

## Subjective assessments and evaluations of change: lessons from social cognition research

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Veröffentlichungsversion / Published Version

Arbeitspapier / working paper

Zur Verfügung gestellt in Kooperation mit / provided in cooperation with:

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### Empfohlene Zitierung / Suggested Citation:

Schwarz, N., Bless, H., & Wänke, M. (1992). *Subjective assessments and evaluations of change: lessons from social cognition research*. (ZUMA-Arbeitsbericht, 1992/12). Mannheim: Zentrum für Umfragen, Methoden und Analysen - ZUMA-. <https://nbn-resolving.org/urn:nbn:de:0168-ssoar-69754>

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Subjective Assessments and Evaluations of Change  
Lessons from Social Cognition Research

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ZUMA-Arbeitsbericht Nr. 92/12

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**Subjective Assessments and Evaluations of Change:  
Lessons from Social Cognition Research**

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Paper prepared for the East-West Meeting of the European Association of Experimental Social Psychology, Münster, Germany, May 1992. The reported research was supported by grants from the Deutsche Forschungsgemeinschaft (Schw 278/2 and Str 264/2 to N. Schwarz and F. Strack, and Schw 278/5 to N. Schwarz, H. Bless, and G. Bohner) and the Bundesminister für Forschung und Technologie (SWF0044-6 to N. Schwarz). Address correspondence to Norbert Schwarz, ZUMA, P. O. Box 122155, D-6800 Mannheim, Germany.

**Abstract**

We provide a selective review of psychological research into the cognitive processes that underlie people's construction and evaluation of their past, present and future. The available findings indicate that assessments and evaluations of social change are to a large degree determined by variables related to the research instrument. Implications for social science research are discussed and issues for future investigation are highlighted.

**Subjective Assessments and Evaluations of Change:  
Lessons from Social Cognition Research**

There is hardly a day that our attention is not drawn to rapid social, political, and economic change these days. The end of communism in eastern Europe, the emergence of new political states, often accompanied by civil war, or the unification of Germany mark a period of dramatic social change that affects the living conditions of all Europeans. Less spectacular at the moment, but perhaps more dramatic in the long run, we face rapid declines in the quality of our environment and the threats of global warming. Not surprisingly, these changes have spurred considerable research efforts in the social sciences. How do people perceive these changes and their implications? How do they deal with them? How do the changes affect social institutions? And, most importantly, how can social change be managed?

In addressing these questions, social scientists rely on objective as well as subjective social indicators. Whereas objective indicators, such as the gross national product, the rate of unemployment or inflation, or measures of migration reflect actual changes, subjective indicators reflect citizens' evaluation of these changes. Typically, survey respondents are asked whether things have changed for the better or the worse, how satisfied they are with their current living conditions, or how optimistic or pessimistic they are with regard to the future. Despite the extensive use of survey questions of this type, little is known about how people answer them. How is it that we assess if things got better or worse? And how do we determine if they are likely to improve or to deteriorate in the future?

Based on a research program in which we explored the cognitive processes that underlie judgments of life-satisfaction (see Schwarz & Strack, 1991a, for a review), we may safely assume that subjective evaluations of change do not show a close correspondence to actual change. Rather, subjective evaluations are shaped by the cognitive processes that respondents employ, and they reflect a number of transient influences and biases. In the present paper, we summarize some of the key insights into these processes and highlight issues for future research. Given that little systematic work has been done on subjective assessments of change (see Silka, 1988, for a review), we necessarily draw on research into related issues to offer educated guesses.

## **Systematic and Heuristic Processing in Subjective Assessments of Change**

On first glance, one might assume that the assessment of change in one's living conditions poses few problems. Presumably, we simply compare the present to the past and note the difference. Such a feature comparison process, however, offers many degrees of freedom and allows for many different outcomes. Moreover, we may not always rely on the relatively effortful process of feature comparison, but may resort to the use of more simplistic heuristics, or to subjective theories. As has been shown for many other domains of judgment (e.g., Brewer, 1988; Chaiken, Liberman, & Eagly, 1989; Petty & Cacioppo 1986), we assume that the processes involved in the assessment and evaluation of change are best captured by a dual process assumption that allows for systematic feature comparison as well as for the use of heuristic strategies. We address each of these strategies in turn.

### **Constructing and Comparing the Past, the Present, and the Future**

#### **Constructing the Past, the Present, and the Future**

An assessment strategy that is based on a comparison of the present and the past requires mental representations of both targets (see Griffin & Ross, 1991; Schwarz & Bless, 1992, for discussions of mental constructions in social judgment). First, we need to determine how far the past extends. What is the unit that we want to compare the present to? In what year, or with which event does it begin, and where does it end? In the case of dramatic changes, this problem may be easy to solve because some outstanding event may serve as a salient marker. But even in that case, several events may compete as appropriate markers. For example, which event marks the end of the "past" for east Germans? The opening of the wall in November 1989, or the introduction of the Deutschmark in July 1990, or perhaps the unification in October 1990? And how far back does the past extend? Is the present to be compared to the last few years of relative affluence or to the post-war years of relative scarcity, or to some average of both? To a large degree, these constructions are likely to depend on what happens to be salient at the time of judgment, which is, in part, a function of preceding questions in the questionnaire (see Schwarz & Strack, 1991b).

In addition, we need to determine which of the many features of the selected time period we are to include in our representations of the past and the present. Some features will be chronically accessible in memory and will come to mind under most circumstances, whereas others will only be temporarily accessible, for example, because they were addressed in preceding questions (cf. Schwarz & Strack, 1991b), or because our attention was recently drawn to them by other fortuitous events, such as the television news (e.g., Iyengar, 1987).

Some of our studies on life-satisfaction illustrate the impact of temporary accessibility and boundary markers. In one of these studies, Strack, Schwarz, and Gschneidinger (1985) asked subjects to report three positive or three negative events that happened to them either recently or at least five years ago. Subsequently, subjects reported their current life-satisfaction. As shown in Figure 1,

Figure 1

subjects reported higher current life-satisfaction when the preceding task brought three positive rather than three negative recent events to mind. This reflects that they used the highly accessible events in constructing a representation of the present, which resulted in an assimilation effect. Subjects who had to recall past events, however, reported lower life-satisfaction when the preceding task brought positive events to mind, and higher life-satisfaction when it brought negative events to mind. Apparently, they used the highly accessible past events in constructing their representation of the past, resulting in a contrast effect on their evaluation of the present.

Thus, the construction of the present and the past was influenced by the events that were rendered most accessible in memory and by their temporal distance. However, salient boundary markers may result in similar effects as temporal distance, even under conditions where temporal distance per se is held constant. In an unpublished follow-up study (Schwarz & Kraft, unpublished data), we asked first-year students to report a positive or a negative event that happened to them "two years ago". As shown in Figure 2, this instruction resulted in assimilation effects, suggesting that these events were included in the representation of the current period of one's life. For other subjects, however, we increased the salience of a major role-transition that could serve as a boundary marker. Specifically, we asked them to



report an event "that happened two years ago, that is, before you entered university". In that case, the pattern reversed and subjects reported higher life-satisfaction after recalling a negative rather than positive event.

### Figure 2

Similarly, Strack, Schwarz, and Nebel (1987) asked students to report three positive or three negative things that they expected to happen to them in the future, that is "five years from now". For half of the subjects, they again increased the salience of a major life-change that would happen in the meantime. Specifically, they reminded subjects that they would be out of school "in five years from now". Figure 3 shows the results.

### Figure 3

When the major life-change was not brought to subjects' attention, subjects again reported higher current life-satisfaction when they dwelt on positive rather than on negative expectations. This suggests that they constructed an extended representation of the present that included the expected events, hence resulting in an assimilation effect. When their attention was drawn to the fact that they would no longer be students by that time, this pattern reversed, as was the case for past events. Now, subjects reported lower current life-satisfaction when they dwelt on positive rather than on negative expectations.

