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# **Integrating the Diverse Definitions of Happiness: A Time-Sequential Framework of Subjective Well-Being**

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**ABSTRACT:** The field of subjective well-being (SWB) is primarily concerned with people's evaluation of their lives; however, it includes a wide range of concepts, from momentary moods to global life satisfaction judgments. We propose a framework that integrates these diverse constructs. Our sequential temporal framework of subjective well-being describes experiences of wellbeing from the events and circumstances that cause evaluative reactions, through the emotional reactions to these events, to recall of these reactions, and finally to global judgments of well-being based on the previous stages. The hypothesized processes that translate the various steps in the sequence into one another are described, and supporting evidence is reviewed. We outline the implications of our framework for understanding subjective well-being, and discuss the research that is needed to further explore the proposed framework.

**KEY WORDS:** emotion, subjective well-being, mood, happiness.

## **INTEGRATING THE DIVERSE DEFINITIONS OF HAPPINESS: A TIME-SEQUENTIAL FRAMEWORK OF SUBJECTIVE WELL-BEING**

Subjective well-being (SWB) encompasses a wide range of components, such as happiness, life satisfaction, hedonic balance, fulfillment, and stress, and holds at its core affective and cognitive evaluation of one's life. It also extends from the specific and concrete to the global and abstract: momentary experiences versus people's global judgments about their entire lives.

Research on SWB has grown in prominence in the scientific literature in recent years. Over 4,000 studies are listed in PsychInfo under "life satisfaction," and almost 4000 studies are listed for "happiness." On the negative end of the subjective well-being dimension, PsychInfo lists over 30,000 studies about major depression and approximately 40,000 studies on stress. SWB has been extensively studied in relation to demographic factors such as marriage (Lucas et al., 2003; Reis and Gable, 2003) and income (Diener and Biswas-Diener, 2002, for a review),

personality factors (Diener and Lucas, 1999), coping (e.g., King et al., 2000), and goal pursuit (Emmons, 1986). Research on its heritability (e.g., Tellegen et al., 1988), and cross-cultural generalizability (see Diener et al., 2003, for a review) has been growing, and scientists have examined the benefits of positive emotions (Fredrickson, 1998) and SWB (e.g., Diener et al., 2002).

This boom in scientific inquiry is also reflected in the importance of happiness to the lay mind: In a recent survey of over 9000 college students in 47 nations, happiness was rated at 8.1 on a nine-point scale of importance, making it the highest regarded of the 20 given values (e.g., love, wealth, health, and getting into heaven). Over half of the respondents rated the importance of happiness as a “9”, while only 3 percent indicated that they did not value happiness at all.

The interest in SWB by academics as well as the lay public is high, and the extent of research that is encompassed by SWB is far flung: The variables representing SWB are manifold, as are the measures. This booming popularity bodes well for the future of SWB research. But it has also resulted in confusion and contention regarding the measurement and meaning of SWB. We propose a framework for integrating the variables in the area of SWB, and review the factors that influence the relationship between the components. However, before we outline and explain our framework, we first review the current status of SWB research.

### **Current Approaches to SWB Research**

People gauge their SWB in a number of different ways. For example, one can appraise large segments of one’s life, such as work, social relationships, or marriage. Or, one can gauge happiness by recalling emotions felt during a specific event, such as Christmas dinner. Or, one can rely on current mood or spontaneous emotional reactions.

Given these multiple components that are involved in the estimation of SWB, three main approaches to SWB can be identified. Each approach offers a unique conceptualization of SWB, and relies on different kinds of measures. The first approach views SWB as a global assessment of life and its facets. According to this approach, knowledge of SWB requires access to personal global judgments of satisfaction and quality of life. Research based on this approach often involves large surveys, in which respondents are asked to self-report on their general happiness or satisfaction with large global domains, such as work or social relationships. An example of this approach is the Eurobarometer questions administered to a thousand respondents twice a year in each of the European Union nations.

A second approach views SWB as a recollection of past emotional experiences. Within this framework, researchers assess people’s evaluations of their lives by asking participants about their emotions over the last week, last month, or other specific timeframes. Instead of inquiring about how happy or satisfied a person is in general, researchers in the second tradition ask

respondents to recall whether they experienced a number of relevant feelings, such as “depressed,” “joyful,” or “on top of the world” during a certain period of time (Bradburn, 1969). Rather than relying on a global judgment of satisfaction, this approach focuses on memories of past emotions.

A third approach views SWB as an aggregation of multiple emotional reactions across time (Kahneman, 1999). Because this approach emphasizes on-line emotional experiences, it often relies on the experience sampling method (ESM). In ESM, people report on their current emotions several times a day, over a set period of time, usually varying from one week to several weeks. The researcher obtains an estimate of SWB by aggregating the participants’ reports and examining average mood, emotional intensity, affect variability, and other temporal affective variables. In some cases, the researcher might also assess the respondent’s feelings in different situations (e.g., Fleeson, 2001).

In sum, because researchers have addressed SWB from multiple perspectives, measures of SWB have also varied. Research on SWB can include huge international samples (e.g., Suh et al., 1998), small samples of undergraduate students (Emmons, 1986), adolescents (McKnight et al., 2002), groups of elderly respondents (Baltes and Mayer, 1999; Smith et al., 1999) or clinical populations (e.g., Frisch et al., 1992); it may use general surveys, specific questionnaires, or experience sampling methods. Such variety inevitably raises questions about what these different measures are assessing.

### **Explaining the Variety of SWB Measures**

To what degree do the different facets of SWB converge? If the measures used by the different approaches fully converge, this would justify the use of SWB as an overarching construct, but at the same time call for a reconceptualization of its different components. On the other hand, if the measures are unrelated, researchers would need to reconsider the usefulness of SWB as a general construct, and focus on the unique and more specific concepts emphasized by each approach.

Much research exists on the convergent validity of SWB assessments. For example, do people’s global judgments of their happiness correlate with their recall of events or their average reported happiness when they are signaled at random moments? The correlations between different measures tend to be positive, but modest. For example, Balatsky and Diener (1993) found that Russian students’ recall of good versus bad events in their lives correlated 0.22 with a global measure of life satisfaction. Pavot, Diener, Colvin, and Sandvik (1991) also found a correlation of 0.42 among these measures in a U.S. sample. Thomas and Diener (1990) estimated correlations in the range of 0.50 to 0.58 between on-line reports of the frequency of positive versus negative affect and recalled affect, and estimated correlations ranging from 0.02 to 0.62 for the intensity of affect. Wirtz et al. (2004) reported correlations between recall after one month and on-line affect in the 0.53 to 0.75 range. Lucas et al. (1996) examined across a series

of studies the correlation between global life satisfaction and recalled affect, and found correlations ranging from 0.42 to 0.52 between life satisfaction and recalled positive affect, and between 0.30 and 0.51 between life satisfaction and recalled negative affect. Thus, the various SWB measures appear related, but only at moderate levels.

