

Subjective Well-Being

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The literature on subjective well-being (SWB), including happiness, life satisfaction, and positive affect, is reviewed in three areas: measurement, causal factors, and theory. Psychometric data on single-item and multi-item subjective well-being scales are presented, and the measures are compared. Measuring various components of subjective well-being is discussed. In terms of causal influences, research findings on the demographic correlates of SWB are evaluated, as well as the findings on other influences such as health, social contact, activity, and personality. A number of theoretical approaches to happiness are presented and discussed: telic theories, associationistic models, activity theories, judgment approaches, and top-down versus bottom-up conceptions.

Throughout history philosophers considered happiness to be the highest good and ultimate motivation for human action. Yet for decades psychologists largely ignored positive subjective well-being, although human unhappiness was explored in depth. In the last decade behavioral and social scientists have corrected this situation, and theoretical and empirical work is emerging at an increasingly faster pace. In 1973 *Psychological Abstracts International* began listing happiness as an index term, and in 1974 the journal *Social Indicators Research* was founded, with a large number of articles devoted to subjective well-being (SWB). For a comprehensive bibliography of the burgeoning SWB literature, see Diener and Griffin (in press). Excellent reviews of the history and philosophy of happiness and related terms are available (Chekola, 1975; Culbertson, 1977; Jones, 1953; Tatarkiewicz, 1976; Wessman, 1957; and Wilson, 1960).

The literature on SWB is concerned with how and why people experience their lives in positive ways, including both cognitive judgments and affective reactions. As such, it covers studies that have used such diverse terms as happiness, satisfaction, morale, and positive affect. Wilson's (1967) review of this emergent area contained two broad conclusions. First, Wilson wrote that those with the most advan-

tages were happiest. He concluded that the "happy person emerges as a young, healthy, well-educated, well-paid, extroverted, optimistic, worry-free, religious, married person with high self-esteem, high job morale, modest aspirations, of either sex and of a wide range of intelligence" (p. 294). Wilson's second major conclusion was that little theoretical progress in understanding happiness has been made in the two millennia since the time of the Greek philosophers.

Over 700 studies have been published since Wilson's review. Are his conclusions still valid? In the first section of this article, recent work on measuring and conceptualizing SWB is reviewed. However, the majority of the emerging literature has examined demographic and other external correlates of SWB. Several of Wilson's conclusions are called into question by these findings. For example, as is discussed in upcoming sections, later research did not indicate a substantial correlation between health and happiness or between age and happiness. More importantly, the variance accounted for by the demographic factors is not large. This has led to an increasing number of studies on psychological causes of happiness. An overview of the large literature on the correlates of SWB is given in the second major section of this review. Because the area of subjective well-being can no longer be reviewed in depth in a single article, the reader is also referred to other major works (Andrews & Withey, 1976; Bradburn, 1969; Campbell,

on well-being has not progressed as rapidly since Wilson's review, although there are several notable theoretic-empiric advances. Several major theoretical questions related to subjective well-being are discussed in the last section of this review. Perhaps the most important advance since Wilson's review is in defining and measuring happiness. This advance is crucial because the ability to measure SWB is necessary to scientific understanding. In addition, work on measurement is helping to provide clearer definitions of the components of subjective well-being.

Defining and Measuring Subjective Well-Being

Definitions of Subjective Well-Being

Many philosophers and social scientists have concerned themselves with defining happiness or well-being. Definitions of well-being and happiness can be grouped into three categories.

First, well-being has been defined by external criteria such as virtue or holiness. Coan (1977) reviewed the varying conceptions of the ideal condition that have held sway in different cultures and eras. In normative definitions happiness is not thought of as a subjective state, but rather as possessing some desirable quality. Such definitions are normative because they define what is desirable. Thus, when Aristotle wrote that eudaimonia is gained mainly by leading a virtuous life, he did not mean that virtue leads to feelings of joy. Rather, Aristotle was prescribing virtue as the normative standard against which people's lives can be judged. Therefore, eudaimonia is not happiness in the modern senses of the word, but a desirable state judged from a particular value framework. The criterion for happiness of this type is not the actor's subjective judgment, but the value framework of the observer. A related meaning of happiness given by Tatarkiewicz (1976) is success, which must be defined relative to some standard.

Second, social scientists have focused on the question of what leads people to evaluate their lives in positive terms. This definition of subjective well-being has come to be labeled life satisfaction and relies on the standards of the respondent to determine what is the good life. Although well-being from a subjective perspective has become a popular idea in the last

century, this concept can be traced back several millennia. For example, Marcus Aurelius wrote that "no man is happy who does not think himself so." Shin and Johnson (1978) have defined this form of happiness as "a global assessment of a person's quality of life according to his own chosen criteria" (p. 478). Andrews and Withey (1976) found that over 99% of their respondents had previously made such an assessment of their lives. A related set of definitions of happiness is that it is the harmonious satisfaction of one's desires and goals (Chekola, 1975). If one is concerned with the person's assessment of this, then it clearly falls within the realm of subjective well-being and is an idea related to satisfaction.

A third meaning of happiness comes closest to the way the term is used in everyday discourse—as denoting a preponderance of positive affect over negative affect (Bradburn, 1969). This definition of subjective well-being thus stresses pleasant emotional experience. This may mean either that the person is experiencing mostly pleasant emotions during this period of life or that the person is predisposed to such emotions, whether or not he or she is currently experiencing them.

Satisfaction with life and positive affect are both studied by subjective well-being researchers. How these two components relate to one another is an empirical question, not one of definition. Unfortunately, terms like happiness that have been used frequently in daily discourse will necessarily have fuzzy and somewhat different meanings. Nevertheless, as measurement and other work proceeds, the most scientifically useful concepts will be those that can be measured and show, within a theoretical framework, interesting relationships to other variables.

The area of subjective well-being has three hallmarks. First, it is subjective. According to Campbell (1976), it resides within the experience of the individual. Notably absent from definitions of SWB are necessary objective conditions such as health, comfort, virtue, or wealth (Kammann, 1983). Although such conditions are seen as potential influences on SWB, they are not seen as an inherent and necessary part of it.

Second, subjective well-being includes positive measures. It is not just the absence of negative factors, as is true of most measures

of mental health. However, the relationship between positive and negative indices is not completely understood.

Third, the subjective well-being measures typically include a global assessment of all aspects of a person's life. Although affect or satisfaction within a certain domain may be assessed, the emphasis is usually placed on an integrated judgment of the person's life. Nonetheless, measures may cover a period ranging from a few weeks to one's entire life. There is no a priori way to decide what time period is best. Rather, researchers must uncover the correlates of SWB within the varying time frames.

Numerous scales have been designed to measure both the affective and cognitive satisfaction components of well-being. This review does not cover momentary mood scales, depression, or other inventories designed exclusively to measure dysfunction or lack of well-being.

Single-Item Measures

Because subjective well-being has been of central importance to those interested in measuring the quality of life (Campbell, 1976), it is not surprising that several of the most frequently used measures are single-item survey questions (see Table 1). Despite the obvious advantages of brevity, single-item scales have been criticized on a number of grounds (e.g., McKennell, 1974). With reliance on a single item, the variance due to the specific wording of the item cannot be averaged out. Because it is impossible to obtain estimates of internal consistency, usually the only estimate of reliability for these scales is temporal reliability, in which it is difficult to separate true change from measurement error. Single-item scales tend to be less reliable over time than multi-item scales, although the temporal reliability of the single item measures has been moderately high (Stock, Okun, Stock, Haring, & Witter, 1982). For example, a 2-year reliability for Cantril's ladder was .65 (Palmore & Kivett, 1977), 15-min reliabilities for the Delighted-Terrible (D-T) satisfaction scale averaged .66, and a 6-month reliability was .40 for the D-T measure.

One major source of evidence for the validity of the scales is their convergence with other SWB measures (Andrews & Withey,

1976). On the basis of convergent validity data, Andrews and Withey estimated that their D-T measure contains 65% valid variance. The convergent validities reported by Andrews and Withey and others in this area are usually based, unfortunately, only on very similar measures (i.e., self-report). However, the items are sometimes administered in an oral survey and sometimes in a written questionnaire. The single-item scales usually correlate as we would expect with external variables such as self-efficacy, marriage, and standard of living (Andrews & Withey, 1976). Larsen, Emmons, and Diener (1983) also reported evidence on the validity of these measures. Their average convergence with other well-being measures was close to $r = .40$. They assessed construct validity by measuring the correlations with positive affective scales (e.g., Tellegen's Well-Being Scale) and negative affective scales (e.g., neuroticism). The average construct validity correlations with eight other scales were all close to .35. They also examined validity based on a criterion: mood reported daily over a 6- to 10-week period. The criterion validities for the three scales were close to .34. Finally, the measures did not seem to be highly contaminated by social desirability.

Despite the evidence for moderate reliability and validity, these measures suffer from several faults. Scores tend to be skewed, with most responses falling in the happy categories (Andrews & Withey, 1976). Acquiescence is a potential problem because the item is always scored in one direction. Finally, the scales cannot hope to cover all aspects of SWB, but must rely on subjects' integration of these in arriving at a single response. The single-item scales do not offer a finely differentiated view of a person's subjective well-being. Evidence will be reviewed that suggests that SWB is composed of several components, and it must be remembered that information on these components is lost when single-item scales are used. Nevertheless, the validity and reliability of these scales suggest that they are adequate if a very brief measure of global well-being is required.

Multi-Item Scales

Geriatric SWB scales. Several multi-item scales have emerged that are designed specifically for older respondents (see Table 1) and a discussion of them is provided by George

and Bearon (1980), Conte and Salamon (1982), and Larson (1978). Because many of the items on these scales make specific reference to age and time of life, the scales tend to be unsuitable for young and middle-aged respondents. Another characteristic of the geriatric scales is that well-being factors are included that are not, strictly speaking, measures of subjective well-being (George, 1979; Larson, 1978). Nevertheless, these scales do appear to be heavily laden with content related to the respondents' affect and to a cognitive evaluation of their lives. This is supported by the fact that the scales show substantial convergent validity (Forrester, 1980; Lohmann, 1977; Moriwaki, 1974; Paintal, 1978) despite the varying labels applied to their subscales. Lohmann reported an average convergence of the geriatric scales of .65, with the Philadelphia Geriatric Center Scale seeming to perform the best. Kozma and Stones (1980, 1982) reported high internal consistency and test-retest reliability figures for the Memorial University of Newfoundland Scale of Happiness (MUNSH). Although the scales were designed to measure somewhat different factors, their high convergent validity suggests a strong underlying common source of variance related to subjective well-being. The fact that the geriatric scales measure an underlying construct of subjective well-being is also attested to by the internal consistency of these tests (e.g., Kozma & Stones, 1980; Larson, 1978; Lawton, 1972, 1975; Wood, Wylie, & Sheafar, 1969). Researchers have also examined the correlation of the geriatric measures with ratings of happiness made by professionals (Lawton, 1972; Neugarten, Havighurst, & Tobin, 1961; Wood, Wylie, & Sheafar, 1969). The measures have shown impressive correlations of about .55 with the ratings. Although a number of factor analytic studies have been conducted on various scales (e.g., Dobson, Powers, Keith, & Goudy, 1979; Hoyt & Creech, 1983), analyses of individual items have rarely been presented (Adams, 1969). Little is known about the extent to which the scales are influenced by acquiescence, social desirability, and artifacts. Some geriatric morale scales seem to contain a strong ideological factor (Cumming, Dean, & Newell, 1958). In sum, the geriatric scales do a satisfactory job in measuring well-being of older persons, although more empir-

ical work is necessary. These measures converge and correlate as one would expect with external factors. A question that has not been adequately assessed for any of the SWB measures is that of discriminative validity (Dobson et al., 1979; Klemmack, Carlson, & Edwards, 1974).