In combination, these studies indicate that the mental construction of the past, present and future is a function of the features and the boundary markers that are highly accessible at the time of judgment. Even if the same features come to mind, the pattern of evaluations may reverse, depending on how the boundaries of a subjective time period are constructed. In more general terms, a given feature will result in an assimilation effect in the evaluation of the target category if it is included in the mental representation formed of that category, but will result in a contrast effect if it is excluded from the representation of the target category (see Schwarz & Bless, 1992, for a detailed theoretical discussion). Whereas the results of our experimental manipulations testify to the power of these processes, we know little about how people parse the stream of life-events into discrete chunks. Exploring this

issue seems to provide a promising avenue for research into autobiographical memories, with far reaching implications for the assessment of subjective change in the social sciences.

### **Making Comparisons**

Having constructed mental representations of the past and the present, respondents face the task of comparing the two. The outcome of this comparison will depend on the features that are included in these representations, as we have seen above. However, the outcome is also likely to be affected by the direction of the comparisons. Although formal logic would suggest that the outcome should be the same when we compare the present to the past as when we compare the past to the present, psychological theorizing suggests otherwise. As a large body of research on similarity judgments indicates (see Tversky, 1977; Tversky & Gatti, 1978), the direction of comparison determines which features are likely to be considered.

Suppose that a respondent's representation of the past includes features A to F, as shown in Figure 4, whereas her representation of the present includes features D to K.

Figure 4

According to Tversky's (1977) model of similarity judgments, a comparison of the past to the present would involve that the respondent checks if features A to F are also part of the presence. The features G to K, which are part of the presence but not of the past, are likely to receive little attention in this case. Conversely, a comparison of the present to the past would be based on the features D to K, and the features A to C, which characterize the past but not the present, would go largely unnoticed. As a result, the outcome of the comparison process would differ, depending on whether we compared the past to the present or the present to the past.

To provide just a few examples that illustrate the generality of such asymmetric comparison effects, Schwarz, Scheuring and Wänke (1990) observed that subjects estimated the standard of living in Denmark to be higher when the wording of the question induced them to compare Denmark to Greece, rather than Greece to Denmark. Similarly, when asked to think of their high school teachers, they evaluated their female teachers as being more empathetic when told to compare their female to their male teachers, rather than their

male to their female teachers, as shown in Figure 5.

Figure 5

More germane to the concerns of the present paper, Dunning, Madey, and Parpal (1991, Experiment 3) asked students at Stanford to prepare their life on campus to their high school days, or to compare their high school days to their life on campus. They assumed that people "possess a rich array of information about the present that they have forgotten about the past" (p. 7). If so, their representation of the present should include a larger set of unique features than their representation of the past. Hence, they should detect more unique features when comparing the present to the past than when comparing the past to the present. As a result, they should see more change in their life when comparing the present to the past rather than vice versa. Their results nicely confirmed these predictions, as shown in Figure 6.

Figure 6

To predict the specific outcome of such comparisons, we need to know which features subjects use in constructing representations of the targets that they are supposed to compare. In addition, we also need to know which direction of comparison they choose. In experimental studies, both of these issues are easy to resolve: We can ask subjects to evaluate targets for which we taught them the relevant features in the first place, and we can word the question to reflect the direction of comparison we are interested in (see Agostinelli et al., 1986; Schwarz & Scheuring, 1989; Wänke & Schwarz, 1992, for examples).

In making their own spontaneous assessments, on the other hand, people are free to use the comparison direction of their own choice. We may assume, however, that in most cases, our spontaneous attempts to assess the quality of our life are triggered by some current problem. If so, the current problematic situation is likely to be in the focus of attention and will hence serve as the subject of comparison. That is, we are likely to compare our current problematic situation to some previous state of affairs. Due to the logic of the comparison process, the outcome of this enterprise is likely to be negative: Chances are that our current problem is not a feature of our past. Other problems that we had in the

past, however, are unlikely to be considered because the consideration of features of the past is constrained by the features that make up our representation of the present. Accordingly, the problems of the past are likely to escape our attention, contributing to the impression that the past was the time of the "good old days".

Applied to recent changes in eastern Europe, for example, these considerations suggest that comparisons of the present to the past are likely to be based on salient current concerns, such as unemployment and rising inflation -- problems that are not part of citizens' representations of the past. Moreover, those problems of the past that have been successfully resolved may not be very salient aspects of our representation of the present either. Hence, recent accomplishments may be unlikely to enter into the set of salient features. As a result, comparisons of the present to the past are more likely to reveal the shortcomings rather than the accomplishments of the present, while the problems of the past may go largely unnoticed. This suggests that comparisons of the present to the past are likely to result in lower life-satisfaction than would comparisons of the past to the present. Unfortunately, it is the former rather than the latter comparison that people are likely to make spontaneously.

### **Assessing the Impact of Specific Factors:**

#### **The Role of Counterfactual Reasoning**

Sometimes we are not only interested in global comparisons of the past, present, and future, but in more specific assessments of the impact of some factor. How much, for example, did the exodus of east Germans through Hungary in the summer of 1989 contribute to the collapse of the GDR? To answer this question, we need to solve three tasks, as Dunning et al. (1991) pointed out. First, we have to construct a scenario in which the crucial factor is eliminated. In the present case, this scenario would be a counterfactual world in which the exodus did not occur. Second, we need to run a mental simulation of this counterfactual world to see what kind of outcome it would produce. And finally, we need to compare the outcome of that simulation to the actual outcome to estimate the impact of the crucial factor. The more differences this comparison yields, the more impact is attributed to the crucial factor that is part of the representation of reality, but not of the counterfactual.

As studies on counterfactual reasoning indicate (see Miller, Turnbull, & McFarland, 1990, for a review), we are likely to construct counterfactuals by replacing unusual events by the usual routine. In a typical study, subjects may be told that Mr. Smith left his office

20 minutes earlier than usual, and on his usual route home, he had an accident. They may then be asked to complete the sentence, "If only he had....". Many different counterfactuals could result in an "undoing" of the accident. For example, he could have taken a different route home, he could have left his office even earlier, and so on. The overwhelming majority of subjects, however, is likely to construct a counterfactual in which things are returned to normal: "If only he had left his office at the usual time, rather than 20 minutes early."

For our example of the collapse of the GDR, this suggests that the counterfactual against which we evaluate the impact of the exodus is likely to be the usual, routine state of affairs. In using this counterfactual, we are likely to miss other factors that could also have contributed to a collapse, let's say the larger number of dissatisfied citizens who might have participated in the people's movement. If so, the nature of counterfactual reasoning would facilitate an overestimation of the impact of any factor we focus on and an underestimation of the potential impact of alternative factors.

In addition, many of the issues that we discussed before are relevant to these tasks. In general, we may expect that people have a richer representation of what actually happened than of what might have happened. Hence, we should again see direction of comparison effects: If people's representation of reality has more vivid and unique features than their representation of some hypothetical alternative, they should perceive more impact when they compare reality to one of its alternatives, rather than the alternative to reality. Again, studies by Dunning et al. (1991, Experiments 1 and 2) support this prediction. For example, students were asked to assess the impact of their major on their study habits. The question either asked them to compare the major that they had actually chosen to a not chosen alternative they had considered, or to compare the alternative to their actual major. As predicted, they inferred more impact of the choice of major on their study habits when comparing reality to its alternative than when comparing the alternative to reality.

Note, however, that this experiment required the comparison of an actually experienced reality to a counterfactual that subjects have not experienced. Specifically, the study asked subjects to compare the road they have taken to a hypothetical road, which they have not taken, and which is hence not well represented. In assessing actual social change, however, people's task is somewhat different. In this case, the "counterfactual" to reality has only become hypothetical recently -- after all, it is the reality that we experienced in all its

glamour prior to the change. If so, the "road taken" effect, observed in the Dunning et al. (1991) studies, may not hold.