When assessing the correlation between different measures of SWB, researchers often assume that the assessments tap with a varying degrees of measurement error an underlying latent construct of SWB. For instance, Sandvik et al. (1993) found a single factor underlying self-report and non self-report measures of SWB. Following this view, using different measurement methods are desirable because each measurement approach contains different measurement error (Diener and Fujita, 1995).

Some researchers have questioned the inherent validity of specific SWB measures. Veenhoven (1993), for example, argues that the concept that comes closest to reflecting SWB is global life satisfaction. Although momentary moods might be assessed accurately, they might not reflect true long-term subjective wellbeing. For example, a person might experience enjoyable moments, but end up concluding that his or her life was meaningless (e.g., see Seligman, 2002). Kahneman, (1999), however, argues the opposite. He suggests that on-line moods are the most accurate and least biased measurement of SWB, and therefore should have a privileged place among the measures. However, the moderate correlations between various measures of SWB do not seem to be due to unreliability or invalidity of the scales. In his review, Diener (1984) points to substantial temporal reliabilities of the SWB scales, often in the 0.55–0.70 range. He further reviews studies showing that correlation of peer reports and self-reports are in the 0.40 range (see also Lucas et al., 1996), and self-report of SWB converges with expert, researcher, and staff ratings on average of 0.52 when measures are corrected for unreliability (e.g., Sandvik et al., 1993). Sandvik et al. (1993) found significant correlations between SWB scales and troubles (e.g., parental divorce), health symptoms, and personality inventories such as Optimism and Extraversion scales. Thus, the SWB measures show substantial validity and reliability, in spite of the less than satisfactory correlations between the measurements of SWB.

Another explanation for the moderate correlations between the measures is that they tap different constructs. This explanation argues that moods, emotions, and long-term cognitive judgments of one's life each capture something different about respondents' reactions to their lives. According to this approach, different measures are seen as addressing different constructs, all grouped under the capacious canopy of SWB.

In sum, several explanations exist for the modest correlations among the measures. One explanation views the different measures as tapping a single construct with varying degrees of error, suggesting the existence of a single underlying SWB latent trait. Another approach suggests that some of the measured constructs are of superior validity in assessing SWB than other methods of measurement. A third approach views each measure as tapping a distinct

construct, suggesting that a single underlying latent trait does not exist, although the different constructs might be correlated with each other.

The approach that we propose moves beyond the idea that SWB is merely a vague term encompassing many independent constructs, or that it is an underlying unitary construct for which we are searching out the best measure. We propose that while SWB is a unitary construct, it changes through the passage of time. As such, the different components that make-up the time-sequential framework of SWB are related to each other in systematic ways.

Our framework is built on the idea that reactions to events unfold over time, and that different measures of SWB reflect different temporal stages in this developing process. It incorporates what is known about how current moods, as well as the recall of emotions, influence global satisfaction judgments. Our framework also includes findings on the memory for emotions, and the factors besides on-line hedonic experiences that can influence reports of recalled affect. Finally, it incorporates what is known about how global SWB judgments are constructed. Thus, we bring conceptual coherence to the diverse definitions of SWB and to the manifold measures of this construct.

### **KEY POINTS AND IMPLICATIONS OF THE FRAMEWORK**

Our framework makes several major points about SWB, and has implications for interventions, measurement, and life choices in the pursuit of well-being.

1. We frame SWB as a sequence of stages that unfold over time, from instigating events and circumstances to global evaluations of life.
2. The four major stages of SWB are related to one another and follow a temporal sequence: (A) life circumstances and events; (B) affective reactions to those events; (C) recall of one's reactions; and (D) global evaluative judgment about one's life.
3. In addition to the temporal unfolding, new factors also influence SWB at each stage. Thus, although each stage correlates with the stages before it and after it, the correlations are less than unity, even when controlling for measurement error.
4. Understanding SWB requires comprehending the entire sequence of stages; no single stage is adequate by itself. Thus, measurement of any single stage provides an incomplete picture of SWB, and assessing all four stages is necessary for a complete understanding of subjective ill-being and well-being.
5. The four stages, and the transition processes between them, indicate why people's circumstances are only modestly related to the global judgments they make about their lives.
6. The reason that personality has such a pervasive influence on subjective well-being is that it influences all four of the stages.

7. The framework points to tradeoffs people might make in trying to maximize their SWB. For example, people might sacrifice positive hedonic experience at the second stage in order to maximize positive global judgments of well-being at the fourth stage.
8. We hypothesize return loops in the model such that later stages in the framework may influence a new set of events and reactions to them in the future by influencing people's behavior and reactions.

In the following sections, we present the steps of our sequential framework in greater detail and discuss the relations between the stages in the model. We also review how various measures map onto specific stages, and discuss some of the variables that influence each stage, as well as the relation between the stages. Finally, we conclude with suggestions for future research that is needed in order to further test our framework. Our overarching aim is to demonstrate that different concepts and measures of SWB can be understood within a comprehensive temporal framework.

### THE SEQUENTIAL FRAMEWORK OF SUBJECTIVE WELL-BEING

The framework presented in Figure 1 follows an event as it is gradually modified and integrated into the complex network that includes the various measurements of SWB. The sequences are not necessarily causal in nature, but rather reflect major components of life evaluations as they evolve in time. The model begins with objective events and circumstances that elicit emotional reactions from the individual. Quality of life can be measured by assessing objective life circumstances, and economists and sociologists have often assessed well-being at this level. It should be noted, however, that this first stage is not strictly subjective well-being because this stage does not include people's reactions to their world. Nevertheless, because objective events are often the initial targets of subjective evaluations, they appear as the first step of our conceptual temporal sequence.

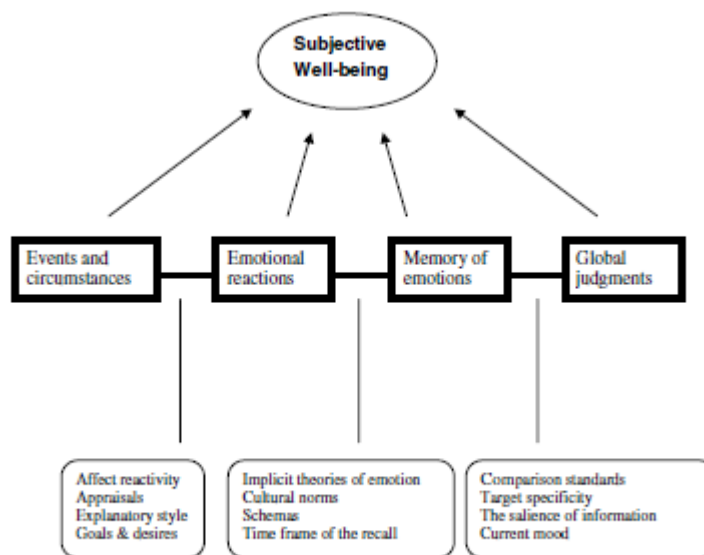


Figure 1. A sequential framework for the study of subjective well-being.

