *contextual* manipulations that may influence the subjective interpretation of a target issue. Highhouse *et al.* (1996) argued that traditional framing studies have focused mainly on decision-making under uncertainty in which "uncertainty" referred to "prospects with explicit probabilities." Not all decisions, however, involve well-defined issues and prospects having specific probabilities. Often decision-makers are faced with issues which are typically equivocal and can be interpreted in many ways (Schwenk, 1995).

<sup>1</sup> It may be argued that our distinction between research on context and framing effects is somewhat strange because both kinds of investigations are interested in how irrelevant or contextual factors influence judgment and decision-making. In research on framing effects these factors are semantic or "internal" manipulations of the target and in research on context effects these factors are "external." We have chosen to describe these two research traditions in terms of research on "context" versus "framing" effects research because this is the terminology employed most commonly in reviews of these literatures (see Higgins, 1996; Schwarz & Bless, 1992; Bazerman, 1990; Tversky & Kahneman, 1981).

Highhouse *et al.* (1996) demonstrated that for understanding the processes involved in the interpretation of ambiguous issues, it is important to know the *context* in which such interpretations are made. In their research, participants were asked to evaluate a “strategic decision making issue” (Schwenk, 1995); that is, an issue that could be interpreted either as an “opportunity” or as a “threat”—two labels that decision-makers assign quite frequently to ambiguous issues (Dutton & Jackson, 1987). Before they read the ambiguous decision scenario, however, participants were presented with unambiguous scenarios about organizational issues concerning explicit opportunities (e.g., “Owner of a movie theater learns that new apartments and restaurants will be built in immediate surroundings”) or threats (e.g., “Owner of a distributing company learns that laws protecting business from out-of-state competition will be abolished”).

The findings showed that participants’ evaluation of the ambiguous scenario was affected by exposure to the unambiguous scenarios. Specifically, the results showed a *contrast* effect, where for participants exposed to explicit opportunities, the ambiguous issue looked more like a threat, whereas for those exposed to explicit threats, this issue looked more like an opportunity. Hence, Highhouse *et al.* (1996) provided an important integration of framing and context effects research by showing that, in addition to semantic target manipulations (see Tversky & Kahneman, 1981), the interpretation of a target scenario can be influenced by the immediate context such that contrast occurs in judgments of that scenario.

#### **BEYOND CONTEXTUAL CONTRAST EFFECTS IN STRATEGIC DECISIONS: CONTRAST AND ASSIMILATION EFFECTS**

The findings of Highhouse *et al.* (1996) suggest that the impact of an unambiguous (opportunity versus threat) context scenario on an ambiguous (opportunity/threat) target scenario is most likely to be *contrastive*. The literature on context effects, however, suggests that *both* assimilation and contrast may occur when contextually activated information is used in the judgment and decision-making process. Why then did Highhouse *et al.* (1996) find contrast effects? Or, to put it more generally, What determines whether context information leads to assimilation or contrast in subsequent judgments and decisions? We will argue that the answer to this question may be found in a distinction between contextual *interpretation* and *comparison* effects.

Social judgment research has excelled in showing that when context information is used as a comparison standard, target judgments may be displaced away from the context—a phenomenon known as *comparison* contrast. Thus, after seeing a series of explicit threats, an uncertain issue might look more like an opportunity than it would have otherwise. Comparison contrast effects have been observed, *inter alia*, for judgments of personality traits (see Herr, 1986), performance (see Kravitz & Balzer, 1992; Maurer & Alexander, 1991), salary information (Mellers, 1986), and strategic decision problems (Highhouse *et al.*, 1996).

A myriad of studies in social cognition research, on the other hand, have shown that when judging an ambiguous stimulus, accessible information may guide the *interpretation* of this stimulus (see Higgins, 1996). For example, Srull and Wyer (1979) used a “priming task” to increase the accessibility of the concepts *hostility* versus *kindness*. After this task, participants judged a description of a target person (Donald) whose actions were ambiguously friendly/hostile. Results showed that Donald was rated as more hostile following the priming of the trait concept hostility and more kind following the priming of the trait concept kindness. Translated to the present concerns this implies that when constructs such as “threat,” “danger,” “risk,” and “hazard” are cognitively active during the interpretation of an uncertain issue, this issue might look more like a threat than it would have otherwise. Context information may thus result in assimilative interpretation effects.

