

4 Reports of Subjective Well-Being: Judgmental Processes and Their Methodological Implications

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The cognitive and communicative processes underlying individuals' reports of happiness and satisfaction with their lives as a whole are reviewed in this chapter. Reports of subjective well-being (SWB) do not reflect a stable inner state of well-being. Rather, they are judgments that individuals form on the spot, based on information that is chronically or temporarily accessible at that point in time, resulting in pronounced context effects. The way in which accessible information about an individual's life influences the judgment depends on how it is used. Information that is used in forming a mental representation of the individual's life as a whole or of some extended episode results in assimilation effects, such as higher reports of SWB when a happy rather than sad event comes to mind. Information that is used in forming a standard of comparison results in contrast effects. In this case, the individual's life looks bland by comparison to a happy event. The variables that determine assimilation or contrast effects are identified. Given that the same event can increase or decrease an individual's judgment of SWB, depending on its use in the construal of the individual's life or of a standard, the relationship between objective events and subjective evaluations is necessarily weak. Hence, SWB cannot be predicted on the basis of objective circumstances, unless one takes the construal processes into account. In addition to information about his or her own past, present, or future, the individual may use information about others' lives in assessing the quality of his or her life. Although people often feel better when they compare themselves to others who are less well off, the specific outcome again depends on the specific nature of the mental construal. Individuals may simplify the complexities of evaluating their lives by drawing on their feelings at the time of judgment as a source of information. Hence, they report higher SWB when in a good rather than bad mood (and finding a dime is sufficient to increase temporarily one's life satisfaction). Moods are more likely to affect judgments

of general SWB than judgments of specific life domains. As a result, a particularly happy event in domain X may increase an individual's satisfaction with his or her life as a whole but decrease satisfaction with the specific domain by way of contrast. Such divergent influences decrease the relationship between global SWB and domain satisfaction. Public reports of SWB are often inflated owing to self-presentation concerns. Methodological implications are discussed.

MUCH OF WHAT we know about individuals' subjective well-being (SWB) is based on self-reports of happiness and life satisfaction. Since the groundbreaking studies of Bradburn (1969), Andrews and Whithey (1976), and Campbell, Converse, and Rodgers (1976), hundreds of thousands of survey respondents around the world have been asked questions like, "Taking all things together, how would you say things are these days—would you say that you are very happy, pretty happy, or not too happy?" or, "How satisfied are you with your life as a whole these days? Are you very satisfied, satisfied, not very satisfied, not at all satisfied?" Questions of this type are intended to assess the subjective quality of life in an attempt to monitor the subjective side of social change. These *subjective social indicators* supplement measures of the objective standard of living, which have long dominated welfare research in the social sciences.

As Angus Campbell (1981) noted, the "use of these measures is based on the assumption that all the countless experiences people go through from day to day add to . . . global feelings of well-being, that these feelings remain relatively constant over extended periods, and that people can describe them with candor and accuracy" (23). These assumptions have increasingly been drawn into question, however, as the empirical work has progressed. First, the relationship between individuals' experiences and objective conditions of life

and their subjective sense of well-being is often weak and sometimes counterintuitive. Most objective life circumstances account for less than 5 percent of the variance in measures of SWB, and the combination of the circumstances in a dozen domains of life does not account for more than 10 percent (Andrews and Whithey 1976; Kammann 1982; for a review, see Argyle, this volume). Second, measures of SWB have low test-retest reliabilities, usually hovering around .40, and not exceeding .60 when the same question is asked twice during the same one-hour interview (Andrews and Whithey 1976; Glatzer 1984). Moreover, these measures are extremely sensitive to contextual influences. Thus, minor events, such as finding a dime (Schwarz 1987) or the outcome of soccer games (Schwarz et al. 1987), may profoundly affect reported satisfaction with one's life as a whole. Most important, however, the reports are a function of the research instrument and are strongly influenced by the content of preceding questions, the nature of the response alternatives, and other "technical" aspects of questionnaire design (Schwarz and Strack 1991a, 1991b).

Such findings are difficult to reconcile with the assumption that subjective social indicators directly reflect stable inner states of well-being (Campbell 1981) or that the reports are based on careful assessments of one's objective conditions in light of one's aspirations (Glatzer and Zapf 1984). Instead, the findings suggest that reports of SWB are better conceptualized as the result of a judgment process that is highly context-dependent. This chapter reviews what is known about *how* persons determine whether they are happy with their lives as a whole or not. Our focus is on evaluations of one's life as a whole or of some extended episode of one's life, rather than the evaluation of single events (which is addressed in other chapters in this volume; see, for example, Kahneman). As will become apparent later, contextual influences do often have an opposite impact on evaluations of a specific event versus evaluations of an extended episode. A particularly dreadful event, for example, makes more moderate events look good by comparison (Parducci 1995), yet it decreases the evaluation of the episode of which it is a part (Strack, Schwarz, and Gschneidinger 1985). We note such discrepancies where appropriate but primarily focus on how people evaluate their "life as a whole," as survey questions ask them to do. Similarly, our review does not address how differences in personality may influence the judgmental processes of interest here (but see

the chapters in this volume by Cantor and Sanderson; Diener and Lucas; and Higgins, Grant, and Shah).

A PREVIEW

Not surprisingly, individuals may draw on a wide variety of information when asked to assess the subjective quality of their lives. Ross, Eyman, and Kishchuck (1986) explored the range of information used by asking respondents how they arrived at a judgment of SWB. They observed that explicit references to one's momentary affective state accounted for 41 to 53 percent of the reasons that various samples of adult Canadians provided for their reported well-being, followed by future expectations (22 to 40 percent), past events (5 to 20 percent), and social comparisons (5 to 13 percent). The experimental literature confirms the relevance of these different sources of information, and we address them in turn.

We first explore the impact of information about one's own life, such as past events or expectations about the future. This review indicates that the same event may increase as well as decrease general life satisfaction, depending on how information bearing on the event is used in forming a judgment. Next, we address the role of comparisons of one's own lot with the lot of others. Although people generally tend to feel better when they compare themselves to others who are worse off, the dynamics of social comparison are more complicated than early theorizing and common sense would suggest. Following these discussions of intra- and interindividual comparisons, we turn to the influence of temporary mood states and address how one's momentary feelings may override the impact of other information relevant to one's life. Finally, we integrate these processes in a judgment model of SWB before we turn to an assessment of the methodological implications for survey research into SWB.

USING INFORMATION ABOUT ONE'S OWN LIFE: INTRAINDIVIDUAL COMPARISONS

Comparison-based evaluative judgments require a mental representation of the object of judgment, commonly called a *target*, as well as a mental representation of a relevant *standard* to which the target can be compared. The chosen standard may be *intraindividual* (for example, a previous state

of one's life or one's expectations) or *interindividual* (the situation of close others or a relevant reference group). The outcome of the comparison process depends on (a) which information is used in constructing (b) the target or (c) the standard (Schwarz and Bless 1992a). We first address which of the many aspects of one's life are likely to be used in forming a judgment.

Which Information Is Used?

When asked, "Taking all things together, how would you say things are these days?" respondents are ideally assumed to review the myriad of relevant aspects of their lives and to integrate them into a mental representation of their life as a whole. In reality, however, individuals rarely retrieve all information that may be relevant to a judgment. Instead, they truncate the search process as soon as enough information has come to mind to form a judgment with sufficient subjective certainty (Bodenhausen and Wyer 1987). Hence, the judgment is based on the information that is most *accessible* at that point in time. In general, the accessibility of information depends on the recency and frequency of its use (for a review, see Higgins 1996). Information that has just been used—for example, to answer a preceding question in the questionnaire—is particularly likely to come to mind later on, although only for a limited time. This *temporarily accessible* information is the basis of most context effects in survey measurement and results in variability in the judgment when the same question is asked at different times (see Schwarz and Strack 1991b; Strack 1994a; Sudman, Bradburn, and Schwarz 1996, chs. 3 to 5; Tourangeau and Rasinski 1988). Other information, however, may come to mind because it is used frequently—for example, because it relates to the respondent's current concerns (Klinger 1977) or life tasks (Cantor and Sanderson, this volume). Such *chronically accessible* information reflects important aspects of respondents' lives and provides for some stability in judgments over time.

Accessibility

As an example, consider experiments on question order. Strack, Martin, and Schwarz (1988) observed that dating frequency was unrelated to students' life satisfaction when a general satisfaction question preceded a question about the respondent's dating frequency, $r = -.12$. Yet reversing the question order increased the correlation to

$r = .66$. Similarly, marital satisfaction correlated with general life satisfaction $r = .32$ when the general question preceded the marital one in another study (Schwarz, Strack, and Mai 1991). Yet reversing the question order again increased this correlation to $r = .67$. Findings of this type indicate that preceding questions may bring information to mind that respondents would otherwise not consider. If this information is included in the representation that the respondent forms of his or her life, the result is an assimilation effect, as reflected in increased correlations. Thus, we would draw very different inferences about the impact of dating frequency or marital satisfaction on overall SWB, depending on the order in which the questions are asked.