### Other Framing Effects

In addition to the direction of comparison addressed above, the assessment and evaluation of change is likely to show a variety of other framing effects.

Mental addition and subtraction. To return to our example of the collapsing GDR, we could ask for estimates of the impact of the 1989 exodus in one of the following ways:

- (1) How much more likely did a collapse of the GDR become because of the exodus?
- (2) How much less likely would a collapse of the GDR have been without the exodus?
- (3) How much less likely did a survival of the GDR become because of the exodus?
- (4) How much more likely would a survival of the GDR have been without the exodus?

These questions differ on two characteristics: First, questions (1) and (3) inquire about the impact of the presence of a causal factor, whereas questions (2) and (4) inquire about the impact of its counterfactual absence. In addition, these questions differ in how the potential impact is framed. Questions (1) and (4) pertain to how much a causal factor facilitated an outcome, whereas questions (2) and (3) pertain to how much a causal factor inhibited an outcome. Having already addressed the absence or presence of a causal factor in our discussion of the "road taken effect" above, we now turn to the second framing variable, which has been studied by Dunning and Parpal (1989).

Whenever a question pertains to how much a causal factor facilitates an outcome, it poses a task of mental addition. Mental addition tasks require the judge to decide if a causal agent produces an outcome to a greater degree or with greater probability. In contrast, whenever a question pertains to the inhibiting effects of a causal factor, it poses a task of mental subtraction. Mental subtraction tasks require the judge to decide whether an outcome

occurs to a lesser extent or with reduced probability. In these tasks, the crucial factor is not whether the causal agent is present or absent, but how its alleged influence is framed. Whenever the question refers to an increased impact it poses an "additive frame", whenever it refers to a decreased impact it poses a "subtractive frame".

Several studies indicate that people assume a larger impact in an additive than in a subtractive frame. For example, when asked, "How many more questions will you get right on an exam if you study one hour more?", students attributed more impact to an additional hour of work than when asked, "How many fewer mistakes will you make on an exam if you study one hour more?" (Dunning & Parpal, 1989). This asymmetry reflects that people weight facilitating factors more than inhibiting factors.

In studies of actual changes, this asymmetry is further compounded by a natural confound of framing and the presence or absence of the causal factor. In most cases, it seems more natural to ask about the impact of the presence of a factor in an additive frame, and to ask about the impact of its absence in a subtractive frame, as the above examples indicate. In fact, experiments that crossed both factors produced the highest impact ratings when the presence of a factor had to be evaluated in an additive frame, and the lowest impact ratings when its absence had to be evaluated in a subtractive frame (Dunning & Parpal, 1989; Dunning et al., 1991).

The ratio principle. However, the examples discussed so far are not the only framing effect that are likely to influence evaluations of change. Compare the following statements:

- (1) From July to October 1990, the rate of unemployment in east Germany increased from 4 to 8 percent.
- (2) From July to October 1990, the rate of employment in east Germany decreased from 96 to 92 percent.

Whereas both statements reflect the same actual change, the ratio principle known from psychophysical judgment predicts that the change is evaluated as more dramatic in the first than in the second case. Empirically, this is the case, as shown in Figure 7.

Figure 7

This finding reflects that the first statement indicates a relative increase in unemployment of a full 100 percent over its initial value, whereas the second statement indicates a relative decrease in employment by a mere 4.2 percent below its initial value. Surprisingly, though, our politicians have not yet figured out that the employment rate would be a more benevolent indicator of their poor performance. As this example illustrates, how we frame the change that is to be evaluated is bound to have a large impact on respondents' judgments.

### **Using Heuristic Strategies**

In many cases, however, respondents may not use the feature comparison strategies that we have discussed so far. Rather, they may resort to simple heuristics, thus rendering the task less effortful. Over the last decades, research in different domains of judgment indicated that the use of heuristic strategies increases with increasing task complexity, increasing time pressure, decreasing motivation, and decreasing task importance (cf. Fiske & Neuberg, 1990; Kruglanski, 1980, 1990; Sherman & Corty, 1984; Schwarz, 1990; Schwarz & Strack, 1991a). With regard to the survey interview in which citizens' evaluations of change are typically assessed, it is important to keep in mind that respondents hardly use more than half a minute to answer a question and that the responses they provide to the interviewer have few, if any, real life implications for them. Hence, heuristic processing may be the dominant mode in many social science studies.

What, however, are the heuristics that respondents are likely to use in assessing and evaluating change? Two prime candidates are the use of implicit theories (Ross, 1989) and of a "How-Do-I-feel-about-it?" heuristic (Schwarz & Clore, 1988).

### **Implicit Theories of Stability and Change**

Whereas our preceding discussion assumed that respondents infer the degree of change by comparing mental representations of the present and the past, a fascinating research program by Michael Ross and collaborators (see Ross, 1989; Ross & Conway, 1986, for reviews) suggests that the process may actually be reversed. Assuming that many features of the past may not be readily accessible in memory, Ross asks how people actually figure out what their past was like? How do we infer, for example, how we felt about German unification 10 years ago?



Ross assumes that our reconstructions of the past involve a two stage process. As a first step, we use our more accessible present status with regard to the attribute under study as a bench-mark. Next, we invoke an implicit theory of self to determine if our past standing on that attribute was similar to, or different from, our current standing. In fact, his research indicates that people hold implicit theories of stability and change with regard to many variables. In the personal domain, these theories are often related to naive conceptions of life-span development, on which considerable interpersonal agreement has been documented (Ross, 1989). These subjective theories allow us to infer our previous attitudes and behaviors by using our current attitude or behavior as an initial estimate, which we then adjust according to our implicit theory for the respective content domain. This strategy results in correct reconstructions of our previous attitudes and behaviors to the extent that our implicit theory is accurate, and leads to systematic bias if our theory is inaccurate (see also Nisbett & Wilson, 1977).

In the absence of salient reasons to expect change, individuals typically assume a rather high degree of stability, resulting in underestimates of the degree of change that has occurred over time. Accordingly, retrospective estimates of income (Withey, 1954), or of tobacco, marijuana, and alcohol consumption (Collins, Graham, Hansen, & Johnson, 1985) were found to be heavily influenced by respondents' income or consumption habits at the time of interview. On the other hand, when respondents have reason to believe in change, they will detect change, even though none has actually occurred. For example, respondents who participated in a study skills training (that did not improve their skills on any objective measure), subsequently reported that their skills were considerably poorer before they participated in the program. Presumably, they used their belief in the effectiveness of the training program to infer what their skills must have been before they "improved" (Conway & Ross, 1984). Similarly, participants in a pain treatment program "remembered" more pain than they had recorded during a baseline period, again reflecting their belief in program induced change (Linton & Gotestam, 1983; Linton & Melin, 1982). As a final example, women's retrospective reports of menstrual distress (McFarland, Ross, & DeCourville, 1988) were found to be a function of their theory of the menstrual cycle: The more respondents believed that their menstrual cycle affected their well-being, the more their retrospective reports deviated from diary data obtained during the cycle.

Unfortunately, we know little about peoples' subjective theories of stability and

change at the societal level, but there is little reason to assume that the basic processes observed in reconstructions of one's personal past would not also operate in reconstructions of the past of one's society. Presumably, the major difference between theories of personal and of social change is that personal change is less likely to be a topic of public discourse than social change. If so, we may expect that societies develop shared theories about the changes they are undergoing, resulting in a high level of agreement in the reconstructions of the past offered by their citizens (cf. Schuman & Rieger, in press). Issues of this type present a fascinating agenda of research for "cognitive" as well as "social" social psychologists.

For the time being, we note that this line of reasoning also suggests a very cost-efficient social improvement program: To the extent that politicians can convince their electorate that things are really changing for the better, voters may detect evidence for this change by reconstructing their past, much as Conway and Ross (1984) have observed. After all, you can always get what you want by revising what you had.

