Research on the Quality of Life

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Dedication

To Angus Campbell, 1910–1980

Innovative research on the quality of life was just one of his major contributions to social science.

A brief biographic sketch and a list of Angus Campbell's books appear in the Appendix to this volume.

Contents

Research on the QUALITY OF LIFE

Editor's Introduction

Quality of life, though impossible to define to everyone's satisfaction, is a concept that elicits much interest and that stimulates much research. Most people have a strong personal interest in their own life quality, and often an active concern for the life quality of certain other people—family members and friends. A less personal but also compelling involvement with the quality of life is central in the work of many professionals: social indicator researchers, sociologists, psychologists, psychiatrists, anthropologists, economists, gerontologists, political scientists, politicians, lawyers, philosophers, and many others.

The terms used to invoke notions of life quality differ, depending on one's profession, but include "well-being," "ill-being," "happiness," "dissatisfaction," "mental health," "adaptive functioning," "morale," "physical and mental anguish," "pain and suffering," and "affect balance." These terms are not all comparable, but each has important links to life quality, and nobody has yet succeeded in dividing up the conceptual territory in an elegant, uncontested way. This book provides a sampling of recent social science explorations in that broad territory.

This book is wide-ranging in coverage but is not intended to reflect all quality of life research. (For recent general reviews see Diener, 1984, and Gilmartin et al., 1979.) This book's justification is that it presents, together, a set of studies on life quality that are recent, data-based, sophisticated, and interesting. From the individual chapters one can learn fascinating and potentially useful facts about the levels and correlates of life quality of Americans (black Americans, Mexican Americans, older Americans, Americans who live alone, American men, women, and students) and of Bel-

gians, Canadians, Chinese, Danes, Dutch, English, French, Germans, Greeks, Irish, Italians—and others. This information may well reshape how one thinks about some of these groups. Of at least equal importance, however, is the fact that these chapters occur together. From their juxtaposition one can discern much about the current state of the art in life quality research and some of the ways it has changed (and maybe progressed) over the past decade.

Developments and Continuities in Research on the Quality of Life

At least three types of interests in life quality research are much more evident now than a decade ago and are reflected in the chapters that follow.

First, one will find in this book much attention devoted to describing the life quality of particular national subgroups, defined demographically or culturally, and comparing them with each other or with larger, more general national populations. Although this is not an entirely new interest, much of the empirical work on life quality in the 1960s and early 1970s focussed on finding effective ways to measure well-being and applying those measures to broad general populations (e.g., Gurin et al., 1960; Bradburn, 1969; Andrews & Withey, 1976; Campbell, Converse, & Rodgers, 1976). Now that effective measurement approaches have been identified and some baseline data accumulated, it is not surprising to see investigators applying these measures to a wide range of special subgroups. (On the other hand, research comparing the life quality of people in different nations has been underway for many years. See, for example, Cantril, 1965; Drewnowski, 1970; Andrews & Inglehart, 1979; and Szalai & Andrews, 1980.)

Second, there is wide interest here in how time-related phenomena link to life quality—specifically, the use of time, and the effects of age, period, and cohort. Like the concern for special subgroups, the interest in time-related phenomena is not entirely new in the last decade but is more in evidence now than earlier. There are at least two reasons for this. One is simply that more data have been accumulated over a longer period; it is hard to explore period or cohort effects without an extended series of observations, and these did not exist several decades ago. The other is that sophistication regarding estimation of age, period, and cohort effects has increased dramatically in the past decade; while all problems are not yet solved, investigators can now approach the issues with much more insight (see, for example, Glenn, 1981, and Rodgers, 1982).

A third new interest that is reflected in some of the following chapters is a concern for the social and psychological dynamics of well-being. The central question here is, How is it that people come to experience the life quality that they do? Studies done in the 1960s and early 1970s rarely devoted much attention to this question, but with some of the basic measurement and descriptive issues now less pressing, newer studies have begun to explore this. Many of the chapters in this book consider how social support, social integration, and/or interpersonal trust relate to life quality. Other social or psychological concepts that receive some attention include clusters having to do with internal control, autonomy, and independence; external control and the amount of influence that one believes other people and/or luck have over one's life; uncertainty about how things work or the future; self-confidence; aspirations and expectations; and an assortment of values having to do with family, job, and life in general.

Another theme that appears in many of the chapters that follow—a theme that continues research done in the 1960s and early 1970s rather than being a new development—is the interest in how life quality relates to sociodemographic variables (e.g., income, education, marital status, gender, etc.). The results in this area are of fundamental importance and continue to fascinate both professionals and the general public. As with earlier investigations of general populations, the more recent work on particular subgroups tends to find statistically significant but often quite weak relationships between sociodemographic variables and people's own sense of well-being.

In the early 1980s, life quality research, particularly the portion of it done under the aegis of the social indicators movement, has been seen as being at a turning point (Carley, 1981; Verwayen, 1984). After a period of vigorous institutional growth for ten to fifteen years beginning in about 1965, the rate of increase has slowed and reversed. The 1983 closing of the Center for Coordination of Research on Social Indicators in Washington, D.C., the great reduction in social indicator development activities by the Organization for Economic Cooperation and Development (OECD) in Paris, and the interruption of the triennial series of social indicators volumes produced by the United States government are manifestations of a widespread reduction of funding for social indicator work and an apparent decline, at least by government officials, in interest in monitoring well-being. All is not bleak, however: The major journal of the social indicators movement, *Social Indicators Research*, remains intellectually vigorous; and important conceptual and empirical contributions—some of them reported in this volume—

continue to be made. Perhaps the current era is a period of consolidation—a period when the developments of the 1960s and 1970s are exploited and tested, when a variety of new ideas and extensions of old ideas are tried, and when the knowledge base is firmed up in preparation for further growth in the future.

Generalizations that seem evident, even from the limited sample of studies presented in this book, are that there is underway an active and conceptually innovative array of research on life quality, and that investigations continue on how best to conceptualize and measure life quality and what are the major factors that affect it. The territory is a broad one, and there is still much to explore.

Organization of This Book

The chapters assembled in this book fit comfortably into three clusters.

The first, Part One of the book, consists of three chapters that examine the psychological determinants of perceived well-being. In Chapter 1, Ronald Inglehart and Jacques-Rene Rabier analyze unusually extensive cross-national multi-year data from Europe to compare life satisfaction levels among the different countries and in different years. The main focus of their analysis is on how various economic and social changes link to changes in aspirations, and how these changes have affected people's sense of well-being. In Chapter 2, Alex Michalos reviews several thousand studies of job satisfaction, marital satisfaction, and life quality and then presents some of his own research on the psychological dynamics of perceived well-being, with a particular emphasis, as in the preceding chapter, on the role of aspirations. The third chapter in this set, by Antonia Abbey and Frank Andrews, explores how some of the more promising psychological concepts—including stress, internal and external control, social support, and depression—related to sense of overall life quality in the context of causal models estimated on simultaneous and time-lagged data. Taken together, these three chapters introduce many of the concepts that reappear in subsequent chapters.

Part Two of the book, Chapters 4 through 9, consists of six studies that conceptualize and describe the life quality of particular groups of Americans. In Chapter 4, Fred Bryant and Joseph Veroff identify six dimensions of subjective mental health in American men and women. In Chapter 5, Thomas Juster and Paul Courant apply a time-budget approach to integrate what they conceptualize as "flows" of well-being with the more common "stock" measures of well-being, using data from a representative sample of American

adults. Chapter 6, by Vilma Ortiz and Carlos Arce, and Chapter 7, by James Jackson, Linda Chatters, and Harold Neighbors, are based on two recent national sample surveys of American ethnic minorities—Mexican Americans and black Americans, respectively. These two chapters present basic descriptive information about levels of well-being and how these vary according to several sociodemographic variables in these two important groups. In Chapter 8, Jerald Bachman, Lloyd Johnston, and Patrick O'Malley draw from a large, ongoing longitudinal survey of high school and post-high school youth and present descriptive data about age, period, and cohort effects of life quality for young Americans. In nice contrast is Chapter 9, by Regula Herzog and Willard Rodgers, which assembles data about the life quality of elderly adults using data from 25 surveys in America and Europe.

Whereas the research reported in Parts One and Two of the book is primarily oriented toward individual (i.e., psychological and demographic) factors, the four chapters that form Part Three consider life quality in a more social context. Both Chapter 10, by James House, and Chapter 11, by Duane Alwin, Philip Converse, and Steven Martin, examine the role of social support and social integration. In Chapter 12, Arland Thornton, Ming-Cheng Chang, and Te-Hsiung Sun look at the changes in the role of the family in rapidly modernizing Taiwan. And in Chapter 13, Robert Sutton and Robert Kahn theorize about the role that prediction, understanding, and control can have in reducing the negative effects of organizational stress on the quality of life and the quality of work life.

Origin of This Book

This book had its beginning in a symposium held at The University of Michigan to honor Angus Campbell, one of the founders of the Institute for Social Research. Surveying the quality of life was the main focus of his research during the 1970s, and his work has become widely known and cited. (The Appendix to this volume describes other significant aspects of Angus Campbell's career and lists the major books he authored and edited.) In recognition of Angus Campbell's interests, the symposium invited a set of presentations describing current research and theorizing relevant to the quality of life. The symposium brought together a group of colleagues closely associated with the Institute for Social Research—intellectually and/or locationally—to share their ideas and results about research on life quality. Most of the symposium presentations, in expanded revised form, plus several additional reports, con-

stitute the chapters of this book. (Some of these reports are also being published as separate journal articles; where this is the case, appropriate acknowledgment appears on page iv.)

Because Angus Campbell's own work has influenced many of the chapters here, and because he would have been keenly interested in the results of each of these investigations, it seems fitting to dedicate this book to his memory.

Frank M. Andrews
Ann Arbor, Michigan
June 1986

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1

Aspirations Adapt to Situations—But Why Are the Belgians so Much Happier than the French? A Cross-Cultural Analysis of the Subjective Quality of Life

Ronald Inglehart and Jacques-Rene Rabier[1]

This chapter explores variations in subjective life satisfaction and happiness cross-nationally and across time, using an immense dataset gathered in the Euro-Barometer surveys carried out from 1973 through 1983. It proposes an aspiration–adjustment model which holds that subjective well-being reflects the gap between one's aspiration level and one's perceived situation: In the short term, changes in one's objective circumstances may produce changes in one's sense of subjective well-being, but in the long term, one's aspirations gradually adjust to the new circumstances; consequently, there is very little variation in subjective well-being between groups having stable membership. The evidence from a number of surveys carried out in ten Western countries supports this interpretation: We find that subjective well-being scarcely varies at all across groups based on highly stable characteristics, such as gender; it does vary between groups based on less permanent characteristics such as income or marital status (though the amount of variation is surprisingly modest); but it varies quite substantially according to recent *changes* in one's income or marital status. Paradoxically, subjective well-being also varies enormously from one nation to another, though nationality is generally a stable characteristic. This variation cannot be attributed to problems of translation, but it does seem to reflect fairly stable cultural differences concerning the normal response to questions about one's subjective well-being.

1. Introduction

Few research topics seem more worthwhile than the effort to understand what makes human beings happy; but two paradoxes face anyone who undertakes an empirical analysis of the subject. The first has now been scrutinized rather closely, and we seem to be approaching a satisfactory understanding of it. The second paradox is directly related to the first, but thus far we have only begun to touch upon it. In this chapter, we will present some fairly strong evidence supporting one explanation of the first; and carry out a preliminary exploration of the second, designed more to clarify the nature of the question than to provide a definitive answer.

The first might be called the paradox of minimum intergroup

variation. Everybody knows that some groups are objectively much better off than others, and common sense suggests that the former must be happier and more satisfied with their lives than the latter. But empirical evidence indicates that the differences are astonishingly small. In colloquial terms, this paradox might be stated: "Why doesn't money buy happiness?"—or, more precisely, "Why does it buy so little?"

The second might be called the paradox of large cross-national variation. Happiness and overall life satisfaction vary surprisingly little across stable groups *within* a given country—but they vary surprisingly much *between* different countries. For reasons that will be presented below, this cross-national variation does *not* seem to reflect problems of translation from one language to another; even when we use the same words, different nationalities appear to have very different levels of subjective well-being. Furthermore, the differences do not seem to reflect any of the obvious explanatory variables; for example, rich nations do not necessarily show higher levels of subjective well-being than relatively poor ones. In concrete terms, we might ask, "Why are the Dutch so much happier than the Germans?"

We will deal with each of these problems in turn, starting with the former.

2. Aspirations Adapt to Situations, or: Happiness Is Over the Next Hill

The paradox of small intergroup variation has been noted by a number of investigators. In an analysis of American data, Andrews and Withey (1976) find that the combined effects of age, sex, race, income, education, and occupation account for only 8 percent of the variance in a carefully validated index of Overall Life Satisfaction. Campbell, Converse, and Rodgers (1976) also find surprisingly weak relationships between social background variables and life satisfaction. And in an analysis of data from four Nordic countries, Allardt (1978) reports that "A striking fact is revealed when satisfaction measures are related to common background variables such as...occupation, education, sex, age, etc. It appears that within each country the overall satisfaction level tends to be surprisingly constant across categories." Barnes and Kaase (1979) report similar findings from the United States and four West European countries. As one would expect, the rich are more satisfied with their *incomes* than the poor, and the highly educated are more satisfied with their *education* than the less educated. But the differences are smaller than one might expect; and when we analyze satisfac-

tion with one's life as a whole, the explained variance is very modest indeed.

Just how modest is "modest indeed"? In an analysis of data from the United States and eight West European countries, Inglehart (1977, 1978) analyzes five different dependent variables, using the following social background variables as predictors: age, sex, income, occupation, education, religious denomination, church attendance, political party identification, labor union membership, region, size of community, and (in the United States) race. When a question concerning satisfaction with one's life as a whole is used as the dependent variable, these social background variables explain only 6 percent of the total variance, on the average across the nine nations. But the same set of predictors explain 23 percent of the variance in the respondents' value type; 26 percent of the variance in voting intention; 30 percent of the variance in political party identification; and 33 percent of the variance in self-placement on a Left–Right political scale. In short, a given set of demographic variables explains four to six times as much of the variance in other attitudes as in overall life satisfaction. Why is this true?

One possible explanation lies in the fact that, as Andrews and Withey (1976) have demonstrated, satisfaction with one's life as a whole is additive: It reflects the sum of one's satisfaction in various domains, such as one's income, housing, occupation, leisure activities, family life, and so forth. Low intergroup variation might result if satisfaction with each of these domains were uncorrelated with satisfaction in the others: Averaging out across various domains would reduce the variation between groups. But this explanation has important limitations, for advantages tend to be cumulative: Those who have higher incomes are also likely to have higher education, better jobs, live in more pleasant surroundings, and have better health. While their marriages and family life may be no better than those of people with fewer advantages, at least they are no worse. An averaging out of *objective* circumstances would still produce a heavy skew in favor of the upper socioeconomic strata. Some kind of subjective adaptation process must be at work.

Campbell et al. (1976) propose one such model: they argue that one's subjective satisfaction with any given aspect of life reflects the gap between one's *aspiration level* and one's *perceived situation*; but one's aspiration levels gradually adjust to one's circumstances.

If some such process of adjustment is part of human nature, then one would not normally find large differences between the subjective well-being levels of different social groups *provided* that these groups have reasonably stable membership. For in the long run,

the aspiration levels of stable groups will have time to adapt to their respective external circumstances. Relatively high or low levels of subjective well-being would be observed only when recent changes had raised or lowered the relative position of a given group.

We would expect this pattern of low intergroup variance to apply most fully to groups that are defined by genetic or ascriptive characteristics, such as sex or religion, since these are stable attributes of given individuals. We would *not* expect this to hold true for social groups that have a fluctuating membership—especially those for which a change in category coincides with a change in satisfaction level. One's income level, for example, can change a good deal even over short periods of time—and when it does the individual concerned may move simultaneously from one income level to another *and* from one satisfaction level to another. When one's income rises into the top quartile, one is likely to be pleased about it; when one becomes unemployed, one may suddenly experience a sharp decline in both income *and* subjective well-being. Thus, we would expect to find a stronger correlation between income and subjective well-being than between sex and subjective well-being. This is not because economic differences are more important than gender in any absolute sense—but simply because sex is a much more stable characteristic than income.

To illustrate this point, let us consider the difference between income and education. One's educational level is generally regarded as being an even more important determinant of one's socioeconomic status than is income; and by and large, education is a stronger predictor of most attitudes than is income. But one's educational level tends to be a more stable attribute than is income. This generalization is even more applicable to Western Europe than to the United States: Even today, most West Europeans complete their education by the age of 16. Even for the minority that go farther, the process is generally completed by one's early twenties; from then on, one's educational level is virtually a fixed characteristic: It rarely rises and never falls. Consequently, if the aspiration–adaptation model is correct, we would expect to find larger differences in subjective well-being linked with income than with education.

Reasoning along similar lines, we would expect to find larger differences in subjective well-being linked with marital status than with sex—not because marital status is a more important determinant of one's objective circumstances than one's sex, but because people change from being single to married, or from being married to divorced, widowed, or separated, relatively frequently; whereas one's gender is an extremely stable characteristic. And in the long

run, aspirations adapt to situations.

These expectations may seem counterintuitive at first; everyone knows that when you get something you wanted, you are more satisfied than you were before you got it; it would seem obvious that subjective satisfaction must respond to external circumstances. Indeed, it does—at least in the short term. A person who has been lost in a desert undoubtedly is delighted when he finally reaches an oasis. But would we expect an ample water supply to still produce delight after weeks or months have passed? Hardly. One begins to take it for granted and starts to worry about other things. And for those who have always lived in an environment where water is plentiful, it may seem virtually valueless, so that the quantity available is completely unrelated to subjective well-being.

Thus, intergroup differences in subjective satisfaction reflect the impact of changes over time, more than absolute levels of external conditions. Within any large sample one finds a wide range of satisfaction levels, reflecting the fact that some people's recent experiences have exceeded their expectations, while others' have fallen short. When a need is suddenly fulfilled, one feels a heightened sense of satisfaction. But after a time, one begins to take one's situation for granted; aspirations and objective circumstances come into balance. Some such mechanism is probably necessary in order for humans to function as they do; otherwise, fulfillment of a given set of goals would lead to a state of satiated immobility.

The process of adjustment is complex. For the balance between needs or aspirations, on one hand, and fulfillment, on the other, is continually being upset and readjusted. Satisfaction of a given need can provide intense pleasure; but eventually one aspires to more or to different things.

But which will it be: more of the same or a shift to different goals? The distinction seems crucial, for the two types of adaptation have quite different implications, and different time frames. On one hand, we are dealing with a quantitative adjustment of aspirations. It does not take place immediately; Campbell et al. (1976) conclude that aspiration levels adjust themselves rather slowly. Nevertheless, the evidence indicates that given individuals can and do adjust their aspirations to their situations, shifting them upward with prosperity and (somewhat more slowly) downward with adversity. Over the course of one's lifetime, one tends to achieve a progressively better fit between aspirations and external circumstances, according to Campbell et al., with the result that the oldest respondents are the most satisfied age group among their samples of the American public.

This process of incremental quantitative changes may take

time, but the other process—a qualitative shift from one type of goal to another—seems to work even more slowly. Once adulthood has been reached, most individuals' aspirations seem firmly linked to certain types of goals. It is easier to raise one's sights to more income or a larger house than to shift them to different *kinds* of goals or different ways of life. Major changes in value priorities can take place in a society, but they seem to occur largely as a matter of intergenerational population replacement. In particular, it has been found that those who have experienced high levels of economic and physical security throughout their formative years tend to take material security for granted, and give "Postmaterialist" goals top priority. For those with Postmaterialist values, relatively high levels of income do *not* produce high levels of subjective well-being (Inglehart, 1977, 1981).

Thus, changes in the economic and social environment can have three different types of impact, each with its own time frame:

1. In the short term, changes in one's objective circumstances can produce an immediate sense of satisfaction or dissatisfaction.
2. Circumstances that persist for some time—probably at least a few years—may gradually raise or lower an individual's aspiration levels *within* a given domain.
3. Circumstances that persist for the very long term can lead to intergenerational value changes, with the result that *different* domains come to be given top priority by the population of a given society.

3. Aspirations Adapt to Situations: Evidence from Ten Western Nations

In the following section we will test the hypotheses just outlined, using a remarkable longitudinal cross-national data base that has been developed in the survey research program sponsored by the Commission of the European Communities.

Thus far, most of the empirical research published on subjective well-being has been based on surveys of the American public. Though the results from other societies tend to be similar to the American findings, it is not entirely clear to what extent we are dealing with specifically American phenomena, or with more general human processes of adaptation. The European Community surveys have gathered data on subjective well-being from ten West European nations, permitting a broad cross-cultural analysis.

Perhaps even more important, the European Community research program has generated an exceptionally large longitudinal

data base. Questions about subjective well-being were first administered in 1973 to representative national samples of the publics of Great Britain, Italy, France, West Germany, the Netherlands, Belgium, Luxembourg, Denmark, and Ireland. The same items have been used repeatedly in surveys carried out in each of these nine nations from 1975 to 1980; and in these nine nations plus Greece from 1981 to the present. By fall 1983, a question concerning feelings of happiness had been asked in a total of 93 representative national surveys, producing a total N of approximately 93,000 interviews. A question concerning overall life satisfaction had been asked in a total of 139 national surveys with an N of approximately 139,000 respondents. For present purposes, these exceptionally large Ns are particularly useful. Our hypotheses imply that we will usually find little variation between groups with stable membership, and most of the evidence examined so far points in that direction. But in a representative national survey, one must allow for sampling error. With a sample of 1,500 to 2,000 cases, one's results generally fall within 3 to 5 percentage points of the actual distribution; and as one breaks the sample down into smaller subsamples, the range of sampling error rises. As a consequence, one might observe substantial variation between groups, purely as a result of normal sampling error. As the number of interviews increases, one can be increasingly sure that any variation that is observed reflects actual variation in the real world. Finally, the fact that subjective well-being has been monitored repeatedly during the past decade enables us to examine variation over time. Each of these attributes of our data—variation across time, across cultures, and the exceptionally large sample size—will be utilized in the analyses that follow. First, however, let us take an overview of the global results from the ten nations surveyed from 1973 to 1983.

In September 1973 and subsequently in Euro-Barometer surveys 3–11, 13, 15, and 17–20, the following question was asked of representative national samples of the European Community publics:

> On the whole, are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the life you lead?

Adapted from previous American research, this question had proven to be an effective indicator of overall life satisfaction. Another item, also adopted from American research, had been found effective in measuring feelings of happiness. First asked in the Euro-Barometer survey 3, carried out in Spring 1975, it was repeated in nine subsequent Euro-Barometer surveys, 5, 6, 8–11, and 18–20. This question asked:

Taking all things together, how would you say things are these days—would you say you're very happy, fairly happy or not too happy these days?

It has been demonstrated that satisfaction with one's life as a whole and happiness are not the same thing, the former being a more cognitive assessment, and the latter a more emotional state (Campbell et al., 1976; Andrews & Withey, 1976). However, both of these items tap one's overall sense of subjective well-being, rather than assessments of specific aspects of one's life, and it is the former that seems to fit the aspiration–adjustment model most closely. Moreover, responses to these two questions are closely related, with the observed correlations consistently falling in the 0.5 to 0.7 range across the ten societies analyzed here. Recognizing that they tap related but distinct aspects of subjective well-being, we will present results for each variable separately in the tables that follow. In fact, their relationships with social background variables prove to be remarkably similar.

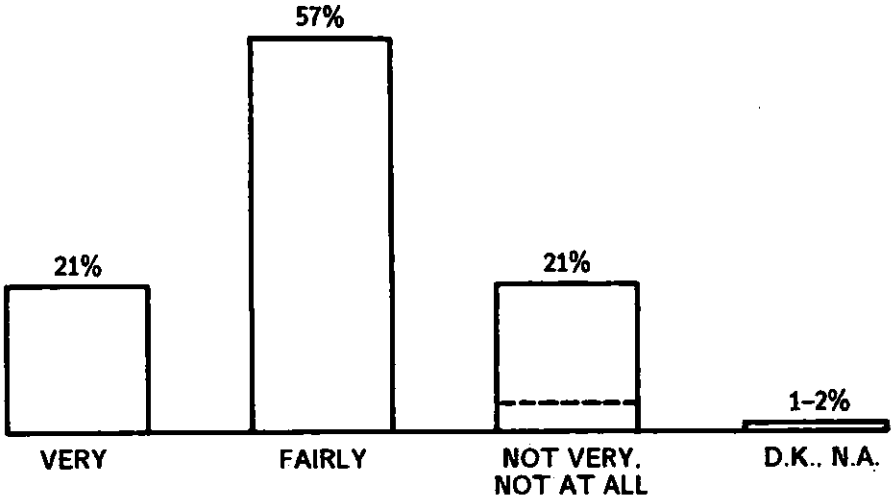
How do West European publics respond to these questions? Figure 1.1 shows the global pattern across ten West European nations surveyed from 1973 to 1983. Overall, 21 percent of these publics said they were "very satisfied" with their lives as a whole, 57 percent were "fairly satisfied", 16 percent were "not very satisfied" and 5 percent "not at all satisfied." When we combine the last two categories, the result is an almost perfect normal distribution, with "fairly satisfied" being the modal response. Moreover, responses to the question about happiness show almost exactly the same three-category pattern: 20 percent of the West Europeans describe themselves as "very happy," 58 percent as "fairly happy" and 20 percent "not too happy." Again, we have something very close to a normal distribution.

"Don't know" and nonresponse rates for both items are extraordinarily low: Only 1 percent fail to answer the question about life satisfaction and only 2 percent fail to answer the question about happiness. This is rather remarkable: In response to questions about major political and social issues, West European publics usually produce nonresponse rates ranging from a minimum of about 4 percent to highs of 20 percent or more, with 10 percent being fairly typical. With these two questions, nonresponse is almost nonexistent. Apparently, they seem clear and meaningful to nearly everyone: A substantial share of the public may not know or care whether more money should be spent on defense, or whether industry should be nationalized; but practically everyone can say whether their shoe pinches them or not.

This finding tends to rule out one potential explanation for low

Figure 1.1

THE DISTRIBUTION OF OVERALL LIFE SATISFACTION AND HAPPINESS AMONG WEST EUROPEAN PUBLICS, 1973–1983. *(Based on European Community surveys, weighted according to the population of each nation).*



intergroup variation: the possibility that the questions seem meaningless, and a large share of the public is giving random answers. For one of the clearest indicators of meaningless or confusing questions is an abnormally high nonresponse rate. But here, nonresponse is about as low as it can get.

Sex

Let us turn now to an empirical test of the thesis of minimum intergroup variation. We hypothesized that because sex is an extremely stable characteristic, we should find very little variation in subjective well-being between the sexes. This finding is far from obvious, for it is clear that women face numerous objective disadvantages by comparison with men. If objective circumstances were the main determinant of subjective well-being, one would expect to find substantial differences between sexes; if the aspiration–adjustment model prevails, one would expect small ones. Table 1.1 shows the combined results from the entire series of surveys carried out during the 1970s; while Table 1.1a shows comparable results from 1982–1983. We are dealing with an immense body of data; to simplify presentation, in these and the following tables we

show just one figure for each group: the percentage that is "high" on well-being. The distributions shown in Figure 1.1 could be dichotomized in two ways, cutting either above the mode, or below it. The two procedures produce similar patterns (except that the skew is reversed) and we have used each of them with one of our two dependent variables, enabling us to examine both the high and low ends of the continuum.

Do the sexes differ in subjective well-being? Evidence from ten West European nations indicates that they do not. The results vary slightly from country to country and from one year to the next, but there is no consistent difference. Overall, the results from both the 1970s and the 1980s indicate that women are, if anything, a little *higher* on both indicators of subjective well-being than men, but the differences amount to only one or two percentage points. Here, as in most of the following tables, we have combined results from all nine countries surveyed (and, starting in 1981, from all ten), weighting each sample in proportion to the population of the given country. Andrews and Inglehart (1978) have found that the structure of subjective well-being is basically similar across western society. We have, of course, also run separate nation-by-nation analyses, and will present some of the findings below. But in regard to gender, Tables 1.1 and 1.1a convey the pattern found almost everywhere: Despite very substantial objective differences in career opportunities, personal income, and opportunities for self-expression, women are *not* less satisfied with their lives, or less happy, than men.

With rare exceptions, one plays a given sex role from birth to death, and the process of aspiration adjustment seems to completely dominate the impact of external differences; and when we statistically adjust for the fact that women have lower incomes, lower-status occupations, etc., than men, the minute differences observed in Tables 1.1 and 1.1a become a trifle larger: Women rank about 3 points higher on life satisfaction and 4 points higher on happiness. The fact that women tend to be slightly happier than men may reflect the fact that, as a consequence of the women's movement, their *relative* position has improved somewhat in recent years.

Some evidence from Japan points in this direction. Japan is a society where women have traditionally been disadvantaged to a far greater degree than in the West, and even today, the opportunities available to women in Japan are much more limited than in virtually any Western society. Nevertheless, there has been a large *relative* improvement in the position of Japanese women within recent years—one that is far more dramatic than that which has taken place in the West, because it started from an extremely low

Table 1.1
OVERALL LIFE SATISFACTION AND HAPPINESS, BY SEX, IN COMBINED EUROPEAN COMMUNITY DATA, 1975–79

Sex of Respondent	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	*N*	Percentage "Very Happy"	*N*
Male	77%	(38,727)	17%	(29,713)
Female	78	(41,362)	19	(31,672)

Source: Pooled data from Euro-Barometer surveys 3–12 (April 1975 through November 1979). In each survey, representative national samples of about 1,000 were interviewed in each of the following countries: Great Britain, France, West Germany, Italy, the Netherlands, Belgium, Luxembourg, Denmark, and Ireland. In this and the following tables, the percentages are based on data weighted in proportion to the population of each nation; unweighted *N*s are shown in parentheses. For details of fieldwork and samplings, see the respective Euro-Barometer codebooks, which are available from the Data Archive of the Inter-university Consortium for Political and Social Research.

Table 1.1a

LIFE SATISFACTION AND HAPPINESS, BY SEX, 1982–83

Sex of Respondent	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	*N*	Percentage "Very Happy"	*N*
Male	79%	(9,270)	20%	(9,108)
Female	80	(10,023)	22	(9,912)

Source: Pooled data from ten nations surveyed in Euro-Barometer surveys 18 (November 1982) and 19 (April 1983). For details of sampling and fieldwork, see the respective Euro-Barometer codebooks, which are available from the Data Archive of the Inter-university Consortium for Political and Social Research. In this and the following tables, percentages are based on a sample that is weighted in proportion to each nation's population; the unweighted *N*s appear in parentheses.

baseline.

A 1973 survey of the Japanese public found a relatively large difference between the overall life satisfaction levels of men and women—with 73 percent of the men "satisfied" or "reasonably satisfied," as compared with 81 percent of the women (Iwao, 1976). Ordinarily, a difference of eight percentage points would not be viewed as impressive. But this is not an ordinary variable. In several scores of surveys that we have examined, from eighteen western countries, sex differences in life satisfaction have been virtually always negligible. Against this context, the Japanese finding *is* striking. It is decidedly the largest such difference we have observed. Japanese women were significantly *more* satisfied with their lives than men. This would surely seem almost incredible from a common-sense viewpoint. But it is in perfect accord with the aspiration–adjustment model. For centuries, Japanese women have had a position of extreme subordination—to their fathers in childhood; to their husbands during marriage; and to their sons in later life. Their aspiration levels reflected this fact. And the phenomenon of rapid recent improvement—even though it still falls far short of equality—seems to have produced relatively high satisfaction levels.

Let us note in passing that both overall life satisfaction and happiness show slightly higher levels in 1982–1983 than in the 1970s. The differences are very slight (about 2 points for life satisfaction and 3 points for happiness) but they show up consistently in most nations. They reflect the fact that the economic recessions of the mid- and late-1970s depressed these levels somewhat; by 1982 feelings of subjective well-being had recovered somewhat.

Age

A good deal has been written about the relationship between subjective well-being and age. Campbell et al. (1976) find rising levels of satisfaction with one's life in general, and with virtually every specific aspect of life (except health) with increasing age; they attribute this pattern to the attainment of a progressively better fit between aspirations and situation as one moves through the human life cycle. Herzog, Rodgers, and Woodworth (1982) confirm this finding, on the basis of more recent American data. A related process of psychological adjustment is suggested by Zajonc (1968), who has shown that how much one likes a given object is a function of familiarity, which is linked with how long one has been exposed to it. On the other hand, Campbell (1981) finds that in the 1950s, younger Americans showed higher levels of happiness than older Americans; while by the late 1970s, the young were significantly

less happy. Campbell attributes this shift to a birth cohort effect, linked with the experiences of the Vietnam era.

Both life cycle effects and birth cohort effects on subjective well-being have been reported, then. One's birth cohort is a permanent attribute, and in the context of the aspiration–adjustment model, the relevant fact is that people have plenty of time to adjust to cohort differences: Those that are found tend to be situation-specific and reflect the impact of recent events (such as the Vietnam conflict, in the 1970s). One's age, on the other hand, is constantly changing—but very gradually. One's changing position in the life cycle might give rise to differences in subjective well-being that perennially characterize given ages; but the gradual nature of these changes suggests that they would produce differences of modest size. Tables 1.2 and 1.2a show the overall relationship between our two indicators of subjective well-being and age, in the 1970s and in 1982–1983.

Here again, a pattern of minimal intergroup variation is strikingly evident. In the massive 1970s dataset, none of the six age groups varies by more than one or two percentage points from the global mean. In the 1980s data, variation is slightly greater, but still extremely modest. Moreover, there is a slight curvilinear tendency with both indicators, at both time ranges, such that satisfaction and happiness declines slightly, from the youngest to the middle-aged groups, and then rises again among the oldest group. When we statistically adjust for the fact that the oldest group has lower incomes and education, is more likely to be widowed, etc., than the younger groups, the tendency for subjective well-being to be highest among the oldest group becomes more pronounced. As Table 1.2b demonstrates, there is very little variation across the age groups from 15 to 64: In overall life satisfaction, these five groups range from a minimum of 76 percent to a maximum of 80 percent satisfied; but the oldest group shows 86 percent satisfied—a finding that accords well with the aspiration–adjustment model: This oldest group is relatively satisfied with their lives *despite* their relatively low levels of income, occupation and other variables; when we adjust for the depressing effect of these factors, the oldest group emerges as significantly more satisfied than the others.

Precisely the same pattern emerges in connection with happiness, our other indicator of global well-being. As Campbell (1981) found to be the case in the United States in the late 1970s (though *not* at earlier time points), happiness is highest among the oldest age group. Adjusting for the depressing effects of other variables, those aged 65 and over show 29 percent rating themselves as "very happy"—a figure 8 points above any other age group.

Table 1.2
OVERALL LIFE SATISFACTION AND HAPPINESS, BY AGE GROUP, IN COMBINED EUROPEAN COMMUNITY DATA, 1975–79

Respondent's Age	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	*N*	Percentage "Very Happy"	*N*
15–24	78%	(14,627)	19%	(11,198)
25–34	79	(15,535)	20	(12,017)
35–44	78	(13,884)	17	(10,679)
45–54	76	(12,718)	16	(9,657)
55–64	75	(10,943)	16	(8,336)
65+	78	(11,941)	19	(9,141)

Source: Pooled data from Euro-Barometer surveys 3–12 (April 1975 through November 1979). Percentages are weighted in proportion to population of each country; the unweighted *N*s are shown in parentheses.