One can thus distinguish (at least) two roles that can be served by context information when a decision-maker is evaluating an organizational issue (see for similar distinctions Herr, 1986; Schwarz & Bless, 1992; Strack, 1992; Wyer & Srull, 1989). Context information can be used as an *interpretation frame* (and result in assimilation) and it can be used as a *reference frame* (and result in contrast). What determines whether context information instigates interpretation or reference effects? What features of the context information determine whether context information will spark interpretation versus comparison processes?

In this article we want to demonstrate that the impact of an unambiguous (opportunity vs threat) context scenario on the perception of an ambiguous target scenario (opportunity/threat) may switch from assimilation to contrast depending on the level of “context–target similarity” concerning the category to which these stimuli belong. More specifically, we test the hypothesis that in the judgment of equivocal decision-making issues, context information will be used as a *reference frame* and result in *contrast* effects when this information belongs to the same category as the target issue (context–target similarity). When, however, context information does not possess context–target similarity, comparison contrast is less likely to occur. Under such conditions, context information may have insufficient features that increase its use as a comparison standard. In this case, it is more likely that the activated information guides the interpretation of the ambiguous target issue. Such use of context information as an *interpretation frame* leads to *assimilation*.

It is important to note that we do not want to suggest that *any* type of context information is likely to exert context effects. As a recent review of the context effects literature by Higgins (1996) clearly establishes, context information only exerts effects on subsequent judgments when it is “applicable” or “relevant” to the target stimulus. For assimilative interpretation effects to occur, context information needs to be *applicable* (not inapplicable) to the *interpretation* of an *ambiguous* (not unambiguous) stimulus (see Stapel & Koomen, 1997). For example, when forming impressions of a person, judgments of a target whose behaviors are ambiguous on the adventurous–reckless dimension are affected

by priming (synonyms of) “adventurous” or “reckless,” whereas priming “obedient” versus “disrespectful” yields no effects. In the present set of studies we investigated the determinants of assimilation and contrast effects in strategic judgment and decision-making after exposing participants to *applicable* context information.

Below we will discuss the construct of context–target similarity in greater detail and relate it to the existing literature on context effects. First we will give a brief overview of the research reported in this paper.

One of the aims of the present article is to both support and extend the integration of the context and framing effects literatures as first proposed by Highhouse *et al.* (1996). It is our goal to demonstrate again the impact of contextually activated information on strategic judgment and decision-making. Furthermore, and perhaps most importantly, we will show that—in contrast to the findings of Highhouse *et al.*—the impact of context information may not only be contrastive. We will test the hypothesis that contrast and assimilation on strategic decision making may *both* be *predictable* effects of contextually activated information.

## RESEARCH OVERVIEW

We tested our context–target similarity hypothesis in three studies. In each of these studies we presented participants with two scenarios. The first scenario presented was the context scenario. The scenario described an unambiguous issue that implied either a clear “opportunity” or a clear “threat.” The second scenario described a strategic decision-making issue that could be interpreted either as an opportunity or as a threat. In each of the three studies we examined the influence of the unambiguous context scenario on judgments of the ambiguous scenario. In Study 1, we investigated whether context scenarios that lack context–target similarity indeed lead to assimilation effects. In Study 2, we extended the design of Study 1 such that we could investigate more specifically whether manipulations of context–target similarity affect the occurrence of assimilation and contrast. In Study 3, we put our hypotheses to a more stringent test by adding control conditions to the design of Study 2.