### **The "How-Do-I-Feel-About-It?" Heuristic**

A heuristic that is particularly likely to be used in the domain of well-being judgments is based on one's momentary feelings. As Schwarz and Clore (1983) observed, respondents can simplify the evaluation of the quality of life by using their feelings at the time of judgment as an indicator of their well-being in general. In one of their studies, respondents were called on sunny or rainy days and were interviewed about their well-being. Not surprisingly, they reported being more satisfied with their "life as a whole" on sunny than on rainy days. This effect was eliminated, however, when their attention was drawn to possible impact of the weather on their current mood. Specifically, in one condition, the interviewer pretended to call from out of town and asked at the beginning of the interview, as a private aside, "By the way, how's the weather down there?". In that case, no difference in life-satisfaction emerged between sunny and rainy days, as shown in Figure 8.

Figure 8

Whereas several different mechanisms may result in mood effects on evaluative judgments (see Schwarz & Clore, 1988; Schwarz, 1990, for reviews), this discounting effect

indicates that respondents used their current mood as a direct basis of judgment. Rather than engaging in some complex comparison process, they used their current feelings as an indicator of their well-being in general, unless the informational value of their current feelings was called into question by directing their attention to the possible impact of the weather. Once they considered this transient and normatively irrelevant influence as a possible cause of their current feelings, the impact of their feelings on reported life-satisfaction was eliminated. Accordingly, a measure of current mood, assessed at the end of the interview, was correlated with reported life-satisfaction when the weather was not mentioned, but was uncorrelated when the weather was mentioned.

In more general terms, this and related studies (for a review see Schwarz & Clore, 1988) indicate that individuals may simplify evaluative judgments by asking themselves, "How do I feel about it?". In doing so, they use their apparent affective response to the target as a basis of judgment. However, in using this strategy, it is difficult to distinguish between one's affective response to the target and one's pre-existing mood state. As a result, people frequently misread their pre-existing feelings as a response to the target, resulting in more favorable evaluations under elated than under depressed moods. Mood effects of this type are not obtained, however, when the informational value of one's current feelings is called into question, in which case people have to resort to a different judgmental strategy.

As is the case for other heuristics (see Sherman & Corty, 1984, for a review), the use of the "How-do-I-feel-about-it?" heuristic is the more likely, the more burdensome the judgment would be to make otherwise. Hence, the use of this heuristic increases with increasing complexity of the judgment, increasing time pressure, and decreasing motivation (see Schwarz, 1990; Schwarz & Clore, 1988). Accordingly, mood effects are more likely to emerge on judgments of general life-satisfaction than on evaluations of any specific life-domain. This reflects that judgments of general life-satisfaction pose a very complex and rather ill-defined task. Which domains of life are we to consider? And against which standard do we want to evaluate each of them? And having made these domain evaluations, how are we to integrate their outcomes into one overall judgment? Facing this task, individuals resort to the use of their feelings as a heuristic strategy. In contrast, the relevant information and the appropriate standards of comparison are likely to be better defined for evaluations of specific life-domains, such as one's income, for example. Hence, pronounced mood effects are more likely to be obtained on the former rather than the latter judgments

(see Schwarz & Strack, 1991a).

For this reason, the same manipulation may affect judgments of general life-satisfaction and of specific life-domains in opposite directions. For example, an extremely positive event in domain X may induce good mood, resulting in reports of increased global well-being. However, the same event may also increase the standard of comparison used in evaluating domain X, resulting in judgments of decreased satisfaction with this particular domain. Such a differential impact of the same objective event may in part account for the weak relationships between global and specific evaluations as well as measures of objective circumstances that have frequently concerned sociological researchers in the subjective social indicators tradition (Campbell, 1981; Glatzer, & Zapf, 1984). A study by Schwarz, Strack, Kommer, and Wagner (1987, Experiment 2) bears on this conjecture. In this study, subjects were tested in either a pleasant or an unpleasant room, namely a friendly office or a small, dirty laboratory that was overheated and noisy, with flickering lights and a bad smell. To the extent that these rooms affect subjects' mood, subjects should report lower life satisfaction in the unpleasant than in the pleasant room. However, to the extent that the rooms serve as salient standards of comparison, subjects in the unpleasant room should also report higher housing satisfaction than subjects in the pleasant room. The results confirmed this prediction as shown in Figure 9.

Figure 9

In combination, these findings suggest that evaluations of complex targets are more likely to show mood effects than evaluations of more specific targets. Hence, it is not surprising that judgments of the future are particularly likely to show mood effects -- after all, the future is the time period about which we have the least substantive information. In most studies, people are unrealistically optimistic about their own future and about the outcomes it has in store for them. In general, we assume that positive things are more, and negative things less, likely to happen to ourselves than to happen to others. This optimism is increased when we are in an elated, and decreased when we are in a depressed mood (e.g., Johnson & Tversky, 1983).

**Feelings versus Thought Content:**

## How to Think About Life

In the above studies, respondents' mood was manipulated by some fortuitous event, such as the weather or an experimental room. Often, however, our feelings result from the things we think about, thus reflecting the valence of our thought content. In general, we feel good when we think pleasant thoughts, but we feel bad when we think unpleasant thoughts. In the beginning of this chapter, however, we reviewed a study by Strack et al. (1985, Experiment 1) which indicated that thinking about negative events in our past may actually increase our current life-satisfaction, by means of a comparison process. How are we to account for this apparent contradiction?

We propose that people rely on their feelings if they are pronounced and salient at the time of judgment, but use other salient information about their life in the absence of pronounced feeling states. The best evidence for this assumption comes from two experiments in which we manipulated the emotional involvement that subjects experienced while thinking about past life events. In one experiment (Strack et al., 1985, Exp. 2), we asked subjects to give either a short description of only a few words or to provide a vivid account of one to two pages in length. In the other study (Strack et al., 1985, Exp.3), subjects had to explain "why" the event occurred, or "how" the event proceeded. Explaining why the event occurred or providing a short description did not affect subjects' current mood, whereas "how" descriptions and vivid reports resulted in pronounced mood differences between subjects who reported positive and negative experiences.

When the recall task did not elicit pronounced feelings, recalling negative past events resulted in reports of higher current life-satisfaction than recalling positive past events, thus replicating the contrast effect reported earlier, as shown in Figure 10. When the recall task did elicit pronounced feelings, on the other hand, these feelings had an overriding effect: In that case, subjects who recalled negative past events reported lower well-being than subjects who recalled positive past events, replicating the mood effects found in other studies.

Figure 10

In combination, these findings demonstrate that the impact of an event is a joint function of its hedonic quality, its temporal distance, and the person's emotional involvement while thinking about the event. Simply knowing the hedonic quality of an event does not

allow a prediction of its impact in the absence of knowledge about other judgmental variables. At the same time, these findings provide some advice regarding the management of our well-being: If those negative memories of the past come to mind, make sure they remain abstract and your perception of the present may benefit from the resulting contrast. But if the good old days come to mind, flesh them out in detail to benefit from the warm glow of the good feelings they elicit.

### Conclusions

In combination, the research reviewed in this paper illustrates that assessments and evaluations of our previous, current, or future living conditions are unlikely to correspond closely to actual changes in reality. Whereas much remains to be learned about the judgmental processes involved, the available insights indicate that questions about the quality of life are fallible indicators of the subjective side of social change. The obtained answers are not a direct reflection of any stable inner state of the respondent, in contrast to what the pioneers of the social indicator movement hoped (see Campbell, 1981). Rather, these answers are to a large degree shaped by the research instrument, reflecting the impact of question context, framing, and other fortuitous variables.