Theoretically, the impact of a given piece of accessible information increases with its extremity and decreases with the amount and extremity of other information that is temporarily or chronically accessible at the time of judgment (see Schwarz and Bless 1992a). To test this assumption, Schwarz, Strack, and Mai (1991) asked respondents about their job satisfaction, leisure time satisfaction, and marital satisfaction prior to assessing their general life satisfaction, thus rendering a more varied set of information accessible. In this case, the correlation between marital satisfaction and life satisfaction increased from $r = .32$ (in the general-marital satisfaction order) to $r = .46$, yet this increase was less pronounced than the $r = .67$ observed when marital satisfaction was the only specific domain addressed.

In light of these findings, it is important to highlight some limits for the emergence of question-order effects. First, question-order effects of the type discussed here are to be expected only when answering a preceding question increases the temporary accessibility of information that is not chronically accessible anyway. We would assume, for example, that respondents who are currently undergoing a divorce would consider their marriage independent of whether it was addressed in a preceding question or not. Second, the impact of information rendered accessible by preceding questions decreases with the amount and extremity of competing information. Hence, chronically accessible current concerns would limit the size of any emerging effect, and the more they do so, the more extreme the implications of these concerns are. This implies that question-order effects should be relatively small for respondents who are preoccupied with a current concern, but rather sizable for respondents who are not. If so, the differential

size of context effects may cloud actual differences in SWB. Unfortunately, data bearing on these possibilities are not available. Finally, information may be rendered temporarily accessible by other fortuitous events, such as what happens to be in the news (Iyengar 1987). From a methodological point of view, such influences are less problematic than the impact of question order. Most fortuitous events affect only a small subset of the sample, in particular when data collection extends over several weeks, as is typical for surveys. Question order, however, affects most members of the sample, thus introducing systematic bias.

Conversational Norms

Complicating things further, information rendered accessible by a preceding question may not always be *used*. In daily conversations, speakers are supposed to provide information that is new to the recipient, rather than to reiterate information that the recipient already has (Grice 1975; for more detailed discussions, see Schwarz 1994, 1996; Strack 1994b). Having just answered a question about her marriage, for example, a respondent may therefore assume that a subsequent question about her life in general pertains to new aspects of her life, much as if it were worded, "Aside from your marriage, how's the rest of your life?" Whether the general question is interpreted in this way or not depends on whether it is assigned to the same conversational context as the more specific question.

Partially Redundant Questions In the above studies (Strack et al. 1988; Schwarz et al. 1991), the conversational norm of nonredundancy was evoked by a joint lead-in that informed respondents that they would now be asked two questions pertaining to their well-being. Following this lead-in, they first answered the specific question (about dating frequency or marital satisfaction) and subsequently reported their general life satisfaction. In this case, the previously observed correlations of $r = .66$ between dating frequency and life satisfaction, or $r = .67$ between marital satisfaction and life satisfaction, dropped to $r = .15$ and $.18$, respectively. Thus, the same question order resulted in dramatically different correlations, depending on the elicitation of the conversational norm of nonredundancy. Consistent with this interpretation, a reworded version of the general question "Aside from your marriage, which you already told us about, how satisfied are you with other aspects

of your life?" resulted in a similar correlation with marital satisfaction, $r = .20$ (Schwarz et al. 1991). Again, we would draw very different substantive conclusions from the obtained data, depending on question order and the presence or absence of a joint lead-in that assigns both questions to the same conversational context.

The Redundancy of Highly Similar Questions In the earlier examples, a general question was rendered partially redundant when preceded by a more specific one that addressed a subset of the relevant information. The same logic, however, also applies to cases in which several highly similar questions are presented. Strack, Schwarz, and Wänke (1991) asked respondents to report their happiness as well as their satisfaction with life. When both questions were introduced as the last and first question of two different questionnaires, presented by two different researchers, both reports correlated $r = .96$. Moreover, respondents' mean happiness ratings ($M = 8.0$) did not differ from their mean satisfaction ratings ($M = 8.2$), suggesting that they did not differentiate between these concepts. Presumably, they assumed that two different researchers were asking the same thing in somewhat different words. When both questions were presented by the same researcher, however, one after the other in the same questionnaire, the correlation dropped to $r = .75$, and respondents reported higher happiness ($M = 8.2$) than satisfaction ($M = 7.4$). Thus, assigning both questions to the same conversational context elicited a differentiation because the two questions would otherwise have been redundant—Why would the same researcher ask both questions if they were not supposed to tap different aspects? These processes may underlie apparent inconsistencies in the relationship between reports of happiness and satisfaction and their respective predictors in different studies and may contribute to low test-retest reliabilities when the same question is reiterated within a short time span.

Summary

Judgments are based on the subset of potentially applicable information that is chronically or temporarily accessible at the time. Accessible information, however, may not be used when its repeated use would violate conversational norms of nonredundancy. Next, we turn to the different ways in which accessible information may influence a judgment.

MENTAL CONSTRUALS OF ONE'S LIFE AND A RELEVANT STANDARD: WHAT IS, WAS, WILL BE, AND MIGHT HAVE BEEN

The way in which chronically or temporarily accessible information about one's life affects the judgment depends on how it is *used* (Schwarz and Bless 1992a; Strack 1992). Suppose that an extremely positive (or negative) life event comes to mind. If this event is included in the temporary representation of the target "my life now," it results in a more positive (negative) assessment of SWB, reflecting an *assimilation effect*, as observed in an increased correlation in the studies discussed earlier. However, the same event may also be used in constructing a standard of comparison, resulting in a *contrast effect*: compared to an extremely positive (negative) event, one's life in general may seem relatively bland (or pretty benign). These opposite influences of the same event are sometimes referred to as endowment (assimilation) and contrast effects (Tversky and Griffin 1991). To understand the respective conditions of their emergence, we need to understand how individuals *use* accessible information.

The variables that determine the use of information in constructing standards and targets can be conceptualized in terms of several broad decisions a respondent has to make (for detailed discussions, see Schwarz and Bless 1992a; Strack 1992). The most important one is whether the information "belongs to," or is representative of, the target category (for our current purposes, "my life now"). Information that bears on a different episode of one's life, for example, or that seems extreme and unusual, will not be used in forming a representation of the target, thus making it available for constructing a standard.

What Is, Was, and Will Be: Is the Information Representative of My Life?

Information about one's life, such as specific life events, will be used in constructing a representation of one's current life only when it seems representative of the target. If the event is categorized as pertaining to a different episode of one's life, or as being unusual, it will serve as a standard of comparison, as a few examples may illustrate.

Temporal Distance Strack, Schwarz, and Gschneidinger (1985, Experiment 1) asked respondents to report either three positive or three negative recent life events, thus rendering these events tem-

TABLE 4.1 Subjective Well-Being: The Impact of Valence of Event and Time Perspective

	Valence of Event	
	Positive	Negative
Time perspective		
Present	8.9	7.1
Past	7.5	8.5
Category boundary		
Not salient	8.7	7.4
Salient	6.2	8.2

Source: Top panel adapted from Strack et al. (1985, Experiment 1). Copyright 1985 by the American Psychological Association. Bottom panel from Schwarz and Hippler (unpublished data).

Notes: For the mean score of happiness and satisfaction questions, the range is 1 to 11, with higher values indicating reports of higher well-being.

porarily accessible. As shown in the top panel of table 1, these respondents reported higher current life satisfaction after they recalled three positive rather than negative *recent* events. Other respondents, however, had to recall events that happened at least five years before. These respondents reported higher current life satisfaction after recalling negative rather than positive *past* events. This indicates that respondents included accessible recent events in the representation formed of their current lives but used distant events as a standard of comparison (see also Dermer et al. 1979; Tversky and Griffin 1991).

These experimental results are consistent with correlational data (Elder 1974) indicating that U.S. senior citizens, the "children of the Great Depression," are more likely to report high subjective well-being the more they suffered under adverse economic conditions when they were adolescents. The accumulation of negative experiences during childhood and adolescence presumably established a baseline against which all subsequent events could only be seen as an improvement. Portraying the other side of the coin, Runyan (1980) found that the upwardly mobile recollected their childhood as less satisfying than did the downwardly mobile, presumably because they used their current situation in evaluating their past.

Chunking the Stream of Life: Category Boundaries Whereas the use of life events was determined by their temporal distance in the above studies, other variables may similarly influence how the stream of life is chunked into discrete units. One of these variables is the salience of relevant transition

points. For example, Schwarz and Hippler asked first-year students to report a positive or negative event that "happened two years ago." As shown in the second panel of table 1, this again resulted in an assimilation effect on current life satisfaction. Other students, however, were subtly alerted to a major role transition, namely, their change from high school to university status. Specifically, they were asked to report a positive or negative event that "happened two years ago, *that is, before you came to the university.*" These respondents reported lower life satisfaction after recalling a positive rather than a negative event, indicating that their identification of the event as a "high school" event resulted in its use as a standard of comparison.