Table 1.2a
LIFE SATISFACTION AND HAPPINESS, BY AGE GROUP, 1982–83

Respondent's Age	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	*N*	Percentage "Very Happy"	*N*
15–24	80%	(3,636)	21%	(3,589)
25–34	79	(3,915)	23	(3,867)
35–44	83	(3,343)	21	(3,286)
45–54	77	(2,794)	16	(2,762)
55–64	77	(2,762)	20	(2,714)
65+	82	(2,807)	25	(2,765)

Source: Euro-Barometer surveys 18 and 19.

Table 1.2b
OVERALL LIFE SATISFACTION AND HAPPINESS, BY AGE GROUP, ADJUSTED FOR DIFFERENCES IN INCOME, OCCUPATION, EDUCATION, MARITAL STATUS, AND NATIONALITY

Respondent's Age	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	Percentage "Very Happy"
15–24	80%	21%
25–34	78	21
35–44	80	19
45–54	76	16
55–64	79	21
65+	86	29

Source: Euro-Barometer surveys 18 and 19, adjusted with OSIRIS.IV Multiple Classification Analysis program. *N*s are the same as in Table 1.2a.

These adjusted figures however, indicate how the world might look if the old had incomes, education, marital status, etc. similar to those of younger groups. In the real world, there is scarcely any variation across age groups. What is remarkable about the satisfaction and happiness ratings of those aged 65 and over, is that they are just as high as those of younger groups *despite* the fact that, by objective criteria, there is every reason to expect that they would be substantially lower. As is true of women, those over 65 seem to have adapted to a relatively unfavorable situation.

Urban–Rural

Once upon a time, "the bigger the better" seemed more or less self-evident. Within the past decade or so, bigness has been diagnosed as pathological. Such books as *Small Is Beautiful* (Schumacher, 1973) and *Human Scale* (Sale, 1980) have argued that big organizations are inefficient—and big cities unlivable.

There seems to be a measure of truth in this allegation. As Tables 1.3 and 1.3a demonstrate, the subjective quality of life among people living in big cities tends to be lower than it is in rural areas, villages, and small or medium-sized towns. But the observed

Table 1.3
OVERALL LIFE SATISFACTION AND HAPPINESS, BY PERCEIVED SIZE OF COMMUNITY, IN COMBINED EUROPEAN COMMUNITY DATA, 1975–79

Respondent Considers His/Her Community a:	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	*N*	Percentage "Very Happy"	*N*
Rural area or village	78%	(27,024)	17%	(19,950)
Small or middle-size town	79	(24,849)	19	(18,381)
Big town	74	(19,060)	16	(14,070)

Source: Pooled data from Euro-Barometer surveys 3–12 (April 1975 through November 1979). Percentages are weighted in proportion to population of each country; the unweighted *N*s are shown in parentheses.

Table 1.3a
LIFE SATISFACTION AND HAPPINESS, BY SUBJECTIVE SIZE OF COMMUNITY, 1982–83

Respondent Considers His/Her Community a:	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	*N*	Percentage "Very Happy"	*N*
Rural area or village	81%	(7,212)	23%	(7,117)
Small or middle-size town	79	(6,518)	21	(6,420)
Big town	78	(5,445)	20	(5,359)

Source: Combined ten-nation data from Euro-Barometer surveys 18 and 19.

differences are much smaller than the advocates of smallness generally imply: here (as with sex and age differences) there is remarkably little variation across categories. Indeed, if it were not for the extremely large data base (here, at least, a virtue), one would write them off as within the range of normal sampling error. But there *is* a consistent tendency, across our ten nations, for happiness and satisfaction to be lowest in big cities. The differences are rarely large, but the pattern is pervasive across both time and space. Crowding, pollution, noise, and high crime rates characterize most big cities; they affect subjective well-being adversely. But, it seems, if one lives in a big city long enough, one gets used to them to a considerable extent.

Religiosity

Religiosity has been linked to subjective well-being in a number of studies of the American public (Gurin, Veroff, & Feld, 1960; Hadaway, 1978; Spreitzer & Snyder, 1974; cf. Stoetzel, 1982). Those who attend church regularly, or adhere to some religious faith, tend to be happier than those who don't.

Our data from ten West European countries demonstrate that this is not a uniquely American finding, but a general pattern that holds true whether the given nation's prevailing faith is Catholic, Protestant or Greek Orthodox. In fact, as Tables 1.4 and 1.4a demonstrate, the differences in subjective well-being linked with differences in religiosity are considerably greater than any of those observed so far. Those who attend church once a week are about 7 points more likely to be satisfied with their lives, and 9 points more likely to be happy than those who never attend. Religion seems to play a significant role in adapting to adversity.

Education

Education is probably the most important single factor shaping one's life in advanced industrial society. One's educational level sets the limits to the type of career one enters, how much money one earns, and how much social prestige one possesses, and influences the communications networks one is exposed to throughout life.

As was suggested above, one's educational level is determined early in life and rarely changes significantly during adult years. Precisely because it is subject to relatively little short-term change, we would expect to find relatively modest differences across educational levels, despite its strong and pervasive impact on one's objective circumstances. This expectation is borne out by our data from ten West European nations, as Tables 1.5 and 1.5a illustrate.

Subjective well-being varies somewhat with education, and the

Table 1.4
OVERALL LIFE SATISFACTION AND HAPPINESS, BY CHURCH ATTENDANCE, IN COMBINED EUROPEAN COMMUNITY DATA, 1975–79

Respondent Attends Church:	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	*N*	Percentage "Very Happy"	*N*
More than once a week	80%	(3,371)	25%	(2,359)
Once a week	81	(16,021)	19	(11,190)
A few times a year	79	(20,805)	17	(14,444)
Never	73	(9,910)	16	(7,042)

Table 1.4a
LIFE SATISFACTION AND HAPPINESS, BY RELIGIOSITY, 1982:
"Independently of whether you go to church or not, would you say you are a religious person, not a religious person, or a convinced atheist?"

Religiosity	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	*N*	Percentage "Very Happy"	*N*
A religious person	78%	(6,516)	25%	(6,479)
Not a religious person	79	(2,188)	19	(2,178)
A convinced atheist	68	(407)	16	(400)

Source: Euro-Barometer survey 18 (November 1982).

Table 1.5
OVERALL LIFE SATISFACTION AND HAPPINESS, BY EDUCATIONAL LEVEL, IN COMBINED EUROPEAN COMMUNITY DATA, 1975–79

Age at Which Respondent Completed Education	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	*N*	Percentage "Very Happy"	*N*
15 years or less	75%	(40,294)	16%	(30,637)
16–19 years	82	(25,720)	20	(19,915)
20 years or older	81	(8,516)	22	(6,543)
Still in school	77	(5,418)	17	(4,170)

Table 1.5a
LIFE SATISFACTION AND HAPPINESS, BY EDUCATIONAL LEVEL, 1982–83

Age at Which Respondent's Schooling Ended	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	*N*	Percentage "Very Happy"	*N*
15 years or less	77%	(8,787)	19%	(8,659)
16–19 years	82	(6,495)	23	(6,412)
20 years or older	84	(2,464)	26	(2,429)
Still in school	84	(1,540)	22	(1,512)

Source: Euro-Barometer surveys 18 and 19.

differences are in the direction one would expect: The more educated are happier and more satisfied with their lives than the less educated. But the differences between the most educated and the least educated amount to only six or seven percentage points: Education seems to have more impact on subjective well-being than does sex, age, or size of community, but somewhat less than one's religious orientation.

Does this mean that economic factors are unimportant? No. As we will see shortly, they have considerable impact on subjective well-being—but this impact seems attributable to short-term changes more than to stable differences.

Occupation and Employment

One is more likely to change one's occupation than one's educational level during adult life; accordingly, we would expect to find greater variation in subjective well-being associated with occupation. The data in Tables 1.6 and 1.6a support this expectation: We find a much wider range of subjective well-being here than in any of our previous tables. Unemployment generally reflects a recent change for the worse—in Western Europe even more than the United States (for high rates of unemployment are a recent phenomenon in Western Europe). And accordingly, the unemployed show drastically lower rates of life satisfaction than any other group, in both the 1970s and the 1980s data: They fall 7 to 10 points below the next lowest group, and 25 to 26 points below the highest group.

Interestingly enough, the unemployed are *not* necessarily the lowest-ranking group in regard to happiness, however: In both the 1970s and the 1980s, those who depend on farming for a living had the lowest percentage "very happy." Moreover, in both time periods farmers ranked lowest on overall life satisfaction: The anti-growth school may be right about the low quality of life in big cities, but seems strikingly wrong insofar as it tends to romanticize farming as an attractive way of life. In 1950, about 26 percent of the total work force in the European Community was engaged in agriculture. By 1981, the figure had shrunk to 9 percent; in a single generation, it had declined by two-thirds. This mass exodus from agriculture reflected the declining economic competitiveness of the small family farm, but there is little evidence that those who remained were delighted to be there. Farmers tend to be both unhappy and dissatisfied with their lives.

Astonishingly enough, in the 1970s the unemployed actually showed a slightly higher percentage who considered themselves "very happy" than was true among manual workers (though the

Table 1.6
OVERALL LIFE SATISFACTION AND HAPPINESS, BY OCCUPATION OF HEAD OF FAMILY, IN COMBINED EUROPEAN COMMUNITY DATA, 1975–79

Head of Family Is:	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	*N*	Percentage "Very Happy"	*N*
Executive, top manager	89%	(4,803)	28%	(3,765)
Professional	85	(1,700)	23	(1,328)
Student, military service	79	(955)	22	(716)
White-collar employee	80	(16,391)	19	(12,727)
Housewife	77	(3,303)	17	(2,475)
Manual worker	76	(23,767)	17	(18,155)
Shopkeeper, craftsman	78	(6,543)	15	(5,049)
Retired	74	(14,087)	16	(10,797)
Farmer	73	(5,004)	13	(3,767)
Unemployed	63	(981)	18	(802)

Table 1.6a
LIFE SATISFACTION AND HAPPINESS, BY OCCUPATION OF HEAD OF FAMILY, 1982–83

Head of Family Is:	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	*N*	Percentage "Very Happy"	*N*
Executive, top manager	93%	(878)	29%	(841)
Professional	86	(441)	29	(394)
Student, military service	91	(147)	26	(137)
White-collar employee	86	(3,207)	18	(3,122)
Housewife	78	(339)	21	(324)
Manual worker	80	(4,089)	19	(3,910)
Retired	80	(2,586)	19	(2,497)
Shopkeeper, craftsman	80	(1,237)	17	(1,184)
Farmer, fisherman	75	(911)	11	(843)
Unemployed	68	(692)	13	(635)

Source: Euro-Barometer surveys 18 and 19.

difference amounted to only one percentage point). In the 1980s, however, the unemployed showed happiness ratings several points below any group except farmers. How can we account for this shift over time?

The difference may well lie in the fact that a larger share of the unemployed were *newly* unemployed in the 1980s. Though inflation was falling and incomes rising, in 1982–1983 unemployment rates in Western Europe were the highest they had been in a generation. A comparison of the Ns in our samples illustrates this trend: Though our sample from the 1970s is about four times as large as our sample from 1982–1983, the number of unemployed in the latter sample is about 75 percent as large as in the 1970s.

The pattern is quite consistent at the opposite end of the scale. In the 1970s and in the 1980s, executives and professionals ranked highest on both life satisfaction and happiness. The finding that the managerial group ranked significantly above the professionals, although their incomes and status did not, may reflect the fact that there is somewhat more occupational mobility in the former category. Professionals may enjoy relatively high incomes and security, but they tend to remain at about the same occupational level throughout their careers; executives are more likely to have been promoted to their posts relatively recently.

Another interesting feature of Tables 1.6 and 1.6a is the relatively low level of satisfaction and happiness among shopkeepers and small businessmen. Working in a declining sector of western economies, small businessmen are likely to have experienced frustration and difficulty in competing with enterprises organized on a regional or national scale. Again, the generalization that Small is Beautiful should not be applied too freely. Life is not particularly beautiful for most small businessmen.

Income

Income, like occupation, is much less permanently fixed than most of the other factors we have examined so far—which implies that we might find relatively large variation in subjective well-being, across income groups. Table 1.7 shows the relationship between income and each of our two dependent variables, with income levels stratified by quartiles within each nation. The top quartile is 15 percentage points more satisfied and 9 points happier than the lowest quartile. This is a much wider range than that between sexes, age groups, or residents of big cities versus small towns. Taking into account the fact that occupation was broken down into a larger number of groups, including some outliers with small Ns (such as the unemployed category), the amount of variation is rela-

Table 1.7
LIFE SATISFACTION AND HAPPINESS, BY FAMILY INCOME, 1982–83

Respondent's Family Income Is in the:	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	*N*	Percentage "Very Happy"	*N*
Lowest quartile in his/her nation	70%	(3,816)	19%	(3,766)
Second quartile	78	(4,164)	22	(4,121)
Third quartile	82	(3,890)	25	(4,027)
Highest quartile in his/her nation	85	(3,852)	28	(3,873)
Income refused or don't know	83	(3,311)	27	(3,242)

Source: Combined ten-nation sample from Euro-Barometer surveys 18 and 19.

tively large. But only relatively so: with both dependent variables, one standard deviation covers about forty points, and by comparison with that, the range found here is very small; income explains only a small part of the variance in subjective well-being. As previous research has indicated, money buys surprisingly little happiness or satisfaction.

Marital Status

Another factor that might be expected to have a major impact on subjective well-being is one's marital status. Few conditions do more to shape one's daily experience than whether or not one is married, single, divorced, or widowed. Here too, recent changes may play a major role. Being single or married are relatively long-term states; the typical married respondent has been married a number of years at the time of the survey; or, if single, has been single all his or her life. Widowhood is apt to be a somewhat more recent condition (though because of differences in men's and women's life expectancies plus traditional age differences between married partners, widowed women are likely to live a dozen years or more in that state). If one is divorced, it is even a little more likely to reflect a recent change, since divorced persons are much

more likely to remarry than widowed ones. Separation seems the most likely of any of these states to reflect recent changes; in most settings, it tends to be a short-term situation that precedes divorce. The condition of living as married is a sort of mirror image of separation: It frequently is a relatively short-term arrangement that precedes marriage.

A crucial question is unanswered: Is being married a happier state than being single? Both are relatively long-term conditions, so the aspiration–adjustment model gives little guidance as to which would show the higher level of subjective well-being. The empirical findings, however, are consistent: Married people tend to be happier than single ones. And in other respects, the theoretical rank-order seems fairly clear: Widowhood, divorce, and separation all reflect changes that generally must be perceived as changes for the worse. Since separation, in general, tends to reflect the most recent change, we would expect separated people to show the lowest level of subjective well-being. The levels would then rise, through divorce, widowhood, and being single, to being married. Living as married (like separation) is apt to reflect a fairly recent change—but in this case, presumably, a change for the better. We would expect it to rank highest.

Tables 1.8 and 1.8a show the empirical results from the 1970s and 1980s, respectively. On the whole, the data support the aspiration–adjustment model. There is relatively little difference between people in the two relatively long-term conditions, married and single (which are, by the same token, by far the two largest groups). Consistent with American findings, throughout Western Europe married people tend to be both happier and more satisfied with life than single ones. But the differences are modest, ranging from 4 to 6 percentage points. The various postmarital groups broaden the range considerably, and do so in the expected order: Separated persons consistently rank lowest, falling ten to twenty points below married ones.

Among our six categories, the only one that does not appear in the expected rank order is the (unmarried) "living as married" group. On theoretical grounds we expected it to rank highest. Empirically, it ranked highest on happiness in the 1980s, but otherwise tends to fall at exactly the same level as married respondents or somewhat lower. Perhaps we should revise our concept of this group. Though it *does* reflect relatively recent pairings, the combinations are not always satisfying. Those that are, are apt to move into the married category; those that are not, revert to the single category. If we view "living as married" as a sort of filter category, it not only fits better into our overall scheme, but helps

Table 1.8
OVERALL LIFE SATISFACTION AND HAPPINESS, BY MARITAL STATUS, IN COMBINED EUROPEAN COMMUNITY DATA, 1975–79

Respondent's Marital Status	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	*N*	Percentage "Very Happy"	*N*
Married	80%	(61,707)	20%	(40,358)
Living as married	74	(1,609)	20	(1,202)
Single	75	(20,183)	15	(13,192)
Widowed	71	(6,509)	12	(4,988)
Divorced	66	(1,266)	10	(976)
Separated	61	(619)	10	(481)

Table 1.8a
LIFE SATISFACTION AND HAPPINESS, BY MARITAL STATUS, 1982–83

Respondent's Marital Status	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	*N*	Percentage "Very Happy"	*N*
Married	82%	(12,185)	24%	(12,026)
Living as married	82	(591)	26	(577)
Single	76	(4,403)	20	(4,345)
Widowed	75	(1,509)	17	(1,484)
Divorced	69	(406)	11	(402)
Separated	62	(168)	8	(164)

explain why the married state—despite a rich folklore to the contrary—tends to be slightly but significantly happier than the single state. The "living as married" category is, in any case, becoming more widely prevalent: it constituted 1.86 percent of our samples from 1975–1979, and 3.06 percent of our samples in 1982–1983—a 61 percent increase in roughly five years' time.

Women are far more likely to fall into the three postmarital conditions than men, as is evident when we compare the Ns in Table 1.9: Not only are women more than three times as likely to be widowed as men; they are almost twice as likely to be divorced and not remarried, and half again as likely to be separated. Other things being equal, this would tend to make women less satisfied with life and less happy than men. But other things are not equal. Paradoxically, but in keeping with what we have found throughout this analysis, women *within* almost every category tend to be happier than men.

There are two exceptions: Within the widowed category, men tend to be a little happier, but the differences are extremely small. In the separated category, men are happier and more satisfied than women, and here the differences are relatively pronounced. How can one interpret this reversal of positions? Let us recall that female participation in the work force is a much more recent phenomenon in most of Western Europe than in the United States; and that (to a considerably greater degree than in the United States) women, especially older ones, are less likely to have secondary or higher education than men. Career opportunities for these women are relatively limited. Their postmarital situation may be economically dire. It seems plausible, then, that—especially in Western Europe—separation and divorce are more likely to be initiated by men than by women. If so, it is not surprising that the negative feelings linked with this change are greater among women than among men—especially during the initial phase of separation. But given time, adjustment takes place. Among the divorced and widowed categories, subjective well-being levels are almost identical for men and women. And because women tend to be slightly happier and more satisfied than men in the large "married" and "single" categories, the global result is a modest but consistent tendency for women to show higher levels of subjective well-being.

Table 1.9
OVERALL LIFE SATISFACTION AND HAPPINESS, BY MARITAL STATUS, CONTROLLING FOR SEX

Marital Status	Men		Women	
Percentage "Satisfied" or "Very Satisfied" with Life as a Whole:				
Married	79%	(3,101)	81%	(30,608)
Living as married	73	(776)	75	(833)
Single	74	(10,885)	75	(9,298)
Widowed	72	(1,391)	70	(5,118)
Divorced	65	(425)	66	(841)
Separated	67	(247)	57	(372)
Percentage "Very Happy":				
Married	18	(20,321)	22	(20,037)
Living as married	21	(575)	19	(627)
Single	13	(7,157)	17	(6,035)
Widowed	13	(1,058)	12	(3,930)
Divorced	10	(335)	9	(641)
Separated	13	(183)	8	(298)

Source: Combined data from Euro-Barometer surveys 3–12 (1975–79). Percentages are weighted in proportion to population; the unweighted *N*s appear in parentheses.

Changes in Financial Situation

All the evidence we have examined thus far tends to support the aspiration–adjustment model, and suggests that the modest intergroup differences that do appear are in large part due to recent changes. We found, for example, that differences in income levels *are* linked with different levels of subjective well-being, in the intuitively obvious direction—but that the differences between the top and bottom quartiles amount to only 10 or 15 percentage points. What about the effects of recent *changes* in one's financial situation? Table 1.10 shows the relative happiness and satisfaction levels of different groups responding to the question:

How does the financial situation of your household now compare with what it was 12 months ago? Would you say it:

—Got a lot better
—Got a little better
—Stayed the same
—Got a little worse
—Got a lot worse

In the context of late 1982, when this question was asked, nearly three times as many people said things had gotten worse, as said they had gotten better. But the variation across groups was much greater than that found in most of our previous analyses: We find spreads of 28 percentage points in the proportion who are satisfied and 25 points in the proportion who are happy. Recent financial changes seem to have a major impact on one's subjective well-being.

Value Orientation

The data support our hypothesis about the impact of short-term changes. People seem to adjust to circumstances that persist for some time, as hypothesized. But what about long-term changes? We hypothesized that circumstances that persist for the very long term may lead to intergenerational value changes, with the result that new domains come to be given top priority by given segments of the population. Specifically, previous research has demonstrated that those who have experienced high levels of economic and physical security throughout their formative years tend to take material security for granted and give Postmaterialist goals top priority (Inglehart, 1977, 1981). Theoretically, Postmaterialist values result in part from relatively high levels of economic security. It follows that the Postmaterialist type should be more prevalent among the upper socioeconomic strata than among the lower ones. Table 1.11 shows the income levels of our respective value types, as measured by procedures described elsewhere (Inglehart, 1977). Table 1.12 shows the occupational backgrounds of each value type.

The data clearly conform to expectations. Those with Postmaterialist values are about half again as likely to be in the top two income quartiles as are Materialists, and about twice as likely to have higher status occupations. The occupations in Table 1.12 are ordered as in Table 1.6, with those occupations that rank highest in subjective well-being at the top—exactly where the Postmaterialists are most heavily overrepresented. The relationship with education is even stronger: Postmaterialists are more than twice as likely to have received secondary or higher education as are Materialists.

Table 1.10
OVERALL LIFE SATISFACTION AND HAPPINESS, BY RECENT CHANGES IN RESPONDENT'S FINANCIAL SITUATION

During Past 12 Months Respondent's Situation Has Become:	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	*N*	Percentage "Very Happy"	*N*
A lot better	85%	(270)	37%	(270)
A little better	81	(1,205)	21	(1,185)
Remained the same	83	(3,944)	19	(3,887)
A little worse	74	(2,795)	14	(2,779)
A lot worse	57	(1,119)	12	(1,119)

Source: Euro-Barometer survey 18 (November 1182). For details of sampling and fieldwork, see the Euro-Barometer codebook, available from the Data Archive of the Inter-university Consortium for Political and Social Research.

On the basis of their income, occupation and education, then, one might expect Postmaterialists to rank high on subjective well-being; quite clearly, they are a relatively privileged group.

Our theoretical framework, however, has entirely different implications. Postmaterialists, according to our reasoning, are Postmaterialists precisely because they take economic security for granted. They are a group that has experienced relatively favorable economic conditions in the long term—in the case of the postwar generation, throughout their lives. Consequently, their relatively high levels of income, education, and occupation do not produce particularly high levels of subjective satisfaction, and their priorities tend to be directed toward nonmaterial goals. In short, despite their relatively high levels of income, occupation and education, we would *not* expect Postmaterialists to show accordingly high levels of subjective well-being.

Tables 1.13 and 1.13a show the overall relationship between values and subjective well-being throughout Western Europe in the 1970s and the 1980s. One's value type shows the pattern that characterizes such stable attributes as sex, rather than relatively variable ones like income: there is virtually no variation whatever across the three value types, despite wide differences in social background. In the 1970s, Postmaterialists were slightly *less* satisfied

Table 1.11
INCOME LEVEL OF RESPECTIVE VALUE TYPES
(TOTAL FAMILY INCOME, BY QUARTILES WITHIN EACH NATION)

Respondent's Family Income Is in the:	Materialist (N = 3,440)	Mixed (N = 4,806)	Postmaterialist (N = 1,158)
Highest quartile in his/her nation	14%	21%	26%
Second highest	19	20	22
Third highest	24	21	17
Lowest quartile in his/her nation	25	19	17
Income refused or don't know	18	18	19

Source: Euro-Barometer survey 19 (April 1983).

Table 1.12
OCCUPATIONAL BACKGROUND OF RESPECTIVE VALUE TYPES
(OCCUPATION OF HEAD OF FAMILY)

Head of Family Is:	Materialist (N = 3,440)		Mixed (N = 4,806)		Postmaterialist (N = 1,158)	
Executive, administrative	3%	24	6%	34	11%	48
Professional	2		3		4	
White-collar employee	19		24		30	
Student	–		1		3	
Unemployed	5		6		6	
Housewife	3		3		2	
Manual worker	27		25		24	
Shopkeeper, craftsman	9		9		7	
Farmer	4		3		1	
Retired	27		19		11	

Source: Euro-Barometer survey 19 (April 1883).

Table 1.13
OVERALL LIFE SATISFACTION AND HAPPINESS, BY VALUE TYPE, IN COMBINED EUROPEAN COMMUNITY DATA, 1975–79

Value Type	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	*N*	Percentage "Very Happy"	*N*
Materialist	79%	(16,590)	16%	(12,594)
Mixed	78	(22,126)	18	(17,605)
Postmaterialist	75	(4,542)	17	(3,738)

Table 1.13a
LIFE SATISFACTION AND HAPPINESS, BY VALUE TYPE, 1982–83

Value Type	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	*N*	Percentage "Very Happy"	*N*
Materialist	78%	(6,604)	19%	(6,515)
Mixed	81	(9,701)	23	(9,583)
Postmaterialist	80	(2,163)	21	(2,120)

Source: Euro-Barometer surveys 18 and 19.

with their lives as a whole than were the Materialists or mixed types; in the 1980s, they ranked a trifle above the Materialists, though below the mixed types—but the differences are minuscule and not even consistent in direction. For all practical purposes, one might conclude that there simply are no differences between value types, in either overall life satisfaction or happiness.

Interestingly, though there are virtually no differences in happiness *levels*, there are striking differences in *what* makes the different value types happy. Table 1.14 shows responses to a follow-up question that was asked in April 1983, after the item about how happy one is these days:

> When you think about happiness, which one of these things comes to mind as most important? . . . And in second place? . . . And in third place?

Postmaterialists were markedly more likely to mention interesting and socially useful activities, being esteemed by others, getting along with friends, and leisure activities. Materialists were much more likely to emphasize the importance of marriage, family life, children, good health, and having enough money. The emergence of Postmaterialism tends to shift the focus of where happiness is sought, not only away from money and health, but out of the family toward broader social and leisure activities. The declining emphasis on marriage that we have noted, as well as the dramatic decline in birth rates that has taken place throughout Western Europe during the past two decades, may be linked with the shift toward Postmaterialist values.

More directly relevant to our present theme, the emergence of Postmaterialism, as the postwar generation reached maturity, helps explain an interesting phenomenon that was noted by Campbell (1981): the weakening in the relationship between income and happiness that took place from 1957 to 1978. In 1957, there was a difference of fully 25 points in the percentage "very happy" between the top quartile in family income among the American public, and the bottom quartile. By 1978, this difference had declined to one of only seven percentage points (Campbell, 1981:241). Campbell also reports similar findings from Canada (Campbell, 1981:226). The fact that Postmaterialists are a relatively high-income group that does not experience relatively high levels of subjective well-being tends to weaken the relationship between income and happiness. And the emergence of Postmaterialists in the late 1960s as an increasingly significant segment of the adult population fits the timing of the change reported by Campbell. Finally, the emergence of Postmaterialism helps explain still another phenomenon reported by Campbell (1981:175–181): a shift in the relationship between age

Table 1.14
THE MEANING OF HAPPINESS TO DIFFERENT VALUE TYPES:
"When you think about happiness, which one of these things comes to mind as the most important? . . . And in second place? . . . And in third place?"

Activity	Materialists (N = 3,440)		Mixed (N = 4,807)		Post-materialists (N = 1,158)	
Disproportionately chosen by Postmaterialists						
Doing interesting things	9%	43	14%	55	25%	99
Getting along well with your friends	9		13		22	
Having enough leisure time	5		7		11	
Being thought well of by others	7		12		15	
Feeling that you are useful to others	13		9		26	
Disproportionately chosen by Materialists						
A successful married life	49		47		37	
Good health	87		80		65	
Getting on well together in the family	49		44		36	
Having enough money to have an agreeable life	43		38		31	
Having children	24		22		16	

Source: Euro-Barometer survey 19.

and happiness. In 1957, the youngest group of Americans was 15 points happier than the oldest one. By 1978, this difference had disappeared. Campbell attributes this shift to a generational effect, linked with the war in Vietnam. We concur with his general diagnosis, and suspect that the emergence of a relatively substantial Postmaterialist cohort, as the postwar generation reached maturity, contributed significantly to why this particular generation had such a negative reaction to the war in Indochina. It is clear, at any rate, that the Peace Movement today draws its support very disproportionately from the Postmaterialist segment of Western publics (Inglehart, 1984).

Comments

The fact that relationships between subjective well-being and so-

cial background variables such as income and age have changed during the past few decades reminds us that our data reflect a relatively limited range of human experience. In less affluent societies, characterized by predominately Materialist values, the relationship between subjective well-being and income may well be a good deal stronger than it was in advanced industrial societies in the 1970s and early 1980s. Indeed, our data from Greece point to this conclusion: In Greece, by far the poorest nation in the European Community, we find a relatively strong relationship between income and subjective well-being. But for most Western nations, in the period since 1973–1983, certain findings seem clear:

1. Subjective well-being scarcely varies at all across groups based on such stable characteristics as sex.
2. Subjective well-being does vary between groups based on less permanent characteristics, such as income or marital status, but even here the amount of variation is surprisingly modest.
3. Subjective well-being shows relatively large variations according to recent changes in one's income or marital situation.

All of these findings are precisely what we would expect on the basis of an aspiration–adjustment model, according to which one's aspirations gradually adapt to changes in one's objective situation, and do so in a way that tends to maintain an equilibrium between anguish and joy. Moreover, in the very long term (the time it takes to form a generation), changes in objective conditions seem to produce value shifts that change the focus of where one seeks happiness—and may even change the social background variables most likely to be linked with it.

4. But Why Are the Dutch so Much Happier than the Germans? (And What Became of Life Satisfaction in Belgium?)

Effect of Nationality

All the evidence that we have seen so far fits the aspiration–adjustment model very neatly. But now we must turn to a variable that does *not* seem to fit that model at all. One's nationality is generally an extremely stable attribute—for most people, it remains unchanged from birth to death. But unlike other stable characteristics, nationality *does* display a great deal of intergroup variation in levels of well-being. Indeed, both happiness and life satisfaction vary so *much* cross-nationally that it seems to undermine the credibility of the entire aspiration–adjustment model.

Table 1.15
MULTIPLE CLASSIFICATION ANALYSIS: PREDICTORS OF OVERALL LIFE SATISFACTION

	Eta	*Beta*
Nation	.271	.291
Recent changes in respondent's financial situation	.194	.193
Family income	.124	.117
Respondent's marital status	.102	.090
Occupation of head of household	.093	.088
Age group	.085	.069
Educational level	.089	.056
Religious orientation	.058	.054
Subjective size of town	.042	.049
Sex	.024	.022
Respondent's value priorities	.030	.012
R = .385 R^2 = 14.9%		

Source: Combined ten-nation sample from Euro-Barometer survey 18, for which fieldwork was carried out in November 1982 (N = 9,581), weighted according to population of each nation.

Table 1.16
MULTIPLE CLASSIFICATION ANALYSIS: PREDICTORS OF HAPPINESS

	Eta	*Beta*
Nation	.235	.247
Recent changes in respondent's financial situation	.127	.129
Respondent's marital status	.086	.109
Respondent's religious orientation	.082	.098
Age group	.089	.097
Educational level	.055	.066
Occupation of head of household	.081	.063
Family income	.063	.056
Subjective size of town	.040	.042
Sex	.021	.033
Respondent's value priorities	.038	.027
R = .316 R^2 = 10.0%		

Source: Combined data from Euro-Barometer survey 18 (N = 9,476).

Tables 1.15 and 1.16 present the results of multiple classification analyses that illustrate this point. The evidence here supports our theoretical model on every point but one. In these multivariate analyses, the Eta coefficients reflect the zero-order relationship between life satisfaction or happiness, and the respective predictor variables; while the Beta coefficients indicate how strong these relationships are, holding constant the effects of each of the other variables.

Recent change in the respondent's financial situation is a stronger predictor of both life satisfaction and happiness than any other variable except nationality. Recent change explains more than twice as much variance in life satisfaction as does one's absolute level of income, and four times as much variance as marital status or occupation. Controlling for the effects of the other variables, one's educational level, religious orientation, the size of one's community, and one's sex and value type all have negligible effects on life satisfaction.

Much the same pattern holds true of happiness, except that one's marital status and religious orientation have a relatively strong impact on happiness (ranking immediately after recent changes in one's financial situation), while income itself has a surprisingly weak (indeed, virtually negligible) effect on happiness.

But nationality is by far our strongest predictor of both life satisfaction and happiness: It explains at least twice as much variance as recent changes in one's financial situation, and several times as much as any of the other predictors. As Table 1.17 demonstrates, there are tremendous cross-national differences in subjective well-being. Furthermore, the differences are consistent regardless of which indicator we use: Those nationalities that rank high on life satisfaction also rank high on happiness; those that rank lowest on satisfaction also rank lowest on happiness. Finally, these differences show considerable stability over time. Table 1.17a shows the cross-national rankings of these nations in the 1970s, using mean scores rather than dichotomized percentages because some countries (Greece in particular) have more highly polarized publics than others, which distorts comparisons slightly when one simply shows percentages. The results from the 1970s are strikingly similar to those from the 1980s, presented in Table 1.17: In the 1970s, Denmark ranked highest on satisfaction and second on happiness, while the Netherlands ranked second on satisfaction and highest on happiness. In the 1980s, Denmark and the Netherlands again ranked first and second on satisfaction and the Netherlands again ranked highest on happiness. Denmark now ranked third instead of second on happiness, but had fallen behind Ireland by a

margin of only two percentage points.

At the other end of the scale, in the 1970s, Italy ranked lowest on both satisfaction and happiness, while France ranked next above her on both variables. The situation was almost exactly the same in the 1980s, except that Greece, having joined the European Community, was now included in our studies—and ranked as low as Italy or even lower on both variables. The German public fell slightly below the French in 1982–1983, whereas it had been slightly above it in the 1970s, but the shift was not large. Other shifts in relative positions took place, but stability was clearly the predominant pattern.

Similar questions about overall life satisfaction and happiness have been asked in various other cross-national surveys, using slightly different formats. The question about life satisfaction was asked using identical wording to the one we have been analyzing, except that respondents were then asked to indicate where they would place themselves on a scale ranging from zero ("very dissatisfied") to ten ("very satisfied"). This question was used in the eight-nation *Political Action* survey in 1974–1976 (see Barnes & Kaase, 1979); in Euro-Barometer survey 19 in 1983; and in the World Values Survey in 1981 (see Stoetzel, 1983), which used a scale from one to ten. A question about happiness was also asked in the World Values Survey which was similar to the one analyzed here, except that instead of three alternatives, four were offered: "very happy," "quite happy," "not very happy," and "not at all happy." The mean scores for the nineteen publics interviewed in one or more of these surveys are shown in Table 1.17b.

Again, the relative positions of the nations included in Tables 1.17 and 1.17a show very little change. The Danish public ranks highest on overall life satisfaction here, as in both other tables. And if we skip over the Swedes, Swiss, and Norwegians (for whom comparable data do not exist in the Euro-Barometer surveys) we find that the Dutch rank next here, as in the Euro-Barometer surveys for both the 1970s and the 1980s. At the opposite end of the scale, the French, Italians, and Greeks rank lowest here as in Tables 1.17 and 1.17a (though they are joined by the Spanish and Japanese publics, who were not included in the other surveys).