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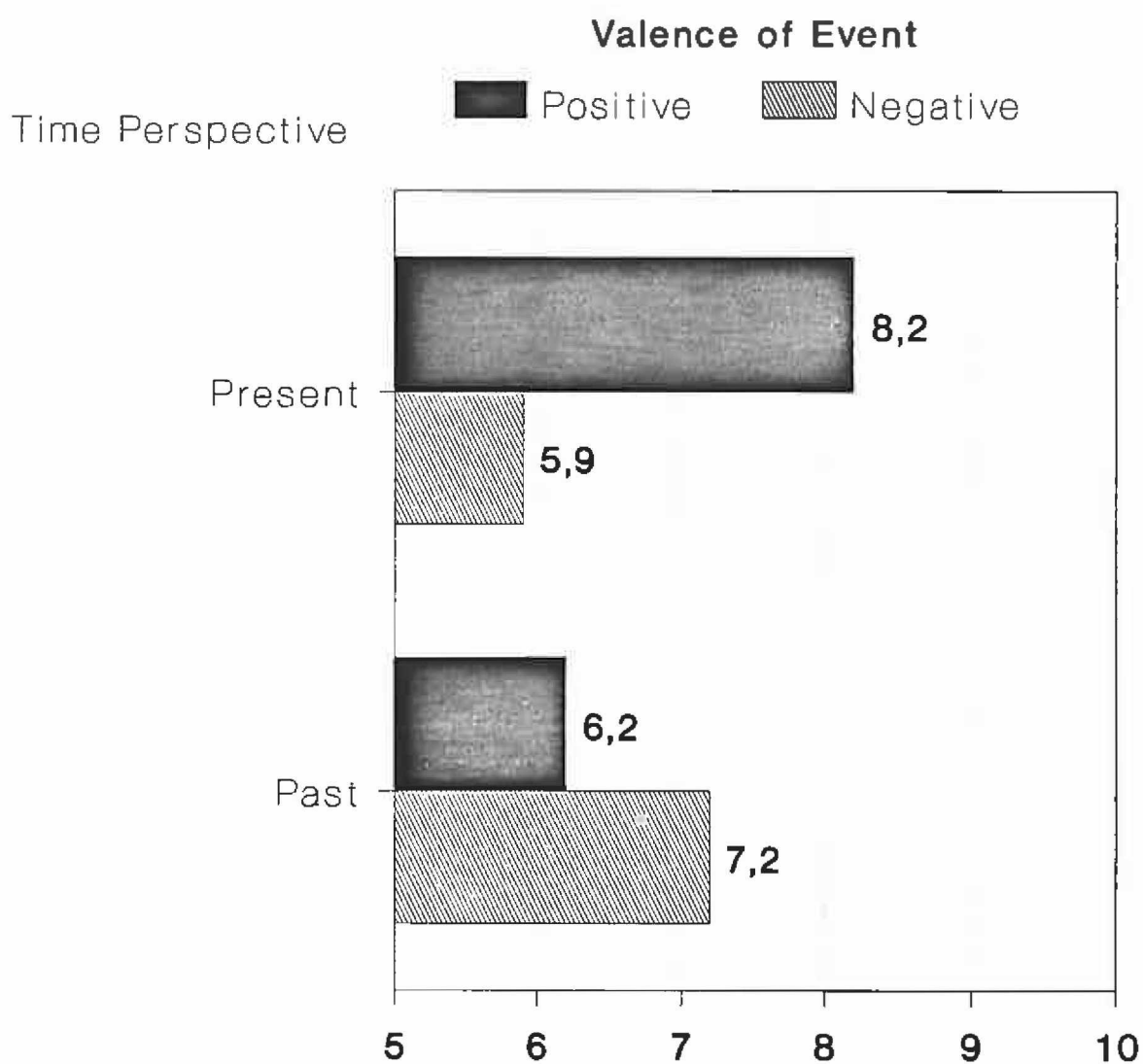
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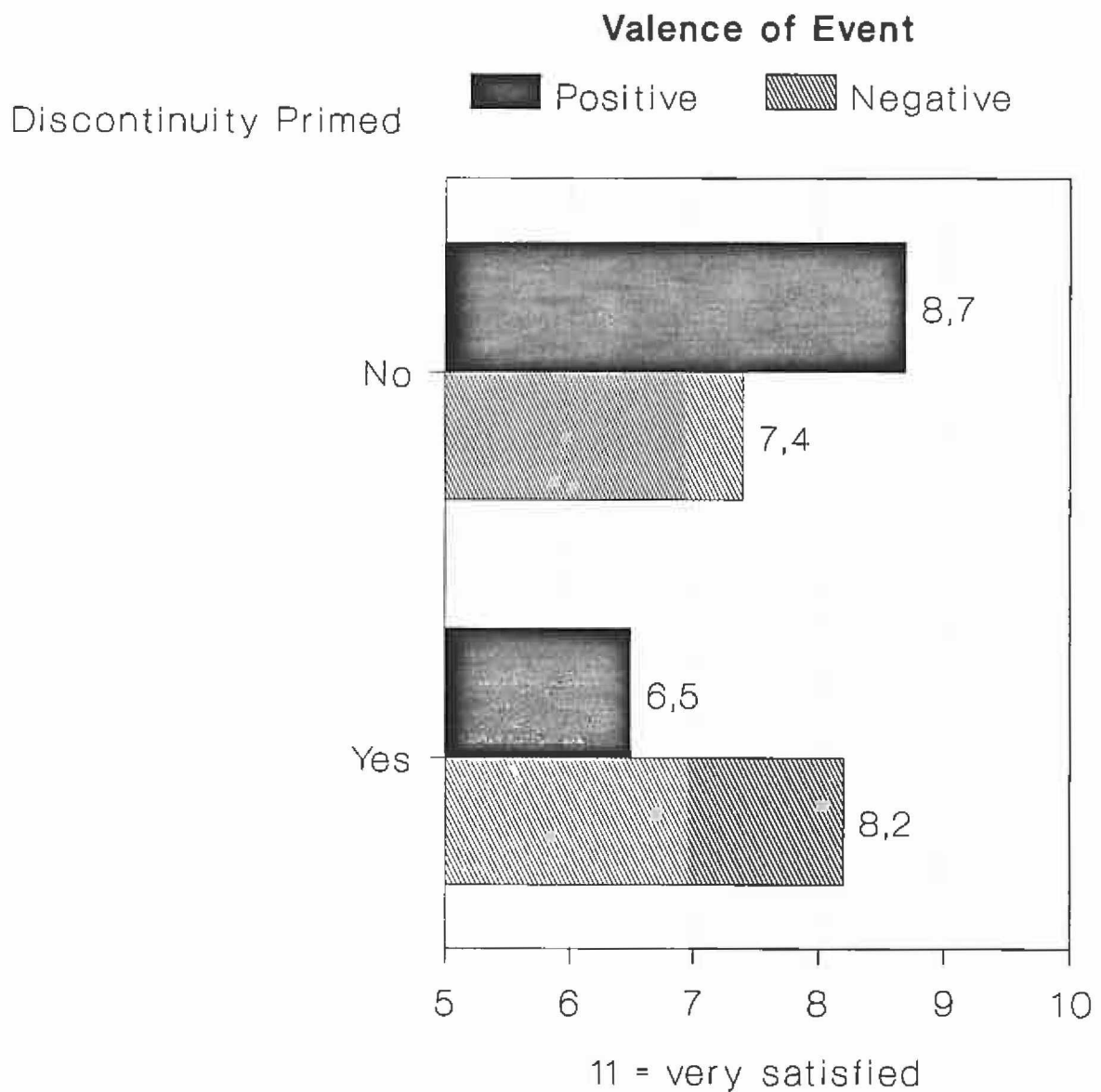
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# Subjective Well-Being & Categorization: Time Perspective