Similarly, thinking about positive or negative events that might happen in the future resulted in assimilation effects on current life satisfaction (Strack, Schwarz, and Nebel unpublished data). Yet reminding the student respondents that they would meanwhile have left the university again reversed the pattern, resulting in a contrast effect. Hence, positive expectations about the future can increase as well as decrease current SWB, depending on their use in the judgment process.

Extremity Similarly, extreme events may seem unusual and not representative of how one's life is going in general. They may therefore be excluded from the representation formed and serve as standards of comparison. If so, extreme and unusual events are likely to result in contrast effects, at least after some time has passed (thus providing temporal distance) and their immediate emotional impact (to be addressed later) has waned. Although such exclusion processes have been observed in other domains of judgment (Herr, Sherman, and Fazio 1983; Herr 1986; for a discussion, see Schwarz and Bless 1992a, 230–31), the relevant studies in the domain of SWB are limited to evaluations of specific other events in people's lives, not evaluations of their lives as a whole.

Category Width: Judgments of Specific Events Versus Life as a Whole Importantly, a highly positive (negative) event is likely to affect judgments of other specific events and judgments of one's life as a whole in opposite directions. This suggests that the event can be included in the representation formed of one's life in general (a "wide" target category), resulting in assimilation effects. However, it cannot be included in the representation formed of another specific event (a "narrow" target category), and hence it serves as a standard of

comparison, resulting in contrast effects. In an initial test of the impact of category width, Schwarz and Bless (1992b) had respondents think about a politician who was involved in a scandal (say, Richard Nixon). This decreased judgments of the trustworthiness of politicians in general, reflecting that the exemplar could be included in the representation formed of the group. However, it increased judgments of the trustworthiness of all other individual politicians assessed, reflecting that a given exemplar cannot be included in the representation of other exemplars—after all, Bill Clinton is not Richard Nixon, and compared to Richard Nixon, Bill Clinton looks fine.

Consistent with this notion, thinking about a negative (positive) event *decreased* (increased) reported satisfaction with one's life as a whole in the examples reviewed earlier, unless the temporal distance of the event or the salience of the category boundary elicited its exclusion from the representation formed. In contrast, Parducci (1995; see also Smith, Diener, and Wedell 1989) observed that an extreme negative (positive) event *increased* (decreased) satisfaction with subsequent modest events (see Kahneman, this volume, for a more detailed discussion). Thus, the occasional experience of extreme negative events facilitates the enjoyment of the modest events that make up the bulk of our lives, whereas the occasional experience of extreme positive events reduces this enjoyment (for an extensive review, see Parducci 1995).

Hence, what we conclude about the impact of extreme events on individuals' subjective well-being will often depend on the measure we use. When we draw on self-reports of satisfaction with life as a whole (a "wide" category), we are likely to observe assimilation effects because the extreme event will be included in the representation formed, unless its exclusion is triggered by one of the variables discussed earlier. Accordingly, we would conclude that the experience of extreme positive events increases, and the experience of extreme negative events decreases, overall life satisfaction. As an alternative, however, we may draw on moment-to-moment measures of hedonic experience, as suggested by Parducci (1995) (and others), who proposed that happiness is "the balance of pleasure over pain" (9). This approach is based on evaluations of specific hedonic events, which are likely to show contrast effects. Accordingly, we would conclude that individuals had better avoid extremely positive experiences because they reduce the overall balance of pleasure over pain, whereas occasional negative experiences en-

hance this balance (for recommendations on which experiences we should seek or avoid, see Parducci 1995). Given that both sets of findings are reliably replicable, self-assessments of general well-being and measures of moment-to-moment hedonic experience are likely to diverge under many conditions.

Summary In combination, the reviewed research illustrates that the same life event may affect judgments of SWB in opposite directions, depending on its use in the construction of the target "my life now" and of a relevant standard of comparison. It therefore comes as no surprise that the relationship between life events and judgments of SWB is typically weak. Today's disaster can become tomorrow's standard, making it impossible to predict SWB without a consideration of the mental processes that determine the use of accessible information. Whereas the results of our experimental manipulations illustrate the power of these processes, we know little about how people spontaneously parse the stream of life events into discrete chunks. Exploring this issue provides a promising avenue for future research at the interface of autobiographical memory and social judgment.

What Might Have Been: Counterfactuals

So far, we have seen that the way people think about *actual* outcomes may influence their judgments of SWB (as well as their momentary mood, to be addressed in a later section). In a different line of research, it has been observed that the mental construction of *fictitious* outcomes may have similar effects.

Assume that for some trivial reason a person misses the plane for which she had a reservation, and then learns that this very plane has fatally crashed. Although everybody who was not on the plane has reason to be relieved, this person is more likely to experience relief because she had *almost* been a victim. Conversely, assume a car driver has to endure a long wait at a construction site and misses an important business appointment. This driver may experience anger and self-blame if he focuses on the possibility that he *would have* arrived in time had he not deviated from his usual route to work. In both cases, *what might have been* serves as a standard that influences the assessment of the actual event.

The antecedents and consequences of our constructions of "what might have been" (Roese and

Olson 1995a) have been investigated in a research program on counterfactual thinking (Kahneman and Miller 1986; Miller, Turnbull, and McFarland 1990; Roese 1997; Roese and Olson 1995b; Wells and Gavanski 1989). This work is based on the insight that when outcomes deviate from norms or expectancies, people construct the normative outcome as an alternative (Kahneman and Miller 1986). The likelihood of this construction depends on the ease with which an actual abnormal event can be mentally converted into the counterfactual normative outcome. If only a minor aspect of the actual outcome needs to be altered, counterfactual thinking is more likely than if some fundamental components need to be changed. For example, our lucky passenger should be more likely to see herself as a potential victim of the plane crash if the change of reservation was a spontaneous decision, made immediately before boarding the plane, than if it was a deliberate action taken several days earlier. As a consequence, more relief would be experienced in the former than in the latter case.

Counterfactual thinking can influence affect and subjective well-being in several ways (see Roese 1997; Roese and Olson 1995b). First, the mental construction of the normative outcome provides a *standard of comparison* against which the actual outcome can be evaluated, resulting in contrast effects. This is more likely the easier it is to construct the counterfactual. For example, winners of Olympic bronze medals reported being more satisfied than silver medalists (Medvec, Madey, and Gilovich 1995), presumably because for winners of bronze medals, it is easier to imagine having won no medal at all (a "downward counterfactual"), while for winners of silver medals, it is easier to imagine having won the gold medal (an "upward counterfactual"). As a further consequence of this comparison, bronze medalists can be expected to experience more joy, while silver medalists may be more likely to experience disappointment.

Second, counterfactual thinking may suggest specific *causal implications* that influence judgments and affective experiences (Roese 1997). As observed in numerous studies (for a review, see Weiner 1985), causal attributions determine specific emotions. It is therefore not surprising that different explanations of why the abnormal outcome occurred, rather than its normative alternative, may elicit different reactions. For example, a surprising failure is more likely to raise hope for future improvement if it is attributed to transient

circumstances rather than to stable personality characteristics (Boninger, Gleicher, and Strathman 1994).

Finally, our feelings may be influenced by the very act of *explaining* the abnormal outcome. Specifically, counterfactual thinkers may ruminate about the cause of the abnormal event and mentally try to undo what has happened. Continuous thoughts of "if only . . ." and "why me . . ." may dominate the person's cognitive activity and lead to self-pity and depression (see Martin and Tesser 1989). Such a prevalence of counterfactual rumination may result from two related aspects of counterfactual reasoning. On the one hand, counterfactual thinking is most likely when the normative outcome is easily constructed; hence, the counterfactual may intrude on people's thinking whenever the abnormal outcome comes to mind. At the same time, the superficial aspects of an abnormal event that elicit its counterfactual alternative are rarely the best candidates for a causal explanation. Thus, by directing attention to the normative outcome, aspects of the abnormal event deny themselves as plausible causes.

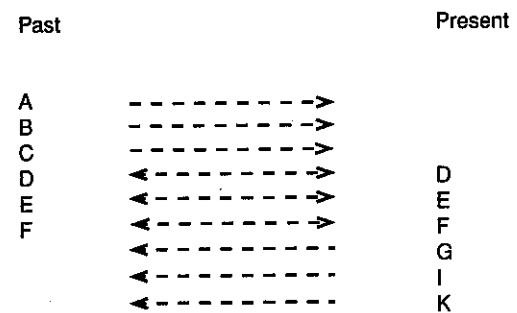
In summary, judgments of SWB can be profoundly influenced by mental constructions of what might have been. Hence, the impact of a given event will be more pronounced the easier it is to imagine that things could have turned out otherwise.

Direction of Comparison

So far, we have reviewed different intraindividual standards of comparison—pertaining to what is, was, will be, or might have been—and focused on the processes that determine whether a given piece of information is used in forming a representation of the target or of the standard. Next, we need to consider an additional, and somewhat counter-intuitive, complication. On logical grounds, we should assume that comparing *X* to *Y* results in the same outcome as comparing *Y* to *X*. For example, when our present situation (*X*) is better than our past situation (*Y*), we should be pleased no matter whether we compare the present to the past or the past to the present. Yet the specific information we actually draw on is likely to differ in these two cases, resulting in different outcomes.