The next stage involves the emotional responses to the events. Emotional reactions involve multiple components, such as cognitive appraisal, physiological reactions, and behavioral tendencies. On-line recording of reactions, both in the laboratory and in the natural world, have been used to assess SWB at this stage. The experience sampling method invented by Csikszentmihalyi and Larsen (1978) has been particularly popular for obtaining self-reports of on-line emotional reactions (see Reis and Gable, 2000; Scollon et al., 2004, for reviews of this methodology). Figure 1 lists several of the processes that influence the ways in which events and circumstances can lead to emotional reactions, and these will be reviewed later.

After the immediate emotional reactions diminish, they can later be recalled. But as Figure 1 indicates, multiple factors beyond emotional reactions are reflected when emotions are recalled. Additional factors, such as the person's self-concept or current goals and concerns, can influence the recall of the emotion.

In the last stage, people can think back about events and the circumstances of their lives, and their reactions to them, and address global evaluative questions, such as whether they are satisfied with their marriage, are fulfilled at work, or feel happy. This last stage can include information from any of the previous stages, including the immediately preceding stage of emotion recall. Figure 1 shows some of the factors that are now understood to influence global evaluations.

The following sections describe each stage of the framework in more detail, and also provide information about some of the factors that can influence the associations among the stages.

The following discussion is not meant to be exhaustive, but serves to highlight some important factors that influence each stage in the sequence and the transitions between them, to allow for a better understanding of the multiple components that play into SWB.

### **Life Events and Circumstances**

People's lives vary enormously in ways that would seem to potentially have a huge impact on their well-being. Sociologists, economists, and policy scholars often examine the differences in life circumstances as direct measures of quality of life, without recourse to subjective indicators. Economists often focus on variables such as the per capita gross domestic product of nations, in the belief that indices of income indicate individuals' quality of life. Indeed, earnings correlate with variables such as health, longevity, victimization, and mental health (Diener and Biswas-Diener, 2002; Diener and C. Diener, 1995). Sociologists and policy scholars often analyze additional objective indicators besides those traditionally studied by economists. For example,



they assess variables such as infant mortality, educational equality, longevity, and levels of violent crime to indicate the quality of life of societies (for review, see Diener and Suh, 1997).

### *The Relation of Circumstances to the Later Stages*

What is the relation between life events and circumstances and SWB? Brickman and Campbell (1971) contended that we adapt to life circumstances, and therefore live on a “hedonic treadmill,” where neither good nor bad circumstances make a difference due to habituation. Despite the importance of this insight, research has shown that adaptation is often not complete, and that life circumstances do matter for various measures of SWB. Even the data collected by Brickman et al. (1978) revealed that differences between people’s SWB correlated with differences in life circumstances. For example, Brickman et al. found that people with spinal cord injuries had significantly lower SWB than others, although the authors suggested that these differences were not as large as we might expect. The lottery winners they studied had higher SWB than their control group, but the difference was not significant, perhaps because of the small sample size and consequent lack of statistical power. Moreover, other researchers have found that lottery winners do report higher levels of SWB than various comparison groups (Smith and Razzell, 1975).

Other studies also point to the power of people’s circumstances in influencing their SWB. For example, the correlation between the average income of nations and the average SWB of these societies is often around 0.70 (Diener and Biswas-Diener, 2002). Most people in America report positive levels of SWB (Diener and C. Diener, 1995), whereas people living in the slums of Calcutta more often have low SWB (Biswas-Diener and Diener, 2001). Similarly, we find that homeless individuals in California, Oregon, and Calcutta all show low levels of SWB (Biswas-Diener and Diener, 2003).

Longitudinal studies also suggest that life events and circumstances can influence SWB. In a large and representative sample of Germans, we analyzed the longitudinal associations between life satisfaction and life events. For example, women who started out with high life satisfaction showed a large drop when their husbands died, and then slowly recovered over a period of many years (Lucas et al., 2003). People who lost their jobs showed a decline in life satisfaction and never fully recovered to their former levels (Lucas et al., 2004).

As noted earlier, our framework indicates a temporally evolving sequence, but one that does not imply a causal connection. On the contrary, as we describe later on, each stage in the sequence is influenced by different factors, including earlier as well as later steps in the sequence. Thus, the direction of influence from events to reactions is not always unidirectional. For example, happy people tend to make more money (Diener et al., 2002), get married (Harker and Keltner, 2001), and have better health (e.g., Danner et al., 2001; see Lyubomirsky et al., 2002, for a review). Furthermore, extraverts tend to experience a greater number of positive events, while neurotics experience a greater number of negative events (Headey and Wearing, 1989; Magnus et al.,

1993). Clearly, objective events do not occur in a vacuum, but reflect multiple forces (both external as well as internal) that operate in concert. We will refer to this issue again when we discuss multiple sequence scenarios later in the paper.

Overall, life events and circumstances do appear to influence later stages of SWB. However, such relations are often surprisingly small. For example, Emmons and Diener (1985) found correlations ranging from -0.06 to 0.10 for objective standing in a domain and satisfaction with that domain. Suh et al. (1996) found that young people largely adapt to many common life events, such as promotions at work. Even in the case of extremely negative events, such as mass shootings or plane crashes, more than half of victims are able to find benefits in the tragedy (Tennen and Affleck, 2002). In addition, demographic factors such as education, marriage, income, and ethnicity together usually account for a small percentage of the variance in measures of SWB (e.g., Campbell et al., 1976). Taken together, these findings suggest that while life circumstances can influence reports of well-being, reactions to most life circumstances vary so substantially that there is on average only a modest relation between these circumstances and SWB. Several factors can account for this modest relation, two of which are described below.

#### *Habituation and Adaptation*

Compared to facets of the environment that remain stable, changing events can have special significance for a person's SWB; however, people tend to habituate to their environments such that life circumstances often do not have an intense influence on the person's affect (Brickman et al., 1978; Suh et al., 1996). Adaptation also occurs to the aspects of the environment that have remained stable for a long time. Because recent events and changes in circumstances can have a large impact on SWB, and long-standing circumstances often have a very small influence, the correlation of circumstances and measures of SWB is often modest across people. Long-term stable life circumstances can have some influence on SWB (e.g., Biswas-Diener and Diener, 2001), but recent events are more likely to produce strong reactions that include substantial changes in SWB (e.g., Lucas et al., 2004; Suh et al., 1996). There is now clear evidence that although important life events such as losing one's job or spouse have a strong immediate impact on measures of SWB, the impact diminishes over time, although the individual may never completely return to his or her original level of SWB (Lucas et al., 2003, 2004). Over time, events and circumstances that are stable come to have a diminishing impact, thereby reducing the correlation between life circumstances and SWB in studies that do not also examine how long the circumstances have remained in place.