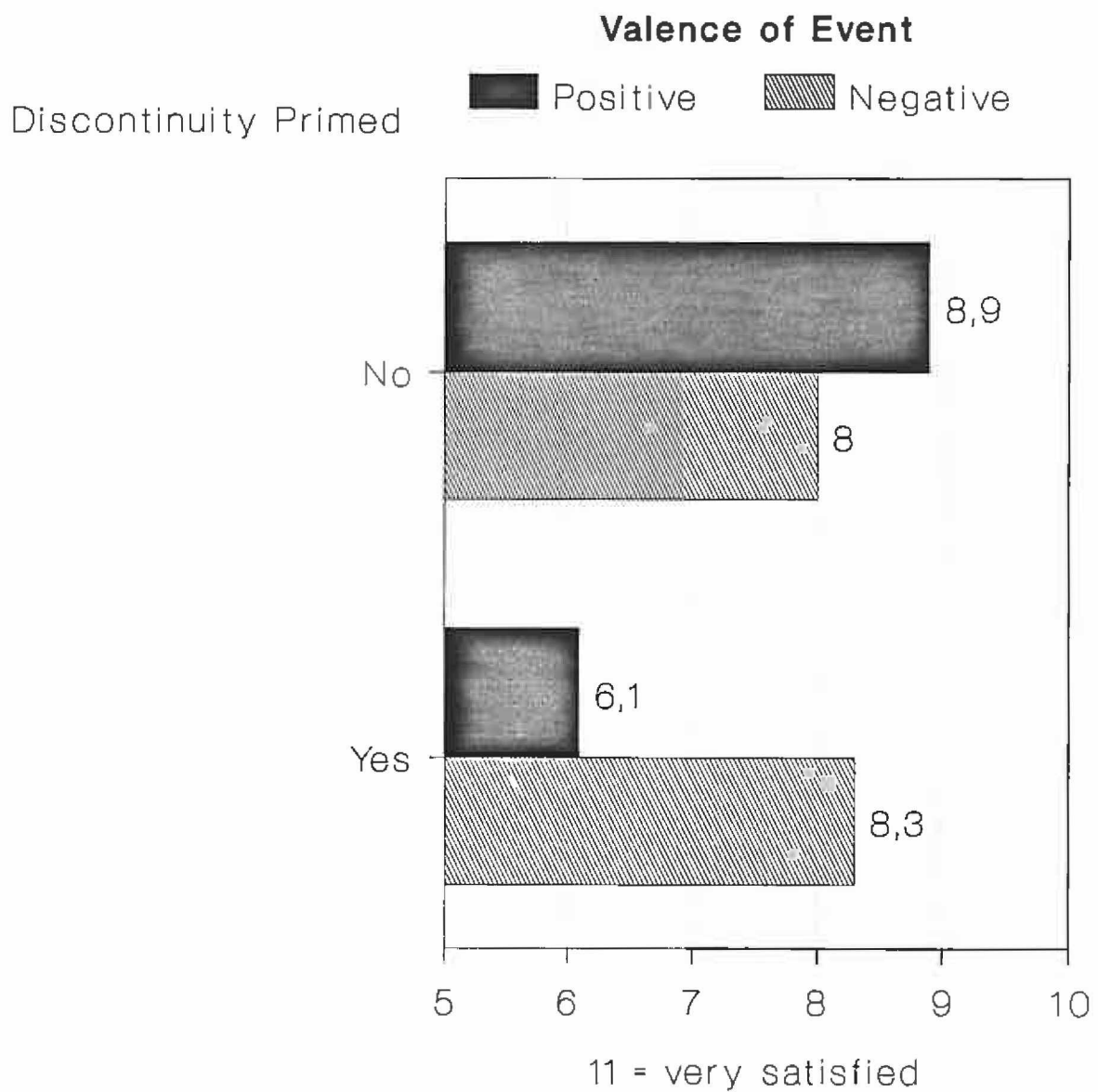
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*Schwarz & Kraft,  
unpublished*