Whether an investigator uses these measures or others that can be used on all populations will depend on the purpose of the study. These measures contain specific content in which investigators working in the geriatric area may be interested. However, use of these scales makes it difficult to compare findings across samples using differing age groups. In addition, there are scales reviewed later that are designed to measure general dimensions of SWB for all persons; these scales provide information on several general well-being dimensions that are not specifically assessed in most geriatric scales. In selecting a measure, an investigator must decide whether the specific content of these scales directed at the elderly is a more desirable feature than gaining knowledge of SWB dimensions.

General scales. The multi-item scales designed for general use are presented in Table 1. Data on these scales are available from the sources listed in the table and from Larsen, Emmons, and Diener (1983).

The Structure of Subjective Well-Being

The creation of multi-item scales raises the important question about the structure of SWB. If one is interested in satisfaction with specific domains of life (e.g., satisfaction with work, marriage, or clothes), a multifaceted picture may emerge. The particular structure of judged satisfaction with specific domains of one's life undoubtedly depends on the culture and the way one's life is structured. In support of this, N. E. Cutler (1979) found that the structure of domain satisfaction varied for different age groups. Although no universal structure of domain satisfactions may emerge, perhaps a similar structure will be found for many cultures and groups because of their similarity (Andrews & Inglehart, 1979; Usui, Keil, & Phillips, 1983). One important finding is that the domains that are closest and most immediate to people's personal lives are those that most influence SWB (Andrews & Withey, 1976; Campbell et al., 1976).

Table 1
Subjective Well-Being Scales

Study	Scales	Description
Cantril, 1965	Self-Anchoring Ladder (single item)	A nine-rung ladder is anchored at the top with "best life for you" and at the bottom with "worst possible life for you." Respondent marks one rung.
Gurin, Veroff, & Feld (1960)	Gurin Scale (single item)	To a question about how things are these days, respondent chooses among "very happy," "pretty happy," and "not too happy."
Andrews & Withey (1976)	Delighted-Terrible Scale (single item)	To a question about "how happy you feel about how happy you are," the respondent selects one of seven responses ranging from "delighted" to "terrible."
Lawton, 1975	PGCMS (multi-item, geriatric)	17-item scale measures lonely dissatisfaction, agitation, and attitude toward one's aging.
Morris & Sherwood (1975)	PGC-M (multi-item, geriatric)	Revision of the original PGCMS.
Neugarten, Havighurst, & Tobin (1961)	LSI (multi-item, geriatric)	Factors measured include zest vs. apathy, resolution, fortitude, and congruence between desired and achieved goals.
Wood, Wylie, & Sheafor (1969)	LSI-Z (multi-item, geriatric)	13-item revision of the LSI.
Kozma & Stones (1980)	MUNSH (multi-item, geriatric)	24-item scale measures positive and negative affect and experiences.
Tellegen (1979)	Differential Personality Questionnaire—Well-Being subscale (multi-item, general use)	21-item subscale of an omnibus personality inventory measures a combination of positive affect, positive attitudes, and optimism.
Campbell, Converse, & Rodgers (1976)	Index of General Affect (multi-item, general use)	Subjects rate their lives on eight semantic differential scales such as enjoyable-miserable.
Underwood and Moore (1980)	Mood Survey (multi-item, general use)	Two subscales measure hedonic level and hedonic variability or reactivity (16 items).
Dupuy (1978)	General Well-Being Schedule (multi-item, general use)	Seven specific aspects of well-being are assessed: life satisfaction, health concerns, depressed mood, person-environment fit, coping, energy level, and stress.
Fordyce (1978)	Self-Description Inventory (multi-item, general use)	Several subscales are included: achieved personal happiness, happy personality, happiness values and attitudes, and happy life-style. Two forms are available that correlate .95.
Bradburn (1969)	Affect Balance Scale	10 items designed to measure both positive and negative affect.
Fordyce (1977b)	Happiness Measures	Asks respondents to estimate the percent of time they are happy, unhappy, and neutral. Also includes an 11-choice scale on which respondents rate overall happiness.
Kammann & Flett (1983)	Affectometer	Measures the frequency of positive and negative affect.
Larsen (1983)	Affect Intensity Measure	Measures the typical strength or intensity of a person's affective responses.
Diener, Emmons, Larsen, & Griffin (1983)	Satisfaction with Life Scale	Measures general life satisfaction and is suitable for all ages, from adolescents to adults

Note. PGCMS = Philadelphia Geriatric Center Morale Scale; LSI = Life Satisfaction Index; MUNSH = Memorial University of Newfoundland Scale of Happiness.

Despite the lack of generality we may find in the organization of satisfaction with life domains, a general structure of SWB may still exist. However, this structure is based on the experience of well-being. Andrews and Withey (1976) have found three general components of subjective well-being: life satisfaction judgments, positive affect, and negative affect. As we will see, the near independence of positive and negative affect has been uncovered in numerous studies using varying methodologies, thus suggesting that these might be two independent components of subjective well-being. However, the possible independence of negative and positive affect has become controversial. The relation between the third component, the evaluative or judgmental one, and affect has not been as thoroughly researched.

In the 1960s Bradburn developed a scale to measure emotional well-being (1969; Bradburn & Caplovitz, 1965) and found that positive and negative affect items were relatively independent of one another. Bradburn proposed that happiness is composed of two separable components—positive affect and negative affect. In support of this, it has been found that although the positive and negative affect scales were virtually uncorrelated with each other, they each showed independent and incremental correlations with a global well-being item (Beiser, 1974; Bradburn, 1969; Moriwaki, 1974). Bradburn hypothesized that happiness is really a global judgment people make by comparing their negative affect with their positive affect. Thus, his Affect Balance Scale (ABS) score is derived by subtracting the sum of negative items from the sum of positive ones. Bradburn's positive affect scale asks whether the respondents, during the few weeks prior, have felt, for example, proud because someone complimented them on something they had done and pleased about having accomplished something. The negative affect scale asks, for example, if the respondents have felt upset because someone criticized them and depressed or very unhappy.

Bradburn's conclusion that positive and negative affect are independent supported the long-standing argument of the humanists that psychologists focus too exclusively on the negative. Humanistic psychologists such as Rogers and Maslow have maintained that concern

with psychopathology ignores the positive aspects of life, and Bradburn's proposal supports the idea that absence of negative affect is not the same as the presence of positive affect. Thus, according to Bradburn's findings, attempts to enhance life must both reduce negative affect and increase positive affect. Bradburn's conclusion is supported by the frequent finding that positive and negative affect correlate with different variables (e.g., Bradburn, 1969; Cherlin & Reeder, 1975; Costa & McCrae, 1980; Diener & Emmons, in press; Harding, 1982; Warr, 1978). However, there are data that show that the differential correlations are moderated by other variables and that cross-over effects do occur (Reich & Zautra, 1983; Zautra, 1983; Zautra & Reich, 1983).

Bradburn's statement that positive and negative affect are independent sparked a controversy in the field. His conclusion was challenged on a number of grounds, the chief one being the scales used. Critics contended that the relative independence of the two types of affect may have been due to a number of weaknesses in the Bradburn measure (Brenner, 1975; Kozma & Stones, 1980; Larsen, Diener, & Emmons, 1983a). Some of the weaknesses of Bradburn's scale are: (a) the positive affect items more strongly reflect arousal content, (b) there is much specific nonaffective content in the items, (c) the simple occurrence of feelings is measured, not their intensity or frequency, and (d) the scale may suffer from acquiescence-response bias as well as ceiling and floor effects. All of these potential problems could serve to lower the correlation between positive and negative affect. Thus, although Bradburn's finding has been replicated numerous times with varying populations in studies using his scale (e.g., Harding, 1982; Moriwaki, 1974; Perry & Warr, 1980; Warr, 1978), the conclusion remained suspect because of possible limitations in the basic measuring instrument. However, the independence of positive and negative affect has now been confirmed using other measures and methodologies. Zevon and Tellegen (1982) and Bryant and Veroff (1982) offered evidence to support the dual nature of affective well-being. Diener and Emmons (in press) also have offered extensive evidence for the independence of negative and positive affect. They sampled

affect, not at a single point in time, but over varying periods of time from moments to weeks. They measured the degree to which subjects felt particular positive and negative emotions (e.g., joy, anger, and depression), but did not restrict the emotions to particular situations as occurs in many of Bradburn's items. In addition, they compared correlations based on between- and within-subject data. Their major finding was that positive and negative affect are negatively correlated at particular moments in time, but that the correlation between the two decreases as the time interval increases. Thus, when one considers a period of weeks (or longer) in a person's life, the average levels of positive and negative affect one experiences are independent, even though experiencing the two simultaneously is unlikely. Average levels of affect refer to a combination of how frequently each emotion is felt in combination with how intensely it is usually felt.

Thus, there is extensive evidence showing that average levels of positive and negative affect are independent, even when very different measuring instruments are used. However, critics and doubts remain. Intuitively, it seems that because the two types of affect suppress one another, the more frequently a person feels one type, the less frequently that person feels the other. In addition, several investigators found results that directly contradict the idea that the two types of affect are independent. Kammann, Christie, Irwin, and Dixon (1979) and Kammann, Farry, and Herbison (1982) found with their Affectometer scale that positive and negative affect correlate an average of $-.58$. Brenner (1975), using several positive and negative affect scales, also found strong negative correlations averaging $-.62$ between the two types of affect. Most damaging of all to the Bradburn hypothesis is that when his scale is reworded in terms of frequency of occurrence of the feelings, a strong inverse correlation emerges between positive and negative affect (Warr, Barter, & Brownbridge, 1983).

Thus, there are studies that replicate Bradburn's findings, and there are results that directly contradict his own. Diener and Emmons' (in press) finding that the independence of the two types of affect depends on the time period does not totally resolve the confusion because Brenner, Kammann, and Warr et al. found lack of independence even though pe-

riods longer than a day were considered. In addition, there are basic theoretical reasons why positive and negative affect should vary inversely (Brenner, 1975).

In order to explain the past contradictory findings, Diener, Larsen, Levine, and Emmons (in press) proposed that only mean levels of affect over longer time spans such as weeks or more are statistically independent. These mean levels result from two separable components: the frequency of the type of affect and the intensity of affect. In terms of frequency, positive and negative affect are strongly inversely correlated. The more frequently a person feels one affect, the less frequently the person feels the other affect. This is consistent with Diener and Emmons' finding showing that people rarely experience strong negative and positive affect at the same time, which suggests that the two vary inversely in frequency. However, because the two are inversely related in duration in people's lives, they must covary in terms of intensity in order for mean levels to be independent. This is exactly what Diener, Larsen, Levine, and Emmons (in press) have found in a series of studies—that across persons the intensity of positive and negative affect correlates positively in the neighborhood of $r = +.70$. Because duration of positive affect and intensity of affect appear to be uncorrelated and combine in an additive way to produce mean affect, the resulting influence of the two over time, when persons are considered, is to make mean levels of positive and negative affect uncorrelated.

The theory of Diener, Larsen, Levine and Emmons (in press) makes clear the relationship of positive and negative affect that has become so controversial. First, positive and negative affect are not independent at particular moments in time. Each type of affect clearly tends to suppress the other, although the mechanism by which this occurs is not yet clearly understood. Second, because of the suppressive mechanism, the two types of affect are not independent in terms of their frequency of occurrence, that is, the more a person feels positive or negative affect, the less that person will feel the other. Finally, when one measures average levels of positive and negative affect over longer time periods, they show a low correlation with each other because mean levels are a result of both frequency and intensity.