## CONTEXT–TARGET SIMILARITY

Objects that belong to the same category (two humans) more readily invite comparison processes than objects that belong to dissimilar categories (people and animals) (see Brown, 1953; Kahneman & Miller, 1986). This suggests that for comparison contrast effects to occur, there has to be categorical similarity between target and context stimuli. The importance of context–target similarity for the emergence of comparison contrast is evident in recent studies by Stapel and Koomen on effects of exemplar priming on judgments of an ambiguous target person (Stapel & Koomen, 1997; Stapel, Koomen, & Van der Pligt, 1997). These authors found that friendly or hostile *animal* exemplar primes

(e.g., “Shark” or “Puppy”) were not likely to be used as a comparison standard when judging an ambiguous human target (friendly/hostile Donald). However, because these primes were strongly associated with and therefore cognitively activated features that were applicable (see footnote 3) to the interpretation of the target (“Shark” activates “hostile,” “Puppy” activates “friendly”), they did result in assimilation. *Person* primes (e.g., “Hitler” or “Ghandi”), on the other hand, were likely to be used as a comparison standard and led to a contrast effect.

In this paper we extend our earlier research on the importance of context–target similarity to the processes involved in strategic decision-making (Dutton & Jackson, 1987; Highhouse *et al.*, 1996; Schwenk, 1995). Following the research paradigm used by Highhouse *et al.* (1996), we hypothesize that whether an unambiguous (“opportunity” or “threat”) scenario will be used as a comparison standard in the evaluation of an ambiguous decision-making issue (an opportunity/threat scenario) will depend on how the unambiguous context scenario is categorized. When target and context stimuli are categorized as similar (e.g., both refer to threats/opportunities in the domain of organizational decision-making), contrast is more likely than when they are categorized as different (e.g., the context scenario refers to opportunities or threats in a “nonorganizational” context, the target scenario refers to opportunities or threats in an “organizational” context). In sum, the effects of a context scenario on strategic decision-making may depend on how perceivers categorize this scenario.

It is important to note that in the present paper we do not argue that “context–target similarity” is the only factor that determines whether context information is more likely to be used as an interpretation or as a reference frame. It is a variable, however, that has received hardly any attention in the relevant literature (see Stapel & Spears, 1996). Previous research has demonstrated quite convincingly that whether accessible knowledge results in assimilation or contrast can be explained by the perceived *extremity* (Herr, 1986; see also Highhouse *et al.*, 1996), *awareness* (see Wegener & Petty, 1995), or *appropriateness* of the accessible knowledge (Strack, Martin, & Schwarz, 1988). In the present research, we hope to find assimilation and contrast effects while keeping the levels of these factors (extremity, awareness, appropriateness) constant.

## STUDY 1

In each of the three studies conducted by Highhouse *et al.* (1996), it was found that exposure to an unambiguous issue leads to contrast in subsequent judgments of an ambiguous organizational issue. Our perspective implies, however, that under certain conditions (i.e., when the context scenarios lack context–target similarity), exposure to unequivocal threats or opportunities may lead to assimilation instead of contrast effects. In the present study we put this hypothesis to a first test.

In the Highhouse *et al.* (1996) studies the target and context scenarios were

categorically similar. That is, both scenarios referred to an “organizational” issue. In the present study we tested our hypothesis that when context and target are categorically *dissimilar*, not contrast but assimilation is more likely. We exposed participants to *nonorganizational* threat or opportunity scenarios before they were asked to read and judge an organizational issue that could be interpreted as an opportunity or as a threat. The hypothesis was that under these conditions, assimilation would occur. Context information that lacks context–target similarity is more likely to result in assimilative interpretation effects than in contrastive comparison effects.

## Method

### *Participants and Design*

Participants ( $n = 35$ ) were undergraduates (mean age 20 years) from the University of Amsterdam, who participated in exchange for partial course credit. Half of the participants read a nonorganizational, opportunity, context scenario. The other half of the participants read a nonorganizational, threat, context scenario. All participants read the same ambiguous target scenario.

### *Procedure*

Participants were administered a questionnaire seeking participants’ evaluations of a number of “judgment and decision-making problems.” Participants were asked to read two scenarios and to form an impression of the issues described in these scenarios. On the first page, they were instructed to read the text carefully and attentively, to answer the questions that would be presented on the pages that followed, and not to turn back pages. On the second page, the context scenario was given. On the third page, participants were asked to judge the context scenario on a number of dimensions. On the fourth page, the target scenario was given. On the fifth page, participants were asked to evaluate the target scenario on a number of dimensions. When participants were finished, the questionnaires were collected, and participants were probed as to what they thought the study was about. Finally, participants were thanked and debriefed.