# Subjective Well-Being & Categorization: Future Expectations



*Strack, Schwarz, & Nebel,  
unpublished*

# The Direction of Comparison: Its Impact on Feature Selection

**Target A**

a

b

c

d

e

f

**Target B**

d

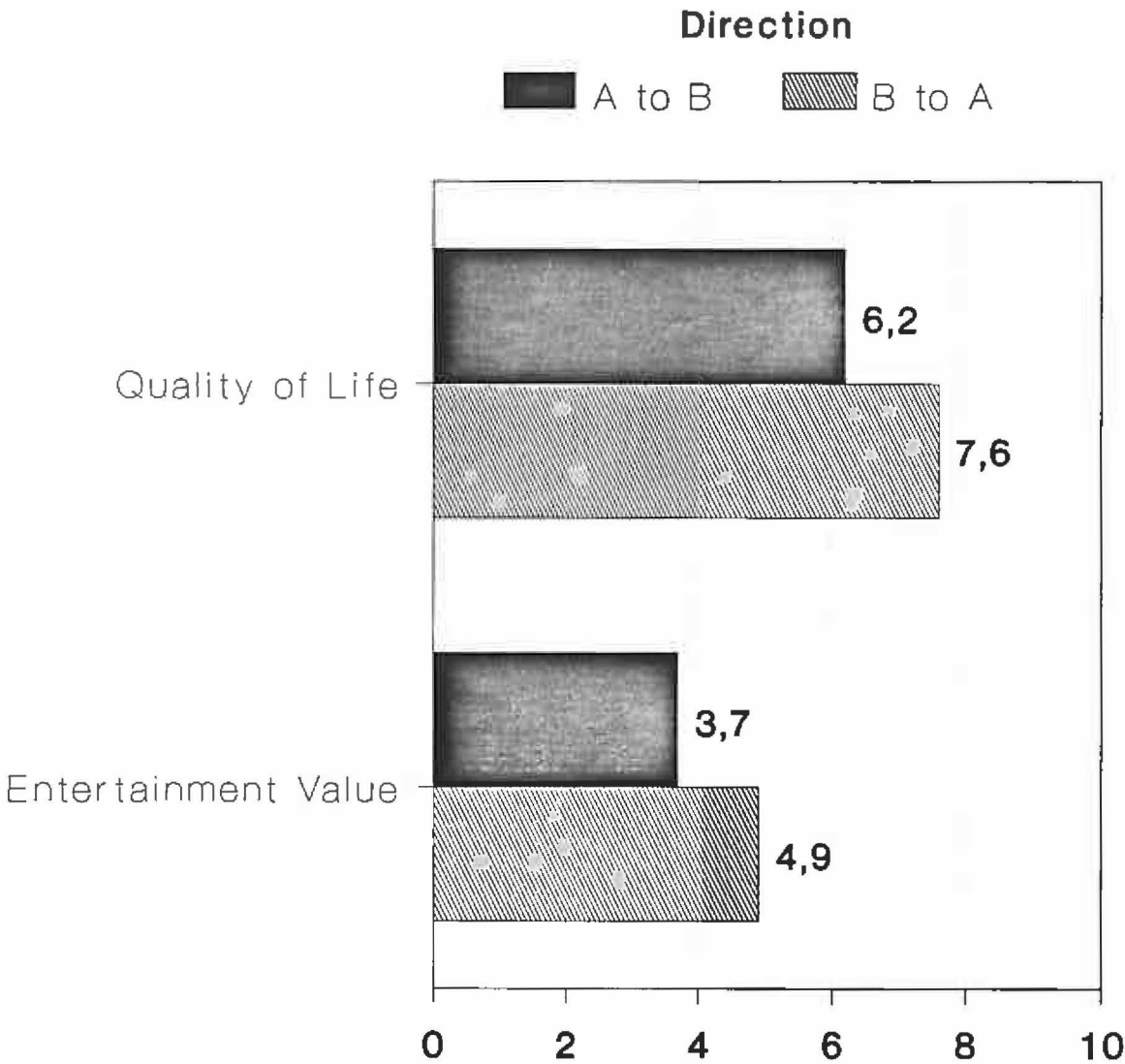
e

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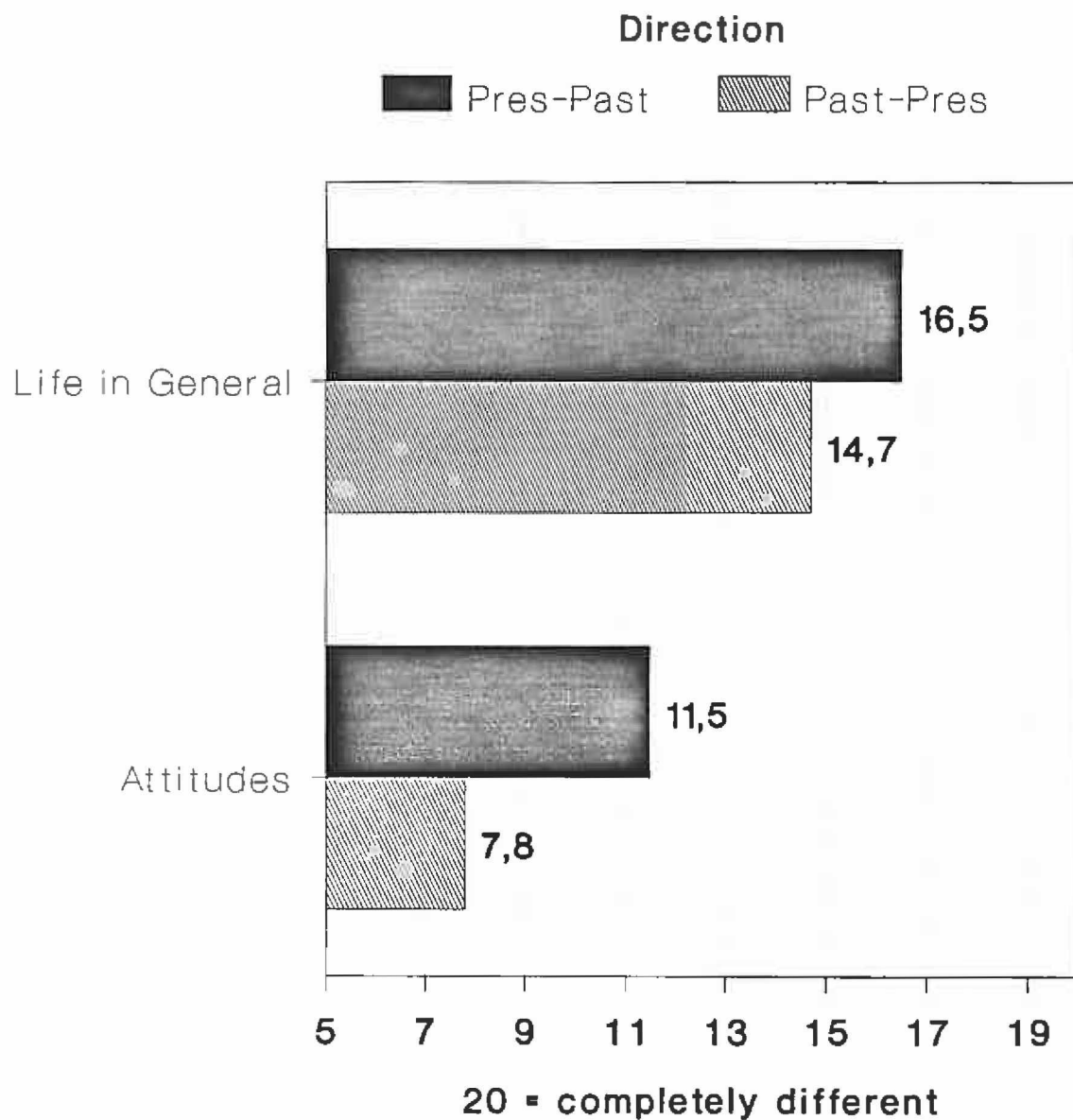
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# Direction of Comparison: Asymmetric Effects on Evaluation



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# Direction of Comparison: Similarity of Present and Past



*Dunning, Madey, & Parpal,  
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## The Ratio Principle

- (1) From July to October 1990, the rate of unemployment in east Germany increased from 4 to 8 percent.
  
- (2) From July to October 1990, the rate of employment in east Germany decreased from 96 to 92 percent.

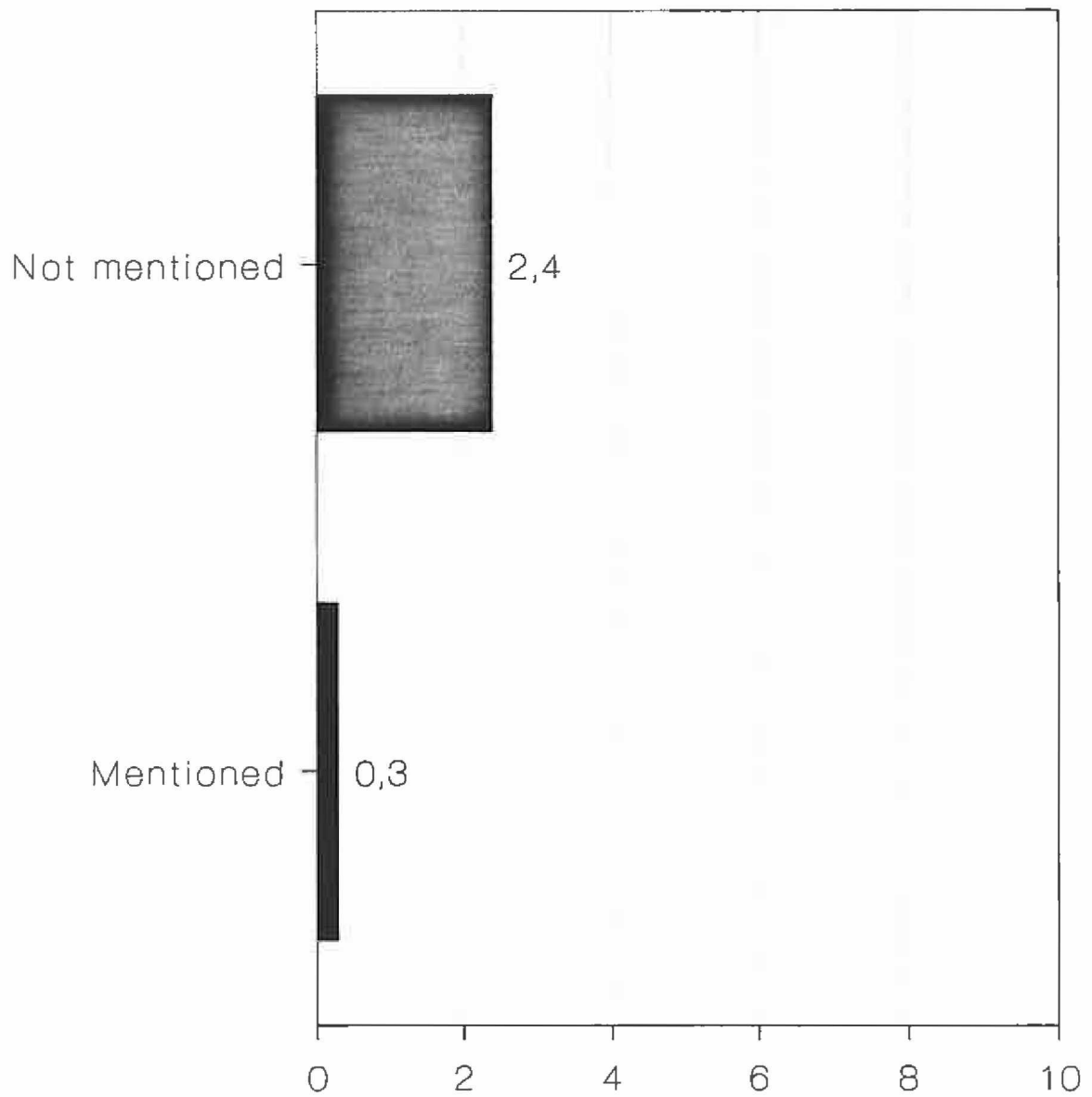
How concerned are you about this change?