This possibility is suggested by Tversky's (1977; Tversky and Gati 1978) research into similarity judgments and has recently been confirmed for comparison processes (Dunning, Madey, and Parpal 1995; Wänke, Schwarz, and Noelle-Neumann

FIGURE 4.1 Asymmetries in Feature Comparison



1995; Schwarz, Wänke, and Bless 1994). Suppose, for example, that a respondent's representation of the past includes features A through F, as shown in figure 4.1, whereas her representation of the present includes features D through K.

According to Tversky's (1977) model of similarity judgments, a comparison of the past to the present would involve the respondent's assessment of whether features A through F are also part of the present. The features G through K, which are part of the present 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 through K. However, the features A through 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.

Such judgmental asymmetries are particularly pronounced when the to-be-compared targets are represented in differential detail (Srull and Gaelick 1984; Tversky 1977). For example, Dunning et al. (1995) suggested that people may possess a rich array of information about the present that they may have forgotten about the past. If so, our representation of the present would include a larger set of unique features than our representation of the past. Hence, we should detect more unique features when comparing the present to the past, rather than the past to the present, and thus conclude that more change has occurred in the former than in the latter. Dunning, Madey, and Parpal's (1995) results confirmed this prediction.

While such findings alert us to the impact of differences in question wording (for a methodological discussion, see Wänke et al. 1995), they also suggest some troublesome (but as yet untested)

e Comparison

Present

D
E
F
G
I
K

(1994). Suppose, representation of gh F, as shown entation of the h K. model of sim- the past to the ent's assessment are also part of gh K, which are past, are likely to e. Conversely, a e past would be K. However, the acterize the past rgely unnoticed. comparison pro- whether we come present to the are particularly pared targets are Srull and Gaelick e, Dunning et al. ay possess a rich resent that they st. If so, our rep- include a larger representation of ect more unique resent to the past, at, and thus con- red in the former dey, and Parpal's diction. the impact of dif- r a methodologi- 1995), they also as yet untested)

implications for the comparisons we are likely to make spontaneously. Of course, in making our own spontaneous assessments, we may, in principle, use either direction of comparison. In most cases, however, our spontaneous attempts to assess the quality of life are likely to be triggered by some current problem. If so, the current problematic situation is in the focus of our attention, making it likely that we compare the current situation to some previous (or counterfactual) state of affairs, rather than vice versa. Owing to the logic of the comparison process, the outcome of this enterprise is bound 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 may escape our attention, contributing to the impression that the past was the time of the "good old days" (for a more detailed discussion, see Schwarz et al. 1994).

The Outcome of Comparisons: The Differential Impact of Losses and Gains

Finally, let us turn to the outcomes of the comparisons we make. Whichever of the above standards we use, the comparison may tell us that our actual situation either falls short of the chosen standard or exceeds it. Unfortunately, the former observation is likely to have a more pronounced impact on judgments of SWB than the latter, reflecting a general tendency to give more weight to perceived losses than to gains. This is particularly likely when we make intraindividual comparisons across time, but it has also been observed for comparisons with others (Brandstätter 1998). As described in Kahneman and Tversky's (1979) prospect theory, the value function for losses is steeper than the value function for gains. Hence, gains and losses of an equal magnitude may not result in "zero net change." Rather, the steeper value function for losses implies, for example, that a \$100 increase in rent, which constitutes a loss relative to the reference point of one's previous rent, has a higher impact on one's subjective sense of economic well-being than an apparently equivalent pay raise of \$100, constituting a gain relative to one's previous income. As a result, the net effect of both changes would not be neutral but negative. Accordingly, the gains must far exceed the losses to result in an overall sense of improvement, and relatively large

improvements may be offset by comparatively smaller losses.

Again, however, the specific outcome is likely to depend on the mental representations formed. If the wording of the judgment task induces respondents to balance their separate mental accounts (Thaler 1985) for rent and income prior to evaluation of the net result, they may indeed perceive zero change. Thus, the parsing of reality into different chunks is again likely to affect the judgmental outcome, as we have seen in the preceding discussion (see Schwarz et al. 1994).

What Gets Lost: Duration Neglect

In combination, the discussion in the preceding sections suggests that nearly any aspect of one's life can be used in constructing representations of one's "life now" or a relevant standard, resulting in many counterintuitive findings. Sometimes, however, the surprises do not result from what is used in which way, but from what is neglected.

Common sense suggests that misery that lasts for years is worse than misery that lasts only for a few days. Hence, the evaluation of a given episode should depend not only on the episode's hedonic valence but also on its duration. Recent research suggests, however, that people may largely neglect the duration of the episode, focusing instead on two discrete data points, namely, its most intense hedonic moment ("peak") and its ending (Fredrickson and Kahneman 1993; Varey and Kahneman 1992). Hence, episodes whose worst (or best) moments and endings are of comparable intensity are evaluated as equally (un)pleasant, independent of their duration (for a more detailed discussion, see Kahneman, this volume).

Although the available data are restricted to episodes of short duration, it is tempting to speculate about the possible impact of duration neglect on the evaluation of more extended episodes. If duration neglect applies to extended episodes, we may expect, for example, that three years of economic hardship may not seem much worse in retrospect than one year, provided that the peak and end values of both episodes are comparable. In addition, we may speculate that the level of hardship at points other than the peak and the end may prove irrelevant as well. By the same token, the degree of variation within an episode should prove largely irrelevant when the changes occur gradually and are not marked by salient events. On the other hand, if the changes are pronounced, or are marked by some salient event, the episode may be broken

down into a series of shorter episodes, with each one having its own peak and end. Moreover, retrospective evaluations should crucially depend on the hedonic value experienced at the end of the respective episode. Thus, a period of ten years of scarcity may benefit from some improvement in the final year to a much larger extent than the relative durations would seem to justify, whereas a decline at the end may cloud longer periods of relative well-being. Assuming some variation over time, the hedonic value of the end of the episode is likely to depend on the specific boundary chosen, which may be a function of other, rather fortuitous events, including the context provided in the research situation. Accordingly, not only may the choice of category boundaries determine what we include in the representation of the respective episode, as discussed earlier, but the chosen end of the episode may also determine what will be given special weight in evaluating the episode as a whole. Unfortunately, the limited data available do not yet allow us to assess these possibilities.

Summary

As our selective review illustrates, judgments of SWB are not a direct function of one's objective conditions of life and the hedonic value of one's experiences. Rather, they crucially depend on the information that is accessible at the time of judgment and how this information is used in constructing mental representations of the to-be-evaluated episode and a relevant standard. This standard may reflect previous states of affairs (what was), expectations about the future (what will be), counterfactual alternatives (what might have been), or the lot of others (to be addressed later). As we have seen repeatedly, how individuals parse the stream of life into discrete units determines whether the event is included in the episode, resulting in an assimilation effect, or excluded from the episode, resulting in a contrast effect. Moreover, the direction of comparison chosen, or suggested by the wording of the question, influences which features are likely to be considered. One feature that is likely to be neglected in retrospective evaluations is the duration of the episode, reflecting reliance on a peak-and-end rule. Finally, the perception that one's current situation falls short of the standard is likely to have a more pronounced impact than the perception that it exceeds the standard to the same degree, reflecting that losses loom larger than gains.

As a result of these construal processes, judgments

of SWB are highly malleable and difficult to predict on the basis of objective conditions. Hence, it is not surprising that the relationship between the objective conditions of life and their subjective evaluation is weak and often counterintuitive. Theoretically, we may expect that this relationship is more pronounced, and more straightforward, in a person who is preoccupied with a current concern, such as a severe illness. This concern would presumably be chronically accessible in memory and would hence come to mind independent of whether it has been addressed in preceding questions. Moreover, it would be likely to be included in the representation formed of one's current situation, reflecting its numerous links to other aspects of daily life. Even under these conditions, however, the current concern may be deliberately disregarded, for example, when its repeated consideration would violate norms of conversational conduct. Moreover, the evaluation would still shift as a function of the standard of comparison used, as research into social comparison illustrates. We turn to this work next.

USING INFORMATION ABOUT OTHERS: SOCIAL COMPARISONS

Obviously, the range of potentially relevant standards is not restricted to those aspects of one's own life that pertain to what was, will be, or might have been, all of which may serve as *intraindividual* standards. Rather, *interindividual standards* provided by information about others' lives may have similarly pronounced effects on judgments of SWB. In this section, we address different interindividual standards and the determinants of their use in real life and in research situations.