#### *The Context of Situational Circumstances*

Researchers studying the effects of events and demographic variables on SWB have often concluded that the effects tend to be relatively small. For example, Campbell et al. (1976) concluded that all of the demographic variables they studied, taken together, accounted for less than 20% of the variance in SWB.

However, the effects of variables such as marriage and age probably depend heavily on the situational specifics of those variables. Good health enjoyed by a 70 year old may contribute more to SWB than good health enjoyed by a 20 year old. Or, the effects of widowhood on SWB may be different for a person surrounded by friends and family versus another woman who only recently moved to a new location where she has little social support. Thus, one reason that demographic and other “objective” social indicators correlate only modestly with the subjective stages is that they are relatively imperfect indicators of quality of life, and do not take into account important contextual factors which moderate people’s subjective reactions to life.

### **Emotional Reactions to Events and Circumstances**

The next stage in our framework moves from the events and life circumstances to the person’s reaction to these events. When a life event occurs, a person appraises the event – how desirable it is, whether she or he has the resources to cope with it, why the event occurred, and so forth. The evaluation of events might occur consciously as well as unconsciously (e.g., Robinson, 2000), and these appraisals lead to varying emotions (e.g., Ortony et al., 1988). Central to feelings of SWB is that reactions to events are evaluative (feeling whether the events are good or bad), and include feelings of pleasantness and unpleasantness.

We cannot give a thorough description of all the processes that comprise emotional reactions, but simply emphasize that such reactions are complex phenomena that involve parallel processes at multiple levels. For example, in addition to immediate evaluations and later cognitive appraisals, an emotional reaction often involves outward motor expression, such as facial expressions, posture, vocalizations, and verbal expressions. Emotional reactions also involve changes in physiological systems, such as neurochemical processes and activation of specific brain regions. In addition, emotional responses to events also include people’s verbal labels for their emotions, which contain information about the explanation for the emotional feeling. Because emotional reactions involve many systems, measurement of such reactions have been based not only on self-reports, but also on biological (Cacioppo et al., 2000) and nonverbal measures (Keltner et al., 1999; Oettingen and Seligman, 1990). Because an emotional reaction is a complex set of responses to events, no single measure can fully capture it. On-line verbal reports of emotional reactions can be complemented by nonverbal, physiological, and behavioral measures (e.g., Larsen and Fredrickson, 1999) to yield a richer understanding of emotional reactions. These measures of various components of emotional reactions are usually moderately correlated with one another. Thus, whereas well-being researchers have focused mainly on self-report scales to assess on-line emotion, additional measurements can offer an invaluable contribution to the understanding and assessment of well-being judgments.

### *The Transition from Objective Events to Emotional Reactions*

Emotional reactions are responses to either internal or external events. Although some events affect virtually all people because they are almost universally appraised as good or bad, most events produce varying reactions across people. Thus, the transition from life events and circumstances to people's emotional reactions to these events and circumstances has been a central task in understanding SWB. Of course, importance of individual interpretation in understanding the emotional response to external events has been undeniable from early days of emotion theory (e.g., James, 1884), and one that has been much researched by emotion scholars (e.g., Lyubomirsky and Tucker, 1998). Providing an exhaustive mapping of all the variables that have been linked to emotional response would require an extensive review onto itself, and beyond the scope and aim of our current task. Thus, we merely provide some key examples from the emotion literature of the ways that different variables affect the transition from objective events to emotional reactions.

Personality appears to be one such key element. Personality traits, such as extraversion and neuroticism, have been related to reactivity to emotional stimuli (Canli et al., 2001; Larsen and Ketelaar, 1991; Rusting and Larsen, 1997; Tamir et al., 2002; Zelenski and Larsen, 1999). People differ in how intensely they respond to emotional events (Larsen and Diener, 1987; Larsen et al., 1986, 1987), and in the duration of their emotional reactions (Schimmack et al., 2000).

Another important element is appraisal and explanatory style (Buchanan and Seligman, 1995). Several theories explain how appraisals are made, and how habitual appraisal tendencies can influence SWB (e.g., Ortony et al., 1988; Seligman, 1995). At the most basic level, appraisal processes lead to a valenced evaluation of events in terms of their personal significance. In addition to appraising whether an event is positive or negative, people also assess causal factors, personal control, and their ability to cope. Some appraisals are learned and habitual. For example, fear can be conditioned without conscious mediation (e.g., Robinson, 2000). Appraisal also occurs at the level of interpretation; people differ in the way they interpret and explain situations (Lyubomirsky and Ross, 1999; Lyubomirsky and Tucker, 1998). For example, people who are aggressive tend to appraise situations in more aggressive terms (e.g., Cohen et al., 1998). Indeed, learned helplessness (Peterson and Seligman, 1984; Peterson et al., 1993), which is a pessimistic explanatory style coupled with stable and global self-attributions of negative outcomes, predict strong and persistent negative emotions (see also Jackson et al., 2002).

### *Emotional Reactions and Well-Being*

Thus far, we have discussed the nature of emotional reactions and few select variables that mediate events and evaluative responses to them. However, even the approach that places the greatest emphasis on specific emotional experiences does not view single experiences as a reflection of long-term feelings of well-being. Rather, multiple emotional reactions are

aggregated in order to reflect people's feelings of well-being over time. Considering the fact that researchers often aggregate multiple emotional reactions across time, it is important to identify the key factors that influence the selection of the emotional reactions that have long-term effects. One important factor that influences long-term effects of emotional reactions is goals and personal desires. This is because although people can respond emotionally to events at any given moment, only the reactions that are relevant to general goals and concerns are likely to influence SWB. For example, a person might encounter a snake in the woods and experience intense fear, but such a reaction does not necessarily have implications for that person's sense of happiness and satisfaction with life because they hardly ever go for a walk in the woods. Thus, life circumstances and events most influence SWB when they either hinder or benefit major goal progress, or signify whether an important goal has been obtained or lost (Cantor and Sanderson, 1999; Emmons, 1986).

Factors that are closely linked to personal goals appear to have most impact on people's reports of SWB. For example, Andrews and Withey (1976) found that people's evaluations of things that are generally distant from their own lives, such as the government and other institutions, have little relation to measures of SWB. On the other hand, people's evaluations of factors closer to their lives, such as their social relationships and jobs, correlate more closely with their reports of SWB. Events such as recent widowhood strongly influence the reports of SWB of most people (Lucas et al., 2003). While the reason is not clear, we theorize that the death of a spouse has a pervasive effect on most people's ability to meet many of their desires and goals simply due to the fact that their spouse is no longer present.