### *Stimulus Materials*

Two nonorganizational context scenarios were constructed. One described a clear and explicit opportunity, the other a clear and explicit threat.

*Nonorganizational opportunity context scenario.* “Imagine that you are studying hard for a very difficult exam that you failed the first time you took it. In the cafeteria of the University Library you run into a friend and fellow student who offers you to prepare for the exam together. You know he is an excellent student and a great teacher. In the past he has successfully helped others pass their exams.”

*Nonorganizational threat context scenario.* “Imagine that you are studying hard for a very difficult exam. In the cafeteria of the University Library you run into a friend and fellow student who tells you that he failed the exam last time he took it because he had not attended the small-group seminars that were given after each lecture. He also tells you that most questions in the exam deal with topics and problems that have been discussed in the seminars. Not only did not you go to the small-group seminars, you also missed several of the lectures.”

The ambiguous target scenario was similar to the one used by Highhouse *et al.* (1996, p. 97) and described an equivocal strategic issue that could be interpreted either as an opportunity or as a threat (see also Dutton & Jackson, 1987).

*Target scenario.* “Imagine that you are the owner of a retail clothing store. You have historically prospered by occupying a choice downtown location. You have just found out that plans are underway to construct a large ‘Shopping Plaza,’ at approximately ten minutes walking distance from your current place of business.”

### *Measures*

Participants rated both the context and the target scenarios on a number of measures designed to tap the extent to which participants perceived the scenarios more as a threat or more as an opportunity. Participants were given eight judgment dimensions, that were labeled as follows: “negative,” “may lose & won’t gain,” “positive,” “threat,” “opportunity,” “may gain & won’t lose,” “bad news,” “resolution is likely.” Participants were asked to indicate the degree to which each item was descriptive of the scenario on a 7-point scale that ranged from (1) “not at all descriptive” to (7) “very descriptive” (see Highhouse *et al.*, 1996, pp. 97–98).

## **Results**

### *Manipulation Check*

First we checked whether the opportunity/threat manipulation of the unambiguous context scenarios was effective. We conducted a reliability analysis of the context judgments to form a “Context Evaluation” index. The index was reliable (Cronbach’s  $\alpha = .92$ ). Participants’ mean scores on this index, ranging from 1 (negative) to 7 (positive) were used to compare participants’ impressions of the context scenarios. As expected, an analysis of variance (ANOVA) revealed that respondents rated the opportunity scenario as more positive ( $M = 5.6$ ) than the threat scenario ( $M = 3.5$ ),  $F(1,33) = 49.16$ ,  $p < .01$ . Thus, on the opportunity–threat dimension the non-organizational context scenarios were seen as intended (see also Table 1).

### *Target Analysis*

We predicted that participants’ judgments of the equivocal strategic scenario would be assimilated toward the unambiguous context scenario because the

TABLE 1

**Mean Judgments (SD) of a Nonorganizational (Low Similarity) Context Scenario and an Ambiguous, Organizational Decision-Making Issue as a Function of the Valence of the Context Scenario**

Valence context scenario	Opportunity	Threat
Evaluation		
Context scenario	5.6 (.9)	3.5 (.8)
Target scenario	4.6 (.7)	3.7 (.8)

*Note.* Scale range is from 1 to 7. Higher scores indicate that the scenario is perceived more as an opportunity. Lower scores mean that the scenario is perceived more as a threat.

context scenario belonged to a different category than the target. An ANOVA, treating judgments on the “Target Evaluation” index (Cronbach’s  $\alpha = .72$ ) as the dependent variable, revealed the predicted main effect,  $F(1, 33) = 10.06$ ,  $p < .01$ . As Table 1 shows, participants exposed to an unambiguous, nonorganizational opportunity were more likely to see the ambiguous strategic issue as an opportunity ( $M = 4.6$ ) than those exposed to an unambiguous, nonorganizational threat ( $M = 3.7$ ).