The happiness ratings also show a high degree of similarity, despite the change in format. The Irish, Dutch, and Danes rank high here, as in the Euro-Barometers from both the 1970s and 1980s—though the British attain a higher relative position than in the other surveys. And the French, Germans, and Italians rank low in happiness here, as in both sets of Euro-Barometer surveys (though they are joined here by the Finnish, Spanish, and Japanese

Table 1.17
LIFE SATISFACTION AND HAPPINESS BY NATION, 1982–83

Nation	Percentage "Satisfied" or "Very Satisfied" with Life as a Whole	*N*	Percentage "Very Happy"	*N*
Denmark	96%	(2,011)	31%	(1,915)
The Netherlands	92	(2,035)	45	(2,034)
Ireland	84	(1,987)	33	(1,971)
Northern Ireland	89	(629)	31	(629)
Luxembourg	93	(591)	22	(584)
Great Britain	87	(2,042)	28	(2,044)
Belgium	84	(2,007)	28	(1,978)
Germany	83	(2,016)	14	(1,966)
France	74	(1,940)	16	(1,923)
Italy	64	(2,050)	9	(2,026)
Greece	60	(1,994)	10	(1,967)

Source: Euro-Barometer surveys 18 and 19.

Table 1.17a
OVERALL LIFE SATISFACTION AND HAPPINESS, BY NATION, 1975–79

Overall Life Satisfaction			Happiness		
Mean Score		*N*	Mean Score		*N*
Denmark	1.54	(10,118)	The Netherlands	1.65	(7,014)
The Netherlands	1.68	(10,492)	Denmark	1.70	(6,712)
Belgium	1.71	(10,740)	Belgium	1.72	(7,446)
Ireland	1.75	(10,162)	United States	1.81	(10,564)
Luxembourg	1.78	(3,028)	Ireland	1.84	(6,922)
Great Britain	1.88	(11,445)	Northern Ireland	1.91	(2,114)
Northern Ireland	1.89	(2,714)	Great Britain	1.92	(7,265)
Germany	2.00	(10,852)	Luxembourg	1.94	(2,079)
France	2.21	(12,509)	Germany	2.03	(6,742)
Italy	2.41	(11,488)	France	2.10	(7,726)
			Italy	2.35	(7,417)
Spread between highest and lowest groups =	0.87		Spread between highest and lowest groups =	0.70	

Source: Pooled results of European Community surveys carried out in 1973–79. American data are from a series of surveys carried out in 1957–76, reported in Converse et al. (1980).

publics). The American public holds an intermediate position on both variables here, as is the case with the happiness ratings shown in Table 1.17a.

Summing up a great deal of evidence based on more than 160,000 interviews, it seems clear that there are large and rather stable cross-national differences in reported levels of subjective well-being. This finding seems to conflict seriously with the aspiration–adjustment interpretation that a number of analysts including ourselves have advanced in order to explain some of the most basic and striking findings that have been made in previous research on subjective well-being. If the cross-national differences were small, they would be consistent with the pattern of minimal intergroup variation that has been observed consistently, and in many nations. Or if the differences were transient, we might attribute them to short-term factors that had distinctive effects on the respective nations. But the cross-national differences observed from 1973 to 1983 are not only large but rather stable. The contradiction seems acute.

Explanations for the Nationality Effect

One way out of this dilemma would be to write off the cross-national differences as due to poor translation; or, more subtly, to argue that the word for satisfaction has quite different connotations in other languages: "satisfait" and "zufrieden" are not equivalent to "satisfied."

This explanation is extremely tempting, for it offers a way to brush aside the observed cross-national differences as simply artifacts of translation. Our basic thesis would stand. Unfortunately, this explanation does not seem tenable.

There are a number of reasons why this seemingly plausible explanation does not stand up under closer inspection. One is provided by the case of Switzerland, which has three national languages that coincide with three of the languages used in other nations included in these surveys. This enables us to make cross-national comparisons of subjective well-being, holding language constant. The results prove devastating to the theory that the observed cross-national differences merely reflect an artifact of language—for the German-speaking Swiss, and the French-speaking Swiss and the Italian-speaking Swiss *all* express relatively high levels of satisfaction with their lives as a whole. The Swiss not only rank far above the Germans, French, and Italians—with whom they share a language—they rank above *all* of the other nationalities except the Danes and Swedes, and are essentially on a par with them. This replicates earlier findings that the Swiss rank

Table 1.17b
SUBJECTIVE WELL-BEING IN NINETEEN SOCIETIES, 1974–1983

Satisfaction with One's Life as a Whole (mean score on 11-point scale: 0 = very dissatisfied, 10 = very satisfied)[a]					GNP	Happiness (mean score on 4-point scale: 1 = not at all happy, 4 = very happy)	
Country	1974–76	1981	1983	Mean across Surveys	1979	Country	1981
Denmark	–	8.21	7.84	8.03	8,470	Ireland	3.36
Sweden	–	8.02	–	8.02	10,071	N. Ireland	3.34
Switzerland	7.98	–	–	7.98	9,439	Britain	3.33
Norway	–	7.90	–	7.90	8,762	Netherlands	3.30
Netherlands	7.64	7.71	7.96	7.77	7,057	Denmark	3.26
N. Ireland	–	7.68	7.85	7.77	3,560	U.S.A.	3.26
Ireland	–	7.82	7.70	7.76	3,533	Belgium	3.25
Finland	7.56	7.89	–	7.73	5,814	Sweden	3.24
Luxembourg	–	–	7.64	7.64	7,754	Norway	3.21
U.S.A.	7.41	7.72	–	7.57	10,765	France	3.09
Britain	7.33	7.67	7.56	7.52	4,972	Finland	3.03
Belgium	–	7.36	7.29	7.33	7,978	Spain	2.98
West Germany	6.99	7.25	7.46	7.23	9,507	West Germany	2.96
Austria	7.14	–	–	7.14	6,311	Japan	2.96

Continues

Table 1.17b (continued)

	Satisfaction with One's Life as a Whole (mean score on 11-point scale: 0 = very dissatisfied, 10 = very satisfied)[a]				GNP	Happiness (mean score on 4-point scale: 1 = not at all happy, 4 = very happy)	
Country	1974–76	1981	1983	Mean across Surveys	1979	Country	1981
France	–	6.66	6.59	6.63	8,619	Italy	2.84
Spain	–	6.60	–	6.60	2,830		
Italy	6.33	6.62	6.78	6.58	4,191		
Japan	–	6.39	–	6.39	7,244		
Greece	–	–	5.85	5.85	2,881		

Source: Satisfaction ratings for 1981 from World Values Survey; satisfaction ratings for 1974–1976 from Political Action surveys; satisfaction ratings for 1983 from Euro-Barometer survey 19. All happiness ratings are from the World Values Survey, with fieldwork carried out by the Gallup affiliates in the respective countries.

[a]The satisfaction scales used in the Political Action survey and in Euro-Barometer survey 19 ranged from zero to ten, while those used n the World Values survey ranged from one to ten. Consequently, the mean scores from the 1981 survey are slightly higher than those from the other two surveys: Holding nationality constant, the mean score is 0.11 higher. This difference is smaller than might be expected because, on both scales, about 80 percent of the respondents place themselves at point 5 or higher. But the scores for those countries from which we have 1981 ratings only are probably slightly inflated.

very high on both satisfaction and happiness, in comparison with other Western publics (Inglehart, 1977:154–157, 167). In short, it is perfectly possible to describe oneself as "sehr zufrieden," "tres satisfait" or even "molto soddisfatto" if one is Swiss; these words seem difficult to utter only if one is German, French, or Italian.

The Swiss case alone is so damaging to the problems-of-translation hypothesis that further evidence seems superfluous—but in fact, there is a good deal of it. The Belgian data provide another example. Most Belgians speak either French or a slightly modified form of Dutch; but throughout the period 1973–1979, even the French-speaking Belgians ranked far above the French and only slightly below the Dutch in both happiness and satisfaction. Here again, nationality seems to be a much more powerful predictor of subjective well-being than language. Furthermore, we have the Dutch–German contrast. The two languages are closely related, and the Dutch words for both "satisfied" and "happy" are cognates of their German counterparts. But the Dutch consistently rank far above the Germans in both life satisfaction and happiness.

Finally, we have the fact that those nationalities that rank high on life satisfaction have a strong and consistent tendency to rank high on happiness as well. In order to attribute the cross-national differences to linguistic artifacts, one would be forced to assume that virtually everyone who has done research on the subject has somehow stumbled onto the same type of noncomparable translation not only for satisfaction, but for happiness as well: Though unable to find equivalent words for the *same* concept, they managed to find words for *another* concept that distorted the results in exactly the same direction, and to almost exactly the same degree. To achieve this by accident would require a miracle of serendipity. It seems more plausible to assume that what we are observing reflects something in the real world, rather than artifacts of translation.

But exactly what *is* it that underlies these large and rather stable cross-national differences? Can it be true that the Italians, French, Germans, and Greeks really *are* a great deal less happy, and more dissatisfied with their lives than the Danes, Swiss, Dutch, and Irish? The thought seems staggering. Could fate be so unkind as to doom entire nationalities to unhappiness, simply because they happened to be born in the wrong place? The idea is extremely difficult to accept—not only because it seems terribly unfair, but because it implies that there are profound differences from one nation to another in how the human organism functions. Could it possibly be true that the Italians experience life as burdensome on the whole, while the Swiss, living literally next door, find it enjoyable? The idea is not inconceivable, but it seems incompatible with a great

body of social research findings which indicate that human beings generally react in similar ways. Moreover, it seems incompatible with some of the most striking other findings from research on this very topic.

We suggest that the observed cross-national differences have an important cultural component: Though they do not seem to reflect the different languages that were used, they probably do reflect different cultural norms. The most likely possibility is that these cultures differ in the extent to which it is permissable to express unhappiness and dissatisfaction with one's life. As we saw in Figure 1.1, in Western Europe as a whole life satisfaction ratings tend toward the positive: 78 percent of the European Community's population describe themselves as either "very satisfied" or "fairly satisfied"; while only 21 percent describe themselves as "not very satisfied" or "not at all satisfied." A sizeable minority do say they are dissatisfied, but the norm is to describe oneself as at least fairly satisfied. It may seem somewhat disagreeable or impolite to complain about one's condition. And the strength of this norm seems to vary from nation to nation; in general it appears to be stronger in Northern Europe than in Southern Europe.

In other words, given societies may have different cultural baselines concerning what is the normal response to questions concerning one's subjective well-being. As Table 1.17b demonstrates, the normal response is not the midpoint of the scale in any of the cultures studied: The midpoint of the 11-point satisfaction scale is 5, but all nineteen publics place themselves at least a little above that level; and the midpoint of the 4-point happiness scale is 2.5, but all 15 publics place themselves at least slightly above that point. Exactly how far above the midpoint the mean score for a given public falls may be a fairly stable cultural characteristic. But when people from a given culture respond, they have approximately the same positivity norm in mind, whether it be relatively weak or strong; and they respond accordingly. If they are feeling especially good at the time of the survey, they may give a response that falls well above their cultural mean; if they are feeling especially bad, their response may fall far below this norm; but because most members of a given society have the same baseline in mind, satisfaction and happiness levels vary relatively little between groups *within* a given society, even though they vary a great deal *between* societies.

This interpretation strikes us as plausible, and it seems to reconcile some otherwise highly contradictory findings. But it is only part of the answer. For it immediately raises another question: *Why* do various Western nations—some of them geographically, culturally, and politically rather similar to one another—have

such different cultural baselines concerning the appropriate amount of positivity to show when asked, "How are you feeling?" Does this baseline correspond to a nation's level of economic development? Is it a more or less permanent feature of given societies, or does it reflect the impact of relatively recent influences? We can only begin to provide the answers.

Economic Development

First, let us consider the relationship between subjective well-being and economic development. Table 1.18 shows the relative positions of the countries, on the basis of Gross National Product per capita in 1979. Greece is one of the two poorest countries in this set, and she ranks last in both life satisfaction and happiness (though in Table 1.17 the Greeks were a point higher than the Italians in the percentage "very happy," the Greeks are highly polarized, with a larger percentage "not at all happy" than in any other country; and her overall mean is even lower than that of Italy). Moreover, Spain and Italy are also relatively poor countries, and they too fall among the four nations that rank lowest in subjective well-being. At the other end of the scale, the Danes, Swedes, and Swiss rank high on both income and subjective satisfaction. So far, the fit between economic level and subjective life satisfaction seems promising.

But there are some striking anomalies. The Republic of Ireland and Northern Ireland both rank low on per capita income—even lower than Italy—but in subjective well-being they are among the highest ranking societies. As we have seen, this is not an isolated fluke: The Irish (both North and South) consistently rank high on both life satisfaction and happiness. Furthermore, the Americans have the highest average income of all, but rank exactly at the median in life satisfaction; the West Germans are the third richest public, but rank twelfth; and both the French and the Japanese show life satisfaction levels far below their relative income level. The fact that the Japanese rank low is particularly perplexing, for our interpretation stresses the importance of recent changes and the Japanese have experienced unusually great economic improvement throughout the past three decades. Yet observed levels of subjective well-being did *not* rise in Japan during the period 1964–1981 (Iijima, 1982). This may reflect a distinctively Japanese cultural norm: a desire not to stand out from the group, linked with a pervasive emphasis on being part of a collective. One illustration of this tendency is found in the fact that, in indicating their satisfaction level on a ten-point scale, the Japanese were about twice as likely to place themselves near the middle as were any Western

Table 1.18
GROSS NATIONAL PRODUCT PER CAPITA, BY NATION, 1979

Nation (Ranked According to Life Satisfaction Scores Shown in Table 1.17b)	GNP per Capita
Denmark	$8,470
Sweden	10,071
Switzerland	9,439
Norway	8,762
The Netherlands	7,057
Northern Ireland	3,560
Ireland	3,533
Finland	5,814
Luxembourg	7,754
United States	10,765
Great Britain	4,972
Belgium	7,978
West Germany	9,507
Austria	6,311
France	8,619
Spain	2,830
Italy	4,191
Japan	7,244
Greece	2,881

Source: Block (1980).

publics. Discussing the low levels of both satisfaction and happiness reported by his countrymen, a Japanese analyst commented that "in Japanese society, people are expected to restrain themselves and express modesty" (Iijima, 1982). It would seem immodest to say that one is *very* satisfied with one's life, or very happy. Interestingly, a standard question about life satisfaction used in Japan reflects this norm: The alternatives offered do not include "very satisfied;" instead, they are limited to "reasonably satisfied," "not very satisfied," and "dissatisfied." Overall, the more prosperous nationalities tend to be more satisfied, but the correlation is not very strong: The top nine nations in life satisfaction have a per capita income that ranges from $3,533 to $10,071, with a mean of

$7,162; the bottom nine have incomes ranging from $2,830 to $9,507, with a mean of $6,059. Income and happiness are correlated at the national level, but the linkage is surprisingly weak.

One reason this relationship is so weak may relate to the fact that our range of variation is constrained. In general, only relatively prosperous nations have the facilities to carry out reliable survey research, so most of our data come from such nations. One important exception is India; and in a study sponsored by the Kettering Foundation, Gallup (1976) finds very low happiness levels in India—levels that would place that country below even Greece in our cross-national comparisons. *All* of the nations in Table 1.18 are well off, by global standards. If we had data from a larger number of genuinely poor countries, we might find a stronger relationship between satisfaction levels and economic development.

Cantril (1965), analyzing data from 14 countries with a much wider range of economic levels (including Egypt, Nigeria, Panama, India, the Philippines, and the Dominican Republic, as well as several advanced industrial nations), found a considerably stronger relationship between income and personal happiness. The seven happiest nationalities in his study had a mean 1961 GNP per capita of $1,074, while the seven least happy nationalities had a mean GNP per capita of $331. Easterlin (1974) reanalyzed Cantril's data and concluded that the correlation was actually rather weak, emphasizing the fact that there were several striking anomalies; in particular, Egypt ranked above West Germany, though the latter country had a per capita income eight times higher than the former. Whether this correlation is considered strong or weak is partly a question of what yardstick one has in mind. Income and happiness ratings do tend to go together, but the relationship is not as strong as one might expect, even with Cantril's data; and with our own data, surprisingly weak by any standard.

It is clear that economic development alone cannot explain the observed variation in levels of subjective well-being. Cultural factors also seem to be involved, and the evidence indicates that the cross-national differences have a significant long-term component. Buchanan and Cantril (1953), using cross-national survey data from 1948, found large cross-national differences in overall satisfaction measures with Norway ranking highest, followed by the United States, Great Britain, the Netherlands, West Germany, Italy, and France, in that order. There were some changes between 1948 and 1981. In particular, the Americans and British ranked higher than the Dutch in 1948 (eminently comprehensible, given that the Dutch were still recovering from near-starvation, after invasion and liberation in World War II); while by the 1970s the Dutch ranked higher.

But apart from this, the relative rankings were remarkably similar to those found 33 years later, which appear in Table 1.17b. Similarly, the cross-national happiness data collected by Cantril in 1965 show the British ranking highest, among these nations, followed by the Americans, West Germans, French and Italians (Easterlin, 1974). Again, there is striking continuity with the relative rankings observed in the 1980s. There seems little question that a long-term cultural component accounts for part of the cross-national variation in subjective well-being.

But only for part of it, for short-term variation also exists. Both overall life satisfaction and happiness levels within given societies show considerable fluctuation over time, as Figures 1.2 and 1.3 demonstrate. On the whole, the respective nationalities retain their relative positions rather consistently, but this is not an iron law. The changes observed in satisfaction and happiness levels among the Belgian public from 1973 to 1983 constitute a striking illustration of the point. From 1973 to 1979, the Belgians consistently ranked second or third in both overall life satisfaction and happiness among the European Community publics. In the 1980s, a precipitate decline took place. In fall 1983, happiness and satisfaction levels in most countries were down, but the decline was especially pronounced in Belgium: The Belgian level of life satisfaction had fallen to almost the same level as that of the Greeks; and the Belgian happiness level had fallen from second or third rank to fifth place.

This was an unusual, tragic, and probably traumatic experience. Though we have questioned whether one can take the size of the cross-national differences at face value, this decline over time holds nationality constant; there is no reason to doubt that it taps a genuine change. The happiness and overall satisfaction levels of an entire people seem to have declined dramatically: From 1973 to 1978, about 40 percent of the Belgians felt "very satisfied" with their lives. From 1979 on, this indicator declined, until by late 1983 only 18 percent were "very satisfied"—less than half as many as at the lowest point ever reached in the 1970s. This phenomenon has passed virtually unnoticed outside Belgium, partly because Belgium is a small country, but also because we have only begun to monitor subjective well being. We suggest that this was a genuinely important, if poorly understood event: Unless our indicators are totally erroneous, this phenomenon, in its impact on human happiness, dwarfed most events that make world headlines.

In part, the decline seems to reflect the impact of recent economic changes. Economic conditions were unfavorable throughout the European Community, and unemployment rates

Figure 1.2
PERCENTAGE "VERY SATISFIED" WITH THEIR LIVES IN GENERAL

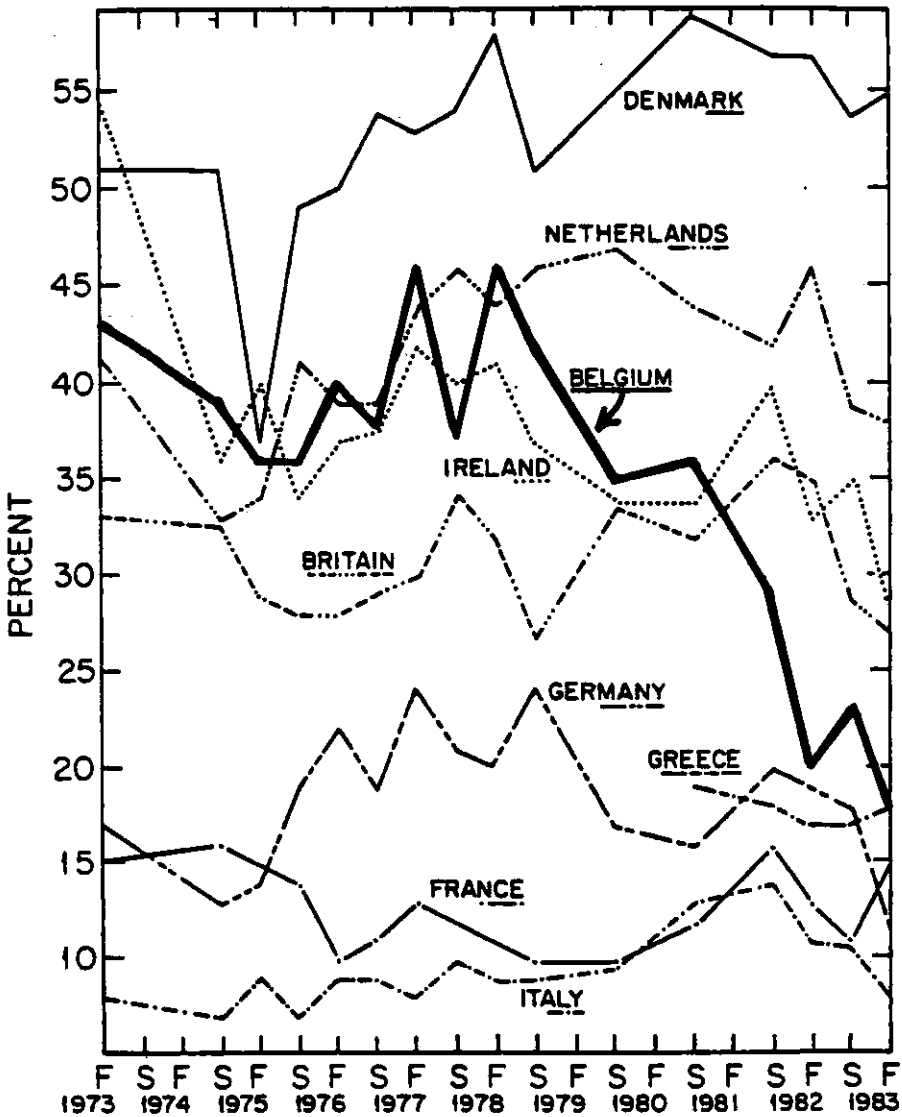
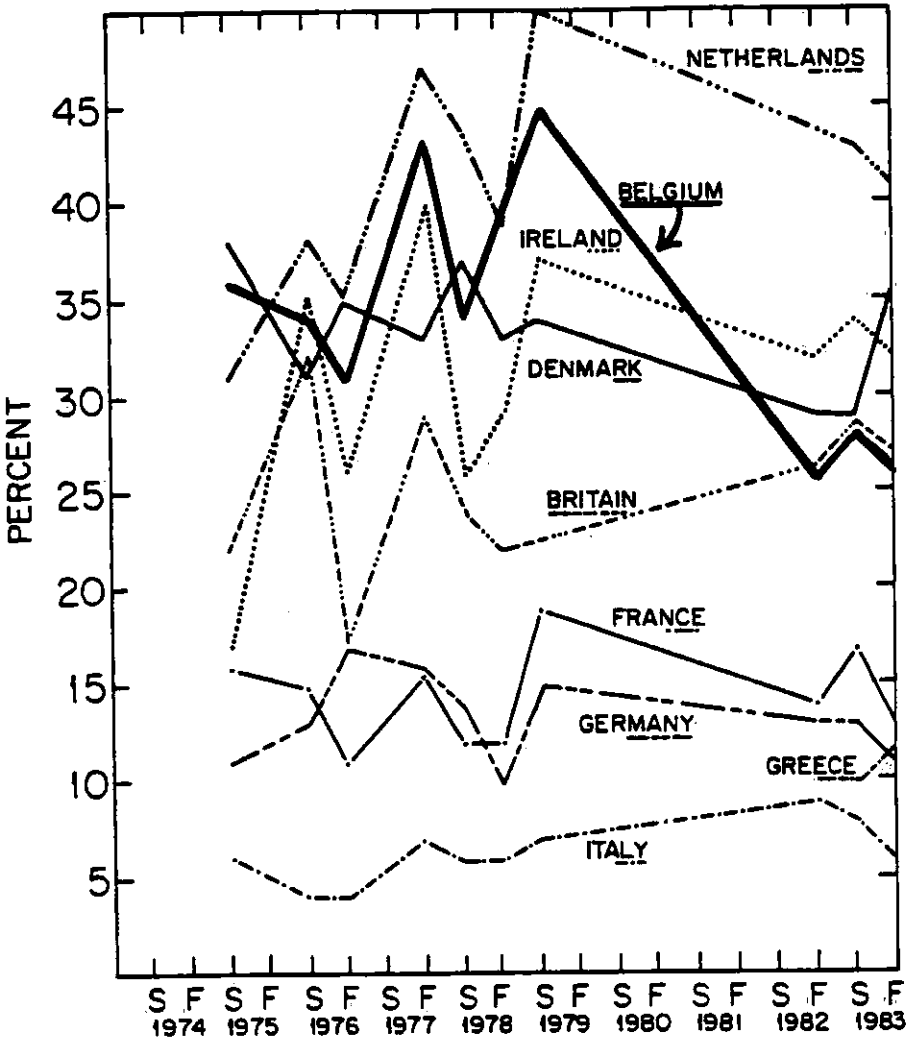


Figure 1.3
PERCENTAGE "VERY HAPPY"



were particularly bad. West European publics had been accustomed to relatively low unemployment rates: Even in the recession of the mid-1970s, they did not rise much above 5 percent. But by late 1983, unemployment in the European Community as a whole had risen to over 10 percent of the work force, and in Belgium it had reached a level of over 15 percent—the highest level the Belgians had experienced since World War II.

Given these circumstances, it may not seem surprising that the Belgians experienced a sharp decline in subjective well-being. However, the Netherlands and Ireland also had unemployment rates that by late 1983 had risen even higher than in Belgium, and while the Dutch and the Irish were suffering from harrowing and unfamiliar conditions, they did not show such sharp declines in subjective well-being as did the Belgians. The Dutch, in particular, maintained levels of overall satisfaction and happiness that are simply astonishing. Part of the explanation for this fact may lie in the exceptionally high unemployment benefits and generally high levels of social security available in the Netherlands. This seems a topic well worth further research. Our point here, however, is simply that under relatively extreme conditions, cross-national differences in subjective well-being *can* be changed. Distinctive cultural baselines may exist—but they are not immune to the impact of changes in the socioeconomic environment,

The modest but consistent link we have observed between subjective well-being and economic development at the national level may reflect a tendency for cultural baselines to shift gradually, when a society experiences protracted periods of misery: When a large share of the population expresses negative feelings, the norm that one should express at least mildly positive ones becomes weakened. Nevertheless, it is clear that we find nothing even approaching a one-to-one relationship, at the national level, between prosperity and subjective well-being.

Suicide Rates

Cultural differences in reported subjective well-being may be somewhat similar to cultural differences in suicide rates. Nearly 90 years ago Durkheim (1897) observed that suicide rates are markedly higher in Protestant or nonpracticing Catholic countries than in predominately Catholic countries. Despite immense socioeconomic changes and a widespread decline in religiosity (especially in Northern Europe), Durkheim's finding is still valid to a considerable extent, as Table 1.19 demonstrates. Though suicide rates fluctuate with economic conditions and other events, a substantial difference persists between the suicide rates of countries in which the public

consists primarily of practicing Catholics (such as Ireland, Spain, and Italy) and in Protestant countries or those in which the church is weaker. Clearly, the situation is more complex than a simple Catholic vs Protestant or nonpracticing dichotomy would suggest, for by this standard, the Greeks are more Catholic than the Catholics; and Northern Ireland, though mainly Protestant, shows a suicide rate almost identical with the Republic of Ireland. But there is evidence of considerable continuity in cultural attitudes toward suicide.

This continuity gives rise to yet another paradox: Suicide rates tend to be highest in those nations that rank *high*—not low—on subjective well-being. The four nations ranking highest on subjective satisfaction (see Table 1.19) have a mean suicide rate of 19.6; the four nations ranking lowest have a mean suicide rate of 7.6. In other words, low suicide rates, which superficially might seem to be a good indicator of subjective well-being, in fact prove to be *negatively* correlated with it.

This seems astonishing at first glance, but the paradox resolves itself when we look a little closer, for this correlation is almost certainly spurious. Those individuals who commit suicide almost certainly *are* unhappy; but they constitute a tiny minority of the population of any nation—and whether a relatively large or small minority of the unhappy persons in a given society commits suicide seems to be strongly influenced by cultural patterns. Within the United States (and most other countries) the suicide rate is about three times as high among men as among women, but there is no evidence that men are three times as likely to be unhappy as women. On the contrary, even common sense would suggest that men are at *least* as happy as women—they are better off in so many ways. And the empirical evidence consistently indicates that there is no significant difference between the sexes in subjective well-being. Here too, the difference in behavior seems to reflect different cultural norms.

Interestingly, those cultures in which suicide is most widespread tend to have the strongest norms to describe oneself as happy. Conceivably, being deeply unhappy in a society where everybody is expected to be happy may be even more unbearable—or produce a greater sense of social isolation—than in a society where unhappiness is not so far from the norm.

Interpersonal Trust

Though cross-national differences in subjective well-being do not have the relationship one might expect to the respective nations' suicide rates, they do have an interesting relationship to another

Table 1.19
SUICIDE RATES IN WESTERN NATIONS, 1976–78

Nation	Reported Suicides per 100,000 Inhabitants
Finland	25.0
Denmark	23.9
Switzerland	23.8
Austria	22.7
West Germany	21.7
Sweden	19.4
Japan	17.7
Belgium	16.6
France	15.4
United States	12.5
Norway	11.4
The Netherlands	9.2
Great Britain	7.9
Italy	5.8
Ireland	4.7
Northern Ireland	4.6
Spain	3.9
Greece	2.8

Source: United Nations Demographic Yearbook (1979).

variable that has played a prominent part in the literature of comparative politics: Those nations that rank high on subjective well-being, have a striking tendency to rank high on interpersonal trust.

Some noted studies of political culture analyzed French society (Wylie, 1957) and Italian society (Banfield, 1958; cf. Tarrow, 1967) and concluded that these cultures are characterized by exceptionally low levels of interpersonal trust. This fact apparently had far-reaching consequences, hindering both economic development and political cooperation. Though low interpersonal trust seemed particularly prevalent in the less-developed Southern regions of these countries, it seemed to be a feature of these societies in general. In a five-nation study, Almond and Verba (1963) also stressed the importance of interpersonal trust, and found strong empirical confirmation that Italian society was characterized by extremely low

levels of interpersonal trust (France was not included in their study). Their results, from representative national samples of the publics of five nations surveyed in 1959–1960, are shown in Table 1.20.

The findings of the World Values Survey, carried out 21 years later, show overall continuity in the relative positions of the four nations included in both surveys. In the earlier survey, the United States and Great Britain ranked far above West Germany and Italy, though quite close to each other (with the American public 6 points above the British in interpersonal trust). More than two decades later, the same pattern applied, with the two English-speaking nations still ranking highest (though the British now led the Americans) and the Germans ranking next, though now only 2 points below the Americans; and with the Italians still ranking lowest of the four nations. The relative distances had diminished considerably, however. Interpersonal trust levels in the United States had fallen markedly. But they had risen substantially in the other three countries—with especially large gains in Germany and Italy. The *relative* positions of the respective nations showed little change, however. In their relative positions, both France and Italy ranked low on interpersonal trust, so that the generalizations made by Wylie and Banfield in the 1950s still held true in 1981—though, apparently, to a much lesser extent than when they first were stated. Thus we find both significant cultural continuity *and* substantial change.

It is also interesting that there seems to be a remarkable congruence between the levels of interpersonal trust and subjective well-being observed in given societies. This correlation exists even at the individual level. In the World Values Surveys, overall life satisfaction shows a mean correlation of .125 with interpersonal trust, while happiness correlates with trust at the .109 level: A given individual is significantly more likely to be happy if he trusts those around him. But the relationship is a good deal stronger at the national level. If we compare the 1981 rankings of the eleven nations in Table 1.20 with the life satisfaction and happiness rankings of the same nations in Table 1.17b, the point is immediately evident. There is a striking tendency for those cultures that rank high on interpersonal trust to rank high on both life satisfaction and happiness as well. To some extent, we seem to have a syndrome of cultural traits, in which interpersonal trust and subjective well-being tend to go together; and both of them seem conducive to political consensus.

Table 1.20
INTERPERSONAL TRUST, BY NATIONALITY, IN 1959–60 AND 1981:
"Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?" (Percentage saying, "Most people can be trusted.")

1959–60 (Civic Culture Study)		1981 (World Values Survey)	
United States	55%	Denmark	66%
Great Britain	49	The Netherlands	58
Mexico	30	Great Britain	57
Germany	19	Northern Ireland	57
Italy	7	Ireland	55
		Spain	48
		United States	47
		Germany	45
		Belgium	42
		Italy	39
		France	36

Source: 1959–60 data from Almond & Verba (1963, p. 267); 1981 data for all nations except the United States from World Values Survey; U.S. data for 1980 from Davis & Smith (1982).

5. Conclusion

Human happiness and satisfaction are extremely complex phenomena. They not only reflect a combination of short-, medium- and long-term processes at the individual level, but also an interaction between cultural- and individual-level influences.

At the individual level, we have found strong empirical support for an aspiration–adjustment model. Cross-sectionally, there is surprisingly little variation between stable social groups in their levels of subjective well-being. Nevertheless, in the short run, economic or social changes for the better *do* produce significant increases in both happiness and life satisfaction. But one's aspiration level adjusts to conditions that persist over the medium term: After some years, one must get *more* of a given thing to attain an above-average level of subjective well-being. Furthermore, if high levels of economic or physical security persist over the long term (throughout a given generation's formative years), not only does a given level of objective well-being no longer produce above-average satisfaction,

but qualitatively different goals may be emphasized.

Finally, there are astonishingly large differences between levels of subjective well-being reported in different societies. These differences can be traced to long-term differences in economic levels only to a limited extent. A given society's levels of subjective well-being does seem to respond to recent *changes* in the economic environment, but even this explains only a fraction of the observed variation. In addition, there appears to be a cultural component to a given nation's level of subjective well-being. In all societies, the modal response is that one's feelings are at least mildly positive, but in some societies the tendency to give positive ratings is stronger than in others.

On the whole, cross-national differences were rather stable during 1973–1983 but some noteworthy changes took place—in particular, a striking decline in subjective well-being in Belgium. It seems that the sense of well-being experienced within an entire society can deteriorate dramatically within a period of a few years. Similarly, it is clear that a massive decline in political trust took place in the United States, starting in the Vietnam era (Miller, 1974; Abramson, 1983), and there are indications that it may have been accompanied by a decline in interpersonal trust more broadly and by a basic reorientation of which groups among the American public were happiest.

The subjective quality of life as it is experienced by entire nations can rise or fall markedly over time. Precisely why and how such phenomena occur is still very poorly understood; it is a topic that merits further research.

Note

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2

Job Satisfaction, Marital Satisfaction, and the Quality of Life: A Review and a Preview

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The paper contains a global review of recent work on social indicators or quality of life measurement and more specific reviews of work on job satisfaction, satisfaction and happiness with life as a whole, and marital and sexual satisfaction. A variety of species of gap-theoretic explanatory theories are described and their alleged successes are noted. Finally, multiple discrepancies theories are sketched and some results of their application are indicated.

1. Introduction

In this paper recent work on social indicators or quality of life measurement is reviewed from a very global to a very parochial perspective. In Section 2 I note the distribution of research papers coming to the journal *Social Indicators Research* in the past four years from various countries. In Sections 3, 4, and 5, respectively, I describe some salient work in the domains of job satisfaction, satisfaction and happiness with life as a whole, and marital and sexual satisfaction. The aim in these sections is to provide a summary of some of the alleged facts, regularities, or relatively law-like relations that have been disclosed by research. Sections 6 and 7 provide an overview of particular kinds of explanatory theories, a characterization of some fundamental species, and a review of their alleged success at explaining relevant facts. In Section 6 I consider a variety of gap or discrepancies theories, and in Section 7 I review some of my own work on what I have come to call "multiple discrepancies theory." Although the term is a bit cumbersome, it precisely captures the distinguishing features of the sort of approach I take, following Andrews and Withey (1976) and Campbell, Converse, and Rodgers (1976).