Choosing Comparison Others: Downward, Upward, and Lateral Comparisons

Not surprisingly, we may feel better about our lives when we compare ourselves to others who are less well off (a *downward comparison*) than when we compare ourselves to others who are better off (an *upward comparison*). In fact, the more people assume that their own living conditions are better than those of others, the more satisfaction they report (see Campbell et al. 1976; Carp and Carp 1982), although such correlational findings do not unequivocally bear on the causal role of comparison processes. However, the causal impact of comparison processes has been well supported

in laboratory experiments that exposed respondents to relevant comparison standards, further illustrating that respondents are likely to draw on whatever information is most accessible at the time of judgment (for reviews, see Miller and Prentice 1996; Wills 1981; Wood 1989). For example, Strack and his colleagues (1990) observed that the mere presence of a handicapped confederate was sufficient to increase reported SWB under self-administered questionnaire conditions, presumably because the confederate served as a salient standard of comparison. Consistent with this accessibility principle, numerous studies found that temporarily accessible standards can override chronically accessible standards (for a review, see Miller and Prentice 1996). For example, most people are presumably very familiar with societal standards of physical attractiveness. Nevertheless, exposing research participants to photographs of highly attractive women has been found to decrease women's self-assessments of their own physical attractiveness (Cash, Cash, and Butters 1983), as well as men's satisfaction with the attractiveness of their romantic partner (Kendrick and Gutierrez 1980).

However, recent naturalistic studies suggest a more complicated picture (for a review, see Taylor, Wayment, and Carrillo 1996). Under unconstrained conditions, respondents may engage in downward, upward, or lateral comparisons; moreover, the impact of any comparison standard may change over time and affect different dependent variables in different ways. These complications suggest that self-initiated social comparisons may serve a variety of different functions.

Self-Assessment First, social comparisons may serve a self-assessment function, as initially proposed by Festinger (1954), who assumed that assessments of one's own abilities and outcomes are best served by comparisons with similar others (lateral comparisons). Specifying what exactly determines whether another is sufficiently similar to serve as a relevant comparison other has been one of the vaguest points of social comparison theory—and indeed, the accessibility principle illustrated earlier guarantees that relatively dissimilar, but highly salient, others may often be chosen. In general, however, “given a range of possible persons for comparison, someone who should be close to one's own performance or opinion, given his standing on characteristics related to and predictive of performance or opinion, will be chosen for comparison” (Goethals and Darley 1977,

265). This “related attributes” hypothesis is empirically well supported (for a review, see Miller and Prentice 1996), although it is often difficult to specify a priori which attributes will be considered “relevant and predictive.”

Self-Enhancement Second, social comparisons may serve a self-enhancement function, which is most easily satisfied by downward comparisons with someone who is less well off (Wills 1981), as seen in Strack and his colleagues' (1990) finding that the mere presence of a handicapped confederate may increase reports of SWB. Note, however, that such downward comparisons should be comforting only when we can assume that the other's unfortunate state does not provide a glimpse at our own future. A person who has been diagnosed as HIV-positive, for example, may derive little comfort from exposure to a person with advanced AIDS. Hence, the outcome of downward comparisons depends on the perceived mutability and controllability of the relevant outcome, as well as the time frame employed and the individual's sense of self-esteem (see Major, Testa, and Bylsma 1991; Taylor et al. 1996). If the outcome is mutable and controllable, and one's own self-esteem suggests one has the necessary skills, downward comparisons do indeed increase an individual's sense of SWB. If the outcome is uncontrollable, or one perceives a lack of relevant skills, downward comparisons may be comforting only in the short term and in fact may elicit a sense of despair about the likely future development. Much as we have seen for the impact of information about one's own life, it is not the information about the other's situation per se that determines the outcome, but the use of this information in constructing representations of one's own present or future situation and a relevant standard.

Moreover, researchers may have overestimated the prevalence of downward comparisons, as Taylor, Wayment, and Carrillo (1996) noted. Although people typically report that they are better off than others, even under very unfortunate circumstances (Taylor and Brown 1988), more detailed investigations suggest that these reports may be based on comparisons with manufactured *hypothetical others* rather than on comparisons with actual individuals (Taylor, Wood, and Lichtman 1983), with whom contact is often avoided (Taylor and Lobel 1989).

Self-Improvement As a third function, social comparisons may serve *self-improvement* goals,

which are best satisfied by upward comparisons with individuals who are better off and whose success may provide relevant performance information. Early research concluded that the potential for long-term self-improvement comes at the price of short-term dissatisfaction because the upward comparison highlights one's own shortcomings (Morse and Gergen 1970; Salovey and Rodin 1984). Confirming this conclusion, Wayment, Taylor, and Carrillo (1994) observed in a longitudinal study that college freshmen who engaged in upward comparisons felt worse over the short term. Four months later, however, these freshmen were better adjusted to college life than those who did not engage in upward comparisons, suggesting a positive long-term effect of the actual self-improvement facilitated by upward comparisons.

Moreover, the impact of upward comparisons depends on how close and similar the comparison other is and on how self-relevant one considers the respective performance dimension (Tesser 1988; for a recent review, see Tesser and Martin 1996). If a close and similar other, such as a good friend, outperforms us on a self-relevant attribute, the comparison results in dissatisfaction and withdrawal from the friend. If the attribute is not self-relevant, however, we may take pleasure in the friend's achievement. Finally, highly dissimilar others may not be perceived as relevant comparison standards and may hence not pose a particular threat, independent of the self-relevance of the crucial attribute. We conjecture that this differential impact of similar and dissimilar others reflects, in part, the processes we discussed in the section on counterfactuals: the more similar the other is, the easier it is to imagine that we might have obtained a similar outcome, yet we didn't.

Affiliation As a final function, social comparisons may serve affiliative needs, as initially proposed by Schachter (1959). Recent naturalistic studies (for example, Helgeson and Taylor 1993; Taylor and Lobel 1989; Ybema and Buunk 1995) suggest that "people may compare themselves with others sharing a similar fate not only to evaluate their own emotional experiences, but also to create the experience of social bonding and comfort that arise from the observation of a shared fate" (Taylor et al. 1996, 5). These comforts may mitigate the otherwise expected impact of evaluative comparisons.

Summary As this discussion indicates, the impact of social comparison processes on SWB is

more complex than early research suggested. As far as judgments of global SWB are concerned, we can expect that exposure to someone who is less well off will usually result in more positive—and to someone who is better off in more negative—assessments of one's own life. However, information about the other's situation will not always be used as a comparison standard. Rather, relevant information about the other's situation may enter the representation of one's own future, for example, resulting in assimilation rather than contrast effects. We therefore emphasize that knowing *who* individuals compare themselves to does not allow us to predict the impact of the comparison other on individuals' sense of SWB unless we know *how* this information is used in the relevant mental construals.

Standards Provided by the Social Environment

So far, our discussion of social comparison processes has had a distinctly individualistic and volitional flavor, focusing on who we choose as comparison others. This perspective needs to be complemented by a consideration of the influence of more stable aspects of our social environment.

First, our degree of freedom may often be more constrained than experimental research suggests, and our immediate *social environment* may force standards upon us that are difficult to ignore. This has been most consistently observed in research that addressed the impact of students' standing within their school on their sense of self-esteem. Students with a given level of performance on standardized tests have higher self-esteem when they are at a low-quality school, where many students do poorly, rather than at a high-quality school, where many students do well (Bachman and O'Malley 1986; Marsh 1993; Marsh and Parker 1984). Although these findings may in part reflect that these students are likely to receive differential acknowledgment from their teachers, they also indicate that it is difficult to escape the norm provided by one's environment by pursuing self-enhancement through the choice of comparison others who are doing less well. In a similar vein, Morawetz (1977) observed that citizens of a community with a relatively equal income distribution reported higher well-being than citizens of a community with an unequal income distribution, although the latter's absolute level of income was higher. This finding at the community level is consistent with Easterlin's (1974) conclusion that increasing levels of income within a given country

are not related to increasing reports of life satisfaction. Instead, Easterlin's findings suggested that the effect of income is largely relative, increasing one's sense of well-being if one earns more than others (but see Diener and Suh, this volume, for a review of the contradictory evidence bearing on this hypothesis). As a final example, Seidman and Rapkin (1983) found that the usually observed increase in the prevalence of mental illness during an economic downturn was most pronounced in heterogeneous communities, where the recession did not affect everyone equally. In combination, these findings illustrate the power of highly accessible standards provided by one's immediate environment. Such standards presumably limit individuals' freedom in pursuing the comparison goals discussed earlier. If so, we may be most likely to see differential construals of comparison standards when the judgment pertains to an attribute for which one's environment provides a range of comparison others with widely different standings, as is typical for the health-related research reviewed in the preceding section. In contrast, judgments that pertain to attributes on which one's social environment is homogeneous (as in the earlier examples of unemployment and income) may be less open to differential construal processes.

Second, an individual's position in the social structure may influence which comparison others he or she deems relevant, as suggested by reference group theory (Hyman and Singer 1968). For example, Runciman (1966) noted that British workers' strong sense of social class constrained the range of jobs they considered relevant in making income comparisons to a larger degree than was the case for American workers, at least in the 1960s. Thus, self-categorizations with regard to class or other relatively stable social attributes may constrain the range of comparison others to members of the same, or closely related, categories. Importantly, these self-categorizations are likely to change in cases of social mobility, resulting in changes in the comparison group deemed relevant. Such changes in the comparison standard may lead to decreased satisfaction despite improved objective circumstances (see Frederick and Loewenstein, this volume). Several researchers suggested, for example, that objective improvements in women's situation in the workforce did not result in increased satisfaction because they were accompanied by an increase in the legitimacy of comparisons with men, who are still doing better (Elster 1983; Walster, Walster, and Berscheid 1978).