Note that the impact of a nonorganizational scenario on the interpretation of a strategic business issue illustrates nicely how information that is completely irrelevant (i.e., a scene from student life) can have dramatic effects on subsequent issue interpretations. Whereas one can argue that comparative contrast effects are the result of the (albeit nonnormative) use of “relevant” (organizational) information—after all, all judgment is relative because there is no judgment without the construction of a comparison standard—this is definitely not the case for interpretative assimilation effects.

## STUDY 2

Study 1 showed that the impact of an unambiguous (opportunity or threat) context scenario on a strategically equivocal (opportunity/threat) decision-making issue is not always contrastive—as the Highhouse *et al.* (1996) findings may suggest. When context information does not belong to the same category as the target issue, it is more likely to be used as an interpretation frame (and lead to assimilation) than as a reference frame (and lead to contrast). In the present study we set out to replicate and extend the findings of Study 1. *Replicate*, because we again used “nonorganizational” (low context–target similarity) context scenarios. *Extend*, because we also included “organizational” (high context–target similarity) context scenarios. This allows us to test the “low similarity” and the “high similarity” part of our context–target similarity hypothesis in one design. Furthermore, it permits us to directly confront the assimilation effects of Study 1 with the contrast effects reported by Highhouse *et al.* (1996). We thus test the hypothesis that whereas context information

that is dissimilar to the target decision-making problem will yield assimilation effects (cf. Study 1), context information that is similar to the target decision-making problem will yield contrast effects (cf. Highhouse *et al.*, 1996).

## Method

### *Participants and Design*

Participants ( $n = 212$ ) were undergraduates (mean age 18 years) from the University of Amsterdam, who participated in exchange for partial course credit. The participants were randomly assigned to the conditions of a 2(Context categorization: organizational, nonorganizational)  $\times$  2(Context valence: opportunity, threat) between-subjects design.

### *Procedure, Stimulus Materials, and Measures*

The procedure of the present study was similar to the one followed in Study 1. The target scenario, the nonorganizational context scenarios and the dependent measures used were also identical to those used in Study 1. For the organizational context scenarios, material similar to that employed by Highhouse *et al.* (1996, p. 103) was used:

*Organizational opportunity context scenario.* “Imagine that you are on the board of directors of a large manufacturing company. You have been approached by a potential customer with a government order that would ensure business throughout the decade. Such a contract would discourage potential competitors from entering into your unique product area.”

*Organizational threat context scenario.* “Imagine that you are the owner of a distributing company that supplies goods throughout The Netherlands. You have found out that legislators of the European Union have just passed a new law that makes it possible for new, foreign companies to enter your market. Previously you were protected from any form of international competition.”

## Results

### *Manipulation Check*

First we checked whether the opportunity/threat manipulation of the unambiguous context scenarios was effective. The “Context Evaluation” index was reliable (Cronbach’s  $\alpha = .93$ ) and, as predicted, an ANOVA only revealed an effect of Context valence,  $F(1,208) = 542.46$ ,  $p < .01$  (Other effects  $F_s < 1$ ). Respondents rated the opportunity scenarios as more positive ( $M = 6.0$ ) than the threat scenarios ( $M = 3.4$ ). Thus, both the organizational and the nonorganizational context scenarios were perceived as intended on the opportunity–threat dimension (see also Table 2).

TABLE 2

**Mean Judgments (SD) of a Context Scenario and an Ambiguous, Organizational Decision-Making Issue as a Function of Context Categorization (Organizational, Nonorganizational) and Context Valence (Opportunity, Threat)**

Context valence	Context categorization			
	Nonorganizational context scenario (low context–target similarity)		Organizational context scenario (high context–target similarity)	
	Opportunity	Threat	Opportunity	Threat
Evaluation				
Context scenario	5.9 (.7)	3.1 (.9)	6.1 (.7)	3.6 (.9)
Target scenario	3.8 (1.1)	3.2 (1.1)	3.1 (1.0)	4.0 (1.0)

*Note.* Scale range is from 1 to 7. Higher scores indicate that the scenario is perceived more as an opportunity. Lower scores mean that the scenario is perceived more as a threat.