2. Countries and Areas of Concern

One way to answer the question of who is doing what and where in social indicators or quality of life (QOL) research is to look at the country sources of papers published in *Social Indicators*

Research. When I did that for the period 1974 through 1980, I found that 75 percent of our papers came from the United States, 12 percent from Canada, 3 percent from the United Kingdom, and the remaining 10 percent from everywhere else. Everywhere else meant Israel, West Germany, the Netherlands, Austria, France, Ghana, Sweden, Poland, Belgium, Hungary, Chile, the Philippines, and India.

When I looked at the period March 1981 through January 1983, the American share dropped to 59 percent, the Canadian share rose a point to 13 percent, the United Kingdom share went up to 8 percent, Israel to 5 percent, and Korea and India to 3 percent each, leaving 12 percent for everywhere else. In this period everywhere else meant Australia, Hungary, Malaysia, and Nigeria. Lumping all North American material together, we had 87 percent of the pie in the early period and 72 percent in the more recent period. So, based on this small example of papers from a single (but central) journal, it seems that what is happening in industry in general is happening in the social indicators research industry in particular, namely, the North American share of the pie is shrinking.

Identifying originating countries for research is not a very enlightening enterprise, especially when it's restricted to a single journal's output. I wanted to attempt something bolder, but not overwhelming, so I did a computerized search of *Dissertation Abstracts*, *Psychological Abstracts*, and *Sociological Abstracts* for the four-year period 1979 through 1982, using two key words, Satisfaction (S) and Happiness (H). I used that particular *period* because in 1979 I had done a similar search of everything involving those two words up to 1979. And I picked those two words because I had been working with them in my own research and had to lay out the money anyhow.

I found 2,545 publications involving S or H in that four-year period. When I checked back a decade earlier to 1969–72, I found 1,238 publications, meaning there had been an increase of 106 percent. Dissertations accounted for 960 of the 1979–82 publications, and I haven't had time to read their abstracts yet—or even their titles, for that matter. I did read about 1,300 abstracts, about 120 articles, and several review articles. So I have a few hundred articles to read yet to complete my review. Still, I can share some surface-level information with you about S and H research.

Of 518 abstracts that were relatively clear, 75 percent came from the United States, 5 percent from Canada, and 2 percent each from South Africa, Australia, and India. The other 14 percent came from 23 countries. Again, roughly speaking, 512 of these publications involved 10 areas of concern (see Table 2.1).

Table 2.1
AREAS OF CONCERN

	N	%
Job satisfaction	245	48
Life as a whole	76	16
Marriage	56	11
Old age	39	7
Housing and neighborhood	26	5
Health and human services	22	4
Politics and social relations	20	4
Family	12	2
Crime and justice	9	2
Education	7	1
Totals	512	100%

Job satisfaction dominated the field with 48 percent of the papers and life as a whole was a poor second with 16 percent; marriage had 11 percent, old age had 7 percent, and the other 19 percent was spread around the remaining six areas.

What I want to do now is focus attention on at least the top three areas of concern, indicate some of the apparent facts about them, and describe some of the theories used to explain the facts. Before proceeding to these two tasks, however, I should say that if one takes a fairly hard line on the nature of scientific theories, there is very little social indicators research that is informed by theories. That is, if you think of a scientific theory as an axiomatic system with rules of formation and transformation, with separate vocabularies of logical, theoretical, and observation terms, and with axioms and theorems, then there is very little, if anything, of the sort in social indicators research. There are some borderline cases, e.g., Davis' (1959) work on reference class theory and Homans' (1950) exchange theory. But, strictly speaking, in this area we don't speak too strictly from a theoretic point of view. Of course, if you think of a scientific theory in fairly casual terms as any hunch, guess, guiding intuition, or reason for a line of research, then all research is theory laden and theory guided. There is no firm rule book about the best usage of terms like "science" and "scientific theory"; so I can't tell you how you should feel about them. Generally speaking, I prefer "macho" science, which is to say I take

a hard line on the logical structure of theories. In that sense of the word, there is very little social indicators research guided by theories. When I talk about gap theories later on, I'm really talking about bits and pieces of such theories. Nothing much hangs on the fact that the bits and pieces are not yet integrated into robust and complete scientific theories.

3. Job Satisfaction

Briefly, then, what did we learn about job satisfaction in the last four years?

First, eight studies reported that job satisfaction (JS) increases with job enrichment: Caldwell and O'Reilly (1982), Champoux (1981), Cherrington and England (1980), Coriat (1979), Dailey (1979), Orpen (1979a), Wimperis and Farr (1979), and Zierden (1980). One study found that JS and enrichment were independent (Brief, Aldag, Russell, & Rude, 1981) and one found that JS was positively related to job enrichment for white Africans but not for tribal black workers (Orpen, 1979b).

Six studies found JS increases with worker participation in decision making: Greenberg (1980), Hatfield and Huseman (1982), Jenkins and Lawler (1981), Koopman (1981), Kumar and Bohra (1979), and Schuler (1980). When Locke and Schweiger (1979) reviewed the literature on participation in decision making (PDM) for the period prior to 1979, they concluded the following:

> An extensive review of research on PDM leads to the conclusion that: (a) a number of experimental field studies involved so many variables that no conclusions can be drawn from them regarding the effects of PDM; (b) three other categories of studies (experimental laboratory, correlational field, and univariate experimental field studies) found that: PDM usually leads to higher satisfaction but not to higher productivity than more authoritative management styles. (p. 266)

Eight studies found that JS decreases with role ambiguity: Abdel-Halim (1981); Batlis (1980); Bedeian and Armenakis (1981); Dabrowska (1979); Keenan and McBain (1979); Mossholder, Bedeian, and Armenakis (1981); Posner and Randolph (1980); and Walsh, Taber, and Beehr (1980).

Seven studies found JS decreases with role conflict: Abdel-Halim (1981), Bedeian and Armenakis (1981), Coldwell (1979), Dabrowska (1979), Frey and Greenfeld (1980), Keenan and McBain (1979), and Posner and Randolph (1980).

Five studies found JS increases with workers' perception of personal development through work: Bergmann (1981); Groothuis, Ten Horn, and Scheele (1979); Leonard, Margolis, and Keating (1981); Skodol and Maxmen (1981); and Venkataraman and

Anantharaman (1981).

Two studies found JS negatively correlated to job turnover: Price and Mueller (1981) and Spencer and Steers (1981). Two more found JS and turnover unrelated: Murphy and Gardner (1979) and Waters and Roach (1979). Martin and Hunt (1980) found JS negatively related to intent to leave, while Peters, Bhagat, and O'Connor (1981) found these two variables to be independent of each other. In an excellent review article, Mobley, Griffeth, Hand, and Meglino (1979) wrote:

> Research on employee turnover since the Porter and Steers (1973) analysis of the literature reveals that age, tenure, overall satisfaction, job content, intentions to remain on the job, and commitment are consistently and negatively related to turnover. Generally, however, less than 20 percent of the variance in turnover is explained. (p. 493)

Three studies found JS increased when workers were able to set their own work goals: Hendrix and Halverson (1980), Ivancevich and McMahon (1982), and Lee and Schuler (1982). Anderson and O'Reilly (1981) found no relation between JS and goal setting.

Four studies found JS and age positively correlated: Gupta and Nisha (1979), Imbach and Steiner (1981), O'Brien and Dowling (1981), and Weaver (1980).

Three studies found JS increased with flexitime: Coltrin and Barendse (1981), Orpen (1981), and Pierce and Newstrom (1980). Hicks and Klimoski (1981) found no relation between JS and flexitime.

Surprisingly, JS was found to be independent of absenteeism in three studies: Adler and Golan (1981); Cheloha and Farr (1980); and Hammer, Landau, and Stern (1981); but Allodi and Montgomery (1979) found JS negatively associated with absenteeism.

Feild and Caldwell (1979) found that females supervised by females were more satisfied with their jobs than females supervised by males. But two other studies found JS and sex of supervisors and subordinates were independent: Petty and Bruning (1980) and Szilagyi (1980).

Finally, it is perhaps worth mentioning that Newberry, Weisman, and Myers (1979) found that the JS of working wives was higher than the satisfaction they or nonworking wives got from doing housework.

4. Life as a Whole

What did we learn about satisfaction, happiness, well-being, or quality of life as a whole?

Five studies found S (satisfaction with life as a whole) positively correlated to JS: Michalos (1980), Morgan (1980), Rose (1980), Vredenburgh and Sheridan (1979), and White (1981). Rice, Hunt, and Near (1980) reviewed 23 studies involving 350 JS/S relationships and found that "for more than 90 percent of the cases, the direction of this relationship was positive; and none of the scattered negative relationships was statistically reliable" (p. 37).

Three studies found S positively correlated to health: Fernandez and Kulik (1981); Loewenstein (1981); and Spreitzer, Snyder, and Larson (1980); and three studies found S positively associated with satisfaction with health: Michalos (1980, 1982, 1983).

Cresswell, Corre, and Zautra (1981) found S negatively correlated to negatively perceived life changes. Block and Zautra (1981) found S positively correlated to positively perceived life changes, and Michalos (1979) found no substantial association at all between S and life changes.

Michalos (1980) and White (1981) found S positively associated with satisfaction with friendships, while Loewenstein (1981) found it positively associated with having many friends.

Medley (1980), Michalos (1980, 1982, 1983), and White (1981) found S and satisfaction with family relations positively associated.

Sigelman (1981) found that intelligence had no independent impact on S or H (happiness with life as a whole), while Kammann et al. (1979) found H was not associated with verbal intelligence.

A New Zealand study showed that H can be improved by reciting positive feeling statements every day and by regular pep talks (Lichter, Haye, & Kammann, 1980). Teasdale and Taylor (1981) showed that when people are in a bad mood, it is easier for them to recall unpleasant events, and when they are in a good mood, pleasant events are easier to recall.

The latter two studies remind us of the power of positive thinking popularized by Norman Vincent Peale, not to mention Julie Andrews in *The Sound of Music* and *Mary Poppins*. On the one hand, one is inclined to say, "So what else is new? Pep talks can cheer people up, and if you feel blue the world looks blue, etc." But if you look at the clichés of common sense or the wisdom of sages, you see immediately that there is some disagreement about what actually works. In what I think is the very best historical-philosophical treatise on happiness, the Polish philosopher Tatarkiewicz (1976) summarized a number of such clichés. For example, he reminds us that while some have claimed that happiness comes from living a virtuous life, others have claimed that it comes from living an evil life (and getting away with it). Some have said happiness comes from knowing the truth, while others say it comes

from believing in illusions. Some say it comes from making others happy, but others say it comes from rejecting the possibility of making others happy. Some would have us share our misery, while others would have us conceal it. Some claim that happiness can only be found in struggle, while others claim it lies in tranquility. Some say it comes with love, but others say it comes from the reduction of all attachments, and so on. Altogether, Tatarkiewicz cites over two dozen contradictory prescriptions for happiness, leaving us with a clear moral. One cannot rely on the clichés of philosophers or conventional wisdom. One needs controlled investigation to pick out the true from the obvious, or the real from the apparent, as philosophers say.

On the basis of an analysis of 45 national opinion polls taken in the United States from 1946 to 1977, Smith (1979) concluded that

> . . . it appears that happiness rose between the late forties and the late fifties. During the sixties there appears to have been a decline in happiness, although at a slower rate than the rise in the fifties. This drop reached its bottom by the early seventies. The trend since then is hard to separate from the variation, but it appears that happiness has shown no clear trend. (p. 29)

5. Marriage, Divorce, and Sex

What, then, did we learn about marriage and divorce in the period from 1979 through 1982?

In the first place, there were two studies showing the classic curvilinear relation between marital satisfaction and length of time married: Lupri and Frideres (1981) and Schram (1979). After the honeymoon is over, marital satisfaction seems to proceed on a general decline until about the 20th year or until the children leave home, and then it swoops upward pretty continuously into old age. Hudson and Murphy (1980) claimed that the curvilinear relation is a statistical artifact, although at least 16 other studies were cited in these three papers (going back to 1960) showing the same relation. We will probably have to wait for some broad-based, longitudinal studies in order to finally decide exactly what is causing the classic relation to show up. Weeding out dissatisfying marriages (e.g., through divorce) certainly has an impact, but so do a variety of adjustment mechanisms (e.g., redefining aspirations and reference classes).

Spanier and Lewis (1980) reviewed the literature on marriage quality in the seventies and reported that, just as in the sixties, people were still finding a negative correlation between marital satisfaction or happiness and having children. There were five studies in our four-year period showing this association: Campbell

(1981), Glenn and McLanahan (1982), Houseknecht (1979), Lupri and Frideres (1981), and Miller and Sollie (1980). Marini (1980) could find no association between these variables. Glenn and McLanahan (1982) wrote:

> To our knowledge, the only evidence for *positive* effects on parents' marriages or well-being in general is from reports by respondents about how they perceived that their children affected them (e.g., see Hoffman and Manis, 1978; Campbell, Converse, and Rodgers, 1976; Chilman, 1980; Gurin, Veroff, and Feld, 1960). (p. 63)

Such discrepancies between respondent-calculated judgments and statistically calculated relations frequently occur. In the present case, I would put more trust in the statistical calculations, because of social and psychological pressures on individuals to misjudge such things.

Atkinson (1980) and Rhyne (1981) found that national samples of Canadian males had higher levels of marital satisfaction than females, but Lupri and Frideres (1981) studied a sample of nearly 400 couples in Calgary, Alberta, and found that "on the average, husbands are less satisfied with their marriage than are wives" (p. 291). Earlier, Bernard (1972); Campbell, Converse, and Rodgers (1976); and the U.S. Bureau of the Census (1976) reported American findings similar to those of Atkinson and Rhyne.

There are many apparently one-time-only studies in this area, without confirming or disconfirming replications. I will simply list things that have been reported so far in such studies. But I would like to emphasize that I think as a rule one has to have several studies reporting similar results before allowing oneself to feel very confident about what one knows. Briefly, then, marital satisfaction seems to improve with increased communication between partners (Snyder, 1979); with increased self-disclosure (letting your partner know who you are, what you think) (Hendrick, 1981; Jorgensen & Gaudy, 1980); with simple equity in a relation (Hatfield et al., 1982); with one's ability to read nonverbal clues (the shrugs, silences, fidgeting—not to mention banging pots, pans, doors, etc.) (Gottman & Porterfield, 1981); with similarity of social style of partners (Schroder, 1981); and with personal self-esteem (Barnett & Nietzel, 1979). Marital dissatisfaction seems to increase with blaming your partner for marriage problems (Madden & Janoff-Bulman, 1981) and possibly with being a type A person (Burke & Weir, 1980) or being married to one (Burke, Weir, & DuWors, 1980).

Glenn (1981) reported that several U.S. national (NORC) samples revealed that the marital satisfaction of remarried females was lower than that of never-divorced married females, and that the marital satisfaction of remarried males was roughly equal to

that of never-divorced married males. The H of males and females remarried and never-divorced was about the same. White's (1979) Nebraska sample matched Glenn's for females; but her remarried males had greater marital satisfaction than her never-divorced married males.

Glenn and McLanahan (1982) used the same NORC surveys to show that children generally have a negative or at best negligible impact on marital satisfaction, and that children's negative impact on married employed females is greater than their negative impact on unemployed females.

Lupri and Frideres' (1981) Calgary sample had marriage satisfaction of the husbands of employed wives greater than that of the husbands of unemployed wives. The marriage satisfaction of employed wives themselves was also greater than that of unemployed wives, indicating a very clear moral to wives, namely, try to find employment outside the home. The marital satisfaction of males in high-prestige occupations was lower than that of males in low-prestige occupations, but the wives of these high-prestige fellows had greater marital satisfaction than the wives of the low-prestige fellows.

Rhyne's (1981) study of a national Canadian sample showed that the marital satisfaction of males throughout all life-cycle stages was roughly the same, but females hit a couple of extremely low points, namely, at the stage when infants are around and later, when teenagers are still around the house in a semi-independent state.

Hornung et al. (1981) used a couple of NORC surveys to show that employed wives were at greater risk of physical or psychological abuse from their husbands than were unemployed wives.

Finally, I found two studies claiming wives' employment had no effect on marital satisfaction: Locksley (1980) and Houseknecht and Macke (1981); and one study claiming employment improved marital satisfaction for wives: Yogev (1981).

On the finer topic of sexual satisfaction, finer in at least two senses, Hatfield et al. (1982) reported that such satisfaction increases with simple equity in a relation and, according to Perlman and Abramson (1982), with frequency of sexual activity. Sexual satisfaction with anyone decreases after one has been raped, and victims tend to continue to get less satisfaction from sex than non-victims for some time after the event (Feldman-Summers et al., 1979).

In the national Canadian study, Rhyne (1981) regressed marital satisfaction on satisfaction with nine aspects of married life: love shown by spouse, spouse's interest in other's work, meeting

friendship needs, meeting sexual needs, helping around the house, time spent at home, time spent with children, spouse's friends, and treatment by in-laws. Considering seven stages of a family life cycle, it was found that, for females, satisfaction with the way friendship needs are met ranked in the top two most important predictors of marital satisfaction for six out of seven (86 percent) stages. For males, satisfaction with the way friendship needs were met ranked in the top two for four out of seven (57 percent) stages. Satisfaction with the way sexual needs were met was in the top two in only one stage for males (the very first, preparental stage) and in two stages for females (stage four, with teenagers 13–19 at home; and stage seven, postparental—all children gone). For males, in fact, satisfaction with the way sex needs were met was the most important predictor of marital satisfaction in the preparental stage.

6. Gap-Theoretical Explanations

Now I want to talk about explanatory theories and hypotheses. More precisely, I want to talk about what I call "gap-theoretical explanations" of S and H. The general form of all gap-theoretical accounts is just this: S and H are functions of, determined by, or explainable in terms of the perceived gap (discrepancy) between one thing and another. At least six different species of gap-theoretical hypotheses have been reported in the literature. For reasons that will become clear immediately, the phrase "at least" is crucial.

First, one may regard S and H as a function of the perceived gap between what one actually has and what one wants to have. Because there seem to be several different words to express wants (and, of course, to confuse everyone), this species of gap theory may be identified by talking about perceived gaps between: what one has and what one aims for; has now and has as a goal; has and desires; has and prefers to have; or has and needs. Lots of room for confusion here! Usually, I refer to this species of gap theory as the "goal–achievement gap theory."

Second, one may regard S and H as a function of the perceived gap between what one actually has and what is ideal. I will call this the "ideal–real gap theory." Another way to identify it is to say it is a gap between what one really has and what is ideal, or desirable, or preferable. Alternatively, one might talk about the gap between what one *expects* to have and what one considers to be ideal, preferable, or desirable. These first two gap theories are similar insofar as each matches something relatively more descriptive ("this is the case") with something relatively less descriptive ("that would be better"). The two theories are different insofar as

the better state referred to in the first is supposed to be better for some particular person, given that person's preferences, wants, etc.; while the better state referred to in the second is supposed to be better for any and every person; i.e., it's an ideal state for every person.

A third gap theory concerns the perceived gap between what is the case now and what one expects or expected to be the case. I will call this the "expectation–reality gap theory." The main difference between such theories and the previous two is that both sides of the perceived gap here are relatively descriptive. There is no question of desirability or preference in such theories. It is simply a matter of personal likelihoods or probability estimates being matched against what actually happens or happened.

A fourth theory involves the perceived gap between what one has now and the best one has ever had in the past. For short, I call it the "previous-best comparison theory."

Fifth, there is the perceived gap between what one has and what some relevant other person or group has. Such theories are referred to in the literature as "relative deprivation theories," "social comparison theories," and "reference class theories." I will use the phrase "social comparison theory."

Sixth, there is a variety of theories involving an assessment of the gap between some personal attribute of a subject and some attribute of that subject's environment. Such theories are generally referred to as "person–environment-fit" or "congruence theories," although any gap theory might be called a congruence theory. The crucial thing to remember about such theories as I am trying to distinguish them here is that the personal attributes must not involve goals, ideals, expectations, or one's previous best experience. Such attributes must be excluded in order to have this species of theory mutually exclusive with the first four species. This species of theory will be exclusive of social comparison theories not by types of personal attributes involved but by the absence of a reference class. In short, this sixth species can be regarded as a residual class identifiable by the failure of any of its members to fit into one of the other five classes.

Ignoring my own work, which will be discussed shortly, I found 41 studies involving tests of gap-theoretic hypotheses in the four-year period. Some of the essential elements of these studies are summarized in Table 2.2. The primary dependent variable in 21 (51 percent) of the studies is job satisfaction. Twelve (29 percent) may be classified as involving a goal–achievement-gap hypothesis, and 12 more involve a person–environment-fit hypothesis. Six (15 percent) belong to the ideal–real species, seven (17 percent) to the

Table 2.2
SUMMARY OF GAP-THEORETIC STUDIES

Author(s)	Year	Sample Size	Sample Composition	Gap Type	Dependent Variable
Weintraub	1980	73	Factory workers	Expected/actual environment	Job satisfaction
Wright & Gutkin	1981	60	School psychologists	Desired/actual job activities	Job satisfaction
Feather (two studies)	1979	3,000 1,383	15–17 year-olds Adults	Desired/actual work values	Job satisfaction
Wood	1981	52	Male factory workers	Desired/actual work setting	Job satisfaction
O'Brien & Dowling	1980	1,383	Employees	Desired/perceived job attributes	Job satisfaction
Humphrys	1981	133	Corporate employees	Desired/perceived job attributes	Job satisfaction
Bledsoe, Mullen, & Hobbs	1980	1,549	Teachers	Desired/actual performance	Satisfaction with principal's performance
Peterson	1979	57	Undergraduates	Idea/actual leader behavior	Satisfaction with leader behavior
Canter & Rees	1982	1,206	Home owner-occupiers	Goal/achievement	Satisfaction with housing
Handal, Barling, & Morrissy	1981	120	Adults	Preferred/perceived physical characteristics	Satisfaction with neighborhood
Kurella	1979	3,185	Hospital inpatients	Social need/fulfillment	Satisfaction with health care

Continues

Table 2.2 (continued)

Author(s)	Year	Sample Size	Sample Composition	Gap Type	Dependent Variable
Hener & Meir	1981	126	Registered nurses	Preferred/actual work area	Job satisfaction
Cherrington & England	1980	3,053	Manufacturing employees	Desired/actual job enrichment	Job satisfaction
Dorr, Honea, & Posner	1980	66	Nurses and attendants	Ideal/real ward atmosphere	Job satisfaction
Kopelman (three studies)	1979	1,777 202 399	Engineers Librarians Engineers	Importance/expected job attribute	Job satisfaction
Glatzer & Volkert	1980	?	Adults	Ideal/actual conditions	Satisfaction with income and housing
Roessler & Boone	1979	50	Rehabilitation center clients	Ideal/perceived rehabilitation center	Satisfaction with services
Hartlage & Sperr	1980	60	VA outpatients of mental hygiene clinic	Ideal/actual therapist	Satisfaction with treatment
Frank, Anderson, & Rubinstein	1979	360	100 marital therapy and 80 nontherapy couples	Ideal/actual marital role behavior	Sexual satisfaction
Oldham & Miller	1979	658	Business employees	Own/other's job complexity	Growth satisfaction
Oldham et al.	1982	130	Manufacturing employees	Own/other's job complexity	Growth satisfaction
Hatfield, Greenberger, Traupman, & Lambert	1982	106	53 newlywed couples	Equitable/actual relation	Sexual and marital satisfaction
Appelgryn & Plug	1981	183	Teachers	Own/other's job	Job satisfaction

Continues

Table 2.2 (continued)

Author(s)	Year	Sample Size	Sample Composition	Gap Type	Dependent Variable
Chisholm, Gauntner, & Munzenrider	1980	609	Volunteer soldiers	Pre-enlistment expectations/current perceptions of army life	Satisfaction with army life
Bell*	1978–79	114	Elderly males	Expected/actual post-retirement, family, community, and voluntary associations	Life satisfaction
Schroder	1981	56	28 couples aged 18–35	Own/partner's social style	Satisfaction with the relationship
Oliver	1980	604	Consumers of flu inoculation	Expected/actual outcomes	Satisfaction with vaccine
Taylor*	1982	1,513	Adults	Expected/actual financial experience	Satisfaction with financial experience
Lee & Schuler	1982	134	Service company employees	Expected/actual performance rewards	Job satisfaction
Ross, Mirowsky, & Duff	1982	376	Mothers	Expected/actual physician's characteristics	Satisfaction with child's medical care
Abdel-Halim	1979	222	Drug store employees	Own/other's egalitarianism	Job satisfaction
Drexler & Lindell	1981	2,286	U.S. Army personnel	Job training/job attributes	Job satisfaction
Rosman & Burke	1980	130	Sales personnel	Valued self/job competencies	Job satisfaction

Continues

Table 2.2 (continued)

Author(s)	Year	Sample Size	Sample Composition	Gap Type	Dependent Variable
Meir & Erez	1981	109	Engineers	Job interests/job attributes	Job satisfaction
Barrett, Forbes, O'Connor, & Alexander (two studies)	1980	29 60	Sonar operators Undergraduates	Ability/job requirements	Job satisfaction
Booth, McNally, & Berry	1979	640	Male hospital corpsmen	Own needs/job requirements	Job satisfaction
Rahim*	1981	586	University students	Personality/job environment	Job satisfaction
Thomas & Robbins*	1979	61	Middle-aged males	Job interests/job attributes	Job satisfaction
Morse & Caldwell	1979	491	Graduate students	Personality/job environment	Satisfaction with task group performance
Ickes, Schermer, & Steeno	1979	126	63 pairs of same-sex undergraduates	Own/other's expressiveness	Satisfaction with personal interactions
Hatfield & Huseman	1982	1,240	Manufacturing employees	Own/supervisor's perception of mutual communication	Own job satisfaction

*Indicates an unsuccessful application of a gap-theoretic explanation.

expectation–reality species, and the remaining four (10 percent) to the social comparison species.

The most important numbers to remember are probably the following: 37 (90 percent) of the gap-theoretic explanations were successful. That is, 90 percent of the time when someone looked for an association between satisfaction and some sort of perceived gap, the search was successful. In fact, considering all the papers cited in the 41 studies, there were about 80 reported successful accounts and 5 unsuccessful.

Assuming that people are more inclined to publish findings that they regard as successful, one would expect to find some skew in the distribution of reported results favoring gap-theoretic explanations. Still, people do report unfavorable and unexpected results, and a 90 percent success ratio is substantial. I think that even a cautious reading of the evidence indicates that we are on the right track with such theories. And that, of course, gives us some direction concerning the next few years of research. In particular, we should be putting more resources into gap-theoretic investigations.

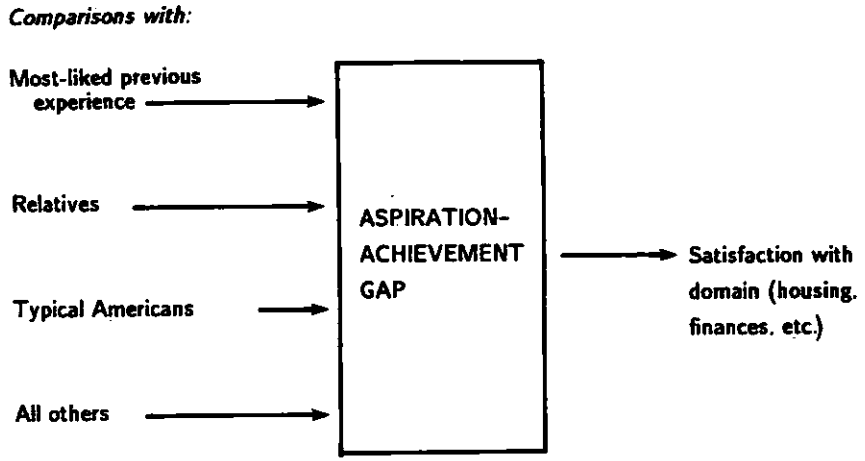
7. Multiple Discrepancies Theories

In this penultimate section, I want to talk a little about my own research on gap theories. Although my academic roots are in Chicago, I have always attributed my basic views about S and H measurement to the research coming from The University of Michigan, and the Institute for Social Research in particular. I guess I'm the only disciple who has applied gap-theoretic hypotheses to the total package of S, H, and satisfaction in 15 domains (health, financial security, family life, friendships, housing, paid employment, recreation, religion, self-esteem, residential area, transportation, government services, security from crime, spouse, and education). The successful application of such hypotheses in a variety of demographic settings is reported in Michalos (1980, 1982, 1983).

The main difference between my use of such hypotheses and that of almost all the researchers cited above is that I use several hypotheses in combination. In this I have simply followed the lead of Campbell, Converse, and Rodgers (1976) and Andrews and Withey (1976). Figure 2.1 illustrates the approach as it was described by the former three authors. Satisfaction is explained by the goal–achievement gap, which is itself explained by some social comparison gaps, the gap between what one has now and the best one has had in the past, and some other relatively unimportant gaps. Thus, because the distinctive feature of this approach is its

Figure 2.1

CAMPBELL, CONVERSE, AND RODGERS (1976) MODEL OF SATISFACTION WITH PARTICULAR DOMAINS AS A FUNCTION OF COMPARISONS AND AN ASPIRATION–ACHIEVEMENT GAP.
(Comparisons are listed in order of their influence on aspirations.)



appeal to multiple discrepancies or gaps, I have come to call it "multiple discrepancies theory." It is an embryonic theory with a brief past and a very promising future. Crosby (1982) represents a recent worthwhile contribution to this tradition.

Table 2.3 provides a brief overview of the explanatory power of the theory as it was applied in three surveys. The details of the surveys are reported in Michalos (1980, 1982, 1983) and need not concern us. What should be noticed first is that, on average, the three gap-theoretic variables accounted for 53 percent of the variance in satisfaction in the 12 domains for the northern and Guelph groups and 45 percent for the rural seniors group. These variables were especially good predictors of satisfaction with government services (67 percent) and transportation (66 percent) for the northern group, transportation (68 percent) for the seniors group, and paid employment (67 percent) for the Guelph group. They were least successful at predicting satisfaction with friendships (40 percent) for the northern group, religion (32 percent) for the rural seniors group, and education (44 percent) for the Guelph group.

Table 2.3

COMPARISON OF VARIANCE EXPLAINED BY GAP VARIABLES[a] FOR UNIVERSITY CLERICAL STAFF, RURAL SENIORS, AND NORTHERN COMMUNITY

Dependent Variables[b]	1979 Clerical Staff R^2	1981 Rural Seniors R^2	1982 Northern Community R^2
Satisfaction with:			
Health	.459	.586	.608
Financial security	.503	.437	.544
Family life	.650	.484	.493
Friendships	.539	.332	.397
Housing	.499	.425	.443
Paid employment	.667	c	.579
Recreation activity	.556	.391	.579
Religion	c	.321	.481
Self-esteem	.489	.385	.433
Area you live in	.471	.399	.451
Transportation	.612	.680	.656
Government services	c	.340	.665
Secure from crime	.506	c	c
Spouse	c	.599	c
Education	.440	c	c
Life as a whole	.453	.296	.447
Happiness with whole life	.479	.255	.375

[a] $p \leq .001$ for all R^2 values.

[b] The three predictor variables were goal–achievement gap, comparisons with previous best, and average folks.

[c] Item was not included.

In Michalos (1983), 53 percent of the variance in satisfaction with life as a whole (S) and 36 percent of the variance in happiness with life as a whole (H) are explained by satisfaction in 12 domains (satisfaction with one's health, housing, etc.) plus 7 demographic features (age, sex, etc.). However, as Table 2.3 shows, using only three gap-theoretic variables, one is able to account for 45 percent of the variance in S and 38 percent in H (third column). Thus, one could say that 85 percent of the power of the other 19 variables to explain S and 106 percent of their power to explain H is in the

three gap-theoretic variables. So, from the point of view of relative explanatory power (variable for variable) and simplicity, a strong case can be made for the gap-theoretic variables used in combination. That is, a strong case can be made for multiple discrepancies theory.

Finally, it is worthwhile to illustrate the combination of this sort of theory with the analysis of S in terms of domain satisfactions. For example, it has just been noted that in Michalos (1983) 53 percent of the variance in S is explained by satisfaction in 12 domains and 7 demographic features. Of the 12 domains, satisfaction with financial security has the greatest relative impact on satisfaction with life as a whole. For every standard deviation of increase in satisfaction with financial security, satisfaction with life as a whole increases 23 percent of one standard deviation. Fifty-four percent of the variance in satisfaction with financial security can be explained by three perceived gaps, namely, the gap between what one has and wants, between what one has and thinks others like oneself have, and between what one has and the best one has had in the past. Thirty-six percent of the gap between the financial security that one has and wants (the goal–achievement gap) can be explained by the other two gaps. Of the latter two, the gap between what one has and what one thinks others like oneself have is a slightly stronger influence on the goal–achievement gap. Similar analyses may be made to account for the impact of each of the 12 domains on S and H and for the impact of the three gap-theoretic variables on the satisfaction levels for each domain.

8. Conclusion

Although many publications, interesting results, and provocative lines of research have been reviewed, there are many more that have been neglected. The size of a reviewer's task in this field was clearly disclosed at the beginning of this paper. Excellent advances have been made and suggestions have been offered concerning important moderating variables and the elaboration of certain theories in certain directions. One might mention, for example, the work of LaRocco, House, and French (1980) on the buffering effects of social support on the impact of occupational stress; Oldham et al. (1982) on the selection of referents for job comparison; and Caplan (1983) on temporal dimensions of person–environment-fit theories. Andrews (1984) has a superb analysis of the construct validity and error components of some of the most frequently used survey measures in social indicators and quality of life research.

I have tried to sketch the contours of our research field and to

offer some suggestions for further research on multiple discrepancies theories. My own research will certainly follow the lines drawn above. Following a long line of political economists and utilitarian philosophers since roughly the first half of the 18th century, there is a direct connection between theories of individual satisfaction and happiness and national welfare or well-being. There is also a direct connection between such theories and empirical, naturalistic, or pragmatic theories of value. So, if we can get our sociopsychological theories of satisfaction straight, we will have relatively clear sailing to our political, moral, and esthetic theories. The potential benefits are immense; the costs of obtaining them are merely substantial!

Note

[1]Earlier versions of this paper were presented at the Fourth Annual Founders Symposium, Institute for Social Research, The University of Michigan, February 18, 1983, and at the Symposium on Management of Work and Personal Life, Faculty of Management, McGill University, April 29, 1983.

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3

Modeling the Psychological Determinants of Life Quality

Antonia Abbey and Frank M. Andrews[1]

Personality and social psychologists have recently focused on a number of issues that life quality researchers have also examined. This study combines these two perspectives on well-being to address the following two questions: (1) to what extent are perceptions of stress, internal and external control, social support, performance, anxiety, and depression determinants of life quality and (2) to what extent are the predictors of different aspects of life quality (affective, cognitive, global, and specific domains) similar to or different from one another? Data were collected from 675 respondents in a longitudinal study. Respondents were interviewed four times at 6-week intervals. Bivariate analyses, stepwise regressions, and structural modeling were used to analyze the data. The modeling results suggested that internal control, social support, and performance caused increased life quality, whereas stress and depression caused decreased life quality. Control by others did not relate to life quality. The positive affect component of life quality related most strongly to "positive" psychological concepts. Similarly, the negative affect component of life quality related most strongly to "negative" psychological concepts. The implications of these findings for future life quality research are described.