Thus, their positive relationship in terms of intensity across persons cancels their inverse relationship in terms of frequency. In support of this, Diener, Larsen, Levine, and Emmons (in press) found that when emotional intensity was partialled out of the relationship between average levels of positive and negative affect, the correlation between them became strongly negative.

How does this approach explain Brenner and Kammann's failure to find independence of the two types of affect even though they studied longer time periods? When one examines their scales, the answer is obvious—they measured the frequency of positive and negative affect, not average levels. Their questions dealt with how often respondents experience various sorts of affect, but intensity is not a part of these scales. Thus, whenever one uses a scale that taps frequency of affect, positive and negative affect will be strongly inversely correlated. If one uses a scale that has both intensity and frequency items, one is more nearly measuring mean levels of affect, and the results are likely to show near independence between positive and negative affect. Finally, if one uses a scale such as the Affective Intensity Measure (AIM; Larsen, 1983) that assesses only emotional intensity, one will find that positive and negative affect correlate strongly in the positive direction. The distinction between frequency and intensity clears up the contradictory and confusing results in this area, and virtually all results, both from emotion researchers and from those working in the SWB area, fall into place with this conceptualization. Nevertheless, there could be some actual independence of positive and negative affect in that certain variables might influence average levels of one but not the other.

One of the shortcomings of the single-item measures is their inability to assess separately the various dimensions of well-being. Despite these shortcomings, the choice of measures always deals with cost and benefit in terms of the purposes of the study. If a survey must be extremely brief or only the grossest indication of subjective well-being is needed for the purposes of the study, a single global measure is defensible. When more time is available, multiple-item scales of well-being can be used that measure the separate components of well-being.

Scales for measuring components. Several scales are available for measuring the separate components of frequency and intensity. The data of Larsen, Diener, and Emmons (1983a) on the first part of the Fordyce Happiness Measure indicate that this scale is quite similar to Andrew and Withey's (1976) D-T scale and reflects both cognitive satisfaction and affective content. In some cases, however, it has yielded higher correlations than the D-T scale, perhaps because it has more steps or because each step has more labels. The 11-point Fordyce item showed the strongest correlations with daily affect and life satisfaction of any measure assessed, and thus should receive more widespread use. The positive affect frequency estimates in Fordyce's scale were found to have validities equal or superior to those found for the Bradburn scale (Larsen, Diener, & Emmons, 1983a). Fordyce reported a 2-week reliability of .86 and a 4-month reliability of .67 for his combined scale. Thus, it appears that this is a suitably short instrument that can yield an estimate of the duration of positive and negative affect. Nevertheless, the Fordyce scale has not been thoroughly investigated and may suffer some of the liabilities of scales with very few items.

Given the favorable data on Kammann and Flett's (1983) Affectometer, it deserves to be a widely used measure of the frequency of positive and negative affect. The high level of internal homogeneity suggests that the scale does indeed measure the unitary frequency of positive affect dimension. It had a very high convergence with other SWB scales (an average of .70).

The second dimension of affective well-being—intensity—can be measured by the AIM created by Larsen (1983). He has shown that this scale possesses a strong first factor and correlates highly with the intensity of daily affect and of affect at emotional times. Larsen, Diener, and Emmons (1983a) found that the Affective Intensity Measure showed low correlations with other measures of subjective well-being which tend to reflect duration of positive affect. However, the AIM did correlate with Underwood and Froming's (1980) variability subscale that reflects the changeableness of a person's moods. When used alone, the AIM identified those persons who experience emotion in a strong way. The items ask about

how strongly various emotions are usually felt on those occasions when they are experienced. In combination with a duration of positive affect measure, the AIM can yield a more specific picture of the person's affective life. Those high in duration of positive affect and high in intensity of affect will exhibit an exuberant, joyful affective life, whereas those high in duration of positive affect but low in intensity of affect will usually experience contentment and serenity. Those who are high in duration of negative affect and high in intensity of affect will often experience depression or other strong negative emotions, and persons who are high in duration of positive affect and low in intensity of affect will be better characterized as melancholic or mildly unhappy most of the time. Larsen, Diener, and Emmons (1983b) have shown that personality differences in affective intensity are not merely due to situational or event differences between persons. Thus, some internal process must be responsible for individual differences in affective intensity.

Some investigators may not be interested in the intensity, frequency, or duration of positive affect and desire a direct measure of mean levels of the two types of affect. Bradburn's scale may be used, but it has deficiencies. Kozma and Stones' (1980) MUNSH is a promising alternative designed to measure positive and negative affect, although many of the items are directed toward older persons. Thus, there is not yet a general-use scale for measuring average levels of positive and negative affect that has strong psychometric properties.

The third dimension of subjective well-being identified by Andrews and Withey (1976) is life satisfaction. This component is a cognitive judgmental evaluation of one's life. As such, it may be indirectly influenced by affect but is not itself a direct measure of emotion. There are data to indicate differences in affective and cognitive SWB reports and in their correlates (Beiser, 1974; Campbell et al., 1976; Kushman & Lane, 1980). Although several measures for the elderly are designated life satisfaction scales, they contain many elements besides a life satisfaction judgment (e.g., fortitude). Diener, Emmons, Larsen, and Griffin (1983) have developed the Satisfaction with Life Scale with items measuring persons' global satisfaction with their lives. All items show high-factor

loadings on a single common factor, and the scale has a very high alpha and test-retest reliability (Larsen, Diener, & Emmons, 1983a).

Measurement Issues

Several issues related to measuring SWB remain. First, to what extent is the measurement influenced by momentary mood at the time of completing the scale? Few investigators in this area want their scales simply to measure current affect, and many scales carry explicit time frames (e.g., these days or the past few weeks). Nevertheless, there is evidence that momentary mood influences subjects' responses to SWB questions (Schwarz & Clore, 1983). Schwarz and Clore found that momentary affective states (e.g., those produced by the weather) influenced happiness and satisfaction judgments. This finding is consistent with memory research (e.g., Natale & Hantas, 1982), which shows that people tend to recall past events that are consonant with their current affect. In addition, T. W. Smith (1979) reported evidence suggesting that SWB scales are influenced by the questions immediately preceding their administration. Despite the influence that current mood can have on SWB measures, Kammann (1983) and Kammann et al. (1979) presented evidence indicating that this does not substantially distort multi-item scores. Another way to approach this issue is to examine temporal reliabilities of the instruments because these correlations partly reflect the degree that mood at the moment is introducing instabilities into the scores. The substantial temporal reliabilities of the multi-item SWB measures indicate that they are not greatly influenced by the mood at the moment of responding. Taken together, the data of Schwarz and Clore and the long-term reliability data suggest that both current mood and long-term affect are reflected in SWB measures.

Happiness can to some extent be considered both a trait and a state. The trait is a predisposition to experience certain levels of affect. Such a trait should be measured as independently from current mood as possible. It is an empirical question to what extent such a hypothesized trait is temporally stable and cross-situationally consistent. Diener and Larsen (in press) found substantial amounts of cross-sit-

uational consistency and temporal stability in mean levels of person affect. Life satisfaction was the most consistent and stable variable of the many on which they reported. However, when emotion at particular moments (rather than average levels over time) are examined, it is evident that people are, not unexpectedly, much less stable and consistent. In addition to these findings, one can plot the decay curves of the reliabilities of the SWB instruments and thereby estimate the short-term influences. Unfortunately, only a few reliabilities beyond 6 months have been reported thus far. The long-term reliabilities show values ranging from .55 to .70. Therefore, it can be estimated that the percentage of variance in the happiness measures that is due to person factors is between 30 and 49. It cannot be estimated from these figures the degree to which SWB is due to personality or to the stability of conditions in the respondents' lives. Because stable environmental factors are probably responsible to some extent for the stability of SWB, it is clear that internal person factors do not control a majority of the variance in happiness. Thus, the reliabilities point to some portion of happiness being due to personality, but also accentuate the importance of life circumstances. The best measure in terms of time covered and stability will depend on the particular theoretical questions that the investigator wishes to study (Bradburn, 1969).

A second issue concerns the validity of the self-report nature of these measures. Conscious distortion and response artifacts are always a concern. Perhaps more troubling is the possibility that persons may at some level be unhappy but for some reason label themselves as being happy. This problem is exacerbated by the ambiguity in words such as happy. In addition, a researcher need not believe in the unconscious to think that in some cultures, groups, or individuals it may be thought of as normative to be happy, and therefore persons may label themselves as happy without due regard for their experiences. Thus far, the evidence is encouraging regarding the self-report scales.

None of the scales shows high social desirability effects.¹ Usually the correlation with lie scales and social desirability scale is about .20 (Larsen, Diener, & Emmons, 1983a). Most measures are balanced in terms of response

direction so that acquiescence is not a problem. The scales usually correlate as expected with personality measures and show high convergent validity. In addition, the scales correlate as expected with non-self-report data, for example with demographic variables. Weinstein (1982) found that self-reported happiness was strongly related to an unobtrusive measure of smiling and laughing in an interview. Another encouraging finding is that the scales correlate moderately with happiness ratings made about respondents by others. A tally of five studies using peer reports shows an average correlation of .39, whereas seven studies using ratings made by the researchers, staff, or other experts show an average correlation of .52. Kozma and Stones (1983) report an intriguing finding showing that expert ratings correlate more strongly with negative than with positive affect.

Thus, the SWB measures seem to contain substantial amounts of valid variance. However, this does not imply that some distortions do not occur. The topic of distortion, bias, and encoding of SWB is a valuable direction for future research. Thus, although there is certainly sufficient validity in the measures to build theories of SWB, one part of these theories should be how these subjective reports are formed (including various forms of distortion). Theories of encoding one's affect should be integrated with the bottom-up versus top-down approaches to happiness that are discussed later.

Measurement Conclusion

One can be encouraged by the state of measurement of subjective well-being. Most measures correlate moderately with each other and have adequate temporal reliability and internal consistency. In addition, well-being scales show interesting theoretical relationships with other variables. The global concept of happiness (Brenner, 1975) is being replaced by research-

¹ Although social desirability may have little influence on the rank ordering of individuals, there is evidence that this factor can have an overall main effect on scores. Sudman, Greeley, and Pinto (1967) found that respondents reported more happiness when they were given the Gurin et al. (1960) scale in an interview than when they took it in a self-administered questionnaire.

ers with more specific and well-defined concepts, and measuring instruments are being developed concurrently with the theoretical advances.

Although many of the multi-item scales have shown promising results initially, they have yet to be adequately tested. Now that a number of scales are available, psychometric testing and refinement are critical. Andrews and Withey's (1976) LISREL-based approach can serve as a model in testing the amount of variance due to various method and content sources. Additional psychometric properties need to be explored such as response interval sizes, sensitivity to change, factor purity, and discriminant validity. In addition, investigators need to understand the scale properties (e.g., sensitivity and skewness) within their particular sample of subjects because differences in correlational findings between studies are probably often attributable to such factors. Researchers should explore the time period that is reflected in the scales and how the encoding of self-related material influences scores on these measures. Finally, validation of the scales is needed in terms of external non-self-report criteria such as interviewer ratings, peer ratings, facial coding, and other nonverbal measures. In order to test rigorously the validity of the subjective well-being scales, measures are needed that rely on dissimilar methods (e.g., not all self-report).

Influences on Subjective Well-Being

Philosophers and writers have hypothesized numerous causes of happiness. Rousseau placed the source of happiness in a good bank account, a good cook, and good digestion; Thoreau, his follower, wrote that happiness comes from activity. Psychological causes of happiness were often emphasized by early writers such as the Stoics. Fielding implied through his character, Tom Jones, that a sanguine temperament was more important than external blessings. The ascetics maintained that attitudes and activities that reflect detachment from the world lead to well-being. Unfortunately, only a few of the potential influences on happiness have been tested empirically.