Finally, socially shared norms may replace specific comparison groups or individuals as relevant standards, implying, for example, that every citizen is entitled to certain outcomes. Although perceptions of entitlement are themselves a function of social comparisons (see Major 1994), they may obliterate the need for specific comparison others once they are formed.

In combination, these examples draw attention to the possibility that salient comparison standards in one's immediate environment, as well as socially shared norms, may constrain the impact of fortuitous temporary influences. At present, the interplay of chronically and temporarily accessible standards on judgments of SWB has received little attention. The complexities that are likely to result from this interplay provide a promising avenue for future research.

Interindividual Standards Implied by the Research Instrument

Finally, we extend our look at the influences of the research instrument by addressing a frequently overlooked source of temporarily accessible comparison information. In many studies, researchers assess respondents' experiences, their objective conditions of living, or the frequency with which they engage in a certain behavior, by asking them to check the proper answer on a list of response alternatives provided to them. As an example, table 4.2 shows different response alternatives presented as part of a question about daily television consumption (Schwarz et al. 1985).

As numerous studies have indicated (for a review, see Schwarz 1996, ch. 5), respondents assume that the list of response alternatives reflects the researcher's knowledge of the distribution of the behavior: they assume that the "average" or "usual" behavioral frequency is represented by values in the middle range of the scale, and that the extremes of the scale correspond to the extremes of the distribution. Accordingly, they use the range of the response alternatives as a frame of reference in estimating their own behavioral frequency, resulting in different estimates of their own behavioral frequency, as shown in table 4.2. More important for our present purposes, they further extract comparison information from their own location on the scale. Checking "two and a half hours" on the low-frequency scale suggests that one's own television consumption is above average, whereas checking the same television consumption on the high-frequency scale suggests it is

TABLE 4.2 Reported Daily Television Consumption and Leisure Time Satisfaction as a Function of Response Alternatives

of Response Alternatives			
Low-Frequency Alternatives (Percentage)		High-Frequency Alternatives (Percentage)	
Reported daily television consumption			
Up to half an hour	11.5	Up to 2 1/2h	70.4
Half an hour to one hour	26.9	2 1/2h to 3h	22.2
One hour to one and a half hours	26.9	3h to 3 1/2h	7.4
One and a half hours to two hours	26.9	3 1/2h to 4h	0.0
Two hours to two and a half hours	7.7	4h to 4 1/2h	0.0
More than two and a half hours	0.0	More than 4 1/2h	0.0
Leisure time satisfaction			
	9.6		8.2

Source: Adapted from Schwarz et al. (1985, Experiment 2). Reprinted with permission from The University of Chicago Press.

below average. Hence, respondents in this study reported lower satisfaction with the variety of things they do in their leisure time when the low-frequency scale suggested they watch more television than others than when the high-frequency scale suggested they watch less—despite the fact that the former respondents reported watching less television to begin with (see table 4.2).

Similar findings have been obtained with regard to the frequency of physical symptoms and health satisfaction (Schwarz and Scheuring 1992), the frequency of sexual behaviors and marital satisfaction (Schwarz and Scheuring 1988), and various consumer behaviors (Menon, Raghuram, and Schwarz 1995). In combination, they illustrate that response alternatives convey highly salient comparison standards that may profoundly affect subsequent evaluative judgments. Researchers are therefore well advised to assess information about respondents' behaviors or objective conditions in an open-response format, thus avoiding the introduction of comparison information that respondents would not draw on in the absence of the research instrument.

Summary

In summary, the use of interindividual comparison information follows the principle of cognitive accessibility that we have highlighted in our discussion of intraindividual comparisons. Individuals often draw on the comparison information that is rendered temporarily accessible by the research instrument or the social context in which they form the judgment, although chronically accessible standards may attenuate the impact of temporarily accessible information. Despite this caveat, the se-

lection of comparison standards is not solely determined by relatively stable attributes of the respondent that may be expected to change only slowly over time, such as reference group orientation (Hyman and Singer 1968; Runciman 1966), adaptation level (Brickman and Campbell 1971), or aspiration level (Michalos 1985). Rather, individuals construct a relevant social comparison standard based on the information that is most accessible at the time of judgment. Moreover, these constructions may reflect different goals, including self-assessment, self-enhancement, self-improvement, or affiliation. Which of these goals is being pursued at a given point in time is likely to be itself context-dependent, rendering general predictions difficult.

THE IMPACT OF MOOD STATES

In the preceding sections, we considered how respondents use information about their own lives or the lives of others in comparison-based evaluation strategies. However, judgments of well-being are a function not only of what one thinks about but also of how one *feels* at the time of judgment. A wide range of experimental data confirms this intuition. Finding a dime on a copy machine (Schwarz 1987), spending time in a pleasant rather than an unpleasant room (Schwarz et al. 1987, Experiment 2), or watching the German soccer team win rather than lose a championship game (Schwarz et al. 1987, Experiment 1) all resulted in increased reports of happiness and satisfaction with one's life as a whole.

Two different processes may account for these observations. On the one hand, it has been shown

that moods may increase the accessibility of mood-congruent information in memory (for reviews, see Blaney 1986; Bower 1981; Morris, this volume; Schwarz and Clore 1996). That is, individuals in a happy mood are more likely to recall positive information from memory, whereas individuals in a sad mood are more likely to recall negative information. Hence, thinking about one's life while in a good mood may result in a selective retrieval of positive aspects of one's life, and therefore in a more positive evaluation.

On the other hand, the impact of moods may be more direct. People may assume that their momentary well-being at the time of judgment is a reasonable and parsimonious indicator of their well-being in general. Hence, they may base their evaluation of their life as a whole on their feelings at the time of judgment and may evaluate their well-being more favorably when they feel good rather than bad. In doing so, laypeople follow the same logic as psychologists who assume that one's mood serves as a "barometer of the ego" (Jacobsen 1957) that reflects the overall state of the organism (Ewert 1983) and the countless experiences one goes through in life (Bollnow 1956). In fact, when people are asked how they decide whether they are happy or not, most of them are likely to refer explicitly to their current affective state, saying, for example, "Well, I feel good" (Ross et al. 1986).

Experimental evidence supports this assumption. For example, Schwarz and Clore (1983, Experiment 2) called respondents on sunny or rainy days and assessed reports of SWB in telephone interviews. As expected, respondents reported being in a better mood, and being happier and more satisfied with their life as a whole, on sunny rather than on rainy days. Not so, however, when respondents' attention was subtly drawn to the weather as a plausible cause of their current feelings. In one condition, the interviewers pretended to call from out of town and asked as a private aside, "By the way, how's the weather down there?" Under this condition, respondents interviewed on rainy days reported being as happy and satisfied as respondents interviewed on sunny days. In addition, a measure of current mood, assessed at the end of the interview, was not affected by the attention manipulation, indicating that the weather question did not affect respondents' current mood itself but only their inferences based upon it. Accordingly, the mood measure was more strongly correlated with reported SWB when the weather was not mentioned than when it was mentioned.

These and related findings (see Keltner, Locke, and Audrain 1993; Schwarz 1987; Schwarz and Clore 1983, Experiment 1) demonstrate that respondents use their affective state at the time of judgment as a parsimonious indicator of their well-being in general, unless the informational value of their current mood is called into question. Moreover, the discounting effects (Kelley 1972) obtained in these studies rule out an alternative explanation based on mood-congruent retrieval. According to this hypothesis, respondents may recall more negative information about their life when in a bad mood rather than a good mood, and may therefore base their evaluation on a selective sample of data. Note, however, that the impact of a selective database should be independent of respondents' attributions for their current mood. Attributing one's current mood to the weather discredits only the informational value of one's current mood itself, not the evaluative implications of any positive or negative events one may recall. Inferences based on selective recall should therefore be unaffected by salient explanations for one's current feelings. Thus, the reviewed data demonstrate that moods themselves may serve informative functions according to a "How do I feel about it?" heuristic, a hypothesis that has received considerable support in different domains of judgment (for a review, see Schwarz and Clore 1996).

When Do People Rely on Their Mood Rather Than on Other Information?

The observation that individuals may evaluate their well-being either on the basis of (intra- or interindividual) comparisons or on the basis of their momentary feelings raises an obvious question. Under which conditions will they rely on one rather than the other source of information?