Introduction

Psychosocial Factors and Well-being

During the past 15 years, substantial progress has been made in finding effective ways to measure people's sense of well-being, in learning how measures of various aspects of life quality interrelate, and in reporting how people from many national and demographic groups assess their well-being with respect to both life as a whole and numerous specific life domains. National level studies include those by Allardt (1976) (Scandinavian countries), Andrews and Withey (1976) (United States), Headey (1981) (Australia), Rabier (1974) (European Economic Community countries), and Shin, Kim, and Lee (1982) (South Korea), among others; and an extensive bibliography has been assembled by Gilmartin, Rossi, Lutomski, and Reed (1979). As the interest and psychometric tractability of social indicators of perceived well-being have been demonstrated, it becomes important to address a fundamental underlying question:

how is it that people come to feel as they do about their well-being? While this issue is not yet well explored, at least three different approaches have been examined and are described in the three paragraphs that follow.

One of the surprising findings to emerge from early explorations of the question is that standard demographic or social classification variables—e.g., age, sex, race, education, income, marital status, and stage in the family life cycle—show only modest relationships, if any, to most self-assessments of life quality. Most of the national studies cited previously show that even when several such factors are used together in a multivariate analysis they explain less than 15 percent of the variation in assessments of quality of life as a whole, and rarely much more than that in assessments of specific life domains. The relationships that do appear are in the expected directions (e.g., people's assessments of their health decline with increasing age, and their evaluations of their material well-being increase with income), but demographic and social classification factors do not show strong potential for explaining much variation in perceived well-being. Other factors will have to be found.

Another approach to understanding how people assess their life quality has been to focus on the hypothesized "gap" between what people have and what they aspire to (e.g., Andrews, 1981; Mason & Faulkenberry, 1978; Michalos, 1980, 1983). The key notion is that people whose actual life conditions and aspirations are closely matched will assess their life quality as much higher than will people for whom there is a large gap between actuality and aspirations. This line of inquiry is theoretically appealing and shows considerable promise. However, before much further progress can be made, additional conceptual and empirical work is needed on the determinants of aspirations.

Still a third approach, and the one explored here, is to try linking the perceived well-being concepts from the social indicators movement to some of the currently promising concepts from psychology. Psychologists are interested in individuals' sense of well-being and should have something to contribute. Previous forays into this area include those by Dupuy (1977), Kammann, Christie, Irwin, and Dixon (1979), and Costa and McCrae (1980). Testing a sample of about 200 college students, Dupuy related scores from his General Well-being Schedule to a variety of scales from the Minnesota Multiphasic Personality Inventory and several smaller batteries and found substantial correlations (−.5 to −.7) with measures of depression and anxiety. Kammann et al., using data from 45 New Zealand adults, have found a correlation of about −.7 between Kammann's Happiness Inventory and Eysenck's

Neuroticism Scale and a near-zero relationship with extraversion. In several other samples of subjects, Kammann et al. found correlations of about −.7 between the Happiness Inventory and the Beck Depression Inventory. Costa and McCrae found significant correlations between extraversion and neuroticism with affective measures of life quality. While these studies alert us to the likelihood that well-being measures may be substantially related to measures of mental illness (as they should be), we believe the empirical results that we report in this paper include a broader range of psychosocial concepts—assessed on a larger and more heterogeneous group of people—than have been examined previously.

Affective and Cognitive Components of Life Quality

In addition to examining the linkages between life quality concepts and a variety of psychosocial factors, a second purpose of this paper is to investigate the similarities and differences among several ways of conceptualizing global life quality. The social indicators literature includes discussions about the conceptual and empirical distinctions among assessments that tap positive affect (i.e., positive emotional responses such as happiness), negative affect, and cognitive assessments (i.e., "intellectual" evaluations that take account of some implicit or explicit criteria). Relevant studies include those by Andrews and McKennell (1980), Bradburn (1969), Kammann, Farry, and Herbison (1984), McKennell and Andrews (1980), McKennell (1978), Moum (1980), and Warr, Barter, and Brownbridge (1983). Collectively, these studies suggest the usefulness of distinguishing the three components and begin to elucidate the conditions under which positive and negative affect will or will not be statistically independent from each other. The analyses described in the present paper contribute further empirical results to these topics.

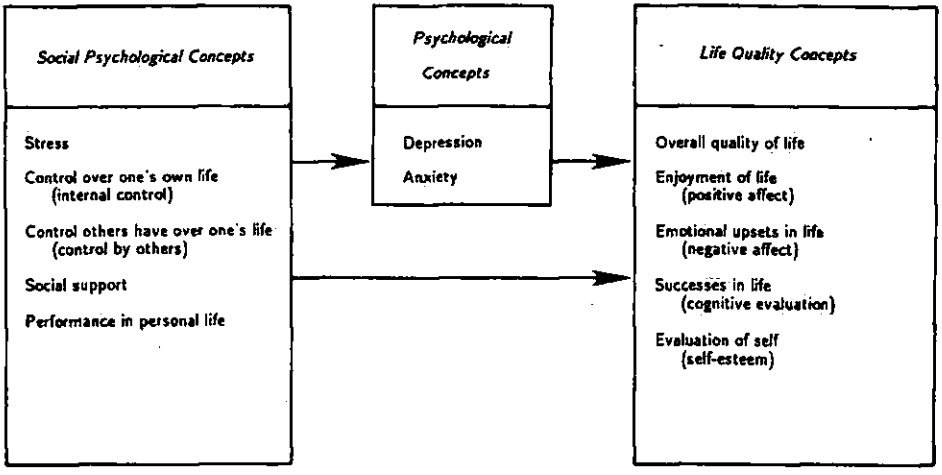
Conceptual Model

The essence of our conceptual model is simple. We assume that people's interactions with their social world will affect a number of social psychological factors, which will in turn affect their own internal states of depression and anxiety, which will in turn affect their sense of well-being. The key elements of our model appear in Figure 3.1, which shows the five social psychological concepts that will be linked analytically to two psychological concepts and five life quality assessments.

Social Psychological and Psychological Concepts

Researchers concerned with how people cope with life crises

Figure 3.1
SCHEMATIC FORM OF CAUSAL LINKAGES AMONG SOCIAL PSYCHOLOGICAL, PSYCHOLOGICAL, AND LIFE QUALITY CONCEPTS



have hypothesized that a number of social and psychological factors influence adjustment (Abbey, Dunkel-Schetter, & Brickman, 1983; Billings & Moos, 1980; Caplan, 1979; French, Rodgers, & Cobb, 1974; Lazarus, 1981; Pearlin & Schooler, 1978; Silver & Wortman, 1980). Many of the outcome measures examined in their theories and research are well-being measures. Consequently, it seemed likely that concepts that related to the outcome measures examined in this literature would also relate to life quality. Seven psychosocial concepts were selected for examination in this study as potential predictors of life quality. These concepts, which are displayed in Figure 3.1, are described briefly below.

Stress. An extensive research literature documents the negative impact that stress typically has on well-being (Caplan, 1983; Holmes & Rahe, 1967; Pearlin, Menaghan, Lieberman, & Mullan, 1981; Selye, 1956, 1980). The impact of life events such as the death of a loved one or relocation (Dohrenwend & Dohrenwend, 1978; Vinokur & Selzer, 1975; Williams, Ware, & Donald, 1981), as well as the impact of chronic stressors such as long-term conflict at work or within the family (French, Caplan, & Harrison, 1982; House, McMichael, Wells, Kaplan, & Landerman, 1979) have been examined. People under stress are more susceptible to illness,

depression, anxiety, low self-confidence, and dissatisfaction than are people not experiencing stress (Caplan, Cobb, French, Harrison, & Pinneau, 1980; Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964; Rabkin & Streunig, 1976).

Three indicators of stress were examined in the analyses reported in this paper: role ambiguity, negative life events, and social conflict. Role ambiguity refers to the extent to which a person is unsure about how to carry out a particular role (Caplan et al., 1980), in this case, the personal life role (i.e., home, family, and social life responsibilities). Social conflict refers to the extent to which significant other people express negative affect and disregard and fail to validate the individual's feelings (Abbey & Rovine, 1985; Abbey, Abramis, & Caplan, 1985). It was hypothesized that stress would relate negatively to life quality.

Control over one's life vs. control others have over one's life. The term "control" refers to individuals' beliefs about who or what determines outcomes in their lives. The extent to which individuals believe that they personally determine what happens in their lives reflects their sense of internal control. The extent to which individuals believe that other people determine what happens in their lives reflects their sense of being controlled by others (Lefcourt, 1982; Levenson, 1973; Rotter, 1975).[2]

It has been hypothesized by a number of researchers that perceptions of internal control are associated with well-being (Abbey, Dunkel-Schetter, & Brickman, 1983; Abramson, Seligman, & Teasdale, 1978; Johnson & Sarason, 1978; Wortman, 1976). Prolonged experience with a lack of internal control has been associated with impaired cognitive, affective, and behavioral functioning (Seligman, 1975). Consequently, it was hypothesized that perceptions of internal control would relate positively to life quality, while perceptions of control by others would relate negatively to life quality.

Social support. Social support refers to the extent to which individuals perceive their significant others to be expressing positive regard, affection, and encouragement and validation of their feelings (Abbey, 1983; Cobb, 1979; Kahn & Antonucci, 1980; Sarason, Levine, Basham, & Sarason, 1983; Veroff, Kulka, & Douvan, 1981). An extensive literature demonstrates the beneficial effects of social support on well-being. Individuals experiencing a variety of life crises, including bereavement, rape, job loss, and illness, have all been found to cope better when they receive social support (see House, 1981, for a review). Social support has also been related to decreased depression and anxiety and improved life quality in previous research (Abbey, Abramis, & Caplan, 1985). Consequently, it was hypothesized that social support would be positively re-

lated to life quality.

Performance. Performance refers to individuals' perceptions of how successfully they are fulfilling role demands. Performance has most frequently been examined in the work setting (French, Caplan, & Harrison, 1982; Katz & Kahn, 1978), although performance of personal life demands (the domain we have selected for study) has also been examined (Pearlin & Schooler, 1978). Performance is usually conceptualized as an outcome measure. Stress, perceptions of control, and social support have all been hypothesized to affect performance (Abbey, 1983; Conway, Abbey, & French, 1983; French, Caplan, & Harrison, 1982). We further hypothesize that individuals' perceived performance will influence their life quality. Individuals who feel that they are performing well are likely to have a strong sense of competence, which should produce an increased sense of well-being; individuals who feel that their performance is inadequate are likely to feel incompetent and to experience a diminished sense of well-being.

Depression and anxiety. Depression and anxiety are both commonly experienced emotional states that have been extensively researched (Beck, 1976; Coyne, 1976, 1981; Derogatis, Lipman, Rickels, & Uhlenhuth, 1974; Goldberger & Breznitz, 1982). Like performance, depression and anxiety are frequently viewed as outcome measures that stress, perceptions of control, and social support are thought to influence. Depression and anxiety are common reactions to stress. Both social support and perceptions of control have been found to reduce anxiety and depression as well as to moderate the relationship between stress and these affects (Barrera, 1981; Dean & Lin, 1977; LaRocco, House, & French, 1980; Schaefer, Coyne, & Lazarus, 1981). Consequently, as can be seen in Figure 3.1, we hypothesized that perceptions of stress, control, social support, and performance would influence individuals' anxiety and depression, which would in turn influence their quality of life. Anxiety and depression are negative affects that should directly impact on the negative affect component of life quality.

Life Quality Concepts

The life quality concepts explored in this paper represent an implementation and extension of previous work on perceived well-being. Two fundamental ideas determined the design of the life quality measures.

One of these ideas was that a general evaluation of life quality might consist of three components: a positive affective response, a negative affective response, and a cognitive evaluation. In this usage, "affect" refers to an emotional, "from-the-gut" reaction, and

"cognitive" refers to an intellectual, "from-the-head" evaluation. These components tie closely to what are believed to be fundamental components of all attitudes. They have potential relevance to understanding life quality evaluations because such evaluations can be regarded as one type of attitude. The distinction between affect and cognition in life quality research has been explored by Andrews and McKennell (1980). The separation of affective responses into distinct positive and negative reactions figured prominently in work by Bradburn (1969) and has been found useful by most of the life quality investigators cited above.

The second fundamental idea that influenced the design of the life quality concepts was that evaluations of life as a whole (i.e., "global" evaluations) result from combining evaluations of relevant life domains—e.g., health, work, personal life, etc. The separate treatment of global and domain-level life quality measures has been widespread over the past decade and can be seen in many of the works on life quality cited previously.

In combination, these two fundamental ideas define the conceptual grid presented in Figure 3.2. In the study from which the data analyzed here were drawn, one or more measures exist for each cell in the grid. However, only life quality measures corresponding to the cells with X's in them are reported upon here.

Method

Data Source

The data described in this paper come from a longitudinal panel study of 675 outpatient pharmacy clients selected for a study of tranquilizer use. The purpose of this study and its respondent selection procedures have been described in detail elsewhere (Caplan, Abbey, Abramis, Andrews, Conway, & French, 1984), so only the major points will be summarized here.

Thirty-nine pharmacies, selected to represent the various neighborhoods of the Detroit metropolitan area, agreed to allow access to their prescription records.[3] Clients' names were randomly selected from these lists with the following constraints: (a) 50 percent males and 50 percent females and (b) 67 percent people who had filled a prescription for Valium within the prior six weeks and 33 percent who had filled a prescription for another medication that did not have sedative effects within the prior six weeks.[4]

Potential respondents were contacted by a trained survey research interviewer. Sixty percent of the individuals contacted were successfully interviewed at least once. Eighty-six percent of the respondents were successfully interviewed at all four time

Figure 3.2

CONCEPTUAL GRID DEFINING THE DESIGN OF THE LIFE QUALITY MEASURES *(Note: Each cell in the grid represents a life quality concept. Results for the concepts checked are reported in this chapter.)*

	General	Positive affect	Negative affect	Cognitive evaluation
Global. Life as a whole	X	X	X	X
Domains Self	X			
Personal life	X			
Work life	X			
Health	X			

points of the study; the analyses reported here were restricted to those 675 individuals.

Respondents were interviewed four times at approximately 6-week intervals over a 24-week period. Interviews were conducted in person, usually in the respondent's home. The study was presented to respondents as a study of the effects of stress on health, work, and everyday life. Through the use of a structured interview, respondents were asked questions regarding all the concepts described in this paper as well as questions about their health, their work life, and their medication use. Respondents were asked the same questions at each interview so that change could be assessed.

Description of Measures

All the major concepts were measured with indices. Factor analyses were used to confirm that items conceptualized as multiple indicators of the same concept did load on the same factor. Then Cronbach α's were computed for each index and are reported below. In all cases, the magnitude of the Cronbach α was comparable at each wave of data collection. Questions were asked in terms of the

"last seven days"; for example, respondents were asked how much respect they had received in the last seven days as one measure of social support.

Quality of life was measured with four different response scales. A general evaluation of life quality in four specific life domains and of life as a whole (see Figure 3.2) was obtained using 7-point Likert-type scales with response options that ranged from "terrible" to "delighted." Most of these items had been used in previous research (Andrews & Withey, 1976). To measure the positive affect, negative affect, and cognitive components of quality of life, new items were derived. Each of these aspects of quality of life was assessed with five items: one global item and four domain-specific items (personal life, work life, health, and self). The positive affect component of life quality was assessed by asking respondents how much they "really enjoyed" each of these five aspects of their lives, and the negative affect component of life quality was assessed by asking how much they felt "emotionally upset" about each of the five. Both the positive and negative affect items used 5-point Likert-type scales that ranged from "not at all" to "a great deal." To assess the cognitive component of life quality, respondents were asked to what extent each of these five areas of their life had "been what you wanted it to be." The cognitive items used 5-point Likert-type scales that ranged from "not at all" to "all." The questionnaire also included an item about happiness (". . . would you say you're very happy, pretty happy, or not too happy these days?") that appears in some of the analyses reported later in this article. Finally, a five-item global life quality scale was constructed by combining the happiness item with items tapping the four concepts shown in the top row of Figure 3.2. The Cronbach α's for the various quality of life scales ranged from .78 to .91 at Time 1.

Stress was assessed by indices measuring role ambiguity in the personal life domain, negative life events and conditions, and social conflict. Role ambiguity was measured by five items assessing "how sure or unsure" respondents were about their ability to fulfill various demands such as making the right decisions and doing what others expected of them. These items used 5-point Likert-type scales that ranged from "very sure" to "very unsure." The Cronbach α for this measure at Time 1 was .73. "Negative life events" was measured by respondents' answers to several open-ended questions about the events that they had been encountering in their lives. A 5-point scale was developed that ranged from "zero negative life events" to "at least one very serious life event." Interrater agreement on the coding of this item was 84 percent. Social conflict was measured with four items assessing how much "some one per-

son" misunderstood or disliked the respondent. These items used 5-point Likert-type scales that ranged from "not at all" to "a great deal." The Cronbach α for this measure at Time 1 was .77.

In some of the analyses of stress, these three measures were combined into one index called "multiple stress." Respondents who had high scores on role ambiguity, negative life events, *and* social conflict were coded high on multiple stress; those with low scores on all three received low scores on multiple stress; and those with other patterns received medium scores on multiple stress. The logic of this stress measure is based on the assumption that individuals experiencing high levels of several types of stress *simultaneously* will experience the most stress.

Internal control was measured with two 2-item indices, one assessing internal control in the personal life domain and one assessing internal control over one's emotions and feelings (a component of the self domain). Control by others was also measured in the same two domains. Responses were made on 5-point Likert-type scales that ranged from "not at all" to "a great deal." Cronbach α's for the control measures at Time 1 ranged from .62 (internal control over one's personal life) to .81 (control by others over one's emotions).

Social support was measured with two three-item indices. Esteem social support items assessed how much others loved and respected the respondent. Informational social support items assessed how much others provided the focal respondent with information and encouragement. Responses were made on 5-point Likert-type scales that ranged from "not at all" to "a great deal." The Cronbach α at Time 1 for informational social support was .71; for esteem support it was .77.

Personal life performance was measured with two indices. Social performance was measured with three items assessing how well the respondent was performing social tasks such as getting along with others. Technical performance was measured with two items assessing how well the respondent was performing technical tasks such as decision making. Responses were made on 5-point Likert-type scales that ranged from "very poorly" to "exceptionally well." The Cronbach α at Time 1 for social performance was .67; for technical performance it was .68.

Depression and anxiety were measured with subscales of the Hopkins Symptom Checklist (Derogatis et al., 1974). Respondents were asked how much various symptoms had bothered them in the last seven days. Responses were on 4-point Likert-type scales that ranged from "not at all" to "extremely." The Cronbach α at Time 1 for the depression measure was .86; for anxiety it was .81.

Descriptive Characteristics of Respondents

Respondents in this study were not intended to be a representative sample of American adults. For the purposes of the original study, they were selected to represent people with health problems and to ensure that a large number of them would be Valium users.

However, a few demographic comparisons were made with 1979 U.S. Census Bureau data for descriptive purposes (Statistical Abstract of the United States, 1980). Respondents in this study were highly similar to the adult American population with respect to distributions on sex and age and also roughly similar on education. With respect to race, differences were more pronounced. Respondents in this study were more likely than American adults as a whole to be black (20.5 percent compared to 9.8 percent) and less likely to be white (78.6 percent compared to 88.4 percent). This difference is explainable by the geographic region from which the respondents were drawn; the percentage of blacks in the Detroit area is greater than for the country as a whole.

Comparisons were also made between these respondents' ratings of their life quality and those that have been made by respondents in national random sample surveys (Andrews & Withey, 1976). These comparisons were not exact because the time spans differed (the last seven days in this study vs. the extended present in the national studies), a few question phrasings were slightly different, and historical changes may have occurred. Nonusers of Valium in this study tended to rate their life quality at a level comparable to that of respondents in the national studies. (Valium users in this study tended to rate their life quality slightly lower than did respondents in the national studies—usually by about .4 on a 7-point scale.)[5]

Results

Relationships vs. Causal Effects

It is widely recognized that relationships do not imply causality, and in this research we carefully distinguish between the two. We first examine relationships (both simple bivariate ones and more complex multivariate ones) and then move on to discuss results from several causal models. Although a causal modeling analysis cannot prove that variation in one phenomenon causes simultaneous or later variation in another phenomenon, it will indicate how strong the causal effect of one phenomenon on another would be if the linkages represented in the model actually occurred in the world. Furthermore, a modeling analysis provides several checks on the

reasonableness of the causal assumptions. Models that cannot closely reproduce the observed data, or that require theoretically or empirically unreasonable parameters to do so, are surely not accurate representations of how the world actually works.

The models estimated in the later portion of this paper carry the results significantly beyond our earlier reporting of conventional relationships between the measured variables. They have at least three advantages. One advantage of the models is that they segregate the unwanted effects of random measurement error and provide estimates of both the interrelationships and causal effects among the underlying *concepts*. A second advantage is that the models permit the overall relationship among each pair of concepts to be disaggregated into portions attributable to a direct causal effect, indirect causal effects, and noncausal components due to joint dependence on common factors or preexisting covariation. Third, the causal models are useful heuristically: they force one to be explicit about how the concepts are assumed to affect one another in order to produce the relationships that are observed.

Our longitudinal dataset is particularly helpful in the causal modeling analyses. When all information refers to just a single point in time, or to the same short time span, it often is impossible to determine the direction of causality among related concepts. (To what extent does concept A affect B, and to what extent does B affect A?) Causal models estimated on one-time data make assumptions about causal directions and may produce interesting results, but there usually remains the possibility that causality runs in the opposite direction. With longitudinal data, however, the situation is clearer, since they reveal a sequence over time: an effect may appear simultaneously with its cause or some time later, but never *before*. Hence, if the variation in concept A occurs earlier than the variation in concept B, one can be sure that B did not cause A. While the use of multitime data cannot remove all ambiguity about causal direction (e.g., continuing the example above, the earlier variation in concept A might have been caused by a still earlier but unmeasured variation in concept B), multitime data do allow confidence in the causality-direction assumptions within a particular model. In the modeling analyses reported later in this paper, results from both simultaneous (i.e., one-time) and lagged (i.e., multitime) models are discussed.

Bivariate Relationships

The analysis of bivariate relationships was the broadest of the several analyses reported in this paper. In addition to the intrinsic interest of the bivariate relationships themselves, the bivariate

analyses produced information on how to reduce the total number of variables to a smaller and more efficient set for the later multivariate and causal analyses. Hence, it is important to briefly note the full scope of the bivariate explorations.

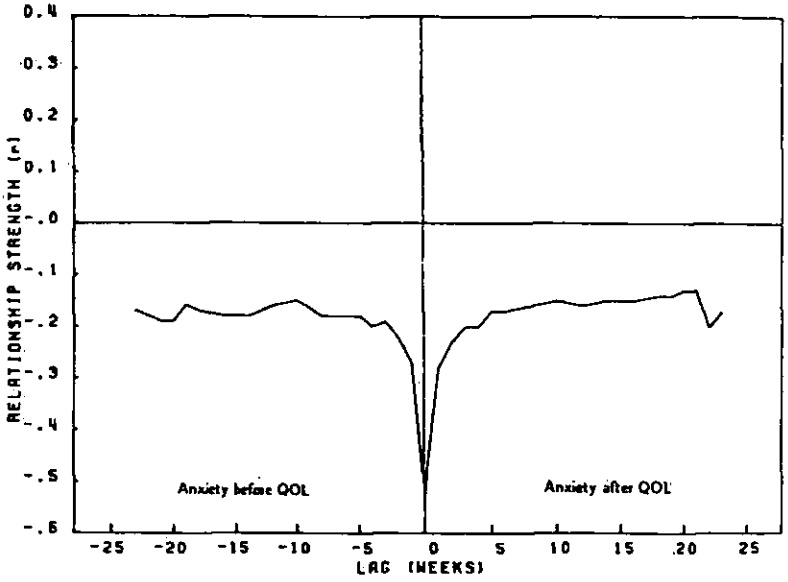
As described earlier, the study involved four waves of data collection at intervals of approximately six weeks. Nearly all concepts were assessed at each wave, and two of the concepts used in this paper—anxiety and quality of life as a whole—were assessed for each of the 24 weeks of the study. After checking to ensure that bivariate relationships among all concepts were essentially linear, Pearson r's were examined for simultaneous measurements and also for all possible lagged measurements (i.e., where one variable preceded the other by 6, 12, or 18 weeks, and vice versa).

The concepts examined in the bivariate analyses included the following: four domains of life quality (self, personal life, work life, and health); several aspects of global life quality (life as a whole in general, positive affect, negative affect, and cognitive evaluation); two psychological factors (depression and anxiety); six social psychological phenomena (social support, social conflict, internal control, control by others, stress, and performance in personal life); and a set of demographic and social classification variables (sex, race, education, marital status, family income, and socioeconomic status).[6] Six general conclusions emerged.

1. With respect to time, the results were consistent and important: for any particular pair of psychosocial or life quality variables, the simultaneous relationships were virtually always higher than the lagged relationships. Empirical information about the time-lag characteristics or life quality evaluations and their correlates is helpful for understanding how people make their assessments of life quality. These results suggest that life quality evaluations most closely reflect the *current* state of psychosocial factors. Figure 3.3, which presents results for the only pair of variables assessed in each of the 24 weeks, shows a clear sharp maximum in the relationship between ratings of quality of life as a whole and anxiety at lag-0. Measures of other concepts, which were measured only every six weeks, show a similar but less sharp pattern. Hence, these findings support the hypothesis that life quality evaluations and the psychosocial factors examined here are principally *concurrent* phenomena.[7]

2. With just a couple of exceptions, the psychosocial factors were not highly related to one another. However, there was a tendency for "positive" factors like social support, internal control, and performance to relate positively to one another and negatively to "negative" factors (social conflict, control by others, stress, anxiety,

Figure 3.3
MEAN RELATIONSHIPS OF QUALITY OF LIFE AS A WHOLE TO ANXIETY AT INDICATED TIME LAGS



and depression). Most of these relationships were not so high as to suggest substantial overlap in the conceptual meaning of the various psychosocial factors. The major exception was a .75 relationship between anxiety and depression—a result that replicates the substantial relationships reported in the psychiatric literature (Derogatis et al., 1974).

Table 3.1 shows bivariate correlations at Time 4 for selected variables and includes one measure for each major concept we shall discuss.[8]

3. Measures of the specific life domains of health, work life, and personal life tended to show similar patterns, but weaker magnitudes of covariation, with the psychosocial factors than did the measures of *global* well-being or the domain of self. (This helps to locate the general conceptual area where phenomena of interest to psychologists will intersect with, and have relevance to, life quality phenomena.) As a consequence, we decided not to perform further detailed analysis on the domains of personal life, work life, and health. We did, however, retain the self domain because it tended to show the highest relationships of the four domains. Furthermore, the self might be thought of as a fairly global concept (i.e., one's sense of self is a broad concept).

Table 3.1

CORRELATIONS AMONG SELECTED PSYCHOSOCIAL AND LIFE QUALITY MEASURES AT TIME 4

	1	2	3	4	5	6	7	8	9	10	11	12
1. Social support (esteem)												
2. Social conflict	−.14											
3. Internal control over personal life	.26	−.07										
4. Control by others over personal life	−.01	.24	−.11									
5. Multiple stress	−.22	.75[a]	−.18	.25								
6. Performance in personal life (technical)	.35	−.20	.33	−.12	−.33							
7. Depression	−.20	.42	−.20	.22	.54	−.43						
8. Anxiety	−.09	.36	−.13	.28	.45	−.31	.75					
9. Quality of life as a whole	.30	−.35	.29	−.25	−.52	.51	−.69	−.54				
10. Positive affect quality of life	.33	−.30	.32	−.16	−.47	.53	−.63	−.49	.83[b]			
11. Negative affect quality of life	−.20	.44	−.21	.28	.57	−.41	.73	.67	−.77[b]	−.69		
12. Cognitive evaluation of quality of life	.17	−.22	.16	−.07	−.34	.31	−.45	−.36	.82[b]	.82	−.69	
13. Evaluation of self	.35	−.36	.35	−.27	−.52	.60	−.68	−.54	.82	.80	−.73	.80

[a]This relationship is high partly because the stress index contains social conflict as one of its three components.

[b]This relationship is high partly because quality of life as a whole contains the other measure in this relationship as one of its five components. In an analysis not presented here, a two-item global quality-of-life index that did not include items assessing these affective and cognitive components was correlated with the other variables on this table. The pattern of results was comparable in all cases, although the magnitude of the relationships was diminished.

4. When the demographic and social classification variables were related to life quality and psychosocial factors, all relationships were weak (none was stronger than .20, and most were weaker than .10). In the light of previous research on perceived well-being, this came as no surprise. As noted earlier, nearly all studies have found only weak relationships between global measures of well-being and demographic and classification variables. Thus, in this respect these findings nicely replicate prior life quality results. Because of these consistently weak relationships, we concluded it was not important to include demographic or social classification variables in the multivariate and causal modeling analyses reported later in this paper.

5. The measures of positive and negative affect life quality showed a substantial negative relationship to one another (−.69 at Time 4) and some interesting differences in their patterns of relationship to other variables.[9] These different patterns of relationship to other concepts suggest that positive and negative affects are somewhat distinct—i.e., that they are not merely opposite ends of a single "affective" dimension. Positive affect tended to correlate more strongly than did negative affect with positive concepts (social support, internal control, and performance); and negative affect tended to correlate more strongly with negative concepts (social conflict, control by others, stress, anxiety, and depression). Details can be seen in Table 3.1.

6. The measure intended to tap cognitive evaluations of life quality showed relationships to the psychosocial factors that were consistently weaker than those shown by either positive affect or negative affect. Furthermore, the *pattern* of the cognitive evaluation relationships to the psychosocial factors tended to fall between the patterns shown by the positive and negative affect measures (see Table 3.1). On the basis of these results, we conclude that the way cognitive evaluation was assessed in this study failed to produce a measure that was fundamentally different (or better) than the affect measures. Whether this reflects a flaw in theorizing about the components of life quality or an inappropriate operationalization of the cognition concept cannot be determined here and awaits further investigation.

Stepwise Regressions

Stepwise regression was used to examine the combined effects of the psychological and affective indicators of life quality. We were interested in finding commonalities and differences in the predictors of various components of life quality. Stepwise multiple regression, a statistical procedure that sequentially adds independent variables

to a prediction equation according to their ability to account for the remaining unexplained variance in a dependent variable, is a useful approach for exploratory analysis. It provides an effective way to maximize predictive power (within the additive linear constraints of multiple regression) using the smallest possible number of predictor variables from a given set. It must be recognized, however, that the selection of independent variables solely on their predictive ability is not a theory-based approach and that the resulting prediction equation is not necessarily an accurate representation of the true causes of variation in the dependent variable. Nevertheless, the level of predictive power achieved, and the particular predictors used to achieve it, often have an intrinsic interest and can help researchers identify the concepts that need to be included in causal models.

Regressions were run for five different quality of life indicators: quality of life as a whole, positive affect quality of life, negative affect quality of life, cognitive quality of life, and quality of life regarding the self. These life quality indicators were selected for two reasons. First, they tended to correlate highest with the predictor variables (as seen in Table 3.1). Second, they all represent fairly global aspects of life quality.[10]

Ten predictor variables were used in most analyses: social support (esteem), internal control over one's personal life, internal control over one's emotions, control by others over one's personal life, control by others over one's emotions, multiple stress, technical performance in the personal life domain, social performance in the personal life domain, anxiety, and depression.

Eight series of stepwise regressions were run using the abovementioned variables.[11] Both cross-sectional and lagged analyses were conducted. The following discussion describes only those predictors that produced a statistically significant t-ratio *and* explained at least an additional 1 percent of the total variance (after adjusting for expected shrinkage in a replication).

When depression was included as a predictor variable, it was always the first predictor to enter the equation for each of the quality of life measures. Technical performance also consistently predicted all five quality of life measures.[12] Stress was a frequent but somewhat less consistent predictor. When depression and anxiety were not included as predictor variables, technical performance and stress were significant predictors of each quality of life measure. The Time 4 cross-sectional results are presented in Table 3.2. As can be seen from the table, the significant predictors explained 50–63 percent of the variance in the quality of life measures. The most variance was explained in the quality of life—self and the negative

affect measures; the least variance was explained in the positive affect and cognitive life quality measures. When depression was not included as a predictor, 38–54 percent of the variance in the life quality measures was explained. In all cases, most of the explained variance was accounted for by the first two predictors.

As can be seen in Table 3.2, there was a great deal of overlap in what constituted the best predictors for different life quality measures. There were, however, some differences in the predictors of positive and negative affect. Internal control, social support, and social performance were significant predictors for positive affect but not for negative affect.[13, 14] Stress, anxiety, and control by others were significant predictors for negative affect but not for positive affect. This parallels the trend observed in the bivariate analyses for positive psychological variables to relate more strongly to positive aspects of quality of life and for negative psychological variables to relate more strongly to negative aspects of life quality.

These cross-sectional Time 4 analyses were repeated with Time 1 data. The same basic pattern of results was found, thereby greatly increasing our confidence in them.

These findings were also replicated in two sets of lagged analyses in which the predictors were measured at Time 3 while life quality was measured at Time 4. In the first set of these analyses, the Time 3 measure of the life quality variable was *not* included as a predictor of itself at Time 4; in the second analysis it was.

When the prior level of the outcome measure was not included as a predictor, the lagged results were comparable to the cross-sectional results. Depression and technical performance were significant predictors of each quality of life measure. Anxiety was a significant predictor of every quality of life measure except quality of life as a whole. The amount of variance explained was smaller than that in the cross-sectional analyses; however, it was still sizable (32–46 percent).

When the prior level of the outcome variable was included as a predictor, it was always the first predictor entered into the equation. Furthermore, it explained virtually all of the variance that was explainable (41–59 percent). The most variance explained by a second predictor was 2 percent; technical performance explained an additional 2 percent of the variance in positive affect life quality, while depression explained a comparable amount of variance in negative affect life quality.

Structural Modeling

Based on our prior theorizing and the results of the bivariate analyses and stepwise regressions, a basic causal model was

Table 3.2
STEPWISE REGRESSION: CROSS-SECTIONAL ANALYSES OF PSYCHOLOGICAL AND AFFECTIVE PREDICTORS OF QUALITY OF LIFE

Outcome Measures and Predictors Entered	Step	R^{2a}	Standardized Beta[b]
Quality of Life as a Whole			
Depression	1	47.7	−.49
Technical performance	2	53.4	.24
Stress	3	55.5	−.17
Quality of Life—Positive Affect			
Depression	1	39.2	−.46
Technical performance	2	47.0	.20
Social performance	3	48.8	.16
Internal control PL[c]	4	50.2	.13
Quality of Life—Negative Affect			
Depression	1	53.0	.40
Stress	2	57.4	.21
Anxiety	3	60.4	.23
Control by others EM[d]	4	61.7	.13
Quality of Life Cognitive			
Depression	1	39.8	−.43
Technical performance	2	46.1	.22
Internal control PL	3	48.4	.16
Stress	4	49.8	−.15
Quality of Life—Self			
Depression	1	46.0	−.44
Technical performance	2	57.7	.28
Control by others EM	3	60.0	−.16
Internal control PL	4	61.5	.13
Social performance	5	62.6	.12

[a]The R^2's shown here include an adjustment for degrees of freedom and hence provide an estimate of how well this prediction equation would work in a replication sample.

[b]*Beta*'s are from the prediction equation at the final step shown.

[c]Personal life.