Goals and motivational concerns also mediate the relation between external events and reactions to them, to the extent that resources influence people's ability to reach their goals. Diener and Fujita (1995) found that resources, such as income, were most relevant to measures of SWB if they were related to the person's goals (see also Crawford-Solberg et al., 2002). Furthermore, personal resources, such as social support and self-confidence, were more important for reports of SWB than were material goods. Objective social indicators of quality of life are only modestly related to later stages in the SWB sequence because people have different goals and values, and have different amounts of resources for obtaining their particular goals.

In sum, the model described thus far indicates that external events and circumstances are related to people's affective and cognitive reactions, but that this relation is mediated by processes that vary considerably across individuals. Further, while no one-to-one correspondence between events and circumstances and evaluative reactions to them exist, the two are related in a systematic manner and depend on a variety of factors, such as explanatory style, adaptation, and the availability of resources for meeting one's goals.

## The Recall Stage

The next stage involves later recollections of an emotional reaction to an event. Substantial research has been conducted on the relation between memory and emotion, focusing on how emotion is encoded, how it is recalled, and how emotion and memory affect one another (e.g., Christianson, 1992). As suggested by our framework, research findings show that although on-line reports and recalled reports of the same emotional event are related, they are not identical (e.g., Thomas and Diener, 1990). One cause of the discrepancy between on-line and retrospective reports of emotion is that memories of emotion are not encoded in memory in a permanent form. Instead, emotional memories are constantly being reconstructed based on present emotional experiences, current values, beliefs, and motivations (e.g., Ross and Wilson, 2000). Figure 1 indicates several factors that influence the reconstruction of emotional memories, including implicit theories of emotion, cultural norms regarding emotions, and information conveyed in surveys, such as the recall time frame.

Indeed, one factor that influences the reconstruction of memory is people's implicit theories about emotion. In this regard, McFarland et al. (1987) demonstrated that when women were asked to recall their mood during menses, they recalled more negative emotions than they previously reported on-line: Implicit theories about the relation between menstruation and mood moderated the amount of negative emotion that was remembered. Implicit theories about gender also operate in a similar manner in that gender differences that are apparent in retrospective reports of emotion can disappear when researchers measure on-line emotion (Robinson and Clore, 2002; Robinson et al., 1998).

Cultural beliefs also influence the transition from on-line to remembered emotion. For example, Oishi (2002) found that Asian Americans and European Americans differed in their retrospective ratings of emotion but not in their on-line reports of emotion. When asked to recall their on-line moods, European Americans remembered their week as very good and Asian Americans remembered their week as mildly good, although the two groups reported their mood as being equally mildly good on their on-line reports. It is possible that people are more likely to recall feeling emotions that are normative for their culture, or recall feeling the emotions that fit culturally with the events they have been experiencing (see Markus and Kitayama, 1994, for why this might occur).

Other factors underlying the relation of on-line emotion labeling and recalled affect include current appraisals of the object or event causing the reaction. The recall of emotional events can depend on the current state of the individual. Levine and her colleagues (Levine, 1997; Levine et al., 2001) demonstrated that people reconstruct their memories for emotion in the direction of their current appraisals. In their study, changing evaluations of the presidential candidate Ross Perot led to reconstructing one's memory of how one felt earlier about Perot's actions. Thus, changes in appraisal of circumstances or events can result in changes in memory for one's previous reactions to them.

Why are emotional memories susceptible to reconstruction? Robinson and Clore (2002) suggest that when recalling emotions over a wide time frame, individuals do not retrieve specific instances and aggregate them to compute mean levels of affect. The recall task is difficult, and respondents prefer to provide quick answers to researchers' questions. Consequently, people rely on heuristic information such as their general self-concept, implicit beliefs about emotion, or current mood, to inform their estimates of past emotional experience. In support of this, Feldman Barrett (1997) showed that individuals who score high on self-report measures of neuroticism overestimated in their recalled reports the amount of negative emotion they experienced on-line. On the other hand, individuals who scored high on self-reports of extraversion recalled more pleasant affect than they actually experienced on-line. Diener et al. (1984) showed a similar effect with happy versus unhappy people: Happy people overestimated the amount of pleasant affect in recall, whereas unhappy people overestimated the amount of negative affect in recall.

One final influence on recall is that the survey questions presented by the researcher can stimulate respondents to search for different information. Winkielman et al. (1998) asked respondents about how much anger they had experienced, but over time frames of either one week or one year. People reported large amounts of anger for the week compared to what would be expected for a year if extrapolated from the weekly reports to a full year. Respondents appeared to set a threshold for reporting that depended on the questions asked by the researcher. When the interviewer asked about anger in a short period, such as a day, the participant assumed that s/he must be interested in any experience, even mild irritation, because intense anger would be unlikely in such a brief period, and the short time frame implied that the experience is frequent. When the interviewer asked about anger over the course of a year, however, the respondents assumed that s/he was inquiring about intense anger episodes that could be recalled over a long period, and provided an estimate of only intense anger experiences. The two estimates are incommensurable in terms of the translation of the frequency of anger from one time period to the other because the subjects in the two conditions provide information about different emotional experiences. Thus, reports of recall are not only influenced by memory factors, but also by survey design variables that influence how participants interpret the questions.

The above review indicates that recall does not provide a precise duplicate of on-line experience, and that other influences such as personality and culture can influence what is remembered. Thus, measures of SWB that depend on recall are likely to be influenced by these other factors in addition to on-line past experiences. When people recall that they are more joyful than other individuals, it might be because of on-line emotional reactions, or it might be because of norms, interpretations of survey items, or implicit beliefs about emotions.

Thus, memories of emotions are dynamic reflections of the way emotions are being shaped and modified through time. Emotion memories cannot be simply dismissed as biased reflections of the "real" on-line emotions because research indicates that remembered emotions are sometimes better predictors of behaviors than the actual on-line emotions themselves. For example, Wirtz et al. (2004) found that participants' memory of their spring break vacation was a better predictor

of whether they wanted to go on a similar vacation in the future than their on-line emotions assessed during the vacation. Oishi (2004) also found that people's on-line feelings with their romantic partner were not as important as the recall of these feelings in predicting whether the partners would still be in the romantic relationship six months later. Within our framework, on-line affect and recalled affect no longer need to vie for the position of "true emotional well-being." Instead, both on-line affect and recalled affect are two different ways of understanding subjective well-being.