A review of some of the major research areas related to causes of happiness follows. The

purpose of this review is to provide an introduction to the literature by providing readers with an overview of some of the more consistent or theoretically intriguing findings. Some of the major questions that remain unresolved are also discussed. Due to space limitations, this review does not cover a number of important topics; the reader is referred to the following reports for more detailed discussion: Kimmel, Price, and Walker (1978) on retirement; Campbell et al. (1976), Dicken and Lloyd (1981), Mitchell (1976), and Schneider (1975) on place of residence; Wright (1978) on housewifery; London, Crandall, and Seals (1977), Mancini and Orthner (1980), Miller (1980), and Riddick (1980) on leisure; T. W. Smith (1979) on trends over time and seasons; Campbell et al. (1976) and Mathes and Kahn (1975) on physical attractiveness; Dixon and Johnson (1980) and Gershon, Bunney, Leckman, Van Erwegh, and DeBauche (1976) on the heritability of mood.

Subjective Satisfaction

This review of the SWB correlates focuses on objective conditions. However, researchers have gathered information on subjective correlates as well (e.g., on the covariation of satisfaction with different domains and life satisfaction). Satisfaction judgments tend to correlate higher with SWB than do objective conditions, and this probably occurs for two reasons. First, they often share method variance with the SWB measure that tends to inflate the correlations. Second, the subjective judgments appear closer in the causal chain to SWB because objective conditions will usually be mediated by subjective processes. It is informative to compare the satisfaction with various domains and overall life satisfaction (Campbell, 1981). The highest correlation was with satisfaction with self (.55), suggesting that people must have self-esteem to be satisfied with their lives. Satisfaction with standard of living and with family life were also highly correlated with life satisfaction, whereas the correlation for satisfaction with work was moderate (.37), and satisfaction with health and community were somewhat lower (.29). In creating theoretical models of SWB, scientists need to articulate the degree to which subjective satisfaction is a necessary precursor

of life satisfaction and positive affect. Certain theories (e.g., classical conditioning) suggest that there could be a direct connection between objective external conditions and happiness without any mediation by conscious subjective satisfaction with that area. In addition, the top-down approach described later suggests that subjective domain satisfactions derive from, rather than cause, overall subjective well-being.

Income

There is an overwhelming amount of evidence that shows a positive relationship between income and SWB within countries (e.g., Larson, 1978). This relationship exists even when other variables such as education are controlled. As might be expected, satisfaction with income is also related to happiness (Braun, 1977; Campbell et al., 1976). In addition to those studies reviewed by Larson, many others have found objective income to be related to SWB (e.g., Alston, Lowe, & Wrigley, 1974; Andrews & Withey, 1976; Bortner & Hultsch, 1970; Clemente & Sauer, 1976a; Freudiger, 1980; Kimmel, Price, & Walker, 1978; Mancini & Orthner, 1980; Riddick, 1980). Although the effect of income is often small when other factors are controlled, these other factors may be ones through which income could produce its effects (e.g., better health). Easterlin (1974) reviewed 30 cross-sectional studies conducted within countries. In every study, wealthier persons were happier than poorer persons in that country, and this effect was often strong.

However, when one turns to other types of data, an interesting picture emerges. Although persons in wealthier countries report higher SWB than persons in poorer countries (Easterlin, 1974; Gallup, 1976-1977; Silver, 1980), this effect may be weaker than within-country differences, although a rigorous analysis of effect sizes has not been reported. Japan is not much happier than India, and Latin American countries are in some respects happier than European countries. However, the data over time are most revealing. They indicate that as real income increases within a country, people do not necessarily report more happiness. Data over time are available from the U.S. for the years 1946 through 1978 (Campbell, 1981;

Easterlin, 1974). During that period, real income in the U.S. rose dramatically (even after taxes and inflation), but there was absolutely no increase in average reports of happiness. In every year the surveys were taken, wealthier persons were on the average happier than poorer persons, but there was no increase in happiness over the years in either the high-, average-, or low-income groups. Indeed, the data reported by Campbell suggest a general downward drift in happiness from 1957 to 1978 in all but the lowest income quartile. This pattern occurred during a period of tremendous economic growth. These data suggest the possibility that the influence of income is largely relative; it is not the absolute level of goods and services that a person can afford. People who are wealthier than others tend to be happier, but as the overall level of income rises, happiness does not necessarily rise with it.

Because it does not appear that absolute levels of income are critical to happiness, there are several plausible, but unexplored, hypotheses as to why persons with higher incomes within a country are happier than those with lower incomes.

First, income has an effect only at extreme levels of poverty, but once the basic needs are met, income is no longer influential (Freedman, 1978). This hypothesis seems to be contradicted by the U.S. data which show similar levels of happiness for poor persons in 1946 and in 1970, even though basic needs were met to a much greater extent in the latter period. However, the data of Campbell et al. (1976) indicate that income had less effect within the United States in 1978 than in 1957, raising the possibility that the United States was reaching a plateau for the effect of income.

Second, factors such as status and power that covary with income may be responsible for the effect of income on SWB. However, these are relative within a society and therefore do not increase as real income increases.

Third, a related explanation is that the effect of income is direct, but depends on social comparison. People may only know how satisfied they should be by comparing their situation with that of others.

Finally, it is possible that income has not only direct benefits, but also some disutilities that tend to balance the positive effects. For

example, higher incomes over time may also be related to increased pollution, congestion, stress, or other negative influences that may prevent SWB from rising with income. However, this explanation does not explain the tendency for wealthier countries to have happier inhabitants.

Given the concern for economic development throughout the world, the questions concerning income and happiness are immensely important ones. We now need research into the processes that control this relationship. Data over time from countries besides the U.S. need to be examined, as well as longitudinal data on individuals. In addition, questions about income distributions, not just mean levels, are probably quite important. Seidman and Rapkin (1983) have shown that although the prevalence of mental illness increases in economic downturns, this effect is greatest in heterogeneous communities in which recession does not affect everyone equally. Similarly, Morawetz (1977) has shown that a community with less equal incomes was less happy than a community with more equal incomes. The findings of Liang, Kahana, & Doherty (1980) suggest that feelings of distributive justice and relative deprivation mediate the effect of income. These studies suggest that it is not only purchasing power or mean levels of income that are important, but the overall distribution of income, including the range and skew, that influences SWB.

Other Demographic Variables

Age. Early studies found that young people were happier than old (Bradburn & Caplovitz, 1965; Gurin, Veroff, & Feld, 1960; Kuhlén, 1948; Wessman, 1957). In relatively recent years, however, a number of researchers have found virtually no age effects (Alston et al., 1974; Andrews & Withey, 1976; Cameron, 1975; Sauer, 1977; Spreitzer & Snyder, 1974), and several more have found a positive correlation between age and satisfaction (Bortner & Hultsch, 1970; Cantril, 1965; Clemente & Sauer, 1976a; Medley, 1980). Braun (1977) found that younger respondents reported stronger levels of both positive and negative affect, but that older subjects reported greater levels of overall happiness. Given the confusing nature of the findings, Adams (1971) wrote

that "the inconsistency of findings in regards to chronological age indicates that it is, at best, a very gross index of group characteristics" (p. 67). In support of this, a meta-analysis of studies conducted prior to 1980 revealed that the correlation between age and SWB was near zero, regardless of whether other variables were controlled (Stock, Okun, Haring, & Witter, 1983).

There are a number of considerations to keep in mind when trying to understand these findings. First, some studies such as those reviewed by Larson (1978) use narrow age ranges, so that the correlations only reflect the ups and downs within those years. Second, most studies have not controlled for other factors that tend to covary with age (Cameron, 1975). Third, the large-scale studies have been cross-sectional, not longitudinal, and therefore may reflect cohort differences, not age differences (Knapp, 1976). Finally, the differences may reflect differences in the constructs being measured. Campbell et al. (1976) reported that satisfaction and their Index of General Well-Being correlated positively with age, whereas reports of being very happy decreased with age. Campbell et al. (1976) found that older persons reported greater satisfaction in every domain except health. Most results show a slow rise in satisfaction with age, but it seems that positive and negative affect are experienced more intensely by the young (Diener, Larsen, Levine & Emmons, in press). Thus, young persons appear to experience higher levels of joy, but older persons tend to judge their lives in more positive ways. In recent years investigators have begun to focus not so much on age per se but on life cycle patterns (e.g., Estes & Willensky, 1978; Harry, 1976; Medley, 1980). Life stages are examined that create characteristic demands and rewards for persons.

Gender. Although women report more negative affect, they also seem to experience greater joys (Braun, 1977; Cameron, 1975; Gurin et al., 1960), so that little difference in global happiness or satisfaction is usually found between the sexes (Andrews & Withey, 1976; Campbell et al., 1976; Goodstein, Zautra, & Goodhart, 1982; Gurin et al., 1960; Olsen, 1980; Palmore & Kivett, 1977; Sauer, 1977; Toseland & Rasch, 1979–1980). Nevertheless, two studies have reported a modest

interaction with age. It appears that younger women are happier than younger men, and older women are less happy than older men (Medley, 1980; Spreitzer & Snyder, 1974). Although the crossover appears to occur around age 45, the difference between the sexes is never great.

Race. Blacks have usually been found to be lower on SWB than whites in the U.S. (Alston et al., 1974; Andrews & Withey, 1976; Bortner & Hultsch, 1970; Bradburn, 1969; Freudiger, 1980; Wessman, 1957), although this effect has not been found universally (Messer, 1968). Because blacks and whites in general differ on age, education, income, marital status, and urbanicity, it is important to control for these factors if one wants to know if race per se has an effect. When this is done, an effect is still found, but it seems to depend on the gender and age of subjects (Campbell et al., 1976; Clemente & Sauer, 1976b; Spreitzer & Snyder, 1974). It appears that, aside from factors such as urbanicity and lower income, being black carries additional factors that lower SWB, but only for certain groups of blacks. Indeed, Campbell et al. (1976) concluded that older blacks in their national sample were happier than older whites. Thus, whereas on the average being black may lead to slightly lower SWB, this conclusion must be clearly qualified by other factors. In addition, the predictors of SWB may differ for blacks and whites (Sauer, 1977).

Campbell et al. (1976) showed that, although blacks reported less happiness than whites from 1957 through 1972, both showed comparable decreases in happiness during this period. However, Gibbs (1973) has analyzed data from 1946 to 1966 and found that elite blacks (more educated, higher income, higher status) decreased sharply in their happiness during this period, whereas there was no comparable decline among white elites. Thus, despite apparent political advances made by blacks in the U.S. in the decades following World War II, there was no concomitant increase in happiness. Indeed, the blacks who might have most benefitted from increased equality were those who became most unhappy. In contrast, black farm workers reported high levels of happiness throughout this period. One hypothesis is that, with the political awakening of more educated blacks,

their aspirations and hopes exceeded the gains that were actually made.

One caution is in order concerning the race, education, and other data related to specific subgroups in national samples. The subsamples of these groups are often quite small (e.g., 10 to 30 persons) and thus the conclusions are quite tentative.

Employment. Campbell et al. (1976) found that unemployed people were the unhappiest group, even when income differences were controlled. This suggests that unemployment has a devastating impact on the SWB for many persons that goes beyond the obvious financial difficulties involved. Catalano and Dooley (1977) have shown that regional unemployment rates are strong longitudinal predictors of mood. Bradburn reported evidence that unemployment influences the well-being of both men and women. However, it does not appear that homemakers are less happy than those who work in salaried jobs (Wright, 1978). Job satisfaction appears to be related to SWB. However, this literature is voluminous, and the reader is referred to several excellent sources: Cohn (1979); Near, Rice, & Hunt (1978, 1980); Rice, Near, & Hunt (1979, 1980); Weaver (1978).