[d]Emotions.

generated for quality of life as a whole. Internal control, control by others, stress, performance, social support, and depression were all hypothesized to affect global life quality. It was hypothesized that increased internal control, performance, and social support would lead to improved perceptions of life quality. Control by others, stress, and depression were hypothesized to have negative effects on life quality. In addition, internal control, performance, and social support were expected to reduce depression, while control by others and stress were expected to increase it. As is customary, all possible linkages were allowed among the exogenous variables so the model would perfectly represent their observed interrelationships.

LISREL IV (Jöreskog & Sörbom, 1978) was used to analyze the data.[15] This analysis technique allows estimation of both a measurement model and a causal model. The inclusion of multiple indicators of latent (i.e., unobserved) constructs permits estimation of the relationships among the latent variables without the confounding effects of measurement error.

Each latent concept in the model was measured with two to ten observed indicators. All of the latent variables except stress were modeled in the conventional, factor-analytic fashion. Consequently, the linkages between the latent variables and their measured indicators can be interpreted as factor loadings. Stress, however, was modeled as an induced or "block" variable (Marsden, 1982). Role ambiguity, negative life events, and social conflict were not conceptualized as alternative indicators of the identical, underlying construct. Individuals experiencing role ambiguity are not necessarily experiencing negative life events, but individuals experiencing any one (or more) of these concepts is experiencing stress. In support of this argument, the Pearson product-moment correlations between these three indicators were modest (r's ranged from .14 to .39 at Time 4). The links between these concepts and the stress factor can be interpreted as regression coefficients.

Basic models. A number of different models were examined both for their theoretical meaning and their relative fit. Differences in χ^2 to degrees-of-freedom ratios were examined to compare alternative models (Jöreskog & Sörbom, 1978). Only the best models are described here.[16]

Table 3.3 and Figure 3.4 provide information about two models: (a) a lagged model in which internal control, control by others, stress, performance, and social support were measured at Time 2, depression was measured at Time 3, and quality of life as a whole was measured at Time 4; and (b) a cross-sectional model in which all concepts were measured at the same point in time. As can be seen from Figure 3.4 and Table 3.3, the lagged and cross-sectional

models were quite comparable, although some parameter values reached significance in one model but not the other. The fit of both models is good (χ^2/df ratio = 2.48 and 2.90; average absolute residual = .026 and .028; and Hoelter's CN [Hoelter, 1983] = 319.6 and 273.4, respectively).

All λ's were of a reasonable magnitude (ranged from .60 to .92). This indicates that the observed measures tapped the relevant underlying causal concepts adequately.[17]

As can be seen in Table 3.3, the magnitude of the links (ϕ's) between the exogenous variables ranged from −.7 to .54. As hypothesized, perceptions of internal control and control by others were unrelated. The three stress indicators (role ambiguity, negative life events, and social conflict) were moderately positively related. Role ambiguity was strongly negatively related to performance.[18] And control by others was strongly positively related to social conflict.

There was only one significant predictor of depression. Stress related strongly and positively to depression (β = .61 and .67, respectively). (Control by others related significantly to depression in the cross-sectional model but not the lagged model.)

As can be seen from Figure 3.4, psychological factors had substantial direct effects on life quality. Increased depression led to decreased life quality (β = −.41 and −.49, respectively). Increased stress also led to decreased life quality. The direct effects of stress were −.26 and −.17, and the total effects (which include the direct plus the indirect effects, mainly attributable to stress's impact on depression) were −.51 and −.5. Internal control, performance, and social support each had small, positive direct effects on life quality. Increased perceptions of internal control, performance, and social support each led to increased life quality (λ's ranged from .07 to .26); these three factors had no significant indirect effects on life quality. Control by others did not significantly affect life quality either directly or indirectly.

After allowing for the attenuating effects of random measurement error, these psychological factors, taken together, accounted for 75 percent of the variance in evaluations of life as a whole when it was measured simultaneously with the psychological factors. Fifty-four percent of the variance in life as a whole was accounted for when it was measured six weeks after the psychological factors.

Subgroup models. As described in the introduction, it is frequently hypothesized that internal control and social support have moderating effects. Individuals with high levels of internal control are hypothesized to handle stress better than individuals with low levels of internal control. Similarly, individuals with high levels of

Table 3.3
LINKS BETWEEN EXOGENOUS VARIABLES (STANDARDIZED)

	1	2	3	4	5	6
1. Internal control						
2. Control by others	−.03[a] −.03[b]					
3. Role ambiguity	−.26 −.25	.39 .38				
4. Negative life events	−.05 −.05	.23 .23	.33 .33			
5. Social conflict	−.01 −.01	.50 .49	.42 .42	.25 .25		
6. Performance	.34 .34	−.28 −.29	−.69 −.70	−.26 −.26	−.38 −.38	
7. Social support	.38 .37	−.06 −.06	−.38 −.38	−.01 −.01	−.27 −.27	.53 .54

[a]Lagged model.
[b]Cross-sectional model.

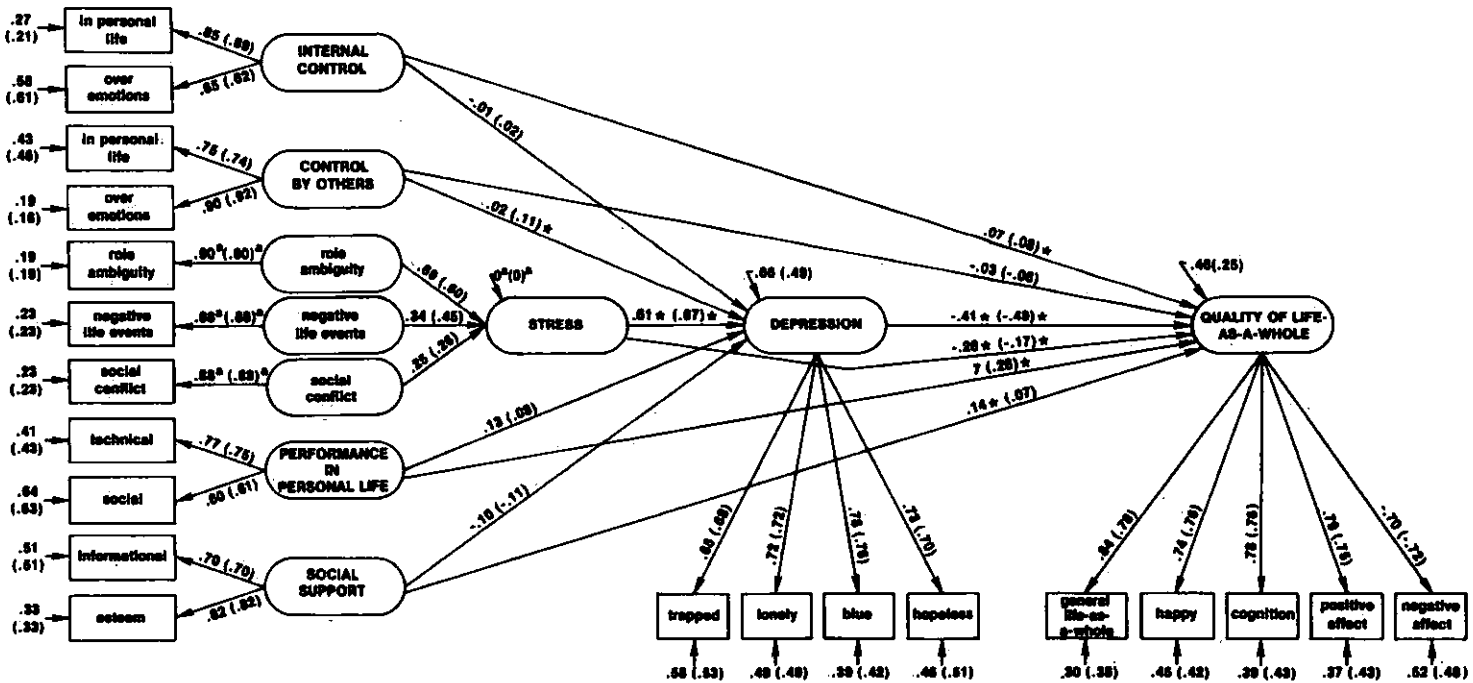
social support are hypothesized to cope better than individuals with low levels of social support.

Structural models only examine main effects, not interactions. The same model can, however, be run separately for subgroups to determine if it fits each subgroup equally well. Consequently, six additional lagged models were run. In one series of three, internal control was omitted from the model and the model was estimated separately for three groups: respondents with high levels of internal control (N = 265), respondents with low levels of internal control (N = 295), and all respondents (N = 660). In a second series of three, social support was omitted from the model and the model was estimated separately for three groups: respondents with high levels of social support (N = 246), respondents with low levels of social support (N = 261), and all respondents (N = 660).[19]

Most of the parameter values for the subgroup models were comparable to those found in the models displayed in Figure 3.4. The fit was less good (given the smaller sample size) in the subgroup models but was still reasonably high (χ^2/df ratio = 1.56 for the high internal control subgroup, 2.22 for the low internal control

Figure 3.4

LAGGED AND CROSS-SECTIONAL CAUSAL MODELS RELATING PSYCHOLOGICAL CONCEPTS AND GLOBAL QUALITY OF LIFE AS A WHOLE[1]



[1]Standardized parameters for the lagged model appear first; those for the cross-sectional model appear in parentheses. Significant β's and γ's (except those linking the stress indicators to stress) are indicated by *.

[a]Fixed.

subgroup, 1.68 for the high social support subgroup, and 1.99 for the low social support subgroup). Models for the various subgroups were comparable, with two noteworthy exceptions. For respondents with low levels of internal control, social support related positively and significantly to life quality ($\lambda = .23$), whereas for respondents with high levels of internal control there was virtually no relationship between social support and quality of life ($\lambda = .08$).[20]

In a complementary fashion, for respondents with low levels of social support, perceptions of internal control related positively and significantly to life quality ($\lambda = .15$), but for respondents with high levels of social support there was virtually no relationship between internal control and quality of life ($\lambda = .03$).

These findings support the hypotheses presented earlier. For individuals lacking social support, internal control increases life quality. Similarly, for individuals lacking internal control, social support increases life quality. Experiencing high levels of both social support and internal control seems to be no more beneficial than experiencing high levels of either one alone. But for individuals experiencing a low level of either social support or internal control, experiencing high levels of the other is beneficial.

Discussion

The results of this study provide strong support for the hypothesis that psychological concepts relate to perceptions of life quality. The causal modeling results indicate that stress and depression relate strongly and negatively to perceptions of life quality. Internal control, performance, and social support relate moderately and positively to perceptions of life quality. Individuals who feel under stress or depressed report feeling worse about their lives than unstressed or happy individuals do. In contrast, individuals who feel in control of what occurs in their lives, who receive social support from others, or who perform well report feeling better about their lives than do other individuals. Examination of bivariate analyses indicates that these relationships are strongest when all concepts are measured at the same point in time. However, lagged effects are also strong. (Fifty-four percent of the variance in quality of life as a whole could be explained by psychological characteristics present six weeks earlier.) Quality of life researchers might want to consider including these psychological measures in their instruments to help them obtain a better understanding of how their respondents' life quality assessments are made.

The modest relationship found in this study between subjective

life quality and various demographic and social classification variables, such as education and race, replicate the results of a number of previous studies (e.g., Andrews & Withey, 1976). Similarly, the strong negative relationships found in this study for depression and anxiety with life quality replicate previous research by Dupuy (1977) and Kammann et al. (1979). This study extends the results of this previous research by including a larger number of psychological concepts.

There was a small but consistent effect, demonstrated in both the bivariate and stepwise regression analyses, for positive concepts to relate most strongly to positive affect, while negative concepts related most strongly to negative affect. The relationships between positive affect and internal control, social support, and performance were stronger than the relationships between negative affect and these concepts. Similarly, the relationships between negative affect and stress, control by others, anxiety, and depression were stronger than the relationships between positive affect and these concepts. This differential pattern of relationships supports the separation of positive and negative affect into two separate (but not necessarily completely independent) concepts. These findings suggest that when people try to determine how much enjoyment they are getting out of life, they focus on positive determinants of well-being, including internal control or social support. In contrast, when people try to determine how emotionally upset they are, they focus on negative determinants of well-being such as control by others or stress. Previous research indicates that mood affects memory: people in happy moods recall more positive occurrences, while people in depressed moods recall more negative occurrences (Bower, 1981). The effect found in this study may be related to this memory phenomenon.

Costa and McCrae (1980) present evidence that indicates that individual differences in extraversion and neuroticism relate to life quality ten years later. They found that extraversion related positively to positive affect (and was uncorrelated with negative affect), while neuroticism related positively to negative affect (and was uncorrelated with positive affect). They argue that stable personality differences may affect individuals' perceptions of their life quality throughout their lives. The differential relationship found in this study between positive and negative affect and psychological phenomena may reflect these personality differences.

Alternatively, this tendency for positive affect to relate most strongly to positive psychological concepts and negative affect to relate most strongly to negative psychological concepts may represent some kind of response bias. However, all positive and negative

items were not measured on the same response scales; nor did they occur together on the questionnaire. So, if this effect is due to a response bias, it must be a fairly complex and general phenomenon.

The conceptual distinction between cognitive and affective components of quality of life was not supported in these analyses. The cognitive measure of life quality did not produce stronger relationships or a different pattern of relationships than did positive affect or the general measure of quality of life as a whole. While the index measuring cognitive life quality in this study had reasonable face validity and internal reliability, it is possible that it did not adequately capture the uniquely cognitive aspects of life quality assessments. Further research with alternative indicators is needed to see if they would produce different results.

Quality of life regarding the self consistently related strongly to the various psychological concepts. None of the other life domains examined (health, personal life, or work) related as highly to the psychological variables. In the stepwise regression analyses, the predictors consistently explained the most variance in life quality regarding the self. Numerous theorists have described the importance of self-esteem (Wells & Marwell, 1976; Wylie, 1974–79), a concept akin to quality of life regarding the self. Consequently, it is not surprising that psychological concepts such as depression, internal control, social support, and performance related strongly to how individuals felt about themselves.

Researchers interested in how aspirations and the gap between aspirations and what one has affect life quality assessments may want to consider the relevance of the psychological concepts in this study. For example, person–environment-fit theory has conceptualized both stress and control in a "gap" framework (Conway, Abbey, & French, 1983; French, Rodgers, & Cobb, 1974). A potential stressor, such as workload, is viewed as stressful only if the person has either more (overload) or less (underload) work than he or she desires; any discrepancy is stressful and should also reduce perceptions of life quality. This theoretical framework might profitably be applied to life quality theory.

The moderating effects found in the causal models suggest that internal control and social support work in tandem; for individuals experiencing low levels of either social support or internal control, experiencing a high level of the other relates to increased life quality. Social support somehow compensates for the detrimental effects of a lack of internal control, and internal control compensates for the detrimental effects of a lack of social support. Internal control may provide people with the confidence they need to seek out social support, while receiving social support may enhance in-

dividuals' sense of internal control. While these alternative hypotheses cannot be adequately tested with these data, further examination of the relationship between social support and internal control seems warranted.

While the respondents in this study did not represent a random sample of any population, they did closely resemble the United States adult population on demographic characteristics and levels of life quality. Caution should be used in generalizing these results to other populations. There are, however, important general implications of this study's findings. Previous attempts to explain perceptions of life quality using demographic or economic indicators have shown very limited success. However, the results of this study, which indicate that several psychosocial concepts are strong predictors of life quality, suggest directions for life quality researchers to explore and provide guidance for practitioners who seek to help people improve their sense of well-being.

Notes

[1]Data collection and some analyses were supported by a contract from Hoffmann-La Roche to the Institute for Social Research (R. D. Caplan, Principal Investigator; F. M. Andrews and J. R. P. French, Jr., Co-principal Investigators). D. J. Abramis, R. D. Caplan, T. L. Conway, and J. R. P. French, Jr., collaborated with us on the original study and on a number of the ideas presented in this manuscript. Willard Rodgers, Stephen Withey, and Robert Caplan made helpful suggestions on an earlier version of this manuscript. A slightly modified version of this paper was published in *Social Indicators Research*, 1985, *16*, 1–34. Publication here is with the permission of the D. Reidel Publishing Company.

[2]A third component of control, control by chance factors (i.e., luck and random circumstances), has been described by many theorists (cf. Levenson, 1973). This aspect of control was measured in this study. Based on the results of unpromising preliminary analyses, however, this component of control has been left out of the models and analyses described in this paper.

[3]According to Michigan law, the State Board of Pharmacy can approve direct access to pharmacy records for research purposes. This study was conducted with the board's approval.

[4]For reasons of confidentiality, a small number of names drawn from mailing lists was added to the pharmacy lists. Therefore, interviewers did not know if a potential respondent was a pharmacy client or not prior to conducting the interview.

[5]A number of preliminary analyses were conducted to compare the responses of users and nonusers of Valium. Valium users and nonusers were comparable with respect to age, education, gender, and income. Valium users reported significantly more stress, anxiety, and depression and a significantly lower quality of life than did nonusers. These differences were most pronounced at Time 1, although they persisted at all four waves of data collection.

Data from Valium users and nonusers were analyzed separately in a large number of bivariate and multivariate analyses, including structural modeling. In all cases, results were comparable for both groups. It appears that while Valium users and nonusers may have been at different levels on some of these concepts, the relationships between concepts was similar for the two groups.

Consequently, in the analyses presented in this paper, no distinction is made between Valium users and nonusers.

[6]Several additional concepts were also included but proved to be so weakly related to other concepts we decided to give them minimal attention. These included: past and expected future changes in quality of life as a whole, anger, cardiovascular symptoms, coping and defense, and control over one's life by chance factors.

[7]Furthermore, the magnitude of the relationships between any particular pair of these variables tended to be about the same at all instances of the same lag. (For example, about the same relationship was observed in each of the four simultaneous—zero lag—instances.) This implies that the system was stable—not that the people being studied were unchanging—but that the causal dynamics showed no major changes over the half-year period of the study. Hence, the data were "well behaved" and appropriate for the analyses reported later. This stability also means that the presentation of any one set of lag-zero relationships will convey nearly all of the important information about the patterns; Time 4 results are presented in the text.

[8]The complete matrix of relationships among all variables examined, for all four time points, is available on request.

[9]Warr, Barter, and Brownbridge (1983) insightfully discuss reasons why some studies using measures of positive and negative affect that were different from those used here have found a surprising near-zero relationship between these concepts. The results we obtained are in agreement with findings by Kammann and his colleagues (1984) and by Warr et al. (1983).

[10]As noted earlier, quality of life regarding the self can be conceptualized as self-esteem, a global variable.

[11]Two of these analyses are not described in the main body of the text. In one, the components of multiple stress were included as predictors, rather than multiple stress itself. The results indicated that role ambiguity often accounted for a significant additional amount of variance in life quality, negative life events occasionally did, and social conflict never did.

In the second analysis, the two-item quality of life as a whole index was used. This measure does not include items tapping global positive affect, negative affect, or cognition. The five-item index used in the analyses reported in the main body of this section does include these components of global life quality. Results were comparable for both the two-item and the five-item index.

[12]Technical performance significantly entered the cross-sectional negative affect equation, but it predicted slightly less than 1 percent of the accounted for variance; so it was not included in Table 3.2.

[13]Usually when internal control significantly entered an equation, it was in the personal life domain. When control by others significantly entered an equation, it was usually in the emotional domain. From other analyses, however, it is clear that the two domains in which control was measured overlap extensively. Consequently, which domain enters an equation may be somewhat arbitrary.

[14]Social support significantly entered the cross-sectional positive affect equation, but it predicted slightly less than 1 percent of the accounted for variance; so it was not included in Table 3.2.

[15]LISREL assumes linear relationships and multivariate normal distributions. The data did not seriously violate these assumptions.

[16]A brief description of a few of the rejected models is warranted. Leaving depression totally out of the model sharply increased the magnitude of the link between stress and life quality, but the values of the other parameters remained comparable. Several models were run that included only one predictor of per-

formance, either technical or social. Models that included only technical performance fit the data slightly better than the models presented in the text. Because the differences were small, we prefer models that include both because of the broader conceptual base.

[17]The *lambda*'s for role ambiguity, negative life events, and social conflict could not be determined because there was only one indicator of each. Consequently, following standard practice, *lambda* was set to the square root of the Cronbach *alpha* reliability coefficient for each scale. The *gamma*'s that link role ambiguity, negative life events, and social conflict to stress indicate that concept's contribution to the global stress concept.

[18]Several researchers have hypothesized that role ambiguity negatively affects performance (e.g., Caplan et al., 1980; French, Caplan, & Harrison, 1982). We were not interested in testing this hypothesis in these analyses; however, it may explain the strong link between these concepts.

[19]High and low subgroups were formed such that respondents with values at the median were excluded.

[20]The *gamma* coefficients here and in the following paragraph are standardized (i.e., assume variances of 1.0 for all variables in all groups). The same pattern of results is obtained for the unstandardized coefficients.

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4

Dimensions of Subjective Mental Health in American Men and Women

Fred B. Bryant and Joseph Veroff[1]

Confirmatory factor analyses were used to map dimensions of subjective mental health underlying 25 indexes of well-being and distress assessed in a 1976 national representative survey of adults. Partially confirming the hypotheses, six dominant factors (Unhappiness, Lack of Gratification, Strain, Feelings of Vulnerability, Lack of Self-Confidence, and Uncertainty) emerged for both men and women. Comparative analyses revealed that the 6-factor model derived for men fit the data of both sexes equally well. This model thus provides a means of assessing men's and women's self-evaluations comparably. Multiple regression analyses demonstrated the divergent validity of the dimensions in the model by differentially relating certain demographic and behavioral measures to the various factors. Four critical theoretical issues were discussed as underlying measures of subjective mental health: affective orientation (positive vs. negative), object of focus (world vs. self), time referent (past vs. present vs. future), and mode of reaction (spontaneous vs. reflective).

Clinicians' and researchers' judgments about people depend heavily on what people report about their own experience. These self-evaluations may be about well-being either in general or in specific aspects of life; they may be about the frequency of various symptoms of physical or psychological distress; or they may be about the capacity to cope with problems. Veroff, Douvan, & Kulka (1981) have used the term "subjective mental health" to cover the spectrum of such self-appraisals.

The present research focuses on the dimensions that a representative sample of Americans uses in evaluating subjective mental health. It explores such questions as: What dimensions do they use? Do these dimensions reflect some general model of self-evaluations? Do men and women structure their self-evaluations in the same way?

Dimensions of Subjective Mental Health

Among the array of studies exploring dimensions of psychological well-being and distress, there is a dismaying lack of theoretical integration. This is perhaps most apparent in the majority of work

focusing on social indicators. Measures of well-being and distress have a face validity that interests social practitioners eager to plot the quality of life in subjective terms. In addition, among social epidemiologists who have sought interview techniques for diagnosing psychiatric disturbance or people at risk, there is a lack of theoretical focus on the processes of self-appraisal. Psychiatric classification schemes or psychiatrists' judgments are accepted as givens, and self-evaluations that are useful in differentiating these psychiatric categorizations are sought (see Leighton, Harding, Macklin, MacMillan, & Leighton, 1963; Srole, Langer, Michael, Opler, & Rennie, 1962). Although sophisticated work has gone into obtaining self-reports of various dimensions of psychopathology beyond the assessment of nonspecific psychological distress (see Dohrenwend, Shrout, Egri, & Mendelsohn, 1980; Dohrenwend, Yager, Egri, & Mendelsohn, 1978), a basic understanding of the meaning of different types of self-evaluations has been less important to this work.

There have been several attempts to impose order on the nature of self-reported well-being, although most of them focus only on a limited aspect of these self-evaluations. Reviewing the literature on life quality, for example, Campbell (1980) concluded that there are three basic types of well-being. Two, affects and strains, focus on feelings flowing spontaneously from everyday experience; the third is satisfactions, which focus on relativistic cognitive judgments about the quality of experience. Analyzing interrelationships among a variety of different survey measures of life quality, Andrews and Withey (1976) found two separate factors that reflected positive and negative affect, respectively, as well as a third factor involving overall life satisfaction. This separation between evaluations of positive experience and negative experience is consistent with Bradburn's (1969) work distinguishing positive affective life from negative affective life. Similar distinctions between positive and negative feelings have been made by other well-being researchers (e.g., Cherlin & Reader, 1975; Warr, 1978; Warr, Barter, & Brownbridge, 1983), as well as by investigators of job satisfaction (e.g., Hertzberg, 1966).

More recently, Andrews and McKennell (1980) and McKennell and Andrews (1980) have systematically examined hypothetical models involving two basic types of influences—affective and cognitive—on evaluations of life quality. Using factor-path analyses, they not only distinguished between positive and negative affects, but also found that the model that best explains the set of observed correlations requires both affect and cognition variables. In addition, Andrews and McKennell discovered that domain-specific

assessments of affect and cognition have no direct effects on life-as-a-whole measures.

Other empirical evidence suggests that, besides dimensions of positive evaluations, negative evaluations, and cognitive appraisals of life satisfaction, there is another distinctly separate dimension of subjective mental health: personal competence in handling one's life (Burt, Wiley, Minor, & Murray, 1978; Cherlin & Reader, 1975; Wan & Liveratos, 1978; Warr, 1978).

Comparing the structure of self-evaluations in national survey data from 1957 and 1976, Bryant and Veroff (1982) substantiated many of these points. They found that the same three basic dimensions underlie men's and women's self-evaluations in both years—happiness (an evaluation of positive experience), strain (an evaluation of negative experience), and personal inadequacy (an evaluation of personal competence in handling negative experience). The researchers also proposed the existence of another type of personal efficacy factor reflecting perceived competence in managing positive experience (cf. deCharms, 1968; Reich & Zautra, 1981), a dimension presumably untapped by the particular set of items included in their analyses. One purpose of the present study was to search for evidence of this separate dimension—personal competence related to positive experience—using a wider range of self-evaluations than previously available.

Conclusions from national survey research on the structure of subjective mental health are limited by the scope of its dependent measures. Such studies have typically included only items tapping the dimension of satisfaction or happiness (e.g., Andrews & Withey, 1976; Campbell, Converse, & Rodgers, 1976; Herzog & Rodgers, 1981a). Bryant and Veroff's (1982) analyses were restricted to eighteen items measured identically in the 1957 and 1976 surveys. Also, since their analyses included many indexes of role adjustment in marriage and parenting, only married parents were studied. The present study used a much broader range of measures available in the 1976 survey and included all respondents, regardless of their marital or parental status.

Based on the aforementioned research, we predicted that at least four dominant dimensions would underlie people's evaluations of their own subjective mental health: (1) an evaluation of positive affective experience, (2) an evaluation of negative affective experience, (3) feelings of personal competence in handling negative experience, and (4) feelings of personal competence in deriving positive experience. We sought evidence for these four dimensions in men's and women's responses to the battery of well-being measures contained in the 1976 national survey.

Besides focusing on structural dimensions underlying people's self-evaluations, we also explored whether these basic dimensions were the same for both men and women. Recent research (Bryant & Veroff, 1982) suggests that men and women are becoming more alike in the way they structure their self-evaluations. The discovery of a structural model of subjective mental health that fits the data of men and women equally well would enable psychological investigators to define and measure self-evaluations in a comparable fashion for both sexes.

Our general analytic strategy will involve three steps. First, we will derive factor models separately for each sex and interpret these dimensions in relation to the predicted 4-factor structure. Second, we will test hypotheses about equality in factor structures between sexes by evaluating whether the model derived for one sex provides an equally good fit for the data of both sexes. Third, if a reasonable fit emerges, we will derive subjective mental health scores for each factor in the model and examine the divergent validity of these different measures.

Method

Subjects

Subjects were 960 men and 1304 women selected by area probability sampling methods as a representative cross-section of adults (age 21 and older) living in households in the contiguous United States. Subsequent analyses have found an almost perfect match between the demographic characteristics of this 1976 sample and those of U.S. Census Tract data for the same period (Veroff, Douvan, & Kulka, 1981). The actual number of subjects included for specific correlations varied slightly because of incomplete data for some respondents. Because this sample is representative of the American population, the dimensions of subjective mental health that emerge are generalizable to and potentially useful for many different kinds of subgroups.

Procedure

The interviewing followed standard Survey Research Center procedures. After a household was selected, it was sent a general letter informing its members about the upcoming interview. The interviewer then contacted the household and made an appointment, if necessary, with the specified respondent. Seventy-one percent of the designated respondents were interviewed. This lower-than-desirable response rate, typical of large-scale household surveys in the 1970s and 1980s, does not affect gross demographic distribu-

tions. We know, however, that the response rate is lower among certain metropolitan areas and among residents of high crime rate areas, who could easily be considered untrusting of others (see House & Wolf, 1978). This means that our sample underrepresents these groups. Goudy (1976) suggests that relationships between variables are less affected by such nonresponse bias than are the distribution of individual variables. The structural analyses in the present paper, therefore, should be less open to such bias than the usual analysis of survey data.

The 1976 study included a larger and more diverse array of life-quality measures than has any other national survey. In deciding which of these measures to consider in our analyses, we initially excluded items relevant to specific roles (i.e., work, marriage, and parenthood) and therefore applicable solely to people in these roles, and included only measures that were asked of everyone.[2] (For an analysis of reactions to specific roles in relation to the structure of subjective mental health, see Bryant & Veroff, 1982). In addition, we excluded items whose subjective mental health implications seemed ambiguous. For example, the survey asked people how many friends they talked to when worried. One cannot be sure whether talking to more or to fewer friends reflected positive or negative feelings of well-being.

We began with 42 self-evaluation measures, ranging from judgments of happiness, worries, satisfaction, and self-esteem, to assessments of coping, perceived control, and alcohol and drug abuse. We reduced the number of items in two ways. Preliminary analyses identified highly reliable clusters of items that we combined to form composite indices. We did not wish each of these clusters *alone* to form its own dimension simply because its composite items were essentially the same measure. Also, we eliminated certain items because they were uncorrelated with all other indicators and hence would be useless in a search for general structure. One cannot say that these latter items are unrelated to subjective mental health, but merely that they will only generate separate dimensions for each of the individual items. These procedures left a total of 25 well-being measures, consisting of 10 composite indexes and 15 single-item indicators. Table 4.1 presents these 25 measures, as well as the questionnaire items that formed the basis of individual indexes.

For purposes of intercorrelation, we coded responses to each measure so that scores of 1 indicated least distress. We then constructed separate intercorrelation-matrices of the measures (using Pearsonian product-moment *r*'s) for each sex. Following Sorbom and Joreskog's (1976) and Cunningham's (1978) recommendations,

variables were transformed separately for men and women for between-sex comparisons of factor structures.

Factor Analyses

Exploratory analyses. Exploratory analyses were performed separately for men and women using Joreskog and Sorbom's (1976) Exploratory Factor Analysis Program (EFAP) with maximum-likelihood solutions and promax (oblique) rotations. We employed a maximum-likelihood technique because it not only yields a chi-square test statistic for selecting a parsimonious set of factors, but also obtains more accurate solutions than other techniques when samples are large (Browne, 1968). Oblique rotations allowed us to examine correlations among factors, yielding valuable information for use in theory building.

Before exploring and confirming factor structures, it was first necessary to decide how many factors to consider for men and women. To aid in making this decision, we computed scree-test plots of the magnitudes of the latent roots obtained from the one-factor EFAP solutions for each sex (cf. Gorsuch, 1974). These scree-test plots indicated that, for both men and women, a 6-factor solution was appropriate. Furthermore, a 6-factor structure provided the most clearly interpretable solution relative to other numbers of factors. For these reasons, we decided to consider six factors in investigating the structure of well-being.

Confirmatory analyses. In the next step of the analysis, we examined the 6-factor EFAP solutions for men and women to make preliminary interpretations of the underlying structures. We then used Sorbom and Joreskog's (1976) program for Confirmatory Factor Analysis with Model Modification (COFAMM) to refine these initial, exploratory solutions and to assess their goodness of fit. As with the exploratory procedure, each COFAMM analysis involved a maximum-likelihood solution with oblique rotations, which yielded a likelihood-ratio chi-square value. We used this chi-square value and its accompanying degrees of freedom to derive measures of relative fit and to test hypotheses about equality in factor structures between sexes.

The COFAMM program requires the user to consider four different types of parameters underlying the model to be estimated. The user must furnish information about factor means, the matrix of factor loadings, the variance–covariance matrix among factors, and the unexplained variance ("error") for each variable. In our initial analyses for each sex, we: (a) fixed all factor means at zero (since we were exploring invariance in factor structures and not invariance in factor means), (b) fixed all EFAP factor loadings less

Table 4.1
INDICES USED IN FACTOR ANALYSES OF SUBJECTIVE MENTAL HEALTH

Questions	Indices
Taking things all together, how would you say things are these days—would you say you're very happy, pretty happy, or not too happy these days?	General unhappiness Very happy Pretty happy Not too happy
Compared to your life today, how were things 5 or 6 years ago—were things happier for you then than they are now, not quite as happy, or what?	Past happier than present Present happier than past Past happier than present
Now I'd like you to think about your whole life—how things are now, how they were ten years ago, how they were when you were a little (boy/girl). What do you think of as the happiest time of your life?	Happiest time in past Present happiest Past happiest
Compared to your life today, how do you think things will be 5 or 10 years from now—do you think things will be happier for you than they are now, not quite as happy, or what?	Low future morale Very happy Happy Not too happy
In general, how satisfying do you find the way you're spending your life these days? Would you call it completely satisfying, pretty satisfying, or not very satisfying?	General dissatisfaction Completely satisfying Pretty satisfying Not very satisfying
Some things in our lives are very satisfying to one person, while another may not find them satisfying at all. I'd like to ask how much satisfaction you have gotten from some of these different things.	Life dissatisfaction (mean level of dissatisfaction— 1 = great satisfaction 2 = some satisfaction 3 = a little satisfaction 4 = no satisfaction —averaged across all appropriate items)
First, consider the things you do in your leisure time. All in all, would you say you have gotten great satisfaction, some satisfaction, a little satisfaction, or no satisfaction from the things that you do in your leisure time?	
How about the work you do in and around the house? (Would you say you have gotten great, some, a little, or no satisfaction?)	
How much satisfaction have you gotten out of work at a job?	
What about being married? How much satisfaction have you gotten from being married?	
How much satisfaction have you gotten out of being a (father/mother)?	

Continues

Table 4.1 (continued)

Questions	Indices
Now I'd like to ask you how much various things in your life have led to (respondent's MOST IMPORTANT VALUE in life).	Lack of value fulfillment (mean level of value fulfillment— 1 = a great deal 2 = a lot 3 = some 4 = a little 5 = very little —averaged across all appropriate items)
First, how much have the things you do in your leisure time led to (MOST IMPORTANT VALUE) in your life—(very little, a little, some, a lot, or a great deal)?	
How much has the work you do in and around the house led to (MOST IMPORTANT VALUE) in your life?	
How much has work at a job led to (MOST IMPORTANT VALUE) in your life?	
How about being married? How much has being married led to (MOST IMPORTANT VALUE) in your life?	
What about being a (father/mother)? How much has being a parent led to (MOST IMPORTANT VALUE) in your life?	
How often do you feel: (all or most of the time, a good part of the time, some of the time, a little or none of the time)	Zung depression[a] (sum of responses to items— 1 = all or most of the time 2 = a good part of the time 3 = some of the time 4 = a little or none of the time —with scores ranging from 6 to 24)
My mind is as clear as it used to be.	
I find it easy to do the things I used to do.	
My life is interesting.	
I feel that I am useful and needed.	
My life is pretty full.	
I feel hopeful about the future.	
How often are these true for you: (often true, sometimes true, rarely true, never true)	Low self-esteem[b] (sum of responses to item— 1 = often true 2 = sometimes true 3 = rarely true 4 = never true —from 3 to 12)
I feel that I am a person of worth, at least as much as others.	
I am able to do things as well as most other people.	
On the whole, I feel good about myself.	