General Life Satisfaction Versus Specific Life Domains On theoretical grounds, we may assume that people are more likely to use the simplifying strategy of consulting their affective state the more burdensome it would be to form a judgment on the basis of comparison information. Note in this regard that evaluations of general life satisfaction pose an extremely complex task that requires a large number of comparisons along many dimensions with ill-defined criteria and the subsequent integration of the results of these comparisons into one composite judgment. Evaluations of specific life domains, on the other hand, are often less complex. In contrast to judgments of general life

satisfaction, comparison information is usually available for judgments of specific life domains, and criteria for evaluation are well defined. An attempt to compare one's income or one's "life as a whole" with that of colleagues aptly illustrates the difference. For these reasons, judgments of domain satisfaction may be more likely to be based on inter- and intraindividual comparisons, whereas judgments of one's life as a whole may be based on one's momentary feelings. Supporting this reasoning, the outcome of the 1982 championship games of the German national soccer team affected respondents' general life satisfaction, but not their satisfaction with work and income (Schwarz et al. 1987, Experiment 1).

If judgments of general well-being are based on respondents' affective state, whereas judgments of domain satisfaction are based on comparison processes, it is conceivable that the same event may influence evaluations of one's life as a whole and evaluations of specific domains in opposite directions. For example, an extremely positive event in domain *X* may induce good mood, resulting in reports of increased global SWB. 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. Again, experimental evidence supports this conjecture. In one study (Schwarz et al. 1987, Experiment 2), students 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. As expected, participants reported lower general life satisfaction in the unpleasant room than in the pleasant room, in line with the moods induced by the experimental rooms. In contrast, they reported higher housing satisfaction in the unpleasant than in the pleasant room, consistent with the assumption that the rooms served as salient standards of comparison.

In summary, the same event may influence judgments of general life satisfaction and judgments of domain satisfaction in opposite directions, reflecting that the former judgment is based on the mood elicited by the event whereas the latter is based on a comparison strategy. This differential impact of the same objective event further contributes to the weak relationships between global and specific evaluations, as well as measures of objective circumstances, that we addressed earlier.

The Relative Salience of Mood and Competing Information Finally, we return to the impact of re-

called life events on judgments of SWB. In the section on intraindividual comparison processes, we mentioned that the same event may result in assimilation as well as contrast effects, depending on whether it is used to construct a representation of the target or a standard. These processes are further complicated by the degree to which the recall task is emotionally involving. In the absence of emotional involvement, the impact of recalled events follows the mental construal logic described earlier. If recalling a happy or sad life event elicits a happy or sad mood at the time of recall, however, respondents are likely to rely on their feelings rather than on recalled content as a source of information. This overriding impact of current feelings is likely to result in mood-congruent reports of SWB, independent of the mental construal variables discussed earlier.

The best evidence for this assumption comes from experiments that manipulated the emotional involvement that subjects experienced while thinking about past life events. In one experiment (Strack et al. 1985, Experiment 2), subjects were asked either to give a short description of only a few words or to provide a vivid account of one to two pages in length. In another study (Strack et al. 1985, Experiment 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.

Table 4.3 shows the results. When no pronounced mood state was induced, subjects reported higher SWB after recalling negative rather

TABLE 4.3 Subjective Well-being: The Impact of Style of Thinking

	Valence of Event	
	Positive	Negative
Detailed description	9.1	7.9
Short description	6.8	8.4
"How" description	8.2	6.3
"Why" description	7.8	8.9

Source: Copyright 1985 by the American Psychological Association. Adapted from Strack et al. (1985, Experiments 2 and 3). Note: For the mean score of happiness and satisfaction questions, the range is 1 to 11, with higher values indicating reports of higher well-being.

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than positive past events, thus replicating the contrast effects discussed earlier (see table 4.1). When the recall task did induce a pronounced mood state, on the other hand, mood had an overriding effect: in that case, subjects who had to describe negative past events reported lower well-being than subjects who had to describe positive past events, replicating the mood effects found in other studies. Subsequent experiments by Clark and her colleagues (Clark and Collins 1993; Clark, Collins, and Henry 1994) provided conceptual replications of these findings.

In combination with the research reviewed in the section on information about one's own life, these studies demonstrate that the impact of an event is a joint function of its hedonic quality, variables that govern the use of information in mental construals of the target and standard (such as the event's temporal distance or salient category boundaries), and the person's emotional involvement while thinking about the event. That the relationship between objective events and subjective well-being is as weak as the subjective indicator literature has demonstrated is therefore not surprising. Knowing the hedonic quality of an event does not allow a prediction of its impact on reported well-being in the absence of knowledge about other judgmental variables.

REPORTING THE JUDGMENT

Once respondents have formed a judgment, either based on their mood or based on a comparison process, they need to communicate it to the researcher. Self-presentation and social desirability concerns may arise at the reporting stage, and respondents may *edit* their private judgment before they communicate it (for a more detailed discussion, see Strack and Martin 1987; Sudman et al. 1996, ch. 3). In general, social desirability influences are more pronounced in face-to-face interviews than in telephone interviews and are of least concern under the confidential conditions of self-administered questionnaires (for a review, see DeMaio 1984). Consistent with this generalization, Smith (1979) observed in a meta-analysis that higher well-being is reported in face-to-face interviews than in mail surveys.

Experimental research confirmed this finding (Strack et al. 1990) and indicated that self-presentation effects are moderated by interviewer characteristics. Specifically, respondents reported higher well-being in personal interviews than in self-

administered questionnaires. Moreover, this difference was more pronounced when the interviewer was of the opposite sex but was not obtained when the interviewer was severely handicapped. Respondents apparently hesitated to tell someone in an unfortunate condition how great their own life was. In contrast, when the handicapped confederate did not serve as an interviewer but was present in the room as another research participant filling out his own questionnaire, his presence did increase subjects' reported SWB, presumably because the handicapped confederate served as a salient standard of comparison.

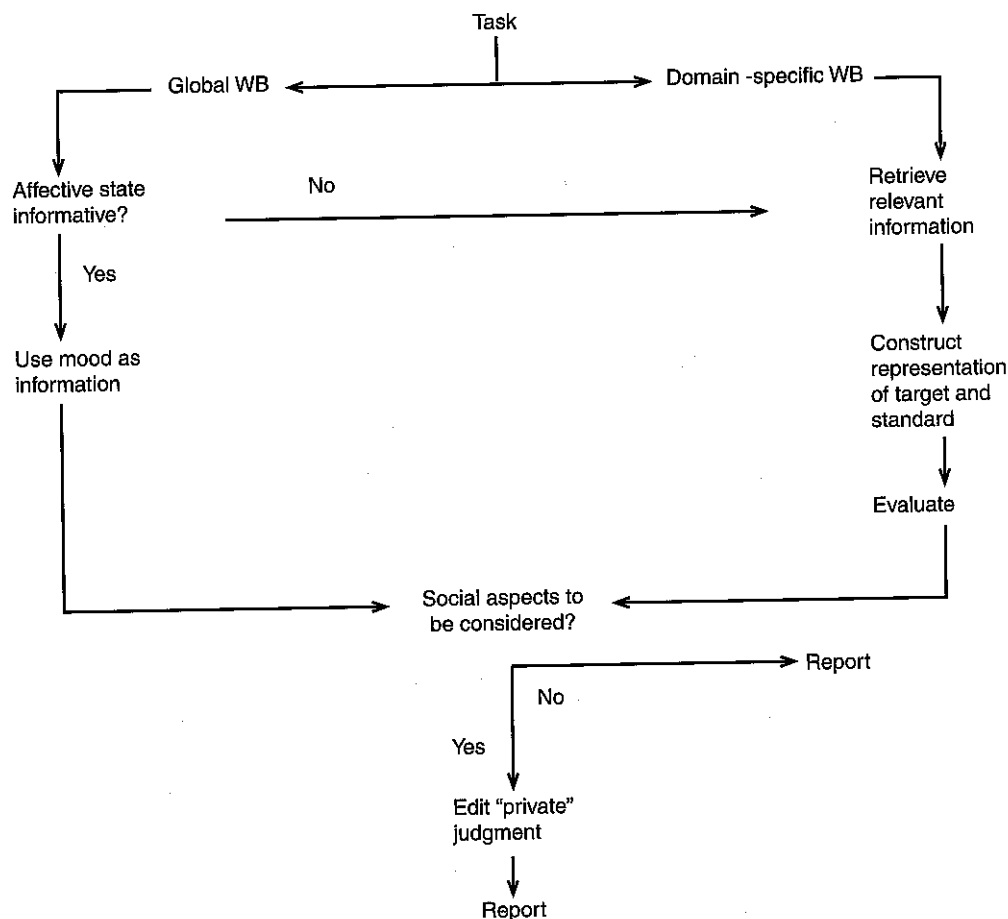
In summary, the available research indicates that public reports of SWB may be more favorable than respondents' private judgments. On the other hand, individual differences in social desirability show a weak relationship with measures of SWB ($r = .20$) (see Diener 1984). In combination, this suggests that respondents' editing of their reports is more strongly affected by characteristics of the interview situation than by individual differences between respondents.

A JUDGMENT MODEL OF SUBJECTIVE WELL-BEING

Figure 4.2 summarizes the processes reviewed in this chapter. If respondents are asked to report their happiness and satisfaction with their "life as a whole," they are likely to base their judgment on their current affective state; doing so greatly simplifies the judgmental task. If the informational value of their affective state is discredited, or if their affective state is not pronounced and other information is more salient, they are likely to use a comparison strategy. This is also the strategy that is likely to be used for evaluations of less complex specific life domains.