Education. Campbell's (1981) data suggest that education had an influence on SWB in the U.S. during 1957 to 1978. However, the effects of education on SWB do not appear to be strong (Palmore, 1979; Palmore & Luikart, 1972) and seem to interact with other variables such as income (Bradburn & Caplovitz, 1965). Several studies have found that there is no significant effect when other factors are controlled (Clemente & Sauer, 1976a; Spreitzer & Snyder, 1974; Toseland & Rasch, 1979-1980), and several studies have indicated more positive effects for women (Freudiger, 1980; Glenn & Weaver, 1981b; Mitchell, 1976). After suggesting that education has some positive influence, Glenn and Weaver cautioned that "the estimated effects on males of all levels of education and of college on both sexes are especially likely to be disappointing" (p. 34). Campbell's (1981) analysis suggests that although education may serve as a resource for the person, it may also raise aspirations and alert the person to alternative types of life.

Religion. Because religiosity has been operationalized in different ways, it is unsur-

prising that the findings are mixed. Religious faith, importance of religion, and religious traditionalism generally relate positively to SWB (Cameron, Titus, Kostin, & Kostin, 1973; Cantril, 1965; Wilson, 1960), although Cameron (1975) found that religiosity correlated inversely with positive moods. Most studies on church attendance and participation in religious groups show positive relations to SWB (Clemente & Sauer, 1976a; S. J. Cutler, 1976; Edwards & Klemmack, 1973; Freudiger, 1980; McClure & Loden, 1982), although others have found no relationship (Ray, 1979; Toseland & Rasch, 1979–1980). It should be noted that Campbell et al. (1976) incorrectly analyzed their data on religiosity, and this error was corrected by Hadaway (1978), who concluded that religion is one potential resource in people's lives. Spreitzer and Snyder (1974) found that religion had a significant effect on those under age 65 but, surprisingly, not on older respondents. Although it appears that religious belief and participation may positively influence SWB, many questions remain unanswered. What factors interact with religion, and what types of faith and participation are related in what ways to SWB? If other factors that covary with religiosity (e.g., race, income, location of residence) are controlled for, is the effect enhanced or diminished? If some persons seek out religion during trying times, does it have a positive impact? In other words, when and why is religion related to SWB?

Marriage and family. Although several studies have failed to find statistically significant effects on SWB for marriage (e.g., Bortner & Hultsch, 1970; Sauer, 1977; Spreitzer & Snyder, 1974; Toseland & Rasch, 1979–1980), virtually all relationships are positive (e.g., Larson, 1978). A number of large-scale studies indicate that married persons report greater SWB than any category of unmarried persons (Andrews & Withey, 1976; Glenn, 1975). Glenn reported that although married women may report greater stress symptoms than unmarried women, they also report greater satisfactions. Glenn & Weaver (1979) found that marriage was the strongest predictor of SWB even when education, income, and occupational status were controlled. Because the effects for marriage are positive but not always strong, investigators should explore factors that

may interact with marriage, such as race (Freudiger, 1980; Mitchell, 1976). The ultimate goal should be to understand the underlying processes that mediate the effects of marriage. Along this line, Glenn (1981) has found that previous divorce is not related to the happiness of persons who are remarried. This suggests that marriage has an effect on SWB, and it is not simply a selection factor of happier people getting or staying married. When one turns from the objective fact of marriage to the importance of marital satisfaction on global happiness, the conclusion is that marriage and family satisfaction is one of the most important predictors of SWB (Campbell et al., 1976; Glenn & Weaver, 1979, 1981a). Indeed, family and marriage satisfaction was the strongest predictor of SWB in many studies (e.g., Freudiger, 1980; Michalos, 1980; Toseland & Rasch, 1979–1980). When parenthood and SWB are studied together, the results are not so sanguine. Most studies find either negligible or negative effects of having children on SWB (Andrews & Withey, 1976; Glenn & McLanahan, 1981; Glenn & Weaver, 1979).

Behavior and Outcomes

Social contact. Wilson (1967) concluded that extraverted individuals are happier, and evidence since then has corroborated this conclusion, although differences from introverts may be small. However, this does not necessarily mean that social contact improves SWB. It could be that extraverted or sociable individuals are happier persons without any effect of social activity per se. Many studies have found a correlation between satisfaction with friends or other subjective measures (e.g., loneliness) and SWB (Anderson, 1977; Campbell et al., 1976; Falkman, 1973; Liang et al., 1980; Mitchell, 1976; Rhodes, 1980). However, a large number of studies have also found positive correlations between various objective measures of social activity and various SWB measures (Beiser, 1974; Campbell et al., 1976; Edwards & Klemmack, 1973; Knapp, 1976; Markides & Martin, 1979; Olsen, 1980; Palmore & Luikart, 1972; Rhodes, 1980; Toseland & Rasch, 1979–1980; VanCoevering, 1974; Zeglen 1977). A program to increase happiness (Fordyce, 1977a, 1983) strongly recommends social contact as a way to improve SWB, and

the program has proven effective. In addition, longitudinal studies have found that increases or decreases in social contact are accompanied by concurrent changes in SWB (Bradburn, 1969; Graney, 1975). A direct influence on happiness has been found for social participation even when factors such as health and SES are controlled (e.g., Bradburn, 1969). Okun, Stock, Haring, and Witter (in press-b) reported a meta-analysis of 115 sources that examined the relationship between social activity and SWB. Although they estimated that social activity predicted only 2 to 4 percent of the variance in SWB, an effect remained even when other variables were controlled. Effect sizes were larger for formal than for informal social activities.

Despite all the positive evidence previously cited, there are studies that found no relationship between social participation and happiness (Hasak, 1978; Liang et al., 1980; Palmore & Kivett, 1977; Sauer, 1977; Solomowitz, 1979). Some studies have found that the relationship disappears when other factors such as health are controlled (Bull & Aucoin, 1975; S. J. Cutler, 1973; Smith & Lipman, 1972). The mixed evidence indicates that the issue may be more complex than originally thought and that there are a number of studies that support this conclusion. Phillips (1967) found that the effect of social participation on SWB depended on one's education, and Smith and Lipman (1972) found that it depended on the constraint of the setting. Hasak (1978) found that it depended on a person's need for interaction, and Palys and Little (1983) found that the number of persons around is not important, although the degree to which they are integrated into one's social network was influential. These findings point out the need for more sophisticated theory and research designs.

The studies reviewed here suggest that it is not merely that extraverts are happier, but that social contact itself is somehow related to SWB. However, the direction of influence is uncertain. It could be that when people are happier, they are more sociable. It could be, as Bradburn suggested, that there is a bidirectional influence between sociability and happiness, but as yet no experimental studies have been attempted that could pinpoint the causal direction. Consequently, at this point

it is not certain whether being happy is the causal condition that comes prior to social contact.

Another important consideration is the personality of the respondent because people undoubtedly have different needs for social contact. In support of this idea, Diener, Larsen, and Emmons (in press) reported that extraverts are happier than introverts in social settings. They also reported evidence supporting Bradburn's finding that social participation influences positive but not negative affect. Thus, the absolute amount of social contact in relation to personality should be studied.

The type and quality of social contact differs from study to study, but has not been systematically analyzed. Studies have variously measured number of friends, number of close friends or confidants, amount of social contact, whether the social contact is freely chosen (Diener, Larsen, & Emmons, in press), and so forth. The findings of Mancini & Orthner (1980) support the idea that some social contact is related to happiness (e.g., with friends), but that other contact is not (e.g., with relatives). In conclusion, social contact is often related to SWB, but the parameters that affect this relationship are not well understood. Although Bradburn (1969) offered evidence for the intriguing idea that novelty was one critical component in social contact, few other psychological analyses have emerged in the ensuing years. At this point data is needed on the types of contact, various individual difference parameters, and data that can provide insight on the path of influence between sociality and SWB. More importantly, theoretical ideas indicating when and why social contact increases SWB are needed.

An intense form of friendship—love—has been related to SWB in a number of studies. Not only is love rated as one of the most important factors (Anderson, 1977; Freedman, 1978), but satisfaction with one's love life is a strong predictor of life satisfaction (Emmons, Larsen, Levine, & Diener, 1983). Forrester (1980) found that having a love relationship was a significant predictor of life satisfaction, and Gordon (1975) found that love was the most important resource for happiness. As with social contact, researchers should now turn to more fine-grained questions about when and why love is related to happiness.

Life events. Life events have shown a consistent, but modest, relationship to SWB (e.g., Kammann, 1982; Miller, 1980). However, several things should be noted. First, evidence suggests that good and bad events are independent in the lives of individuals (Warr et al., 1983) and that good events are related to positive affect and bad events to negative affect (Reich & Zautra, 1981; Warr et al., 1983; Zautra & Reich, 1980). However, there is also evidence that one's ability to take action or control events is related to the impact they have (Guttmann, 1978; Reich & Zautra, 1981); therefore, even pleasant events can perhaps lessen SWB if they lead to a feeling of lack of control. What is needed at this point is a clearer system of classifying events. Past research has shown that whether the event is controllable is an important factor, and other aspects of events will certainly be found to be important moderating variables. An understanding of the impact of large-scale events and of the cumulative impact of smaller daily events is needed. A conceptual framework is important in this area. Whether lack of positive reinforcement in one's life causes depression (Lewinsohn & MacPhillamy, 1974) is still a matter of debate (Sweeney, Schaeffer, & Golin, 1982).

Activities. Activities tend to be behavioral, whereas events tend to be outcomes. Activity theory has played a central role in gerontology, popularizing the idea that active involvement causes happiness. The research that is based mainly on elderly samples tends to support activity theory (Beiser, 1974; Markides & Martin, 1979; Palmore, 1979; Palmore & Kivett, 1977; Ray, 1979; Riddick, 1980; Sauer, 1977). Graney (1975) and Maddox (1963) found that longitudinal changes in activity are accompanied by concurrent changes in SWB. Nevertheless, there are a number of null findings (Hoyt, Kaiser, Peters, & Babchuk, 1980; Lemon, Bengston, & Peterson, 1972; Olsen, 1980; Pierce, 1981; Wolk & Telleen, 1976), and when other factors such as health and SES are controlled, the activity-SWB relationship may disappear (Bull & Aucoin, 1975; S. J. Cutler, 1973). Kozma and Stones (1978) and S. J. Cutler (1976) found that some activities are good predictors of SWB and others are not. Schaffer (1977) demonstrated that the relation between activity and SWB depended on

the respondent's personality. Given the breadth and vagueness of the concept of activity, it is not surprising that the findings have been mixed. The concept of activity can apply to such diverse things as social contacts, physical activities, hobbies, and participation in formal organizations. In view of this diversity, Lemon et al. (1972) and Hoyt et al. (1980) criticized activity theory and called for more articulated and formalized theorizing. Involvement in certain types of activities certainly must enhance SWB, but as yet we have little understanding of the parameters that influence this relationship.

Personality

Personality is suggested as an influence on happiness by the long-popular belief that temperament is more important to subjective well-being than are the number of a person's external blessings (Tatarkiewicz, 1976). This reasoning is indirectly supported by the fact that individual demographic variables rarely account for more than a few percent of the variance in SWB, and taken together probably do not account for much more than 15% of the variance. In fact, Andrews and Withey (1976) gave a figure less than 10% of the variance in SWB accounted for by all the demographics they assessed. A number of studies have appeared in recent years that examine the influence of personality on SWB. Because these studies are usually conducted with fewer broadly representative samples than those that examine demographic factors, the conclusions should only be given credence if the results are replicated across a number of studies with varying types of samples. When one accepts this criterion, several personality variables show consistent relationships to SWB.