Continues

Table 4.1 (continued)

Questions	Indices
Now here is something different. I have some statements here that describe the way some people are and feel. *I'll read them to you one at a time and you just tell me how true they are* for you—whether they're very true for you, pretty true, not very true, or not true at all.	Anomie score (sum of responses to items— 1 = not true at all 2 = not very true 3 = pretty true 4 = very true —with scores ranging from 4 to 16)
No one cares much what happens to me.[c]	
I often wish that people would listen to me more.	
I often wish that people liked me more than they do.	
These days I really don't know who I can count on for help.[c]	
Some people feel they can run their lives much the way they want to; others feel the problems of life are sometimes too big for them. Which one are you most like?	Perceiving life problems as uncontrollable Can run life In between Problems of life too big
When you make plans ahead, do you usually get to carry out things the way you expected, or do things usually come up to make you change your plans?	Perceiving lack of control over outcomes Carry out things as expected In between Things usually change plans
People are the same in many ways, but no two people are exactly alike. What are some of the ways in which you're different from most other people?	Low self-acceptance (degree to which respondent gives negative evaluation of the self in describing differences from others— Very positive Positive Neutral Ambivalent Negative)
Over their lives most people have something bad happen to someone they love. By that I mean things like getting sick, losing a job, or being in trouble with the police. Or like when someone dies, leaves, or disappoints you. Or maybe just something important you wanted to happen didn't happen. Compared with most other people you know, have things like this *happened to you a lot, some, not much, or hardly ever?*	Frequency of bad things occurring Never Hardly ever Not much Some A lot

Continues

Table 4.1 (continued)

Questions	Indices
When things like these have happened to you, have there been times when you found it very hard to handle? That is, when you couldn't sleep, or stayed away from people, or felt so depressed or nervous that you couldn't do much of anything? (If yes) Would you say you felt that way many times or just once in a while?	Frequency of feeling overwhelmed Never Once in a while Some or many times
Have you ever felt that you were going to have a nervous breakdown?	Nervous breakdown No/Yes
Do you ever have trouble getting to sleep or staying asleep? Check one: never, not very much, pretty often, nearly all the time.	Symptom Factor 1: Psychological Anxiety[d] (sum of responses, with scores ranging from 5 to 20)
Have you ever been bothered by nervousness, feeling fidgety and tense? Check one: as above.	
Are you ever troubled by headaches or pains in the head? Check one: as above.	
Do you have loss of appetite? Check one: as above	
How often are you bothered by having an upset stomach? Check one: as above.	
Do you find it difficult to get up in the morning? Check one: never, not very much, pretty often, nearly all the time.	Symptom Factor 2: Immobilization[d] (sum of responses, with scores ranging from 2 to 8)
Are you troubled by your hands sweating so that you feel damp and clammy? (Check one: never, hardly ever, sometimes, many times.	
Do you feel you are bothered by all sorts of pains and ailments in parts of your body? No, yes.	Symptom Factor 3: Physical ill health[d] (sum of responses, with scores ranging from 6 to 18)
For the most part, do you feel healthy enough to carry out the things you would like to do? No, yes.	
Do you have any particular physical or health problem? No, yes.	
Has any ill health affected the amount of work you do? Check one: never, hardly ever, sometimes, many times.	
Have you ever been bothered by shortness of breath when you were not exercising or working hard? Check one: as above.	
Have you ever been bothered by your heart beating hard? Check one: as above.	

Continues

Table 4.1 (continued)

Questions	Indices
When you feel worried, tense, or nervous, do you ever take medicines or drugs to help you handle things? (Never, hardly ever, sometimes, many times) Have there ever been problems between you and anyone in your family (spouse, parent, child, or other close relative) because you drank alcoholic beverages? (Never, hardly ever, sometimes, many times)	Alcohol abuse (sum of responses to the two drinking items— 1 = never 2 = hardly ever 3 = sometimes 4 = many times —with scores ranging from 2 to 8)
Everybody has some things he worries about more or less. What kinds of things do you worry about most?	Economic worries No mention Mentions economic worries
Do you worry about such things a lot, or not very much?	Frequency of worrying Never Not much Sometimes A lot of times Always
Do you wish that you spent more of your free time doing things to help or please other people, less time, or do you like it the way it is? Do you wish that you spent more of your free time doing things that challenge you, less time, or do you like it the way it is?	Dissatisfaction with time use (sum of responses to the two free-time use items— 1 = like it as is 2 = either more or less time —with scores ranging from 2 to 4)
Many people, when they think about their children, would like them to be different from themselves in some ways. If you had a (son/daughter—same sex as respondent), how would you like (him/her) to be different from you?	Admitting shortcomings in self Does not want child to be different Don't know Wants child to be different

[a]Index of depression: six items from the Zung (1965) depression scale, selected on the basis of pretesting.

[b]Index of low self-esteem: three items from Rosenberg's (1965) self-esteem scale, selected on the basis of pretesting.

[c]This item is adapted from a comparable item used to measure anomie (Srole, 1956).

[d]These symptom factor indices are based on prior factor analyses of a symptom list of 20 items that was modified from the Health Opinion Survey (MacMillan, 1957). Each index represents the items most clearly typifying the symptom factor. The items presented are ones having not only high loadings on the factors they are assumed to represent but also minimal loadings on other symptom factors.

than .15 at zero and let the program calculate all others,[3] (c) fixed the standard deviations of the factors at unity and let the program calculate all other interfactor correlations, and (d) assumed the error in each variable was uncorrelated with the error in other variables and let these be calculated by the program. We then inspected the obtained COFAMM solution, fixed at zero any calculated factor loadings that appeared negligible, and repeated the confirmatory process. By examining changes in resulting chi-square values and degrees of freedom, we modified the initial EFAP solutions for each sex to derive more parsimonious models that both provided interpretable factor structures and reasonably fit the data. To increase our confidence in the validity and replicability of these final models, we randomly divided the male and female samples in half and obtained separate EFAP solutions for each random half (cf. Gorsuch, 1974; Joreskog & Lawley, 1968; Lawley & Maxwell, 1963). Results revealed that the 6-factor model for each sex replicated across the random halves.

As an additional criterion for assessing the goodness of fit for each COFAMM model, we computed a measure of relative fit—the Tucker-Lewis coefficient. This coefficient reflects the ratio of the amount of variance accounted for by the model to the amount of total variance (see Tucker & Lewis, 1973). Essentially, it estimates the improvement in variance accounted for over a model that assumes there are no common factors (i.e., that only a single source of variation, sampling error, exists in each variable).[4] This coefficient is useful in developing parsimonious, best-fitting models. Specifically, as the fit of the model improves (i.e., as chi-square decreases and approaches df), the Tucker-Lewis coefficient approaches unity. This principle enabled us to gauge the relative fit of a particular group's model and to assess the degree to which modifications in the model improved its goodness of fit.

Comparative analyses. The final step of the analysis involved testing hypotheses about the equality of factor structures between sexes. To determine whether or not a given model fit men and women equally well, it was necessary to (1) evaluate the fit of the same model *separately* for each sex and (2) evaluate the fit of the same model for both sexes *combined.* We then compared the sum of the chi-square values obtained separately for each sex with the chi-square value obtained for both sexes combined. If this difference chi-square was statistically significant, we rejected the null hypothesis of equality in factor structures (see Alwin & Jackson, 1979, 1980; Joreskog, 1971).[5]

For direct between-sex comparisons of individual factor loadings, we used another type of simultaneous-COFAMM procedure to es-

timate the same 6-factor model separately for each sex and to rescale these loadings based on the *pooled* item standard deviations. Because this method effectively scales men's and women's factor loadings relative to the same "metric," it permits the researcher to make direct between-sex comparisons of the magnitudes of the estimated loadings. By examining relative differences in these loadings, we were able to pinpoint the specific aspects of subjective mental health responsible for structural similarities or dissimilarities within each dimension.

Results

How Do People Structure Their Self-Evaluations?

The same six basic factors emerge for both men and women. Indeed, the COFAMM models derived independently for men and women are identical except for the final factor, on which the men's model has two unique loadings, the women's model has four unique loadings, and both of these models share six common loadings. However, because of its greater parsimony and stronger invariance across sex, we have decided to focus exclusively on the male model in presenting confirmatory and comparative analyses.[6]

Table 4.2 displays the 6-factor COFAMM model derived for men, as well as the goodness-of-fit measures for this model. We have used the distress side of subjective mental health to conceptualize and label all factors. This is consistent with the direction of assessment of the items and scales and makes comparative analyses in the latter part of this paper easier to present and to comprehend. Table 4.3 contains the intercorrelations among these factors for men and women.

The first factor in this model defines a dimension of *Unhappiness* and is comprised of *general unhappiness*, *past happier than present*, *happiest time in the past*, *low future morale*, and *general dissatisfaction with life*. Each of these items asks the respondent to consider his or her experience in very general evaluative terms and to react very directly to these feelings. It is also important to note that the wording of each item comprising this factor orients the respondent primarily to the *positive* anchor of affective experience—how *happy* are you?, how *happy* was your past?, when was the *happiest* time in your life?, how *happy* will the future be?, how *satisfying* is your life? To score high on *Unhappiness* items, therefore, the respondent must reject the positive. The emergence of this component of self-evaluation thus supports our prediction that evaluations of positive experience form a factor separate from direct questions about negative experience. Not a single negatively focused item loaded on this

Table 4.2
FACTOR LOADINGS FOR 25 INDEXES OF SUBJECTIVE MENTAL HEALTH FOR MEN (N = 960)

Indices of Subjective Mental Health	Unhappiness	Lack of Gratification	Lack of Self-confidence	Feelings of Vulnerability	Strain	Uncertainty
General unhappiness	.81*	0.0	0.0	0.0	0.0	0.0
Past unhappiness	.39	0.0	0.0	0.0	0.0	0.0
Happiest time in past	.36	0.0	0.0	0.0	0.0	0.0
Low future morale	.70	0.0	0.0	0.0	0.0	−.39
General dissatisfaction	.41	0.0	0.0	0.0	0.0	.25
Life dissatisfaction	0.0	.98*	0.0	0.0	0.0	0.0
Lack of value fulfillment	0.0	.48	0.0	0.0	0.0	0.0
Zung depression	0.0	0.0	.73*	0.0	0.0	0.0
Low self-esteem	0.0	0.0	.60	0.0	0.0	0.0
Anomie	0.0	0.0	.41	0.0	0.0	0.0
Perceiving life problems as uncontrollable	0.0	0.0	.41	0.0	0.0	0.0
Perceiving lack of control over outcomes	0.0	0.0	.30	0.0	0.0	0.0
Low self-acceptance	0.0	0.0	.25	0.0	0.0	0.0
Frequency of bad things happening	0.0	0.0	0.0	.44	0.0	0.0
Frequency of feeling overwhelmed	0.0	0.0	0.0	.67*	0.0	0.0
Nervous breakdown	0.0	0.0	0.0	.53	0.0	0.0
Psychological anxiety	0.0	0.0	0.0	0.0	.54	.29
Immobilization	0.0	0.0	0.0	0.0	.22	.32
Physical ill health	0.0	0.0	0.0	0.0	.70*	0.0
Frequency of drug taking	0.0	0.0	0.0	0.0	.55	0.0
Alcohol abuse	0.0	0.0	0.0	0.0	.23	0.0
Economic worries	0.0	0.0	0.0	0.0	0.0	.30
Frequency of worrying	0.0	0.0	0.0	0.0	0.0	.54*
Dissatisfaction with time use	0.0	0.0	0.0	0.0	0.0	.29
Admitting shortcomings in self	0.0	0.0	0.0	0.0	0.0	.25
	Goodness-of-fit X^2 = 618.94, df = 256, T-L coeff. = .88					

Note: The variances of the 25 indices and the variances of the factors were used to standardize these loadings. The actual order of extraction for these factors was 1, 2, 4, 3, 5, 6.

*Constrained values. Highest loadings from EFAP analyses were fixed at unstandardized values of 1.0. In addition, all loadings of 0.0 were constrained on the basis of these EFAP analyses.

Table 4.3
CORRELATIONS AMONG FACTORS FOR MEN AND WOMEN

Factors		Unhappiness	Lack of Gratification	Lack of Self-confidence	Feelings of Vulnerability	Strain
Lack of gratification	Men	.28				
	Women	.27				
Lack of self-confidence	Men	.65	.27			
	Women	.68	.26			
Feelings of vulnerability	Men	.32	.11	.38		
	Women	.36	.12	.43		
Strain	Men	.37	.16	.54	.53	
	Women	.46	.10	.60	.68	
Uncertainty	Men	.40	.27	.32	.50	.28
	Women	.25	.22	.39	.49	.10

Note: These factor intercorrelations were obtained from COFAMM analyses performed *simultaneously* on men's and women's data. They have been rescaled by the *pooled* item standard-deviations and factor variances to permit direct between-sex comparisons.

factor.

The second factor, *Lack of Gratification*, reflects indexes of value fulfillment and life satisfaction derived from relevant role relationships. These measures also ask the respondent to evaluate the positive side of his or her experience, since the respondent again must reject the positive to be a high scorer on these indices. Thus, not all evaluations of positive experience are captured by *Unhappiness*. The *Unhappiness* items ask people to consider their lives in general. The items comprising this second factor ask people to consider specific components of their lives. We suggest that such specificity shifts evaluations from a more affective to a more cognitive appraisal of well-being. As Campbell (1980) has proposed, tallying the degree of satisfaction one experiences in different life domains may require a cognitive comparison of ongoing experiences with internalized subjective standards, goals, and expectations. This kind of mental process may evoke a set of evaluations that is different from an appraisal with a more general, spontaneous focus.

It is important to realize that the measure of *general life dissatisfaction* (i.e., "in general, how satisfying do you find the way you're spending your life these days?") assessed in *Unhappiness* is more closely related to the global affective dimension than to the cognitive, role-specific evaluation represented in *Lack of Gratification*. The relatively small correlation between *Lack of Gratification*

and *Unhappiness*, for both men (r = .28) and women (r = .27), suggests that the more general and the more specific components of self-evaluations of one's positive well-being, although not unrelated, are clearly distinguishable. This conclusion is consistent with Campbell's (1980) findings of relative independence between satisfaction and happiness.

A third factor, labeled *Strain*, includes a cluster of psychophysical symptoms (*physical ill health*, *immobilization*, and *psychological anxiety*), *frequency of drug-taking*, and *alcohol abuse*. A similar psychophysical dimension of subjective mental health has been highlighted by other investigators (e.g., Bryant & Veroff, 1982; Langner, 1962; MacMillan, 1957; Veroff, Feld, & Gurin, 1962), although previous work did not include measures of substance abuse as a form of "behavioral" strain. Since such symptoms have been shown to increase after the reported occurrence of stressful life events (Myers, Lindenthal, & Pepper, 1974), it is easy to infer that *Strain* reflects bodily, psychological, and behavioral reactions to stress.

It is especially important to note that the wording of each item comprising the *Strain* factor orients the respondent primarily to the *negative* anchor of experience—ever have *trouble* sleeping?, ever *bothered by nervousness*?, ever feel *bothered by pains and ailments*, ever find it *difficult* to get up in the morning?, etc. No positively worded items loaded on this dimension. Supporting our predictions, this factor may thus be interpreted as an evaluation of negative affective states, in contrast to an evaluation of positive affective or cognitive experience summarized either as *Unhappiness* or *Lack of Gratification*.

A fourth factor, which we have called *Feelings of Vulnerability*, is characterized by *frequent feelings of being overwhelmed*, *feelings of nervous breakdown*, and *the perception that bad things frequently occur*. This particular dimension of self-evaluation seems to tap the degree to which one feels vulnerable to stressful experiences. We should note that *Feelings of Vulnerability* correlate strongly with the *Strain* factor for both men (r = .53) and women (r = .68). Consequently, one can suggest that, although both of these dimensions are related to stressful experiences, psychophysical reactions to stress are somewhat separate from judgments of one's susceptibility to stress. While *Strain* seems to involve spontaneous feelings about specific negative states, *Feelings of Vulnerability* seem to involve both affects and cognitions in response to general negative experience. The emergence of this dual structure regarding stress supports earlier speculation about a separate dimension of personal competence in handling negative experience (Bryant & Veroff,

1982; Burt et al., 1978).

A fifth factor, labeled *Lack of Self-Confidence*, involves *depression, low self-esteem, feelings of anomie, the perception of problems and outcomes as uncontrollable*, and *lack of self-acceptance*. This specifically self-focused dimension supports previous notions about the self as a separate domain with respect to psychological distress and well-being (Andrews & Withey, 1976; Neugarten, Havighurst, & Tobin, 1961). In addition, the combination of perceived lack of control, low self-esteem, and depression strikingly resembles Seligman's (1975) characteristic description of learned helplessness in humans. The relatively strong correlation between this factor and the *Unhappiness* factor, (for men, $r = .65$; for women, $r = .68$), suggests that low self-confidence is closely tied to the rejection of positive affective experience. However, this fifth factor also correlates highly with *Strain* among both men ($r = .54$) and women ($r = .60$), suggesting that feelings of self-confidence are also directly linked to evaluations of negative experience. Thus feelings of confidence about oneself relate closely to evaluations of both well-being and distress. One might suggest that *Lack of Self-Confidence* implicates people's evaluations of their ability both to effect positive experiences in their lives and to handle negative events that occur.

This interpretation is further reinforced by the moderate correlations ($r = .38$ for men; $r = .43$ for women) between *Feelings of Vulnerability* and *Lack of Self-Confidence*. Both of these factors reflect an evaluation of one's general competence to handle what arises in life. *Feelings of Vulnerability* seem more general and directly reactive to being overwhelmed; *Lack of Self-Confidence*, in contrast, seems more specific and cognitively evaluative of both positive and negative experience. This distinction is not unlike the *Unhappiness–Lack of Gratification* distinction with regard to affective evaluations. It is also important to note the appearance of feelings of *anomie* on this factor. We argue that these feelings reflect a person's judgment of his or her capacity to enlist a social support system. Scoring high on the anomie scale connotes an inability to use social networks, with respect to both obtaining positive outcomes and reducing the stresses of life.

The sixth and final factor is the only one of the present dimensions that differs for men and women. Our interpretation of it remains tentative, since it may partly represent a residual factor. Items loading on this particular dimension for the men's model, which is then replicated in the women's data, are: *frequently worrying, mentioning economic worries, immobilization, psychological anxiety, general dissatisfaction with life, dissatisfaction with personal time-use*, and *admitting shortcomings in the self*. We have chosen to

label this factor *Uncertainty*, to reflect the worrying, immobilization, anxiety, and self-doubt that it seems to embody. This sixth factor also contains an item that loads in the *opposite* direction from the other items on this factor. Specifically, *low future morale* loads on the opposite pole from the remaining *Uncertainty* items; optimism rather than pessimism is associated with greater *Uncertainty*. Although we are reluctant to interpret this bipolarity, we can speculate that optimism toward the future may involve an orientation to change that is implicit in being uncertain, whereas pessimism toward the future implies feelings of certainty that things will be bad. This *Uncertainty* dimension, therefore, may contain an underlying element of hopeful coping. It is interesting to note that only in the *Uncertainty* factor was there an indication that dissatisfaction with time use had any relevance to global measures of well-being. This might be a hint that a search for a measure of controlling one's positive experiences (as in time use) is contingent upon some sense of security in one's life, perhaps economic security in particular.

Summary

The same five basic factors emerge for both men and women. A sixth factor seems relatively different for men and women. Supporting our predictions, the first two of these dimensions appear to reflect an evaluation of positive experience: *Unhappiness* and *Lack of Gratification*. The former is more general, affective, and spontaneous; the latter, based more on cognitive evaluations of well-being in specific roles. Again, supporting our predictions, two other dimensions seem to focus on distress rather than well-being, in that they reflect separate but related negative reactions to stress: *Strain*, endorsing psychophysical and behavioral symptoms; and *Feelings of Vulnerability*, perceiving oneself as susceptible to stressful events. A fifth factor, *Lack of Self-Confidence*, focuses primarily on the self. It has elements of the other factors, in that it reflects evaluations of both well-being and distress. Its prominence in the structure of subjective mental health lies in its specific consideration of the self as the object of evaluation for well-being or distress. As such, it is a more exclusively cognitive appraisal of self-competence than is *Feelings of Vulnerability*, which is a more spontaneously reactive evaluation of personal adequacy. Although less clearly interpretable, the sixth factor, *Uncertainty*, seems to reflect a sense of worrying, anxiety, and doubt about oneself and one's life. Its specific loadings suggest that, although it too is a dimension of psychological distress, it also reflects a coping orientation to life.

The results only partially support the hypothesis that separate dimensions of personal competence in handling negative experience

and in deriving positive experience would emerge. The *Feelings of Vulnerability* factor is related to evaluations of personal competence in handling negative experience, but seems to be more a reaction to judgments of personal competence than a direct assessment of personal ability to cope. Furthermore, the *Lack of Self-Confidence* factor seems to reflect an evaluation of personal competence with respect to both positive and negative experience. This lack of clear support for separate self-competence dimensions pertaining to positive and negative experience may stem from the limited focus of the present set of items. Although the range of available measures far exceeds that of past research, few of the present items specifically ask respondents to evaluate their ability to cope with negative experience or to obtain positive experience. Future research is needed which includes items directly focusing on perceived competence in handling difficulties and in deriving pleasant experiences, to determine whether these are, in fact, separate dimensions.

Do Men and Women Structure Their Self-Evaluations Similarly?

In the next step of the analysis, we tested the hypotheses that: (a) the men's 6-factor model fits both men's and women's data equally well, and (b) the women's 6-factor model fits both men's and women's data equally well. Although the women's model did not provide an equivalent fit for both sexes ($\chi^2 = 40.56$, df = 25, $p < .05$), men and women showed no overall difference in factor loadings using the men's model ($\chi^2 = 25.25$, df = 23, $p > .30$).[7] Since men's and women's models are identical except for the *Uncertainty* factor, this final dimension is evidently more sex-specific in the female model and more general in the male model. The men's 6-factor model seems to be a more reliable, fundamental structure that is equally applicable to both men's and women's self-evaluations.

These results, combined with parallel findings from the earlier 1957–1976 comparison (Bryant & Veroff, 1982) suggest that men structure their self-evaluations more generally than do women, whose self-evaluations interrelate in a more complex fashion. Indeed, the chi-square testing the hypothesis that there is no covariation other than sampling error within the given group's data is much larger for women ($\chi^2_0 = 5771.47$ with $df_0 = 300$) than for men ($\chi^2_0 = 3784.03$ with $df_0 = 300$), indicating that the women's data have a higher degree of covariation than do the men's. Apparently the more general male structure is equally applicable to both sexes, while the more detailed female structure is more sex-specific.

Supporting this conclusion, a COFAMM analysis fitting the

male model to the data of both sexes and comparably rescaling men's and women's loadings highlights the overall structural similarity. As Table 4.4 shows, the men's 6-factor model yields strikingly similar loadings for each sex. Indeed, men's and women's loadings differ in magnitude by a mean absolute-value of only .07 using the male model. These results illustrate the strong reliability of the male structure across sex.

Is There Any Evidence for Divergent Validity of Assessment Based on the 6-Factor Structure?

Given the six different ways of conceptualizing subjective mental health suggested by our analyses, we can now ask further questions: Do the distinctions matter? Do they depend on different antecedents or imply different behavioral consequences? Do they differentially relate to other aspects of people's experience in meaningful ways? To begin to answer these questions, we selected from the 1976 interview schedule other assessments to which subjective mental health could potentially be related. We chose variables that were critical to the understanding of subjective mental health in *The Inner American* (Veroff, Douvan, & Kulka, 1981).

Among these were some background factors (education, sex, and age) that clearly bear on potential antecedents of subjective mental health. These demographic variables were extensively analyzed by Veroff, Douvan, and Kulka (1981), and each independently contributed considerably to measures of subjective mental health. Although the present cross-sectional data do not permit us to establish causal precedence, these variables seem more clearly to be antecedents than consequences of mental health.

Three other assessments from the schedule were selected because they are more explicitly behavioral and could tentatively be considered consequences of subjective mental health. Again, we obviously cannot in this cross-sectional survey disentangle the direction of causality between subjective mental health and behavior. These three measures were: *marital harmony* (a scale that combined the reported frequency of chatting and the reported frequency of being physically affectionate with one's spouse); *talking over worries* (a yes/no index of whether respondents reported talking with someone in response to an open-ended question about what they do when worried); and *church attendance* (reported frequency based on fixed alternatives ranging from "more than once a week" to "never").

For each of the six assessments of subjective mental health represented by the 6-factor model, we created an overall score based on the items used to define the given factor. We first stan-

Table 4.4
BETWEEN-SEX COMPARISONS OF COFAMM FACTOR LOADINGS USING THE MEN'S 6-FACTOR MODEL

Indices of Subjective Mental Health	Unhappiness		Lack of Gratification		Lack of Self-confidence		Feelings of Vulnerability		Strain		Uncertainty	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
General unhappiness	.81*	.81*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Past unhappiness	.40	.38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Happiest time in past	.38	.35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Low future morale	.72	.87	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	−.35	−.30
General dissatisfaction	.42	.44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.22	.37
Life dissatisfaction	0.0	0.0	.89*	.89*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lack of value fulfillment	0.0	0.0	.43	.64	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Zung depression	0.0	0.0	0.0	0.0	.73*	.73*	0.0	0.0	0.0	0.0	0.0	0.0
Low self-esteem	0.0	0.0	0.0	0.0	.61	.58	0.0	0.0	0.0	0.0	0.0	0.0
Anomie	0.0	0.0	0.0	0.0	.42	.46	0.0	0.0	0.0	0.0	0.0	0.0
Perceiving life problems as uncontrollable	0.0	0.0	0.0	0.0	.36	.52	0.0	0.0	0.0	0.0	0.0	0.0
Perceiving lack of control over outcomes	0.0	0.0	0.0	0.0	.30	.33	0.0	0.0	0.0	0.0	0.0	0.0
Low self-acceptance	0.0	0.0	0.0	0.0	.23	.24	0.0	0.0	0.0	0.0	0.0	0.0
Frequency of bad things happening	0.0	0.0	0.0	0.0	0.0	0.0	.47	.48	0.0	0.0	0.0	0.0
Frequency of feeling overwhelmed	0.0	0.0	0.0	0.0	0.0	0.0	.68*	.68*	0.0	0.0	0.0	0.0
Nervous breakdown	0.0	0.0	0.0	0.0	0.0	0.0	.51	.60	0.0	0.0	0.0	0.0
Psychological anxiety	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.55	.62	.25	.31
Immobilization	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.26	.31	.28	.37
Physical ill health	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.70*	.70*	0.0	0.0
Frequency of drug taking	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.52	.60	0.0	0.0
Alcohol abuse	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.29	.12	0.0	0.0
Economic worries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.27	.33
Frequency of worrying	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.49*	.49*
Dissatisfaction with time use	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.25	.38
Admitting shortcomings in self	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.23	.28

Goodness-of-fit $X^2 = 26.25$, $df = 23$, $p > .30$

Note: These factor loadings were obtained from COFAMM analyses performed simultaneously on men's and women's data. Men's and women's loadings have been rescaled by the pooled item standard-deviations and factor variances, permitting direct between-sex comparison of the magnitudes of the loadings within each factor.

*Constrained values. Highest loadings from EFAP analyses were fixed to unstandardized values of 1.0. In addition, all loadings of 0.0 were constrained on the basis of these EFAP analyses.

dardized all items with nonzero loadings on the given factor. We then computed an unweighted mean of these standardized scores.[8] We thus have six different measures of subjective mental health corresponding to the six factors in our model and have labeled these factors accordingly.

We then performed two types of analyses. First, we evaluated the unique contribution of each antecedent variable to each measure of subjective mental health, controlling for the effects of other subjective mental health measures. We did this by regressing each subjective mental health measure separately on all other subjective mental health measures plus sex, age, and education. Second, we evaluated the unique contribution of each subjective mental health measure to each behavioral variable, controlling for the effects of sex, age, and education. We did this by regressing each behavioral variable separately on all subjective mental health measures plus sex, age, and education. We chose this analytic strategy because it highlights potential divergent validity for each dimension of subjective mental health.

Table 4.5 summarizes the critical results of the multiple regressions: the partial correlation between each of the measures of subjective mental health and each of the antecedent or behavioral variables. In examining these results, our focus is not so much on the magnitudes of correlations[9] or levels of statistical significance, but rather on patterns of association across these different measures.

In general, the results displayed in Table 4.5 support the use of separate indexes of subjective mental health represented by the 6-factor model. No two indexes of subjective mental health show the same pattern of correlations. For example, although the pattern of results for *Unhappiness* and *Lack of Gratification* is similar, age is significantly related to these two mental health assessments in opposite directions. Indeed, there are many other instances in which a given variable is positively related to one measure and negatively to another.

As an illustration, consider more closely how age relates to subjective mental health. Older people are generally more unhappy and show more strain, but they are much less uncertain and suffer less from feelings of vulnerability. This pattern makes sense when one considers people's adaptive struggles as they move through the life cycle. People may become more unhappy or may suffer more stress, especially because of failing health, but in the process they may learn to cope, align their aspirations with the possible, and become more certain about their lives. These results replicate trends noted in many other surveys (see Herzog & Rodgers, 1981b; Rodgers, 1982).

Table 4.5
PARTIAL CORRELATIONS BETWEEN FACTOR MEASURES OF SUBJECTIVE MENTAL HEALTH AND OTHER VARIABLES (n = 2,264)

	Unhappiness	Lack of Gratification	Lack of Self-confidence	Feelings of Vulnerability	Strain	Uncertainty
Antecedent Variables[a]						
Sex (male = 1, female = 2)	−.03	−.02	.00	.18**	−.05*	.08**
Age	.21**	−.04*	−.03	−.07**	.22**	−.40**
Education	−.03	.04	−.24**	.02	−.08**	.10**
Behavioral Variables[b]						
Marital harmony	−.18**	−.09**	−.13**	.08**	−.04	.01
Talking over worries	−.01	−.09**	.00	.08**	.01	.09**
Church attendance	−.08**	−.10**	.03	.00	−.07**	.02

*p < .05, **p < .001.

[a]Partial correlations derived from multiple regressions of each measure of subjective mental health on all measures of subjective mental health plus sex, age, and education.

[b]Partial correlations derived from multiple regressions of each behavioral variable on all factor measures of subjective mental health plus sex, age, and education.

Similarly, having a higher education is associated with stronger self-confidence, but it is also related to greater feelings of uncertainty about one's life. Thus, education may strengthen one's belief in one's own abilities, while at the same time lead to more worrying, anxiety, and dissatisfaction about life, to the extent that the latter represents foresightful coping. Kessler (1979) has demonstrated how more educated groups seem to cope better with stress, a fact that can build greater self-confidence as well as greater sensitivity to potential stress in more educated groups. Locksley (1982) discusses a similar pattern of differences in the way that people of different educational levels respond to their marriages.

Consider another example. Marital harmony is negatively correlated with *Unhappiness* but positively correlated with *Feelings of Vulnerability*. Unhappiness can lead people to withdraw from mari-

tal bonding; feeling vulnerable to stress can push people into seeking marital support. Veroff, Douvan, and Kulka (1981) have shown how expressions of marital unhappiness are more closely related to married people's overall unhappiness than any other specific source of discontent. By contrast, feeling vulnerable to stress can push people into seeking marital support. Lederer and Jackson (1968) have suggested that many marriages are based on a vulnerable dependency of husbands and wives on each other. A spouse can be a major source of comfort and assistance when stress occurs (see Veroff, Kulka, & Douvan, 1981); and, for many men, this is the only source of intimate support (see Lowenthal & Haven, 1968).

We should remind the reader that these interpretations are based on regression analyses in which each predictor is considered controlling for all others. In actual applied circumstances such differential diagnostic use of these assessments would likely not be practical. In addition, although we have labeled the demographic characteristics as antecedent variables and the behavioral measures as consequent variables, the present cross-sectional data are only correlational in nature and are incapable of establishing direct cause-and-effect relationships. Nevertheless, our analyses support the divergent validity of the measures of subjective mental health derived from the factor model.

Discussion

The most impressive finding of the present study is that men and women use the same six basic dimensions in making self-evaluations of subjective mental health. The emergence of these six dimensions partially confirms our initial hypotheses about the structure of self-evaluations. The *Unhappiness* and *Lack of Gratification* factors support our prediction that evaluations of positive experience are a distinctly separate structural component. The *Strain* factor supports our prediction that evaluations of negative experience comprise another separate structural element. The *Feelings of Vulnerability* factor, although not a direct assessment of personal competence in coping, seems closely linked to evaluations of one's ability to handle negative experience. The *Lack of Self-Confidence* factor, while not exclusively tapping perceived ability in obtaining positive experience, seems to involve an assessment of personal competence with respect to both positive and negative experience. The remaining *Uncertainty* factor may be partly residual, but also appears to reflect a bipolar orientation toward either optimistic worrying or pessimistic resignation. In addition, there is a hint that *Uncertainty* may involve feelings of control in managing positive experience, at

least in terms of satisfaction with personal time use.

A single structural model emerges that is equally applicable to both men's and women's self-evaluations. More specifically, between-sex comparisons of factor loadings revealed that, whereas the women's model did not fit the data of both sexes equally well, the men's model provided an equally good fit for both sexes. Men appear to structure their self-evaluations in a more general fashion than do women, so that the men's structural model offers a means of defining and measuring well-being comparably for both sexes. By providing between-sex equivalence in measurement, the present 6-factor model of self-evaluations of mental health can be used to compare men and women not only in their mean levels of subjective mental health, but also in how subjective mental health is related to experiential antecedents and behavioral consequences in their lives.

Toward a Model of Subjective Mental Health

What about the model itself? What conclusions can be drawn regarding the structure of subjective mental health? Clearly, we must be very cautious. Our conclusions are based only on the particular items used in our factor analyses. We initially considered many other assessments that were not sufficiently correlated with any other items to be useful in generating factor structures. Consequently the emerging factors may not account for all critical dimensions of subjective mental health. But, because the analyses are based on a wide variety of measures assessed in a heterogeneous population, we can proceed with some confidence that the emerging model represents a fairly general structure. In reappraising this model, we recognized four conceptual issues that seem to differentiate the various measures of subjective mental health used in our analyses. These issues are briefly discussed below.

Positive vs. negative anchoring of evaluations. The emerging structure confirms prevailing ideas that people's self-evaluations in response to positively anchored questions are different from their responses to negatively anchored ones. *Unhappiness* and *Lack of Gratification* are factors that entail rejecting the positive; *Strain* and *Feelings of Vulnerability* are factors that entail endorsing the negative. *Lack of Self-Confidence* and *Uncertainty* have elements of both. We thus suggest that the factors of *Unhappiness* and *Lack of Gratification* be called indexes of psychological well-being, while *Strain* and *Feelings of Vulnerability* be called indexes of psychological distress. Consistent with such designations, *Lack of Self-Confidence* and *Uncertainty* reflect both well-being and distress.

Self vs. world orientation. A second conceptual issue seems critical to the emerging structure. Perceived sources of experience can

be grossly divided into sources arising from the outside *world* and sources arising from within the *self*. This world–self distinction resembles Rotter's (1966) conceptualization of internal–external locus of control and Weiner, Frieze, Kukla, Reed, Rest, and Rosenbaum's (1971) framework of internality–externality in causal attributions. In self (or internal) evaluations, people see themselves as the source of reinforcement or of problems. In world (or external) evaluations people see something happening outside themselves as the source of reinforcement or of problems. Such a designation can be used in thinking about the various dimensions of well-being and distress. Two of the factors seem clearly oriented to things occurring externally: *Feelings of Vulnerability* and *Uncertainty* are assessments of what the world is like. *Feelings of Vulnerability* measures the degree to which people feel overwhelmed by what happens to them. *Uncertainty* measures anxiety about what the external world offers. Two of the factors clearly focus on the self as the basis of evaluation: *Lack of Gratification* assesses evaluations of meeting one's own standards; *Lack of Self-Confidence* assesses evaluations of one's capacity to deal with the world or to get pleasure from it. For *Unhappiness* and *Strain*, it is unclear as to whether the focus of evaluation is on the self or the world.