### Target Analyses

We predicted that participants' judgments of the target issue would be contrasted from the unambiguous context scenario when the context was perceived as belonging to the same category as the target. When participants categorized the context as being dissimilar to the target, their judgments would be assimilated to the context. Thus, we predicted an interaction between the effects of the context categorization and context valence factors.

We tested this prediction in an ANOVA, treating scores on the "Target Evaluation" index (Cronbach's  $\alpha = .87$ ) as the dependent variable. This ANOVA revealed the predicted Context categorization X Context valence interaction,  $F(1,208) = 17.82, p < .01$ . No main effects were found ( $F_s < 1$ ). As Table 2 shows, participants exposed to an unambiguous, *nonorganizational* opportunity were more likely to see the ambiguous strategic issue as an opportunity ( $M = 3.8$ ) than those exposed to an unambiguous, *nonorganizational* threat ( $M = 3.2$ ),  $F(1, 208) = 5.04, p < .05$ , an assimilation effect (cf. Study 1). On the other hand, participants exposed to an unambiguous, *organizational* opportunity were more likely to see the ambiguous strategic issue as a threat ( $M = 3.1$ ) than those exposed to an unambiguous, *organizational* threat ( $M = 4.0$ ),  $F(1, 208) = 20.34, p < .01$ , a contrast effect (cf. Highhouse *et al.*, 1996).

### STUDY 3

The findings of Studies 1 and 2 clearly corroborate our analysis of the importance of context–target similarity of contextually activated information for assimilation or contrast to occur in the interpretation and judgment of strategic decision-making issues (Brown, 1953; Stapel *et al.*, 1997). However, as a reviewer pointed out to us, because of the absence of a control group in these studies, it is difficult to tell which of the results we report reflect *absolute*

assimilation and contrast and which reflect baseline effects (see also Kravitz & Balzer, 1992). In many investigations of context effects, experimental conditions are compared in which positive and negative (but not control) context information is activated (e.g., Banaji *et al.*, 1993; Herr, 1986; Higgins *et al.*, 1977; Srull & Wyer, 1979). Such investigations then speak of assimilation when judgments are affected toward the valence of activated information and of contrast when judgments are affected away from that valence. In other words, it is common practice in studies of context or knowledge accessibility effects to define assimilation and contrast effects in a *relative* rather than an absolute manner. In order to better understand the nature of the assimilation and contrast findings of Study 2, in the present Study we set out to replicate the design of Study 2, but to include two control conditions. In the “no-context” condition, no context scenario was presented. In this condition, participants only judged the target scenario. In the “neutral-context” condition, participants were presented with a context scenario, but the valence of this scenario was neutral and the topic of the scenario (three people who made a walk through a city park) was completely unrelated to the target scenario. We test the hypothesis that context information that is dissimilar to the target decision-making problem will yield assimilation, whereas context information that is similar to the target decision-making problem will yield contrast effects (see Study 2). In the control conditions the target judgments will fall midway between these assimilation and contrast effects.

In the present study we also included a measure of perceived “context–target similarity” to test whether participants indeed perceived the nonorganizational context scenario less comparable to the target scenario than the organizational scenario. Furthermore, after participants had rated the target scenario, we presented participants with several items designed to tap their suspicions regarding the experiment and the possible relation between their judgments of the context and the target scenario’s.

## Method

### *Participants and Design*

Participants ( $n = 88$ ) were undergraduates (mean age 19 years) from Tilburg University, who participated in exchange for partial course credit. The participants were randomly assigned either to one of the two control conditions (no-context, neutral-context) or to the conditions of a 2(context categorization: organizational, nonorganizational)  $\times$  2(context valence: opportunity, threat) between-subjects design.