High self-esteem is one of the strongest predictors of SWB. Many studies have found a relationship between self-esteem and SWB (Anderson, 1977; Czaja, 1975; Drumgoole, 1981; Ginandes, 1977; Higgins, 1978; Kozma & Stones, 1978; Peterson, 1975; Pomerantz, 1978; Reid & Ziegler, 1980; VanCoevering, 1974; Wilson, 1960), although this effect has been weak or complex in several studies (Reid & Ziegler, 1977; Wessman & Ricks, 1966; Wolk & Telleen, 1976). Campbell et al. (1976) found that satisfaction with the self showed

the highest correlation with life satisfaction of any variable. An intriguing finding is that self-esteem drops during periods of unhappiness (Laxer, 1964; Wessman & Ricks, 1966). This indicates that the relationship between mood and self-esteem may be bidirectional, and an important question is why self-esteem drops when people are unhappy.

Another personality trait that has been consistently related to happiness is internality, a tendency to attribute outcomes to oneself rather than to external causes. This variable, usually assessed by Rotter's Locus of Control scale, has been found to relate to SWB in a number of populations (Baker, 1977; Brandt, 1980; Sundre, 1978). Nevertheless, one might wonder whether there would be certain environments or cultures in which externality would lead to higher SWB. If the events happening to a person were negative (e.g., failure), it might be better to attribute them to outside forces. Similarly, if one lives in an environment in which there is little freedom, an external orientation may be related to happiness, and this conclusion is supported by the findings of Felton and Kahana (1974). A variable that is related to internality is the degree of perceived choice or control in a person's life, and this has consistently covaried with happiness (Eisenberg, 1981; Knippa, 1979; Morganti, Nehrke, & Hulicka, 1980; Reid & Ziegler, 1980). When subjects rate their efficacy, personal resources, or competence, these also relate to SWB (Bortner & Hultsch, 1970; Campbell et al., 1976; Noberini, 1977; Rux, 1977). However, the direction of causality is very uncertain between internality and happiness. It may be that people with an external locus of control are that way due to unfortunate life circumstances which also lead to unhappiness. Similarly, people who have more control over their lives may also live in more fortunate circumstances.

Extraversion and related constructs such as sensation seeking and sociability have been found to covary with SWB (Gorman, 1972; Joshi, 1964; H. C. Smith, 1961; Tolor, 1978). However, our own findings reveal that it is the sociability aspect of extraversion that correlates with positive mood, not the impulsivity component (Emmons & Diener, 1983). Costa and McCrae (1980) found that extraversion correlates with positive affect, whereas neuroti-

cism is related to negative affect. Others also found that neuroticism (Cameron, 1975; Hartmann, 1934) is related to unhappiness. Costa and McCrae suggest that extraversion and neuroticism are two basic dimensions of personality that lead to positive affect and negative affect, respectively.

Intelligence is a personality variable that would be expected to relate strongly to SWB because it is a highly valued resource in this society. However, it appears that intelligence as measured by IQ tests is not related to happiness (Hartmann, 1934; Palmore, 1979; Palmore & Luikart, 1972; Sigelman, 1981; Watson, 1930; Wilson, 1960). Although several investigators found positive effects for intelligence (Campbell et al., 1976; Jasper, 1930; Washburne, 1941), others found a negative relation (Fellows, 1956). Because the studies thus far are based on narrow samples and none are representative of the general population, the results remain extremely tentative. Nonetheless, it is strange that intelligence should ever correlate negatively with happiness in persons such as college students for whom it should be rewarded. If there is no overall relationship between intelligence and SWB in a broadly based sample, this result would seem to contradict the general finding that resources have some relationship to SWB, and thus might indicate the possibility that there is some process tied to intelligence that also serves to decrease SWB. It could be that intelligence also brings greater aspirations, desire for achievement, or awareness of alternatives.

Recently an extremely popular personality dimension has been androgyny, a trait that implies a person is not highly sex typed as either masculine or feminine, but exhibits characteristics of both. Wish (1977) found that sex typed women (but not men) were more satisfied. However, other investigators have not found that androgynous individuals experience greater SWB (Allen-Kee, 1980; DeGuire, 1974; O'Sullivan, 1980).

It is interesting that Hasak (1978) found a totally different set of personality predictors for men and women. This finding raises the question: Are individuals with certain types of personalities happier only within the confines of a particular cultural milieu because their traits are those that are rewarded? This may not be true for traits that concern internal

reactions such as self-esteem, optimism, or neuroticism—these may have a universal relationship to happiness. But what about traits such as aggressiveness? Although the question of trait by environment interactions has been little explored, Diener, Larsen, and Emmons (in press) found some support for the idea that individuals experience more SWB when they are in situations that are congruent with their personalities, although this effect did not appear to be strong. For example, although those who were high in need for achievement were happier in work situations compared with those who were low in need, the main effect for situation was stronger—all groups were happier when involved in recreation. It is quite possible that persons living for long periods in environments that are congruent with their personalities may experience greater happiness.

A great deal more research in personality is required. For example, it is unclear if factors such as optimism or positive outlook cause or follow from events. Longitudinal and perhaps laboratory experimental studies will be needed to understand the process that connects factors such as optimism and self-esteem to positive affect.

Biological Influences

A substantial number of studies show a relatively sizable relationship between self-rated health and SWB (e.g., Edwards & Klemmack, 1973; Larson, 1978; Markides & Martin, 1979; Near, Rice, & Hunt, 1978; Ray, 1979; Riddick, 1980; Spreitzer & Snyder, 1974; Toseland & Rasch, 1979–1980; Wessman, 1957; Wilson, 1960; Zeglen, 1977), and this effect remains when other variables such as SES and age are controlled (Clemente & Sauer, 1976a; Freudiger, 1980; Larson, 1978). Campbell et al. (1976) found that although health was rated by subjects as the most important factor in happiness, satisfaction with health was actually only the eighth strongest predictor of life satisfaction. Although some investigators (Mancini & Orthner, 1980; Miller, 1980) found a strong zero-order correlation between health and SWB, they found that when other factors such as leisure activities were covaried, the effect was nonsignificant. This indicates that part of the influence of health on SWB is not

simply the direct effect on how people feel physically, but also on what their health allows them to do. However, Bultena and Oyler (1971) found an effect for health even when differences in social interaction were taken into account. A number of studies have used more objective measures of health such as disease checklists (Bultena & Oyler, 1971; Larson, 1978; Liang et al., 1980; Mancini & Orthner, 1980). Although physicians' ratings also tend to correlate with SWB (Palmore & Luikart, 1972), they usually do so at a lower level (Larson, 1978; Maddox, 1963; Suchman, Phillips, & Strieb, 1958). A meta-analysis of studies on health and SWB revealed a consistent moderate correlation of about .32 between them, with virtually all findings being significant (Okun, Stock, Haring, & Witter, in press-a). The relationship between health and SWB was stronger for women and stronger when subjective measures of health were used.

It appears that subjective health shows a strong relationship to happiness, and that objective health has a weak, but still significant, relationship to SWB (Zautra & Hempel, 1983). Nevertheless, several warnings are in order. Miller (1980) reported that health influenced satisfaction only cross-sectionally, not longitudinally. This finding raises questions about the process and causal direction by which health and satisfaction are related (Zautra & Hempel, 1983). Thus, the degree to which objective health is related to SWB is uncertain, although it is clearly less than subjective health. In order to understand the underlying processes involved, much more research is needed that examines both subjective and objective measures and the degree of relationship when other factors are controlled. Although it appears that objective health is related to happiness, it is surprising that this relationship is so weak. Kammann and Campbell (1982) found that lay persons strongly believe that happiness is closely allied with good health.

Several other seemingly biological factors have been related to SWB. Poor sleep has been related to unhappiness (Barry & Bousfield, 1935; Bousfield, 1938, 1942; Roth, Kramer, & Roehrs, 1976; Sherman, 1980; VanCoevering, 1974; Wiltsey, 1967). One might question the direction of causality here, because it is likely that distressed persons do not sleep as well. Nevertheless, because interruption of

(1960) postulated that the maximum fulfillment at all times is most rewarding for sensory and acquired needs.

The idea that pleasure and pain (happiness and unhappiness) are somehow connected is an idea that has been frequently advanced (Tatarkiewicz, 1976). For example, the Italian writer Verri proposed that pleasure is always preceded by distress. There are additional reasons why happiness and unhappiness should be connected. As mentioned earlier, people who experience more intense joy are also those who experience more intense negative emotions (Diener, Larsen, Levine, & Emmons, in press). Another reason that pleasure and pain are connected has to do with psychological investment or involvement with the goal. If a person has an important goal and has worked hard to attain it, failure will produce substantial unhappiness and success will lead to much happiness. If a person has little interest in reaching a goal, failure to achieve it will not bring great unhappiness. In the words of Tatarkiewicz, "if the sources of pleasure are multiplied, so automatically are the sources of pain" (1976, p. 50). Thus, commitment, involvement, and effort seem to raise the intensity of affect that a person will feel.

Another theory that suggests pleasure and pain are intimately connected is the opponent process theory of Solomon (1980). According to this formulation, the loss of something good leads to unhappiness and the loss of something bad leads to happiness. In addition, specific predictions are made about the magnitude of affect. A person will habituate to a good or bad object, and thus it will bring less happiness or unhappiness with repeated exposure. However, the crucial component of the theory is that opposing affect when the object is lost will be greatest after habituation. For example, if an individual was habituated to an automobile and it brought little pleasure and if the automobile was stolen, that person would be more unhappy than he or she would be if the car was new. Note that this is an addiction type of model which states that with repeated exposure, good items lose their power to produce happiness, but after repeated exposure their loss will produce greater unhappiness. Initial studies on this theory of happiness have not been supportive (Sandvik & Diener, 1983).

Activity Theories

Whereas telic theories place the locus of happiness in certain-end states, activity theories maintain that happiness is a by-product of human activity. For example, the activity of climbing a mountain might bring greater happiness than reaching the summit. Aristotle was a major proponent of one of the earliest and most important activity theories. He maintained that happiness comes about through virtuous activity, that is, from activity that is performed well. According to Aristotle's theory, there are certain human abilities, and happiness arises when these are performed in an excellent manner. In contrast, activity theory in modern gerontology refers to activity in more global terms. For example, hobbies, social interaction, and exercise are all considered to be activities.

One frequent theme in activity theories is that self-awareness will decrease happiness, and there is some empirical evidence for this (Csikszentmihalyi & Figurski, 1982). This is consonant with the popular idea that concentrating on gaining happiness may be self-defeating. According to this approach, one should concentrate on important activities and goals, and happiness will come as an unintended by-product. These ideas have not yet been rigorously formulated or empirically tested, although they appear frequently in the literature.

Perhaps the most explicit formulation about activity and SWB is the theory of flow (Csikszentmihalyi, 1975). Activities are seen as pleasurable when the challenge is matched to the person's skill level. If an activity is too easy, boredom will develop; if it is too difficult, anxiety will result. When a person is involved in an activity that demands intense concentration and in which the person's skills and the challenge of the task are roughly equal, a pleasurable flow experience will result. Surgery and mountain climbing are offered as prototypes of this pleasurable experience. People's lives will be happier to the extent that they are involved in interesting and involving activities. Unlike goal theorists, activity theorists propose that happiness arises from behavior rather than from achieving endpoints. However, the two ideas are not necessarily incompatible and thus could possibly be integrated.