### **Constructed Satisfaction Judgments**

Global evaluations of one's life occur at the final phase of the emotion sequence. For example, respondents can think about and report whether their lives are meaningful, whether their work is fulfilling, and whether their marriage is satisfactory. Such global evaluations are distinctly different from both online affective experiences and the recall of such experiences. Indeed, one of the approaches to SWB mentioned earlier focuses on global evaluations as the best indicator of SWB. In this section, we describe this stage in further detail, emphasizing how it relates to earlier stages in the framework.

Schwarz, Strack, and their colleagues (see Schwarz and Strack, 1999, for a review) examined how people construct life satisfaction judgments. Figure 1 lists several of the processes these researchers have examined, including the accessibility of specific standards of comparison, the salience of specific information, the specificity of the evaluated target, and the influence of current mood. Schwartz et al. shed considerable light on the processes that influence the construction of global satisfaction judgments, and we describe some of these factors below.

#### *Comparison Standards*

One process that affects people's constructions of satisfaction judgments is the standards that people use, whether consciously or unconsciously, in making SWB judgments (Campbell et al., 1976). Schwarz and Strack (1999) showed that the comparison standards against which one judges one's life could be altered by priming. They asked participants to respond to satisfaction questions when a person in a wheelchair was in the respondent's view. In this case, life satisfaction was higher because respondents compared themselves to the person with a disability. A similar finding was presented by Dermer et al. (1979), who showed that people's life satisfaction was higher if life in the past was presented in an unfavorable light. In another study, Schwarz and Scheuring (1988) varied the response scales on items prior to the satisfaction judgment: Some subjects had response scales with low options (suggesting that most people are not that well off in the domain), whereas other participants received items with response scales that were high (indicating that most subjects are well off in this domain). The response scales set standards against which subjects could gauge their own level of success, and this influenced their later satisfaction (for a review of this line of research, see Schwarz, 1996).



*Target Specificity*

People can evaluate their satisfaction with their life as a whole, but they can also rate their satisfaction with specific life domains, including romantic relationships, career, physical appearance, and many more. Because different targets could be related to different experiences and goals, the target specificity of satisfaction judgments might also influence the resulting evaluations. Some research suggests that people may rely on different sources of information when evaluating their satisfaction with specific versus general life domains. For example, Schwarz et al. (1987) suggested that people access domain-specific information when evaluating specific life-domains, but rely on heuristic cues (e.g., their current mood) when evaluating their satisfaction with life as a whole. Although further research is needed to compare general to specific life satisfaction judgments, the available research indicates that different sources of information might be salient to different degrees when evaluating life satisfaction.

*Salience*

The information that is salient, and therefore highly accessible, at the time of satisfaction judgment can strongly influence the judgment (Schwarz and Strack, 1999). For example, in one study (Strack et al., 1988) college student respondents were asked about both their dating satisfaction and their life satisfaction, but the question order was counterbalanced, with half of the subjects receiving the dating question first. When the dating question came before the life satisfaction question, the two correlated substantially, but when the dating question came second, the correlation was low. Presumably the concrete dating question could influence the life satisfaction response by making certain information salient, but the life satisfaction question would be unlikely to influence the respondents' satisfaction with their romantic lives because this judgment is more bounded by the reality of the situation. Schimmack et al. (2002) extended these findings to the individual difference domain by showing that for some individuals, information about romantic life is more chronically salient than for other individuals, and therefore is more likely to influence their life satisfaction judgment. Thus, both situationally primed information and material that is chronically salient for individuals are likely to be used in the construction of life satisfaction judgments.

Later investigators built on the impressive work of Schwarz and Strack. Schimmack et al. (2002) explored why, if momentary situational factors influence reports of life satisfaction, these reports tend to be very stable across time and situations (Diener and Larsen, 1984; Eid and Diener, in press). They found that the information people use in their judgments also tends to be stable. People tend to use the same sources of information repeatedly over time, and the information itself tends to be somewhat stable. For example, Schimmack et al. found that whether individuals used their family relationships in judging their life satisfaction was moderately stable over time. In addition, the ratings of family relationships were themselves somewhat stable over time. It appears that some information is chronically accessible to individuals, and tends to be used repeatedly when they report their satisfaction, unless other information is made more salient by

the situational context. Thus, global satisfaction judgments are likely to be based on some chronically salient information, as well as information that has recently been primed by situational factors.

In addition to individual differences in the domains of information people use when making life satisfaction judgments, individual differences also exist in the way people use information. Diener et al. (2002) found that some individuals most heavily weight the domains in which they have the biggest problems in judging their life satisfaction, whereas other individuals most heavily weight their best domains<sup>1</sup>. At the societal level, some cultures focus people more on positive or on negative information (e.g., Elliot et al., 2001; Lee et al., 2000), and this can change the emotional information they recall when making global life judgments. In a similar vein, Diener et al. (2000) found that a general positivity disposition predicts average life satisfaction judgments across nations. Thus, it is clear that both stable individual differences and situational factors influence global judgments of life satisfaction.

A strength of a life satisfaction measure is its flexibility: People can consider or ignore information that they personally consider relevant or irrelevant when making judgments about life satisfaction. However, this flexibility leaves open the possibility that situational factors can influence the judgment by making certain information more salient to the respondent. This also explains why objective predictors are often only modestly related to global satisfaction judgments; some respondents might view the predictor as relevant to his or her global evaluation, whereas others may not. Schimmack et al. (2002) found, for example, that almost all student respondents considered progress toward their academic goals when making life satisfaction judgments, but only about half of them considered their current mood or housing arrangement to be relevant. Individual differences in goals, as well as culture (Oishi and Diener, 2001), are likely to influence what people consider important when evaluating their lives.

#### *Relation of Global Judgments to Previous Stages in the Model*

In order to compute a judgment of life satisfaction or fulfillment, people can use affective information, such as their recall of positive emotions. Suh et al. (1998) found that recall of affect correlated with life satisfaction judgments, and Schimmack et al. (2002) found evidence suggesting that individuals retrieve emotional information when forming life satisfaction judgments. However, both studies suggest that individual differences exist in the relative degree to which people rely on past emotional experiences when making global judgments of life satisfaction.

Alternatively, although life satisfaction and on-line emotion are related, they are not the same thing. Lucas et al. (1996) used a multitrait-multimethod approach to examine the relation between emotional experience and life satisfaction. Although significantly correlated, global reports of positive affect and negative affect showed separability from reports of life satisfaction. Similarly, Eid and Diener (in press), found a correlation of 0.74 between the variables at the

latent trait level. Thus, long-term affect accounted for about half of the variability in life satisfaction when the effects of current mood and situational variability were removed from each measure. When constructing global SWB judgments, people take more than their pleasant and unpleasant emotions into account. For example, Schimmack et al. (2002) found that objective circumstances, such as college grades, housing, and romantic relationships, held some importance in life satisfaction judgments.