(1 = not at all, 10 = very serious)

M's = 7.2 vs. 4.1

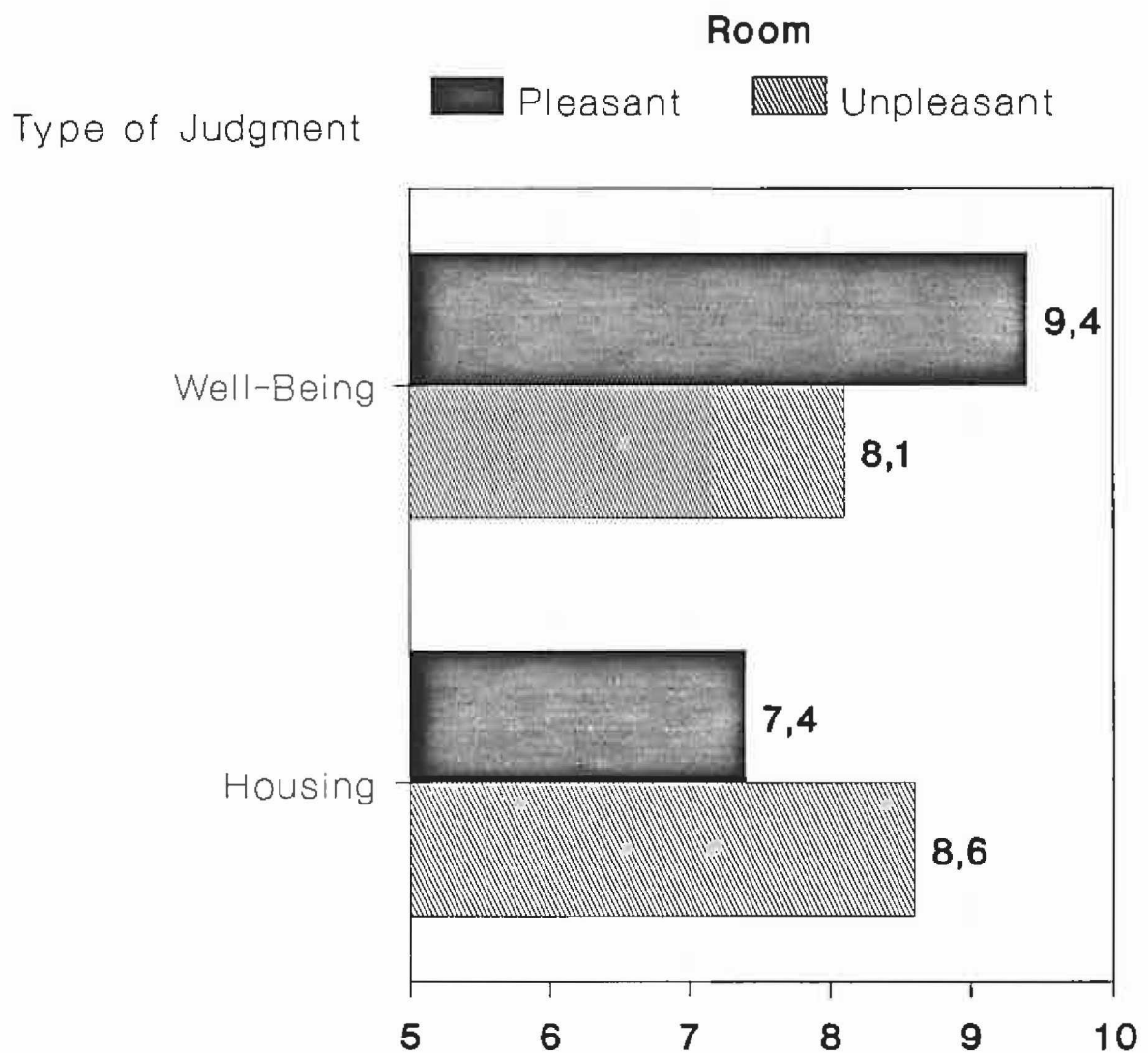
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Weather



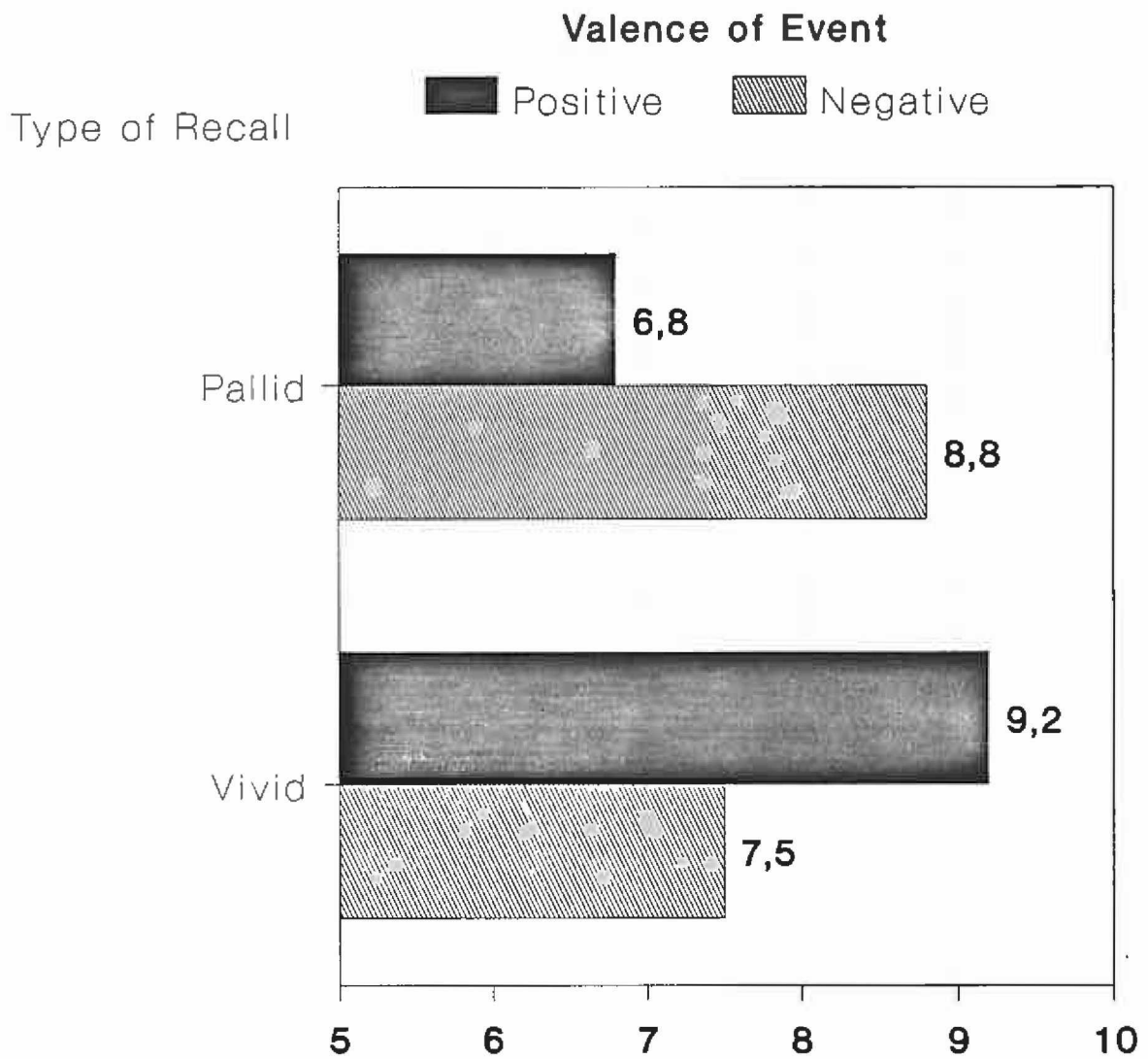
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## Global and Specific Judgments: Well-Being vs. Housing Satisfaction



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