Top-Down Versus Bottom-Up Theories

The distinction between bottom-up and top-down approaches is popular in modern psychology, and parallel questions can be found throughout the scholarly history of happiness. For example, some philosophers maintained that happiness is simply the sum of many small pleasures (bottom-up theory). According to this view, when a person judges whether his or her life is happy, some mental calculation is used to sum the momentary pleasures and pains. A happy life in this view is merely an accumulation of happy moments. In philosophy this view is related to Lockean reductionistic or atomistic views (Kozma & Stones, 1980). In contrast, the top-down approach assumes that there is a global propensity to experience things in a positive way, and this propensity influences the momentary interactions an individual has with the world. In other words, a person enjoys pleasures because he or she is happy, not vice versa. In this more Kantian view, causation proceeds from the higher-order elements down through the lower or more elemental levels.

In the top-down approach to happiness, global features of personality are thought to influence the way a person reacts to events. For example, a person with a sanguine temperament might interpret a large number of events as positive. Philosophers have frequently placed the locus of happiness in attitudes, thus suggesting a top-down approach. For example, Democritus maintained "that a happy life does not depend on good fortune or indeed on any external contingencies, but also, and even to a greater extent, on a man's cast of mind. . . . The important thing is not what a man has, but how he reacts to what he has" (Tatar-kiewicz, 1976, p. 29). Andrews and Withey (1974) reported data that supports a top-down approach. In predicting life satisfaction, they found that the type of domain satisfactions that were used as predictors did not matter and that weighting the domains did not produce much better predictions. These findings suggest that satisfaction with the domains may result from rather than cause global life satisfaction. In the bottom-up approach, a person should develop a sunny disposition and sanguine outlook as positive experiences accumulate in the person's life. For example, he-

donists counsel that one can be happy if pleasures are carefully selected and accumulated (bottom-up theory).

Although both formulations may be partly true, the challenge is to uncover how top-down or internal factors and bottom-up molecular events interact. Because people react to events as subjectively perceived, some top-down processes must be involved. However, it also appears that certain events are pleasurable to most people, and this suggests that bottom-up principles may also be useful. An understanding is needed of how cognitions and personality factors may be altered by an accumulation of events. It is also necessary to study the process by which a person acquires a sanguine temperament and how resistant this temperament is to change. The interaction of large-scale life events and small daily pleasures in producing long- and short-term happiness requires further research. The top-down and bottom-up dichotomy should serve as a useful device for generating theoretical alternatives and as a heuristic for generating research ideas.

There are two debates in the area of SWB that relate to the bottom-up and top-down distinction. The first debate deals with happiness as a trait or a state. Those who maintain that it is a predisposition or trait suggest that happiness is not happy feelings per se but a propensity to react in a happy way. This top-down approach suggests that a happy person might currently be unhappy. The bottom-up or state approach suggests that a happy person is one with many happy moments. Chekola (1975) has described this as the collection view of happiness because happiness is seen as simply a large collection of happy moments. Happiness can be defined as either a trait or a state, and these will possibly follow different principles.

The second debate concerns the role of pleasant events in creating happiness (Lewinsohn & Amenson, 1978; Lewinsohn & MacPhillamy, 1974). Lewinsohn and his colleagues' contention that a lack of pleasant events leads to depression appears to be a bottom-up approach. However, critics maintain that depression leads to a failure to feel pleasure when engaged in normally pleasant events (Sweeney, Schaeffer, & Golin, 1982), and this is a top-down approach. Research is needed to determine whether (or under what condi-

tions) a lack of pleasant events causes or results from depression.

Associationistic Theories

There are a number of models that seek to explain why some individuals have a temperament that is predisposed to happiness. Many of these theories are based on memory, conditioning, or cognitive principles that can be subsumed under the broad rubric of associationistic models. Cognitive approaches to happiness are in their infancy. One cognitive approach rests on the attributions people make about the events happening to them (Schwarz & Clore, 1983). It might be, for example, that good events bring the most happiness if they are attributed to internal, stable factors. Another possibility is that events that are perceived as good lead to happiness, regardless of the attributions made.

One general cognitive approach to happiness has to do with associative networks in memory. Bower (1981) has shown that people will recall memories that are affectively congruent with their current emotional state. Research on memory networks suggests that persons could develop a rich network of positive associations and a more limited and isolated network of negative ones. In such persons, more events or ideas would trigger happy ideas and affect. Thus, a person with such a predominantly positive network would be predisposed to react to more events in a positive way.

A related type of theory is based on a classically conditioned elicitation of affect. Research has shown that affective conditioning can be extremely resistant to extinction. Thus, happy persons might be those who have had very positive affective experiences associated with a large number of frequent everyday stimuli. Zajonc's (1980) contention that affective reactions occur independently of and more rapidly than cognitive evaluation of stimuli is compatible with a conditioning approach to happiness.

Conditioning and memory networks may function without explicit conscious intervention. However, there is some evidence that a person can give conscious direction to the affective associations in his or her life. Fordyce (1977a) offered evidence that a conscious at-

tempt to reduce negative thoughts can increase happiness, and Kammann (1982) found that reciting positive statements in the morning leads to a happier day. Goodhart (in press) has found that positive thinking similar to that recommended by Norman Peale is correlated with SWB. Thus, explicit conscious attempts to avoid unhappy thoughts and to think of happy ones may to some extent increase happiness.

Certain individuals may have built up a strong network of positive associations and learned to react habitually in positive ways. These individuals are perhaps those characterized by philosophers as possessing a happy temperament. A person with a Pollyanna approach to life (Matlin & Stang, 1978) is perhaps the prototype of a person who has formed positive associations to the world. Several studies (Dember & Penwell, 1980; Matlin & Gawron, 1979) have found a relationship between happiness, a cognitive bias toward positive associations, and high Pollyanna personality scores.

An interactional approach could be developed that would integrate the influence of external events and the influence of personality. A person might have associative networks that cause a predisposition to happy reactions. However, although the response to incoming events is biased by these associations, current events could alter the associations over time. In other words, a person's associative networks might be more or less permeable to the influence of new associations.

Judgment Theories

A number of theories postulate that happiness results from a comparison between some standard and actual conditions. If actual conditions exceed the standard, happiness will result. In the case of satisfaction, such comparisons may be conscious. However, in the case of affect, comparison with a standard may occur in a nonconscious way. Although judgment theories usually do not predict what events will be positive or negative, they do help to predict the magnitude of affect that events will produce.

One way to partition the judgment theories is based on the standard that is used. In social comparison theory, one uses other people as

a standard. If a person is better off than others, that person will be satisfied or happy (Carp & Carp, 1982; Emmons et al., 1983; Michalos, 1980). In adaptation (Brickman, Coates, & Janoff-Bulman, 1978) and the range-frequency theory (Parducci, 1968, 1982), a person's past life is used to set the standard. If the individual's current life exceeds this standard, that person will probably be happy. The individual may also acquire a standard in other ways. For example, the individual might aspire to a certain level of attainment based on self-concept or based on what that person is told by his or her parents.

Although standards may come about in different ways according to each theory, in each case they are used as the basis for judging conditions. In social comparison theories, proximal others are usually weighted heavily because of their salience. However, Dermer, Cohen, Jacobsen, & Anderson (1979) demonstrated that even people who are remote in time can be used as a standard of comparison if they are made salient. Seidman and Rapkin (1983) reviewed evidence that suggests social comparison can influence mental health, and Wills (1981) showed that downward comparison with less fortunate persons can increase SWB. Kearl (1981-1982) found that believing others live in poor circumstances can enhance one's life satisfaction. Easterlin (1974) argued persuasively that the amount of income that will satisfy people depends on the income of others in their society. One shortcoming to extant social comparison theories is that they do not make clear when a person will need to make comparisons with others. As Freedman (1978) pointed out, for some things such as sex, social comparison may not be important to happiness because people have an internal standard based upon their own values or needs. However, Emmons et al. (1983) found that social comparison was the strongest predictor of satisfaction in most domains.

Adaptation to events means that when they first occur, events can produce either happiness or unhappiness, depending on whether they are good or bad. However, over time the events lose their power to evoke affect. The person adapts to good conditions so they no longer evoke happiness, and a similar adaptation process occurs for bad events. Adaptation theory is based on a standard derived from an

individual's own experience. If current events are better than the standard, the individual will be happy. However, if the good events continue, adaptation will occur; the individual's standard will rise so that it eventually matches the newer events (Brickman & Campbell, 1971). Thus, according to the adaptation theory recent changes produce happiness and unhappiness because a person will eventually adapt to the overall level of events. Therefore, this theory predicts that changes in income and so forth are much more important to happiness than is the average level of the events. An individual's standard will eventually move up or down to any level or circumstance; it is only departures from this level that can produce affect.

Brickman et al. (1978) reported that lottery winners are no happier, and quadriplegics no less happy, than normal controls. They interpreted these findings by suggesting that people adapt to all events, no matter how fortunate or unfortunate. Wortman and Silver (1982) confirmed this conclusion with longitudinal data. They found that spinal cord-injury victims were extremely unhappy after their accidents. However, their affect quickly began moving back toward happiness, suggesting that adaptation was occurring rapidly even to this extreme misfortune. Cameron (1974) and Feinman (1978) also reported evidence indicating that other handicapped groups are as happy as controls. Detailed descriptive longitudinal data on adaptation are needed: How long does it take to adapt, to what conditions do people adapt, and do people completely adapt? What amount of time or accumulation of experiences is included in one's standard, and how are more recent events weighted? The psychological process underlying adaptation also warrants further consideration. It seems unlikely that people will completely adapt to all conditions. Positive factors such as health or income do correlate with SWB. It may be that adaptation reduces, but does not eliminate, the effect of circumstances. Although adaptation seems to be a powerful process, its limits or the parameters that influence it are not well understood.

Parducci (1968) developed a provocative theory of happiness based on laboratory models of human judgment. The range-frequency model predicts a precise standard (based on

the person's experience) against which incoming events are judged. In laboratory settings this theory outperforms adaptation level approaches. The model has the most interesting implications for persons who have skewed distributions of life events. It predicts that the greatest happiness will occur for those who have a negatively skewed distribution of events. As explained earlier, the average level of goodness of the events happening to a person does not influence happiness because the person adapts to the events. However, the range-frequency model establishes the standard of comparison point approximately halfway between the midpoint of the range and the median of the events happening to that person. Events above this point will make the person happy. A person with a negatively skewed distribution will be happy a majority of the time because most events will fall above this comparison point. The absolute level of goodness of the events does not matter, but the shape of the distribution is crucial. A positively skewed distribution of events will produce unhappiness a majority of the time. Thus, persons with a few ecstatic moments in their lives may be doomed to unhappiness. As Parducci (1968) noted, "if the best can come only rarely, it is better not to include it in the range of experiences at all" (p. 90). This prediction contradicts the common sense idea that some very happy times can enrich one's life. One strength of the range-frequency theory is that its predictions are very specific and thus testable.

One popular form of judgment theory is aspiration level, which maintains that happiness will depend on the discrepancy in a person's life between actual conditions and aspirations (e.g., Carp & Carp, 1982). McGill (1967) and Wilson (1960) agreed that happiness depends on the ratio of fulfilled desires to total desires. According to this theory, high aspirations are as much a threat to happiness as are bad conditions. As the ancient Cyrenaics noted, no person can be rich whose desires for money can never be met. The level of aspirations presumably comes from an individual's previous experience, goals, and so forth. Easterlin (1974) outlined the dramatic differences in aspirations for income between people in various countries. Recall that Gibbs (1973) attributed the declining happiness of more fortunate blacks in the U.S. to the rising as-

pirations of this group. Although there is evidence that supports the idea that the discrepancy between actual conditions and the level a person aspires to correlates with happiness, this relationship in general does not appear to be strong (Emmons et al., 1983; Gerrard, Reznikoff, & Riklan, 1982; Kammann, 1982; Wilson, 1960).