## **Conclusion**

Figure 1 presents a sequence that includes the major temporal components of SWB. These stages incorporate objective events and circumstances that people experience in their lives, the subjective emotional reactions to such events, the memories of specific emotional reactions, and the global judgments of life satisfaction. While these stages unfold over time, we do not imply progressive development such that one stage turns into another. Instead, these stages in the SWB sequence are related, but not identical. Most current research on well-being is related to one of three approaches outlined earlier in this paper. Whereas each of these approaches emphasizes one stage in the sequence, our framework suggests that each stage is one of several different forms of evaluation that people make about their SWB. No stage in the framework can single-handedly provide a full account of subjective well-being; rather, the interrelationship of the stages is crucial to a full understanding of how people evaluate their lives. The framework therefore incorporates several important factors that influence both specific stages and the transitions between them.

## **Multiple Sequence Scenarios**

Our framework shows a simplified version of emotional experiences in real life. In everyday life, people are exposed to multiple events, which lead to multiple emotions that can later be recalled separately or in combination. Thus, a sequential path as the one depicted in Figure 1 does not occur in a vacuum; rather, it constantly influences and is influenced by other sequences along the temporal continuum. Thus, an event that occurs at stage, whether it be the occurrence of an emotional event, a memory of an emotional event, or global evaluation, influences what happens at other stages of other events. As shown in Figure 2, one can examine the relation between two adjacent sequences, where sequence 1 occurs on a temporal continuum before sequence 2. Because a thorough overview of all possible relations is beyond the scope of this paper, we will briefly discuss two examples: Effects of previous stages on future events and circumstances, and the effects of concurrent events on emotional experience.

### *Effects on Future Objective Outcomes*

Our daily experiences are constantly shaped and modified by experiences from our past. This is especially true in the field of emotion and SWB, because valenced evaluations of life can influence patterns of choice and behavior, reactivity, and evocation.

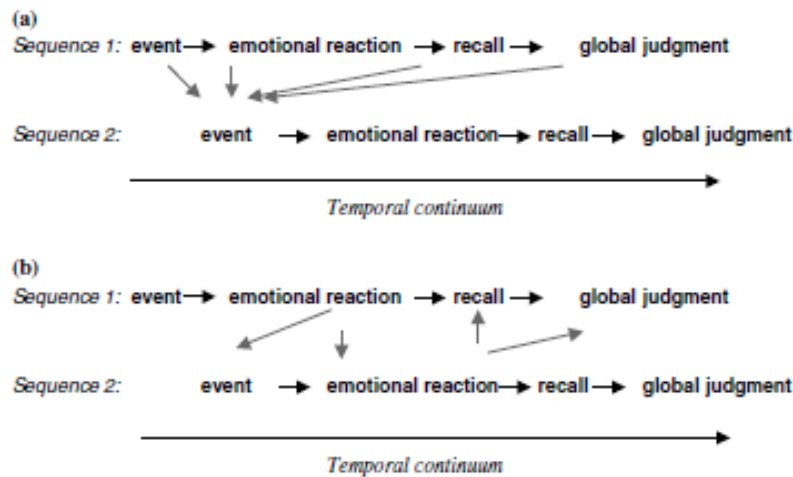


Figure 2. Examples for relations between multiple sequences.

By using our framework, one can examine how different components of SWB influence objective life outcomes. As shown in Figure 2a, each stage in an earlier sequence can contribute to the prediction of future life events and circumstances.

In this respect, positive emotional states are likely to elicit positive reactions from others (Lyubomirsky et al., 2002). Positive emotions can also alter performance by increasing creativity, income, work performance, health, and other variables that are valued in many cultures. Thus, emotional reactions can influence later events and life circumstances. For example, research shows that recalled emotions can be a better predictor of future events than the actual on-line experiences (Wirtz et al, 2004; Oishi, 2004). Furthermore, global judgments of job satisfaction can mediate the relation between work environment and turnover (Lambert et al., 2001), as well as predict outcome variables such as productivity and company profit (Harter et al., 2002). Thus, each of the three subjective stages can influence later objective events and circumstances.

### *Multiple Effects of On-line Emotions*

In addition to noting possible relations between past stages and future outcomes, our framework also points to the multiple effects each stage can have on stages in future or parallel sequences. For example, Figure 2b indicates the potential effects of current emotions on each of the four stages in a subsequent SWB sequence.

We have already mentioned the possible effects of emotional reaction on the prediction of future outcomes. However, on-going emotional reactions can also influence the way people respond emotionally to other events in the environment. For example, positive affect increases selective attention to positive information (Tamir and Robinson, 2004), which might serve to maintain positive feelings. Indeed, many studies have documented the effects of emotion on concurrent cognition and evaluation. In addition, reactions to one event can influence the recall of other events. For example, people in a positive mood might be more likely to recall positive events from their past, whereas people in a negative mood might be more likely to recall negative events.

Finally, people's current mood can influence their global judgments of life satisfaction, but they can also discount this information if they believe that it is due to irrelevant sources (Schwarz and Clore, 1983; see also Robinson, 2000). Schimmack et al. (2002) found that about one-half of respondents report that they use their current mood in evaluating their lives. Those individuals who say that they use their current mood show a much larger correlation between their moods and life satisfaction reports than do individuals who say that they do not use their current mood information. Although individuals differ in whether they use this information, they tended to do so with some stability across time. However, when a particular piece of information becomes particularly salient, such as one's mood on a beautiful spring day after a long spate of bad weather, or when one's nation has just won a soccer championship, this material might become salient even for individuals for whom it is not chronically salient.

### *Summary*

The above examples demonstrate that stages in sequences that involve different eliciting events can influence one another. Revealing such intricate interrelationships is an important task for future research. Despite the fact that our framework must be made more complex to accommodate all paths of influence between variables, it nevertheless points to major steps in the SWB sequence, and alerts us to the importance of searching for the interconnections among those stages. Thus, the current framework should have heuristic, conceptual, and empirical value in terms of stimulating theory and empirical work on the ways that the major stages in the sequence are related to one another.

### **On the Primacy of the Various Stages**

As mentioned earlier, scholars have argued for the primacy of one stage over the other stages in terms of reflecting SWB. For example, in terms of eliciting events, many sociologists and economists favor economic and social indicators, which reflect life circumstances in a society. In terms of emotional experience, Kahneman (1999) argued that on-line emotional reactions to events have priority in terms of assessing hedonic outcomes because this measure is not as biased as recall and global judgments. Others have focused on retrospective memories, preferring

a broader perspective on a person's life than how the respondent feels at the moment of the survey. Finally, Veenhoven (1993) argued that global judgments, such as life satisfaction, are primary in assessing SWB because it best reflects the philosophical notion of the good life. The preference for one perspective over another can be based on philosophical reasons, or because one method might be considered less biased than another.