When using a comparison strategy, individuals draw on the information that is chronically or temporarily most accessible at that point in time: whatever comes to mind first, and is relevant to the judgment at hand, is most likely to be used, unless the conversational context renders the use of information that has already been "given" inadequate. Whether information that comes to mind is used in constructing a representation of the target "my life now" or a representation of a relevant standard depends on the variables that govern the use of information in mental construal (Schwarz and Bless 1992a; Strack 1992). Information that is included in the representation of the target results

FIGURE 4.2 A Judgment Model of Subjective Well-Being



in assimilation effects, whereas information that is used in constructing a standard results in contrast effects. Hence, the same information may influence judgments in opposite directions, depending on its use in mental construal.

If the accessibility of information is due to temporary influences, such as preceding questions in a questionnaire, the obtained judgment is unstable over time and a different judgment will be obtained in a different context. On the other hand, if the accessibility of information reflects chronic influences—such as current concerns or life tasks, or stable characteristics of the social environment—the judgment is likely to be less context-dependent. The size of context-dependent assimilation effects increases with the amount and

extremity of the temporarily accessible information that is included in the representation of the target, and it decreases with the amount and extremity of chronically accessible information. Conversely, the size of context-dependent contrast effects increases with the amount and extremity of the temporarily accessible information used in constructing a standard, and it decreases with the amount and extremity of chronically accessible information that enters this representation.

Finally, after having formed a judgment on the basis of comparisons or on the basis of their affective state, respondents have to report their judgment to the researcher. At this stage, they need to format their answer according to the response alternatives provided by the researcher, and they

may or may not edit their report to conform to social expectations, depending on the nature of the situation.

METHODOLOGICAL IMPLICATIONS

Our review emphasizes that reports of well-being are subject to a number of transient influences. Like other social judgments, they are best considered constructions in response to particular questions posed at a particular time. Although the information that respondents draw on reflects the reality in which they live, which aspects of this reality they consider and how they use these aspects in forming a judgment is profoundly influenced by features of the research instrument.

Implications for Survey Research

The reviewed findings have profound methodological implications. First, the obtained reports of SWB are subject to pronounced question-order effects because the content of preceding questions influences the temporary accessibility of relevant information. Moreover, questionnaire design variables, like the presence or absence of a joint lead-in to related questions, determine how respondents use the information that comes to mind. As a result, mean reported well-being may differ widely, as seen in many of the reviewed examples. Moreover, the correlation between an objective condition of life (such as dating frequency) and reported SWB can run anywhere from $r = -.1$ to $r = .6$, depending on the order in which the same questions are asked (Strack et al. 1988), suggesting dramatically different substantive conclusions.

Second, the impact of information that is rendered accessible by preceding questions is attenuated the more the information is chronically accessible (see Schwarz and Bless 1992a). Hence, a preceding question about the respondent's health is likely to affect respondents with minor or no health problems to a larger degree than respondents with severe health problems; the latter would be likely to think of their health concerns independent of the preceding question. Accordingly, the same question may affect different subsets of a sample to different degrees.

Third, the stability of reports of SWB over time (that is, their test-retest reliability) depends on the stability of the context in which they are assessed. The resulting stability or change is meaningful

when it reflects the information that respondents spontaneously consider because the same, or different, concerns are on their mind at different points in time. It is potentially misleading, however, when it indicates that the research instrument is drawing attention to the same or different aspects of the respondent's life. In the former case, the influence of the research instrument may cloud the impact of actual changes in other domains of respondents' lives; in the latter case, it may suggest changes where none have occurred by ensuring that respondents draw on different aspects at different points in time.

Fourth, in contrast to influences of the research instrument, influences of respondents' mood at the time of judgment are less likely to result in systematic bias. The fortuitous events that affect one respondent's mood are unlikely to affect the mood of many others. An exception to this rule are events of national importance, such as the outcome of major international sports events (Schwarz et al. 1987), which may affect a larger segment of the population. Even the impact of these events, however, is unlikely to last for the whole duration of data collection, which usually extends over several days, if not weeks, for large-scale surveys. Hence, mood effects are likely to introduce random variation, whereas instrument effects introduce systematic bias relative to a population that has not been exposed to the instrument, but to which the findings are to be generalized.

Fifth, as our review indicates, there is no reason to expect strong relationships between the objective conditions of life and subjective assessments of well-being under most circumstances. To begin with, many aspects are not considered when making a judgment, although they would have a pronounced impact if they were. Moreover, even if considered, the same information can drive the judgment in different directions, depending on how it is used in the construal of targets and standards. As we have seen repeatedly, today's tragedy can be tomorrow's standard, depending on the variables that determine its use in mental construal. Our analysis does allow us, however, to circumscribe the conditions under which strong relationships should be observed.

Specifically, strong *positive relationships* between a given objective aspect of life and judgments of SWB are likely to emerge when most respondents include the relevant aspect in the representation that they form of their life and do not draw on many other aspects. This is most likely to be the

case when (a) the target category is wide ("my life as a whole") rather than narrow (a more limited episode, for example); (b) the relevant aspect is highly accessible; and (c) other information that may be included in the representation of the target is relatively less accessible. These conditions were satisfied, for example, in the Strack, Martin, and Schwarz (1988) dating frequency study, in which a question about dating frequency rendered this information highly accessible, resulting in a correlation of $r = .66$ with evaluations of the respondent's life as a whole. Yet, as this example illustrates, we would not like to take the emerging correlation seriously when it reflects only the impact of the research instrument, as indicated by the fact that the correlation was $r = -.1$ when the question order was reversed.

Similarly, strong *negative relationships* between a given objective aspect of life and judgments of SWB are likely to emerge when most respondents use the relevant aspect in constructing a standard of comparison and do not draw on many other aspects in forming this representation. This is most likely to be the case when (a) the target category is narrow (for example, a relatively short episode of the respondent's life) rather than wide ("my life as a whole"); (b) the relevant aspect is highly accessible; and (c) other information that may be used in constructing a standard is relatively less accessible. These conditions would be satisfied, for example, in a follow-up study of previously unemployed workers who are asked to report on their previous episode of unemployment and subsequently evaluate their current SWB.

When the instrument does not guide respondents' thought processes, however, different respondents are likely to draw on different information and to use the same information in different construals, resulting in the weak relationships between objective conditions and subjective evaluations that are typically obtained in survey research into SWB. These weak relationships are therefore a natural consequence of the complexity of the underlying judgmental processes—and the occasional observation of strong relationships is cause for methodological suspicion.

Finally, it is worth noting that the context effects reviewed in this chapter limit the comparability of results obtained in different studies. Unfortunately, this comparability is a key prerequisite for many applied uses of subjective social indicators, in particular their use in monitoring the subjective side of social change over time (for examples, see Campbell 1981; Glatzer and Zapf 1984).

If we want to avoid misinterpretations of method effects as substantive effects in this as well as other areas of psychological and social research, we need to learn more about the cognitive processes that underlie the reports that our respondents provide. Perhaps the recent collaboration of survey methodologists and psychologists will advance our knowledge of these important aspects of social research (for reviews of the current state of this field, see Schwarz, Groves, and Schuman 1998; Sudman et al. 1996).

Which Measures Are We to Use?

By now, most readers have probably concluded that there is little to be learned from self-reports of global well-being. Although these reports do reflect subjectively meaningful assessments, what is being assessed, and how, seems too context-dependent to provide reliable information about a population's well-being, let alone information that can guide public policy (but see Argyle, this volume, for a more optimistic take). As an alternative approach, several researchers have returned to Bentham's (1789/1948) notion of happiness as the balance of pleasure over pain (for examples, see Kahneman, this volume; Parnucci 1995). Rather than asking respondents to provide a global assessment of SWB, such an approach would rely on moment-to-moment measures of hedonic experience. While the hedonic experiences assessed by these measures are themselves dependent on the context provided by respondents' other life experiences (see Parnucci 1995), reporting one's momentary hedonic state poses a less formidable task than providing an evaluation of one's life as a whole. Such momentary reports can be assessed with experience sampling methods (Stone, Shiffman, De Vries, this volume; Csikszentmihalyi and Wong 1991; for a methodological review, see Hormuth 1986), such as beepers that remind respondents at randomly chosen times to report their current affective state. Such measures are unlikely to correlate well with global reports of SWB, as Parnucci (1995, 13) noted because the same event is likely to affect evaluations of other specific events and evaluations of extended episodes in opposite directions, as discussed earlier. To what extent measures of momentary hedonic state are likely to show strong and meaningful relationships with objective conditions of living is difficult to determine at the present stage of affairs, yet optimism seems warranted (see Kahneman, this volume). However, experience sampling

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methods are considerably more expensive than the relatively cheap option of asking respondents to provide global assessments of their lives as a whole. Hence, considerable methodological effort needs to be invested before the use of these measures in large-scale representative studies can be justified.

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