One question related to all judgment theories is whether comparisons occur only within domains (e.g., income) or generalize across domains. Dermer et al. (1979) found that comparison did not generalize to all areas. In addition, they found that although making a negative standard salient led to increased satisfaction, it also led to more negative affect. Thus, the positivity of affect did not simply increase as satisfaction judgments rose.

Another question related to judgment theories deals with when each type of comparison takes precedence. For example, when will social comparison be most important, and when will adaptation or one's own prior conditions be more important? The work of Emmons et al. (1983) and Dermer et al. (1979) suggests that social comparison may be important to many satisfaction judgments. However, one's own prior experience may usually have more influence on affect. A final question concerning these theories deals with their limits. Critics have dubbed the social comparison approach to happiness with the appellation, "If everyone has a pain, then mine doesn't hurt." Clearly there must be limits to the influence that comparison to standards can have. Note that judgment theories do not indicate how events come to have a particular hedonic value prior to the judgment, that is, why some events are good and why some are better than others.

Future Directions

It is clear that much work is needed to develop more sophisticated theories of happiness. Not only should factors that affect trait versus state happiness be differentiated, but types of SWB such as joy versus satisfaction may also depend on different processes. Constructs should be more rigorously defined, and falsifiable propositions must be developed. A number of important questions are evident in this review of the theories. These questions can be answered by programmatic research in

which there is a continuous interchange between data and theoretical propositions. The limiting conditions of each theoretical approach need to be explored. Extant theories make different predictions in a number of instances, and these represent opportunities for research. Thus far, few theories have received rigorous propositional development or probing empirical analyses. In addition, there has been no attempt to integrate the theories.

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REM seems to influence psychological well-being adversely, it seems probable that the influence could be bidirectional. Exercise has also been related to higher mood (Morris & Husman, 1978; Reffruschini, 1978; Tredway, 1978), although well-controlled experimental work is still lacking on this topic. Finally, seasonal variations in mood have been found (Andrews & Withey, 1976; Bradburn, 1969; T. W. Smith, 1979; Springer & Roslow, 1935), although it is not clear whether these influences are biological in origin. Weather has been found to influence mood (e.g., Barnston, 1975; Catalano & Dooley, 1977; Schwarz & Clore, 1983), although this may not be a long-term effect.

It is clear that at some level hormonal and other biological events must mediate mood and SWB. These findings and theories are beyond the scope of this review. It should be noted, however, that biological mediation does not invalidate theories that are at a different level of analysis such as the psychological or sociological levels.

Conclusion

Importance of influences. A number of investigators have noted with dismay the small proportion of variance that can be accounted for with demographic variables. This has led some to look elsewhere for more potent variables, to fields such as personality or attitudes. However, in these fields a parallel finding often emerges—no single trait accounts for much of the variance in behavior. Thus, it seems likely that subjective well-being will not be accounted for by a handful of potent variables, because of the immense number of factors that can influence it. Variables from the weather to beliefs to interactions between personality and environment will probably play a part, and it is unrealistic that any one will be prepotent. Nevertheless, moving away from specifics to more abstract concepts in the realm of theory (e.g., goals), stronger relationships may be found. However, SWB is probably determined by a large number of factors that can be conceptualized at several levels of analysis, and it is perhaps unrealistic to hope that a few variables will be of overwhelming importance.

Limits of the influence studies. Virtually all of the studies on the influences on happiness

suffer from certain common shortcomings. There are few experimental, quasi-experimental, or even longitudinal studies, and thus the direction of causality is impossible to determine in most cases. It is usually possible to argue that the putative causal variable could actually be caused by SWB. For example, health or social contact might result from happiness as well as cause it. This points out a much neglected question: What are the effects of happiness? For example, Wilson and Matheny (1983) found that positive emotional tone covaried with sustained attention, and Weinstein (1982) found that the performance of happy people is enhanced more by positive changes in incentives. An important activity for future research is to map more completely the effects of positive affect.

Curvilinear and interactional effects are often not examined in this literature. One large difficulty is trying to separate the effects of different variables that are intercorrelated. One can examine the unique variance predicted by each variable, but the common variance is often the largest portion of variance accounted for. In most studies, there is no satisfactory way to apportion the effects of this common variance. Although regression is often used to do so, the device of simply apportioning the common variance to the strongest predictor is usually not defensible. Researchers need longitudinal and quasi-experimental data in which potential causal variables fluctuate somewhat independently in order to separate their influences. Another element that is usually lacking in most areas is a theoretical structure to guide empirical work. It is true that theory should proceed from carefully collected data. However, theory and empirical data have a two-way influence, and theory is necessary in order to know what types of data should be collected.

Recommendations. Much progress has been made since Wilson's (1967) review. At this point there is an idea of how many variables are correlated with SWB. However, there is a great need for more sophisticated methodologies. A better understanding is needed of parameters that influence the relationships, the directions of influence between variables, and how the different influences interact. There are unexplored potential causes of SWB (e.g., inheritance, social networks, and life-style). In

addition, an understanding of how the variables influence the separate components of SWB is needed. In sum, methodologies that allow a deeper understanding of how variables influence SWB and more adequate theorizing to guide empirical work are essential.

Theory

Wilson (1967) stated that little theoretical progress in understanding happiness had been made since the time of the ancient Greeks. Although several notable theoretical advances have occurred in the last decade, progress is still limited. A closer connection between theory and research is sorely needed. This review focuses on some of the more provocative psychological theories related to happiness, but does not describe biological (including heritability) or sociological theories.

Telic Theories

Telic or endpoint theories of subjective well-being maintain that happiness is gained when some state, such as a goal or need, is reached. One theoretical postulate offered by Wilson (1960) is that the "satisfaction of needs causes happiness and conversely, the persistence of unfulfilled needs causes unhappiness" (p. 71). Much of the research on SWB seems to have been based on an implicit model related to needs and goals. The degree of resources presumably related to needs and desires is assessed and correlated with SWB. However, specific theoretical formulations are rare in this work.

Many philosophers were concerned with questions related to telic theories. For example, they asked whether happiness is gained by satisfying one's desires or by suppressing them. Whereas hedonistic philosophers have recommended fulfillment of desires, ascetics have recommended the annihilation of desire. Which desires or goals are most important, and what balance should be struck between different types of desires? Are certain desires deleterious to happiness? Perhaps one of the most important questions is whether happiness comes from already having one's desires fulfilled, from having recently achieved a desire, or from the process of moving toward desired objects. As Scitovsky (1976) stated, "being on the way to those goals and struggling to achieve

them are more satisfying than is the actual attainment of the goals" (p. 62).

Alternative telic theories derive from different origins of the striving. In need theories, there are certain inborn or learned needs that the person seeks to fulfill. The person may or may not be aware of these needs. Nevertheless, it is postulated that happiness will follow from their fulfillment. In contrast, goal theories are based on specific desires of which the person is aware. The person is consciously seeking certain goals, and happiness results when they are reached (Michalos, 1980). Goals and needs are related in that underlying needs may lead to specific goals. A person may also have certain values that lead to specific goals. Needs may be universal, such as those postulated by Maslow, or they may differ markedly from individual to individual such as those proposed by Murray. There is widespread agreement that the fulfillment of needs, goals, and desires is somehow related to happiness.

Maslow proposed a universal hierarchy of needs that emerges in the same order in all persons. Individuals should experience SWB if they are fulfilling the needs at their particular levels, although it is also possible that happiness might be higher for those at higher levels of the need hierarchy. Research findings on Maslow's theory are not encouraging (e.g., Lawler & Suttle, 1972; Wahba & Bridwell, 1976), so more work is needed before applying the theory to happiness. Murray postulated a large number of needs varying in their origin. People differ greatly in these needs (e.g., for achievement or affiliation). Diener, Larsen, and Emmons (in press) found some support for the idea that people experience happiness when their particular needs are fulfilled. Their approach to happiness was based upon person-environment fit—the idea that people are happy when they are in situations that match their personalities.

A number of universal human needs (e.g., for efficacy, self-approval, and understanding) have been proposed. If these are truly universal needs, then their fulfillment should correlate with happiness in all cultures. Reich and Zautra (1981) postulated that personal causation or efficacy is a ubiquitous source of positive affect, and Csikszentmihalyi and Figurski (1982) found that voluntariness is a positive aspect of experience. The importance of social

support to happiness (Campbell et al., 1976) suggests that this could be a ubiquitous need. An optimum level of arousal has also been proposed as a major source of happiness. Scitovsky (1976) maintained that the correct level of stimulation or novelty increases positive affect.

Goals and desires are usually thought of as more conscious than needs. Most individuals have had the experience of feeling happy when they achieve some important goal. However, a key question is whether goal fulfillment leads to longer-term differences in SWB between persons, rather than just short-term mood elevations. Some theorists (e.g., Chekola, 1975) argued that happiness depends on the continuing fulfillment of one's life plan, the total integrated set of a person's goals. Some goals may be in conflict with others. Thus, according to the life plan approach, happiness depends on two key related factors: harmonious integration of one's goals and fulfillment of these goals.

In a vein similar to the life plan approach, Palys and Little (1983) hypothesized that people have personal projects or concerns and that these projects can be integrated into a total project system. They measured these projects and found that dissatisfied people were committed to goals that held the prospect of long-term reward, but that had little short-term reinforcement or enjoyment. Their projects were difficult and long term. More satisfied individuals had projects that were more enjoyable, less difficult, and more important at that time.

According to telic approaches, there are several things that can interfere with SWB. First, individuals may desire goals that bring short-term happiness but have long-term consequences that are deleterious to happiness because they interfere with other goals. Second, people's goals and desires may be in conflict, and thus it is impossible to satisfy them fully. Because their needs or desires might be unconscious, it would be difficult to identify and integrate them if they were in conflict. Third, individuals could be bereft of happiness because they had no goals or desires. Finally, people may be unable to gain their goals because of poor conditions or skills, or because the goals are so lofty.

There are several shortcomings to the cur-

rent telic approaches. They have rarely been formulated in a clear way and then tested. Many of these approaches are not falsifiable. Needs or goals are sometimes described in a circular way, depending on the observations the concept is to explain. Clear measures of needs and goals are needed, and longitudinal methodologies would help indicate whether achieving the goals actually heightens SWB. Gordon (1975) compared the importance of various types of resources and examines how the need for these may have developed in childhood. Theoretical work such as this is needed in which various types of goals or needs and their fulfillment are related to various types of SWB. Formulations such as Bentham's law of diminishing marginal utility can be tested empirically in relation to SWB. One limitation to the law of marginal utility is that it seems to apply to some things (e.g., money), but not to others (e.g., skills).

Pleasure and Pain

The idea that gaining goals or needs leads to happiness raises a theme that is found throughout the happiness literature: Pleasure and pain are intimately related. An individual only has goals or needs to the extent that something is missing in that person's life. Thus, most need and goal formulations presume that lack or deprivation is a necessary precursor of happiness. One assumption in these approaches is that the greater the deprivation (and hence unhappiness), the greater the joy upon achieving the goal. The idea that fulfilling needs leads to happiness is the opposite of the idea that having all needs permanently fulfilled will lead to the maximum happiness. According to the present formulation, if an individual's desires and goals are totally fulfilled, it may be impossible to achieve great happiness. Houston (1981) maintained that "our genetic make-up is such that we are probably happiest when we experience deprivation-based need and are able to satisfy that need" (p. 7). Similarly, according to Wilson (1960), "the recurrent needs are cyclical in nature and the most rewarding state of affairs is for the cycles to repeat themselves in a normal and orderly way" (p. 76). From this perspective, it is fortunate that biological desires are self-renewing with time and that a person who achieves goals will often set other goals. However, Wilson