However, an important point of this paper is that a scientific understanding of people's evaluations of their lives requires knowledge of each of the stages because they are connected to one another in an integral fashion. Each stage indicates new information about the quality of a person's life, and a comprehensive theoretical understanding is not possible without understanding the complete sequence. There is evidence that each of the various stages predict important behaviors. For example, laboratory experiments indicate that positive emotional reactions can lead to heightened altruism, creativity, and flexible problem solving (see Brief and Weiss, 2002 for a review). And as mentioned earlier, the memory of emotions, however inaccurate, often predicts future choices and behaviors better than online emotions (Oishi, 2004; Wirtz et al., 2004). Finally, measures of the global judgment stage indicate that it, too, can have predictive power. For example, global life satisfaction judgments have been shown to predict substance abuse (Newcomb et al., 1986; Zullig et al., 2001), suicide (Koivumaa-Honkanen et al., 2001) and deaths due to fatal injuries (Koivumaa-Honkanen et al., 2002). Similarly, global judgments of the workplace can predict job accidents, unit profitability, and productivity (Harter et al., 2002). Thus, all three of the subjective stages are important to understanding and predicting future behavior.

## **IMPLICATIONS OF THE FRAMEWORK**

### **Personality Influences on the Stages of SWB**

One implication of our framework concerns the pronounced effects of individual differences on every stage of the sequential framework. Personality influences on measures of SWB have been found to range from moderate to substantial, and the heritability of SWB has been estimated at about 0.5 (Tellegen et al., 1988). Two of the "Big Five" traits, Extraversion and Neuroticism, have been found to correlate at 0.80 or higher with long term levels of positive and negative affect, respectively, after controlling for measurement error (Lucas and Fujita, 2000; Fujita, 1991). Thus, the relation found between various measures of SWB and personality is often higher than that found between situational and demographic variables, and reports of SWB (Diener and Lucas, 1999).

As discussed earlier, personality can influence the relation between an individual's objective circumstance and one's emotional reactions. However, evidence indicates that personality can influence all of the stages in the model. People with different temperaments are likely to

experience different life events (e.g., Headey and Wearing, 1989; Magnus et al., 1993), and a propensity to experience certain events, such as divorce, appears to be partly heritable (Jocklin et al., 1996). People with different personalities react differently to the same events (e.g., Rusting and Larsen, 1997) and remember the same emotional reactions differently (e.g., Feldman Barrett, 1997). Moreover, the same processes that may be responsible for individual differences in emotional experience may operate within persons as well. For example, Fleeson et al. (2002) found that engaging in extraverted behavior had positive consequences for both introverts and extraverts. Additionally, people with different personalities are likely to select different information when constructing global SWB judgments (Diener et al., 2002). Certain broad personality predispositions to approach versus withdraw (Elliot and Thrash, 2002) are likely to influence all stages in our framework. Thus, personality is one of the strongest correlates of reports of affect and life satisfaction probably because it can influence all four stages in the sequence.

### **Measurement**

One of the clearest implications of our model concerns measurement. Because SWB is viewed as an ongoing process, we believe that no single measure is automatically more valid than another measure. Different measures provide information about different stages of SWB, and therefore we strongly advocate multiple measures that tap different stages. When the measures converge, they give greater certainty to the findings. When the measures diverge, however, they can often cast considerable theoretical light on the processes under study. When additional measures are available that help the researcher understand the processes underlying discrepancies between SWB measures (e.g., of norms or self-concept), the researcher can be in an especially strong position to comprehend the processes underlying SWB.

Another implication of our model is that the time when emotion measures are collected can strongly influence the findings. As Kahneman (1999) aptly noted, there can be large differences between predicted, on-line, and recalled emotional experiences. Researchers need to be aware of these differences, and be cognizant of the implications of measurement timing for the results and conclusions of their research.

### **FUTURE RESEARCH**

We have outlined a time-sequential framework for understanding SWB. However, more studies are needed to fully understand and test our framework. First, future research should further examine the relations between different stages in the sequence. We are beginning to understand many of the transition processes that relate one stage to the next, but much more work is needed in this area. Future research should also continue to address the variables that cause dissociations

between different stages in the sequence. For example, we know little about the accuracy of recall for moods versus emotions (see Frijda, 1993, for a discussion of the distinction between the two). We also know little about how cultural referencing effects (Heine et al., 2002) might influence reports of on-line versus recalled emotions. Schwarz and Strack (1999) suggest that people's evaluations of specific targets, such as marriage or one's car, might depend more on preformed evaluations of the object, whereas evaluations of more global domains might be subject to greater situational influences at the time of measurement. Our framework suggests that measuring on-line versus recalled versus global evaluations of both broad and narrow domains would be a valuable extension of Schwarz and Strack's work.

Future research should also be designed to explore the factors that moderate the relation between the various stages in the SWB sequence. For example, if people have a clear and salient self-concept related to a specific emotion, their recall of it might be less related to their on-line experience of that emotion because they rely heavily on self-concept. Similarly, a person might have a strong belief about the emotions that accompany certain situations, and therefore might rely on situational beliefs when the emotion is recalled. People's memories of their emotions might depend on personality factors such as the stability of self-esteem (Kernis et al., 1998), and stability in emotions might moderate the relation between affect and life satisfaction. Seidlitz and Diener (1998) found that women recall affective experiences more accurately, and that this is probably due to more elaborated cognitions of those experiences. This finding points to the importance of exploring individual and group differences, as well as the social conditions that influence the relation between recalled affect and on-line experience. A factor that might moderate the relation between recalled affect and global judgments of satisfaction is the value that people place on emotions. Thus, our framework points to many interesting research questions about factors that moderate the relation between the sequential stages of SWB.

## CONCLUSIONS

In this paper, we offer an integrative framework of SWB. Our framework is a sequential one that begins with the events that cause emotional experience and ends with broad conclusions people reach in evaluating their lives, based in part on their recall and reconstruction of their emotional experiences. We believe that the framework we present has a number of advantages. First, it covers the entire span of experience, not just the early or late stages. Second, we provide hypotheses and evidence about some of the important transition processes between the phases of the SWB sequence, including how such processes could be influenced by factors such as personality or culture. Third, our framework has clear implications for the theoretical meaning of different measures of SWB. The present framework suggests a new integrative, temporally oriented perspective on SWB, and points to possible limitations of past research.



## NOTE

<sup>1</sup>It might be, however, that there is a universal tendency to weight negative events more heavily than positive ones, based on the idea that negative information in general is more salient than positive information (Ito and Cacioppo, 1999; Rozin and Royzman, 2001). Future research is needed to better understand this tendency and its relevance to SWB.

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