### *Procedure, Stimulus Materials, and Measures*

The procedure of the present study was similar to the one followed in Study 2. The target scenario, the context scenarios, and the dependent measures used were identical to those used in Study 2. For the neutral-context scenario, a short paragraph was composed which described a young couple’s quiet stroll

through a city park. This scenario had the same length as the other context scenario's and was pretested to be neutral; that is, neither positive nor negative. Participants were given eight judgment dimensions that tested factual knowledge of the control scenario.

*Comparability.* After participants had rated the context and target scenario's, they were asked to what extent "the comparability of the two scenario's" was low (1) or high (7). Participants in the no-context control condition were not asked this question.

*Suspicion.* On the final page of the booklet, participants completed several items tapping their suspicions regarding the purpose of the experiment and the possible impact of the context scenario on the target scenario. Participants first indicated whether they felt any event occurring before the experiment could have affected their judgments on the target scenario. Next, participants were asked whether they thought the context scenario task could have influenced their judgments of the target scenario. Only one respondent qualified as suspicious because she thought her target judgments were affected by judgments of the context scenario. The data of this participant were not analyzed. After the testing session had finished, participants were debriefed and thanked for their participation.

## Results

### *Manipulation Checks*

*Context scenario judgments.* First we checked whether the opportunity/threat manipulation of the unambiguous context scenarios was effective. The "context evaluation" index was reliable (Cronbach's  $\alpha = .96$ ) and, as predicted, a context categorization  $\times$  context valence ANOVA only revealed an effect of context valence,  $F(1, 61) = 217.50$ ,  $p < .01$  (other effects  $F_s < 1$ ). Respondents rated the opportunity scenarios as more positive ( $M = 6.1$ ) than the threat scenarios ( $M = 3.0$ ). Thus, both the organizational and the nonorganizational context scenarios were perceived as intended on the opportunity-threat dimension (see also Table 3).

*Context-target comparability.* A context categorization  $\times$  context valence ANOVA revealed a main effect of context categorization,  $F(1, 61) = 27.24$ ,  $p < .01$  (other effects  $ps < .25$ ). As predicted, in the organizational context conditions participants rated the context-target comparability higher ( $M = 4.78$ ) than in the nonorganizational conditions ( $M = 3.28$ ).

### *Target Analyses*

Similar to Study 2, we predicted an interaction between the effects of the context categorization and context valence factors. This prediction was tested in an ANOVA, treating scores on the "target evaluation" index (Cronbach's  $\alpha = .90$ ) as the dependent variable. This ANOVA revealed the predicted context

TABLE 3

Mean Judgments of a Context Scenario and an Ambiguous, Organizational Decision-making Issue as a Function of Context Categorization (Organizational, Nonorganizational) and Context Valence (Opportunity, Threat)

Context valence	Context categorization			
	Nonorganizational context scenario (low context–target similarity)		Organizational context scenario (high context–target similarity)	
	Opportunity	Threat	Opportunity	Threat
Evaluation				
Context scenario	6.1 (.8)	2.9 (.7)	6.1 (1.0)	3.0 (.8)
Target scenario	4.9 (1.0)	3.7 (1.4)	3.4 (1.2)	4.7 (.7)

*Note.* Scale range is from 1 to 7. Higher scores indicate that the scenario is perceived more as an opportunity. Lower scores mean that the scenario is perceived more as a threat. The mean rating of the target scenario was 4.3 in the no-context control group and 4.1 in the neutral-context control group.

categorization  $\times$  context valence interaction,  $F(1, 61) = 22.31, p < .01$ . No main effects were found ( $F_s < 1$ ). As Table 3 shows, participants exposed to a *nonorganizational* opportunity were more likely to see the target issue as an opportunity ( $M = 4.9$ ) than those exposed to a *nonorganizational* threat ( $M = 3.7$ ),  $F(1, 63) = 9.33, p < .01$  (assimilation). Participants exposed to an *organizational* opportunity were more likely to see the target issue as a threat ( $M = 3.4$ ) than those exposed to an *organizational* threat ( $M = 4.7$ ),  $F(1, 63) = 9.79, p < .01$  (contrast).

As predicted, judgments of the target scenario in the two control conditions were midway between these experimental conditions (no-context,  $M = 4.3$ ; neutral-context,  $M = 4.1$ ). Several  $t$  tests comparing experimental cells with control conditions indicated significant differences (at  $p < .05$ ) for all but two comparisons (threat/nonorganizational vs neutral-context,  $t(31) = 1.35, p = .18$ ; threat/organizational vs no-context,  $t(32) = 1.57, p = .12$ ). Thus, compared to the two control conditions, the experimental effects found in the present study are absolute assimilation and contrast effects (see Kravitz & Balzer, 1992; Maurer & Alexander, 1991).

## GENERAL DISCUSSION

The three studies reported here provide clear support for the hypotheses we set out to test. Context information that belongs to the same category as the target, is likely to be used as a reference frame in subsequent judgments and result in contrast. However, when context information lacks context–target similarity, it is less likely to spark such comparison processes. In this case, the contextually activated information does not possess sufficient features to be

used as an object of comparison during judgment and is more likely to merely serve as an interpretation frame—given that the contextually activated information is applicable to the interpretation of the ambiguous issue. Then assimilation will occur.

The research reported here provides an important extension to previous research on framing effects by integrating the “framing” and “context” effects literatures. Whereas framing research has mainly examined the impact of *semantic* variations on decision-making regarding a rather *unambiguous* issue (e.g., a rare Asian disease), we examined the impact of *contextual* information on judgments of an *ambiguous* issue and demonstrated that the same, equivocal, organizational issue can be perceived (“framed”) differently depending on subtle manipulations of the immediate context. The research paradigm we used in the present studies was akin to that of Highhouse *et al.* (1996). However, in contrast to Highhouse *et al.*, who found convincing evidence for contrast effects and thus concluded that “exposure to unequivocal opportunities makes a neutral issue appear more threatening” (p. 102), we demonstrated that the impact of unequivocal context scenarios on the perception of a neutral issue may under certain conditions also involve assimilation effects. Most importantly perhaps, we showed that contextual influences may switch predictably from assimilation to contrast depending on a factor that is relatively underresearched in the relevant literature: the level of context–target similarity (see footnote 2).

To summarize, the theoretical contribution of the present research has been to show that, in addition to semantic framing effects, it may be important to distinguish several varieties of context effects. Decision-makers may use cognitively activated information as an interpretation frame that guides the encoding of complex, strategic issues, but they may use that same information as a reference frame that serves as a yardstick to which everything is compared. How context information is used depends on its features. We have demonstrated that manipulations of one of these features (context–target similarity) may determine the role context information will play in the decision-making process.

As for the implications of the present research for the daily practice of judgment and decision-making, the present findings imply that managers may construct different interpretations and judgments of the same strategic issue depending on the kind of (irrelevant) information that is activated at the time they are exposed to the issue. This, of course, is at odds with a normative decision-making model (Stubbart, 1989). Our findings do not only suggest, however, *that* organizational decisions may be largely affected by the fleeting characteristics of the contexts in which they are made. The present studies also suggest *when* the context pushes decisions in *which* direction. To go back to the example with which we started in this article, the *kind* of information that is on a manager’s mind when she is wading through the contents of an in-basket and tries to make decisions is likely to determine the outcome of these decisions. Ruminations about both clear-cut organizational and nonorganizational (e.g., personal) issues are likely to affect equivocal issues, but the direction (assimilation or contrast) of this effect will depend on whether the earlier issue concerns a topic that is similar to the issue that needs to be judged

(context–target similarity). The present studies suggest that one might expect contrast when an unequivocal organizational issue serves as a context reference, whereas assimilation may occur when the manager is considering an ambiguous organizational issue in the light of a personal threat or opportunity (e.g., personal investments, career issues). Future research may want to further test this conjecture about the relevance of the present findings for the processes underlying decision making in “real life.” Furthermore, future research efforts may be directed toward furthering our understanding of assimilation and contrast effects in organizational decision-making and investigate which features besides context–target similarity may be important determinants of these effects.

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