Time focus. Running throughout these evaluations of distress and well-being is a third critical conceptual issue involving differences in the temporal orientation of the questions asked. The items comprising *Feelings of Vulnerability*, *Lack of Gratification*, and *Strain* clearly deal with the past; *Lack of Self-Confidence* largely has a present orientation; *Unhappiness* contains elements of past, present, and future; *Uncertainty* has some future orientation. More subtly, the amount of time being evaluated in different measures of distress and well-being can vary. In the case of the factors emerging in this study, items measuring *Unhappiness* seem to be extensive and diffuse in time while items measuring *Lack of Self-Confidence* are more limited and specific in time focus.

Spontaneous vs. reflective appraisal. Two pairs of factors can be contrasted along a dimension distinguishing another aspect of subjective mental health: the spontaneous, as opposed to reflective, nature of the self-evaluations. These two pairs are (a) *Unhappiness* vs. *Lack of Gratification*, and (b) *Feelings of Vulnerability* vs. *Lack of Self-Confidence*. The first factor in each pair asks for an immediate appraisal of one's state: an assessment of one's affective life, in the case of *Unhappiness*; an assessment of felt risk, in the case of *Feelings of Vulnerability*. The second factor in each pair asks for a more cognitive judgment, by forcing the respondent to consider standards or expectations in making subjective evaluations. This shift to a

more considered evaluation may change the judgment enough to invoke a related but different factor of subjective mental health.

Combining each of the issues discussed above, we emerge with a 4-dimensional scheme that can potentially be used to clarify not only the present model of subjective mental health, but also other structures that might emerge with different measures. With respect to our initial hypotheses, crossing these first two dimensions of affective evaluation (positive-negative) and object of focus (world–self) yields the 4-factor model that we originally predicted: an evaluation of positive experience (positive–world), an evaluation of negative experience (negative–world), an evaluation of personal competence in deriving positive experience (positive–self), and an evaluation of personal competence in handling negative experience (negative–self). We have included the other two dimensions of time orientation and spontaneous vs. reflective response as related considerations.

The six factors we have examined represent only one set of permutations of these dimensions. Others might emerge in future research if different combinations of items or wordings of questions are attempted. We should note that we excluded some items that were used in the survey but that did not cluster with any other measures. Some of these items may very well reflect different combinations of these dimensions that we have hypothesized. Future work should explore not only the heuristic value of this 6-factor structure, but also the psychological implications of these four different conceptual issues for the structure of subjective mental health.

Notes

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[2]There were two exceptions to this rule, involving composite indexes of satisfaction and of value-fulfillment derived from role relationships. These two indices were constructed by averaging respondents' scores across all applicable roles (i.e., leisure time, job, marriage, parenting, and work around the house).

[3]In order to "identify" the estimated COFAMM model (i.e., make its parameters uniquely defined), it is necessary to specify at least K^2 "fixed" elements in the matrix of factor loadings (where K is the number of factors), both for the separate analyses of each group and for the simultaneous, combined analyses (see Alwin & Jackson, 1979, 1980; Sorbom, 1974; Sorbom & Joreskog, 1976). Following the procedure of previous investigators (e.g., Alwin & Jackson, 1979, 1980; Sorbom & Joreskog, 1976), we accomplished this by fixing the highest loading for each factor (based on

the EFAP solution) at unity and fixing a minimum of $k - 1$ loadings at zero for each factor.

[4]Following a procedure suggested by Alwin and Jackson (1979), we tested this zero common-factor model for each group by setting the number of factors equal to the number of variables, specifying an identity-matrix of factor loadings (i.e., unities down the diagonal, with all other loadings fixed at zero), fixing all correlations among factors at zero, and calculating the variance of unique error for each variable diagonally (i.e., independently). We then combined the chi-square value and degrees of freedom obtained from the COFAMM estimate of this zero-factor model (χ^2_0 and df_0) with those obtained using the 6-factor model (χ^2_6 and df_6) to compute the Tucker-Lewis coefficient, TLC, as follows (see Alwin & Jackson, 1979; McGaw & Joreskog, 1971):

$$TLC = \frac{(\chi^2_0/df_0) - (\chi^2_6/df_6)}{(\chi^2_0/df_0) - 1}$$

[5]More specifically, we first used COFAMM to estimate the same 6-factor model separately for each sex, adding together the two resulting chi-square values to obtain a summed χ^2_6 with summed df_6. We then used simultaneous COFAMM with the same two groups to estimate the 6-factor model using the pooled variance–covariance matrix (fixing all factor means to zero and calculating the interfactor correlations and unique errors separately for each sex). This yielded a pooled chi-square value and pooled degrees of freedom, referred to as χ^2_Λ and df^2_Λ, respectively. Finally, to compute the relevant test-statistic ($\chi^2_{\Lambda|6}$ with $df_{\Lambda|6}$) we compared the summed χ^2_6 with the pooled χ^2_Λ as follows (cf. Alwin & Jackson, 1979, 1980; Joreskog, 1971):

$$\chi^2_{\Lambda|6} = \chi^2_\Lambda - \chi^2_6; \text{ with}$$

$$df_{\Lambda|6} = df_\Lambda - df_6.$$

We then checked the significance level of $\chi^2_{\Lambda|6}$ with $df_{\Lambda|6}$ to evaluate the hypothesis that the 6-factor model fit both sexes equally well.

[6]The COFAMM loadings for the women's 6-factor model ($\chi^2 = 817.32$, $df = 254$, T-L coefficient = .88) are available from the authors upon request.

[7]This chi-square test evaluates the statistical significance of the difference between the covariance matrix predicted by the COFAMM model and the actual covariance matrix. A *significant* chi-square indicates that the predicted pattern of interrelationships differs from the actual pattern of interrelationships. A *nonsignificant* chi-square indicates that there is no overall difference between the actual and predicted pattern of interrelationships.

[8]We used unweighted mean scores to facilitate comparable use by other researchers. Because men and women had such different loadings on *Uncertainty*, we calculated the correlation between the weighted sex-specific factor score with the unweighted one used in the present analysis. This correlation for men was .98; for women, it was .80. These results suggest that even for women the weighted scores would not yield substantially different results in our analyses.

[9]These are generally low, both because they partial out the effects of correlated measures of subjective mental health and because these very subjective experiences are bound to have more complicated relationships to demographic and behavioral variables than can be explained by simple correlations. In particular, complex interactions of variables can no doubt better account for the variance.

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5

Integrating Stocks and Flows in Quality of Life Research

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This chapter examines the relation between two types of subjective measures of satisfaction. One is the extensively analyzed set of measures developed during the 1960s and 1970s that records satisfaction with life as a whole or with major elements of the life situation. The other is a set of measures developed in conjunction with analysis of time use and represents the intrinsic satisfaction associated with activities (work, housework, television viewing, etc.); the latter satisfaction measures are categorized as process benefits. The chapter argues that the conventional life satisfaction measures can be thought of as a set of psychological satisfaction that largely relate to states of being—what might be called "stocks" in economist parlance—while the process benefit measures relate to psychological satisfactions that relate to flows. These two types of data are examined to see whether that interpretation holds up. In general, it does, helping to explain apparent anomalies in the life satisfaction and process benefit data.

Analysis of the sources and determinants of well-being has always been a central concern of social scientists. Economists have focused on the production of goods and services through the market, with writers such as Adam Smith (1776/1961), Pigou (1952), and Marshall (1961) associating increased individual and societal well-being with larger real output. Work on the measurement of market output, starting with Wilbur King (1930) and continuing with Simon Kuznets (1941) and George Jaszi (1956, pp. 205–214; 1958) has rested on similar presumptions,[2] although the pitfalls in associating societal well-being with aggregate real output have been recognized.[3] In recent years, economists have begun to pay attention to a broader range of goods and service flows, and have become concerned about goods and services that are not conventionally priced as part of market output—the services of environmental assets, and human capital assets, for example. Biases in output growth rates resulting from unmeasured changes in product quality, and the measurement of consumption services provided directly by business have also received attention. (See Kendrick, 1976; Ruggles, 1970; Eisner, 1971, pp. 79–81; Juster, 1966, 1973; Griliches, 1971; Nordhaus & Tobin, 1972.)

The theoretical basis for the concern of economists with material goods and services is that individual and societal well-being depends on the combination of available goods plus available leisure. In the typical welfare function in the economic literature, leisure and goods are the sole arguments: utility is maximized by equating the marginal gain from time devoted to the market (i.e., to enhancing the flow of goods) to the marginal gain from increased leisure.[4] A curious feature of such models is the lack of any subjective or "welfare" role for time spent working, an absence we see as symptomatic of a broader incompleteness in economists' views of well-being. Thus in the conventional economic model of well-being, time spent working is a "bad," while leisure time is a "good," a theory of utility we believe to be seriously flawed.

While economists have focused on the association between well-being and flows of material goods and services, other social scientists have attempted to measure well-being using a somewhat broader brush. The rubric "quality of life" conveys the flavor of this research, which falls into two distinguishable categories. One set of writings, in which Angus Campbell has played an important role, has attempted to develop direct subjective assessments of satisfaction with the quality of life using surveys of the population. (See Andrews & Withey, 1976; Campbell, Converse, & Rodgers, 1976; Cantril & Roll, 1971; and Campbell, 1981.) These writers hold utility to be measurable, at least ordinally if not cardinally. Another set of writings has focused on the development of "social indicators," which are aggregate, objectively measured indices argued to be related to fundamental social goals.[5]

Both the advocates of perceived quality of life measures and the advocates of objective social indicators regard economic concerns with material goods and service flows as far too narrow. In part, the flowering of subjective and objective work on social indicators stemmed from dissatisfaction with the exclusion of certain factors from conventional economic measures—the quality of the environment, equity in the distribution of income, the effects on workers' lives of restrictive and incentive-oriented production environments, etc.

These critics have also adopted the view that GNP-type goods are instrumental in securing the actual objects of utility, and that more direct assessment of outcomes provide a better insight into societal well-being. Thus, achieved skills, not inputs of teachers in schools, were what mattered to society and should be measured; health status, not money spent on doctors, hospitals, and medicine, was what mattered; and the quality of the neighborhood, not the amount of money spent on bricks and mortar, constituted the

relevant social outcome variable; and so on down a long list of instrumental GNP-type goods and ultimate societal outcomes.

These various approaches to the measurement of individual and societal well-being have not shown much relation to one another, either in terms of underlying theory or in identification of the factors associated with well-being. The economic approach can be thought of as focusing largely on flows of goods and services, including leisure, as the crucial determinants of well-being, although there are often capital stocks lurking in the background as influencing future flows. The social-psychological approach can be thought of as evaluating "states of being," measured either as subjectively perceived or as objectively observed, and many of these states have characteristics that are similar to those of capital stocks. This paper represents an attempt to integrate these two approaches into a single unified framework, with a key element in that framework being analysis of the allocation of human time.

Goods and Time

The basic resources available to individuals or society for the production of well-being can be thought of as consisting of total available time, on the one hand, and the stock of inherited "wealth," on the other, with wealth being defined very broadly to include not only conventional capital assets like factories, houses and cars, but also human capital skills, environmental assets, stocks of associations between individuals, the social and political infrastructure, and so forth. In brief outline, we think of individual or societal well-being as resulting from the application of those resources to the production of market and nonmarket output. These outputs are then combined with nonmarket time to produce other nonmarket outputs, and ultimately satisfactions or utilities. (For a more complete description of the system, see Juster, Courant, & Dow, 1985.)

In this way of thinking about the generation of well-being, total available time plays a crucial role. What is not so obvious is that not only does time play a crucial role as an input into a variety of market and nonmarket production activities, including leisure, but that time use is equally important as a direct source of satisfaction. We argue that people have preferences over various uses of time, and that all activities generate not only observable and measurable outcomes in the form of market and nonmarket goods, but also outputs which consist of satisfactions from the activities themselves—what we call the "process benefits." Indeed, the notion of satisfactions generated from activities is key to the way we measure certain elements of well-being and is the principal empirical subject ex-

plored in this paper.

The idea that people do not care solely about the material commodities which they possess or obtain, but also about the way their time is used, is actually a very old one. The economics literature, for example, discusses compensating differentials in wage rates associated with various characteristics of jobs—whether safe or risky, pleasant or onerous, challenging or dull, locationally convenient or inconvenient, and so forth. The idea goes all the way back to Adam Smith:

> The whole of the advantages and disadvantages of the different employments of labour and stock must, in the same neighbourhood, be either perfectly equal or continually tending to equality. If in the same neighbourhood, there was any employment evidently either more or less advantageous than the rest, so many people would crowd into it in the one case, and so many would desert it in the other, that its advantages would soon return to the level of other employments [A. Smith, 1776/1961, p. 111].

This proposition has shown surprising resistance to empirical confirmation. Brown (1980) reviews much of the empirical literature and concludes that while there is some support for the theory, there are also "an uncomfortable number of exceptions [p. 118]." R. S. Smith's (1979) review concludes that "tests of the theory of compensating wage differentials . . . are inconclusive with respect to every job characteristic except the risk of death [p. 347]." Duncan and Holmlund (1983) find some support for the compensating differentials idea, concluding that: "An index of dangerous working conditions is associated with a compensating wage differential . . . . Indicators of stressful working conditions also appear to lead to compensating wage differentials. Indicators of constrained work hours and hard physical work, on the other hand, did not have consistent effects on wages [p. 17]."

A little reflection suggests that this proposition—wage rates for work in the market depend on the intrinsic satisfactions from the work environment—is generalizable to all activities. People have preferences about whatever they do, and these preferences can be thought of as distinctly different from the satisfactions obtained from the tangible products of activity. In the case of work in the market, the tangible product is income, which allows command over goods and services. In the case of nonmarket activities, there may or may not be tangible products. Nonmarket household production—cooking, cleaning, child care, etc.—results in tangible products that yield satisfaction, and these can be considered as entering the welfare function. For other household production activities, notably those ordinarily classified as leisure, it often appears to be true that the only outcome of the activity is the intrinsic

satisfaction derived from the activity itself. Even here, however, things may not be so straightforward. Activities like television viewing or going to movies or plays might well add to one's stock of knowledge or enrich one's understanding of life; and playing active sports might add to one's state of health. In addition, all of these activities provide intrinsic satisfactions, which might be the principal output. Thus a comprehensive measure of well-being must include both the "tangible" and intrinsic outputs of human activity. The former are often best thought of as investments; they are additions to stocks of knowledge, health, goods or whatever. The latter are simply the satisfactions involved in actually doing the activity itself. We call them "process benefits." It is this dimension of well-being that has been most seriously neglected in the literature.

This chapter is thus concerned with analysis of what we term "process well-being." Process well-being is the aggregation across all activities of the process benefits associated with those activities, weighted by the time spent on each activity. We use data on the way in which people allocate time among activities, along with subjective rankings of the satisfactions obtained from various activities, to construct an empirical measure of process well-being—a measure of how much satisfaction people derive directly from the way in which they spend their time.

The relationships among our measures of process well-being, economists' measures of material goods and service flows, and sociologists' and social psychologists' analyses of perceived quality of life have some interesting dimensions. One way to summarize the usual economic concept of well-being is that utility is determined by the goods-intensity of leisure time. Hence, an appropriate measure of satisfaction with leisure time would, in principle, comprehend the availability of goods and services, since these can be thought of as enhancing the quality of leisure time. If process benefits for various activities are viewed as incorporating the flow rates of goods and services associated with each activity, then material goods and service flows are in principle embedded in process well-being. (Whether our measurements fully capture this dimension is of course a different issue.)

Most of the quality of life literature seems to us basically concerned with subjective assessments of what we would characterize as "states of being," rather than more transient influences associated with activities. The literature here places heavy emphasis on the role of variables like satisfaction with marriage, children, neighborhood, financial and personal security, and so forth. One way to think about these states is that they, or at least their quality, are a consequence of past actions and activities, and might

well be explained by analysis of the way in which time has been allocated during previous periods. And of course, much of the time allocation pattern in the current period is clearly associated with either the maintenance of these "states of being," or with improving them with the expectation of enhancing future process benefits or states of being. Hence the present configuration of these quality-of-life dimensions could reasonably be thought of as the result of past investments of various types. In effect, these states are a type of "capital stock" resulting in part from past allocations of time.

The Data

Measures of preferences for specific activities, as well as subjective quality of life measures, are contained in the time use data bases obtained in 1975–76 and 1981–82. The 1975–76 data were obtained from a probability sample of the U.S. population 18 and over, in a multiwave design that included four interviews with each respondent over the course of a year. The first wave sample comprised a little over 1,500 respondents, while slightly fewer than 1,000 respondents completed the four waves. The 1981–82 data base was a longitudinal panel follow-up of 1975–76 respondents and was limited to those who had completed all four 1975–76 interviews. The samples sizes are relatively small: Slightly more than 600 respondents were successfully recontacted in 1981, and slightly fewer than 500 completed all four waves of the 1981–82 study. In the 1975–76 study, respondents were specifically asked to record their level of enjoyment of some 22 activities that encompassed approximately half of the total time recorded in the diaries: excluded activities were sleep and personal care, among others, which account for a substantial fraction of total diary time. The respondent was given a reasonably complete introduction to the general concept—that we wanted a rating of the intrinsic enjoyability of the activity itself, rather than a rating which included both the outcome of the activity (a clean and orderly home) as well as its intrinsic enjoyability (cleaning the house). The scale was described to respondents as bounded by 10 (enjoy a great deal) and 0 (don't enjoy at all), with 5 representing an activity to which the respondent was indifferent (don't care one way or the other).

A similar format was used in the 1981–82 panel follow-up, with some modification. First, activities such as sleep, naps, and personal care were added to the list of activities. We had earlier been inclined to think that respondents could not provide sensible answers to questions about the enjoyability of these activities, but decided to try and incorporate them since otherwise we would be

missing substantial blocks of respondent time when it came to analyses of the weighted averages for these intrinsic satisfaction measures. (This problem is discussed below, where we note the proportion of activity missing from the available process benefit data.) Second, we decided to obtain the process benefit measures on two waves of 1981–82 interviews, primarily with an eye toward estimating the reliability of the measure. Thus the 1975–76 and the 1981–82 data bases contain a common core of activities for which process benefit measures are available, they contain a repeat measure in 1981–82 from which reliability can be estimated, and since the 1981–82 study was a panel follow-up, we can trace changes in process benefits over time for identical individuals.

The basic data on process benefits are summarized in Table 5.1. We show the activity category, the average reported level of process benefits on the 10–0 scale, and the standard deviation of responses for individual activities. In both surveys, not all respondents were asked about intrinsic satisfaction from all activities: those without jobs were not asked about jobs, those without children were not asked about children, and those responding that they did not do an activity were treated as having not responded to the question. Thus all responses presumably reflect process benefit scores for people who spent at least some time in the relevant activities.

The data in Table 5.1 have some interesting characteristics. The most striking things about the table are the very high rankings for activities involving interaction with children, the very high ranking of work for pay, and the very low rankings for most housework activities. There is little difference in the ranks, or in the mean values, for the 1975–76 data and the 1981–82 data: generally the process benefit scores are a bit lower in 1981–82, but the differences are small and the changes in rank do not appear to signify anything special. Finally, the interpersonal variation in process benefit scores, reflected by the standard deviations of the scores, are inversely related to the mean scores; activities with high average ranks have much less interpersonal variation than other activities.

The finding in Table 5.1 that work for pay carries higher process benefit scores than most leisure activities (outranked only by activities involving interactions with children, talking with friends, and going on trips or outings) has strong implications for analysis of well-being. As discussed above, a widely used frame of reference for the analysis of well-being is that income from work and time spent on leisure are the central elements in individual well-being. But that framework implicitly suggests that the *extrinsic* rewards from work (income and command over goods and services) plus the *intrinsic* rewards from leisure are the key elements

Table 5.1
BASIC PROCESS BENEFIT DATA REPORTED BY RESPONDENTS

Activity	N	1975 Data Mean Score	1975 Data Std. Dev.	1981 Data Mean Score	1981 Data Std. Dev.
Talking with children	312	9.16	1.36	8.98	1.33
Care of children	312	8.87	1.80	8.74	1.53
Trips with children	311	8.87	1.70	8.72	1.63
Games with children	308	8.62	1.96	8.24	2.03
Talking with friends	678	8.38	1.87	8.27	1.78
Going on trips, outings	657	8.24	2.35	8.17	2.12
Job	397	8.02	2.12	7.79	2.01
Home entertainment	662	7.76	2.34	7.54	2.24
Reading books, magazines	668	7.60	2.46	7.49	2.40
Going to church	631	7.23	3.07	7.28	2.85
Reading newspapers	675	7.17	2.46	7.10	2.38
Making things for house	635	6.78	2.96	6.47	2.87
Playing sports	606	6.76	3.17	6.23	3.07
Going to movies, plays	629	6.65	3.03	6.38	2.79
Gardening	642	6.55	3.28	6.27	3.21
Cooking	668	6.17	2.99	6.13	2.74
Television	677	5.93	2.49	6.00	2.43
Other shopping	673	5.69	3.01	5.30	2.90
Housing repairs & alt.	635	5.11	3.03	4.94	2.81
Work, school organizations	587	5.00	3.10	5.13	3.09
Grocery shopping	673	4.57	3.04	4.55	2.77
Cleaning house	672	4.22	3.00	4.18	2.70

in well-being. The data in Table 5.1 suggest that the *intrinsic* rewards from work are, on average, higher than the intrinsic rewards from leisure, a finding which creates considerable difficulty for the conventional analysis of well-being.[6]

Process Benefits from Work and Housework

The finding that intrinsic rewards from work rank very high compared to those from leisure is sufficiently counter intuitive to warrant further investigation. First, we can look at the occupational distribution of process benefits to test the hypothesis that satisfactions from work are related to the characteristics of jobs. Second, we can examine the aspects of jobs that people seem to value. The first can be done with both the 1975–76 and 1981–82 data. The second can be examined much more fully with the 1981–82 data, since we designed that survey to permit examination of the question.

Table 5.2 shows the mean levels of process benefits scores for a

Table 5.2
PROCESS BENEFIT MEAN VALUES, SELECTED ACTIVITIES, 1975–76 DATA, WITHIN OCCUPATIONAL GROUPS

Activity	Prof-Mgr, Self-emp N=239	Clerical N=33	Sales N=37	Craftsmen, Foremen, Operatives N=252	Unskilled, Services N=43
		Men			
Cleaning house	2.77	3.35	2.36	3.33	3.56
Your job	8.36	7.52	8.47	7.96	7.30
Talking with friends	8.04	7.77	8.12	8.33	8.40
Home entertainment	7.64	6.94	7.62	7.30	7.72
Watching TV	5.95	6.00	6.06	6.22	6.72
Playing sports	7.28	7.35	7.53	7.36	7.43
Movies and plays	6.87	7.16	7.28	6.66	7.15
Activity	N=119	*Women* N=155	N=31	N=59	N=81
Cleaning house	3.89	5.03	4.62	5.10	5.42
Your job	8.11	7.47	8.52	7.80	8.28
Talking with friends	8.34	8.34	8.46	8.16	8.31
Home entertainment	8.16	7.55	7.96	7.72	7.11
Watching TV	5.57	5.81	5.71	6.47	6.05
Playing sports	6.66	6.90	6.33	6.87	5.66
Movies and plays	7.65	7.35	6.76	6.52	6.11

selected set of activities—work, housework, television viewing, playing sports and games, talking with friends, and going to movies and plays. The first two panels of the table contain data for men, while the bottom half contains data for women. Data are shown only for the 1975–76 survey; the 1981–82 data have just about the same pattern.

The results are quite striking. Contrary to what most would expect, there is virtually no association between the process benefits from work and the objective characteristics of the job as reflected by occupational status: Professionals, managers, and self-employed respondents do have slightly higher process benefits from work than others, but the differences are not very large and they are by no means systematic as we move from professional jobs to unskilled

jobs, nor are they particularly different for men and women in these occupational categories.

The data do contain support for the notion that differential satisfaction from market work and household work is related to occupational class, however. Process benefit scores for housework, for example, tend to rise systematically as occupational status declines from professional jobs to unskilled jobs, hence the difference between the mean scores for market work and housework tend to decline as occupational status declines. As noted, there is little difference between the pattern from the 1975–76 data and the 1981–82 data. The same insensitivity to occupational status appears, as does the narrowing of the difference between market work and housework as occupational status declines.

In an attempt to shed more light on the reasons for high rankings for market work, we asked our 1981–82 respondents what characteristics of their jobs they found especially attractive or unattractive. Table 5.3 shows the results of analysis of variance of these data. The F ratios in the table reflect the magnitude of the difference (in the mean process benefits scores from work) between respondents who identified particular job characteristics as especially positive or negative and all other respondents.

From Table 5.3, it is clear that job characteristics other than income play a major role in determining the intrinsic satisfactions from work. The most general such response—liking or disliking the job, with no specific characteristic given—can be disregarded since it amounts to little more than a restatement of the process benefit score itself. Among nonpecuniary job characteristics, relationships with fellow employees are obviously very important as a source of intrinsic satisfaction for both men and women, and are important in both positive and negative senses. Job challenge and interest is also important: jobs that are seen as boring or repetitious have low process benefits scores relative to other jobs.

There are some interesting results with respect to job satisfaction and the amount of responsibility or supervision, where sharp differences emerge between men and women. Men who are dissatisfied with the amount of supervision or responsibility—either they get too much or too little relative to what they would like—report significantly lower process benefit scores than other men. But that is not true for women: The work process benefit scores of women who report that their levels of supervision or responsibility are either positive or negative features of their jobs do not differ much from those of other women. Thus men appear to be more sensitive to these relationships than do women.

Finally, it should be noted that the pay and benefit aspects of

Table 5.3
ANALYSIS OF VARIANCE: PROCESS BENEFIT SCORES FROM WORK AND JOB CHARACTERISTICS (1981 DATA)

Job Characteristic	F Ratio		
	Men	Women	All
Positive Response			
1. General liking	41.3**	31.4**	73.4**
2. Enjoy people work with	22.2**	44.8**	54.6**
3. Challenge, learning opportunity	9.4**	5.3*	15.8**
4. Pay, benefits	0.3	0.5	0.8
5. Amount of supervision	3.3	0.4	4.1*
6. Having a lot of responsibility	8.7**	0.4	8.4**
7. Lack of responsibility	0.0	1.0	0.5
8. Good working conditions	2.3	4.0*	6.5**
9. Variety of tasks	4.4*	4.1*	9.0**
10. Other positive	NA	1.4	0.6
Neutral Response			
Job is okay	10.6**	13.5**	24.6**
Other	NA	1.7	2.3
Negative Response			
1. General dislike	16.8**	17.9**	35.1**
2. Dislike people work with	31.1**	45.6**	77.0**
3. No challenge, learning opportunity	22.4**	16.3**	37.2**
4. Pay, benefits	15.3**	14.9**	29.5**
5. Amount of supervision	12.7**	NA	11.3**
6. Too much responsibility	18.7**	5.4*	22.4**
7. Too little responsibility	0.1	1.5	1.4
8. Bad working conditions	9.7**	6.2**	15.9**
9. Boring, repetitious	22.4**	25.2**	47.2**
10. Other negative	5.3*	1.8	6.7**

Notes:

NA means that the number of respondents selecting the (positive or negative) category as a job feature was too small to calculate the F statistic.

F ratios calculated from the mean process benefit scores from work for respondents selecting the particular positive or negative feature of the job as important to them, compared to the mean process benefit scores for all respondents not selecting that (positive or negative) feature as important to them.

*Significant at .05 level; **significant at .01 level or better.

jobs are not nearly as important in determining intrinsic job satisfactions as other factors, a finding that supports the proposition that the process benefit measures do not simply reflect a liking for jobs that are well paid or a dislike of jobs that are poorly paid. The only evidence for the latter proposition is the significant F ratio for those

who report that (low) pay and benefits are a negative factor in their job satisfaction.[7]

The data on preferences for market work indicate that respondents were not generally confusing extrinsic rewards with intrinsic rewards: The job characteristics associated with differential process benefit scores are primarily a set of characteristics that reflect aspects of the work situation other than compensation. The data do show some slight mixing of intrinsic and extrinsic values, since "unsatisfactory pay and benefits" are significantly associated with lower process benefit scores. But even here, respondents may not actually be mixing extrinsic and intrinsic rewards. The negative association between unsatisfactory pay and benefits and process benefit scores could easily be explained in terms of an association between job prestige and job compensation, and may not necessarily mean that respondents were reporting dissatisfaction with the purchasing power of their pay and benefits.

Examination of the structure of the process benefits data for housework enables us to go a bit further in uncovering the relation between the process benefit scores and the intrinsic/extrinsic satisfactions from activities. Table 5.4 summarizes the results of a measure asking respondents what factors account for the process benefit scores they assigned to housework. The test is exactly the same as described above in conjunction with Table 5.3—F ratios calculated on the difference in mean process benefit scores between respondents reporting one or another of the (positive or negative) features of housework and respondents not reporting the same (positive or negative) features.

The data in Table 5.4 indicate that there is a significant mixing of extrinsic and intrinsic rewards in the process benefit scores for housework, in marked contrast to the data for market work reported in Table 5.3. Of the entries in the table, the general category (like or dislike cleaning the house) can be ignored because it simply repeats the information already contained in the process benefit scores.[8] But the second item in Table 5.4—feel good about having a clean house—is clearly a reflection of the *extrinsic* rewards from housework, and does not reflect satisfaction with the process or intrinsic rewards. The other highly significant responses in Table 5.4 are either clearly intrinsic in nature—the boring/repetitious category—or reflect dislikes that are strong enough so that respondents reported that they "never do housework." Not surprisingly, the latter group is almost exclusively male—women may feel the same way, but only one women in the sample (out of over 500) reported that she "never did housework."

Table 5.4
F RATIOS FOR REASONS GIVEN BY RESPONDENTS FOR THEIR RATING OF "CLEANING HOUSE" (1981 DATA)

Response Category	Men	Women	Total
Positive Responses			
Enjoy/like housecleaning	64.2**	125.1**	207.1**
Feel good about having clean house	86.1**	215.4**	334.6**
Find task easy	9.6**	7.9**	16.2**
Neutral Responses			
Don't care about it	22.3**	0.1	6.0**
Something have to do, want to or not	0.2	1.1	0.4
Negative Responses			
Dislike cleaning house	42.2**	44.8**	106.7**
Find task difficult/tiring	0.9	5.2*	2.6
Boring/repetitious	23.8**	88.7**	71.8**
No time to do/too busy	0.5	1.4	0.8
Rather do other things	0.3	7.9**	7.1**
Not enough help from household members	1.1	2.4*	0.3
Never do housework	27.1**	–	45.6**
Other reasons	1.1	0.8	0.0

Note:

F ratios derived from analysis of mean process benefit scores for respondents reporting specified (positive or negative) response to open-end question about the reasons for the process benefit rating given to the activity "cleaning the house," relative to all other respondents.

*Significant at .05 level; **significant at .01 level or better.

Process Well-Being

In principle, respondents can be thought of as having preferences over the entire set of activities that they engage in. As noted earlier, we lack direct measures of preferences in the 1975 data for slightly over half of the total amount of time during a typical week, although differences among respondents classified by age, income, educational level, etc. in total amount of time "covered" by preference measures tend to be quite small. Because of the incomplete coverage of our preference data, all of the estimates below are calculated as per hour process benefit scores, the implicit assumption being that the differences in per hour process benefits between

respondents reflect the true difference in aggregate process benefits.[9]

Aggregate process benefits themselves are calculated as follows. Letting w_i indicate a measure of satisfaction with activity i, and t_i be the number of hours during a certain accounting period which were devoted to the activity, we define aggregate process well-being (PWB) as

$$PWB = \sum_{i=1}^{n} w_i t_i \tag{1}$$

The w_i's are fundamentally subjective, and there is a good deal of room for methodological debate on the "right" way to define and interpret such measures. We describe three such possible measures below.

In constructing each of our process well-being indexes, we required that respondents have process benefit data for each of eleven basic activities: cooking, cleaning, repairs, shopping, organizational participation, spectator events, socializing, sports and games, crafts, television viewing, and reading. For those respondents who worked in the market or who had children, hours devoted to these activities were also included, but absence of these data did not result in deletion of the respondent from the sample.

For the first index, PWB-R, we constructed a measure as shown in (1), using for the preference measures w_i—the raw process benefit scores reported by the respondents for each activity. This can be viewed as a "naive" measure of process well-being, in that it takes preference statements at face value without further adjustment. Differences in responses on our absolute (0 to 10) scales are viewed as correctly reflecting differences in preferences across individuals. Once the index shown in Equation 1 is constructed, it is divided by the total number of hours covered for each respondent, so that the index represents standardized "per hour" PWB.

An objection to the "raw score" approach to process well-being is that it fails to recognize the fact that different respondents may have different "anchor points" in stating their preferences. For example, one person might place all responses between 5 and 10, with a mean of 7.5, while another might locate all responses between 0 and 5, with a mean of 2.5. Taking such responses at face value would lead us to conclude that the first person was much more satisfied than the second. Many would question that conclusion: The fact that people happen to respond differently to the scale may say little about real differences in satisfaction. In this view, the "raw score" method includes a good deal of spurious variance, that

is, variance across individuals unrelated to any meaningful difference in well-being. A related objection is that it is meaningless to measure "total utility" in this fashion—there is no basis for claiming that differences in responses on some absolute scale correspond to true interpersonal differences in subjective satisfaction.

To deal with this problem, we computed the (unweighted) mean response made to the entire set of "process benefit" questions by each respondent. In most cases, this would constitute a large number of individual responses, perhaps 15 or more. The mean response was subtracted from the response given to each specific question. Process benefits were thus scored not according to an absolute scale identical across all respondents, but rather on a "self-chosen" scale in terms of deviations from the respondent's personal (unweighted) mean response. The process well-being would thus be, as before, the sum of $w_i t_i$, but the w_i would be defined as:

$$w_i = y_i - \frac{1}{m} \sum_{j=1}^{m} y_j \tag{2}$$

where y_i denotes the raw score stated by the respondent for activity i and m is the number of activities for which a raw score was available for the particular respondent.

Mean-adjusted process well-being is based on the proposition that people allocate time based on the relative enjoyability of activities, not their rankings on some absolute scale. If someone has a high total PWB using this approach, it would be interpreted as showing a high degree of success in allocating time to personally preferred activities. A low score would indicate the presence of constraints that prevented the use of time in preferred ways. Thus, interpersonal comparisons would *not* be of imputed total satisfaction (as in the raw score approach), but rather of the degree of constraint faced by different individuals in achieving a desirable use of time.

One could carry the argument about "spurious variance" a step further. Perhaps people not only have relatively arbitrary anchor points in responding to choices on a scale, but also arbitrary degrees of variance. Even after correcting for differences in mean response, one person might scatter responses throughout the range from 2 to 9, while another's responses clustered tightly within the range from 4 to 6. The question is whether to take such differences at face value (person A truly feels very strongly positive about some activities and very negative about others, while person B is relatively indifferent among activities), or whether they should be viewed as spurious response characteristics unrelated to actual intensity of

feeling.

To investigate this issue, we defined a third type of weight for activities:

$$w_i = \left[y_i - \frac{1}{m} \sum_{j=1}^{m} y_j \right] / \mathrm{Var}\,(y_i \ldots y_m) \tag{3}$$

where, as before, y_i indicates the raw score for the activity i and m is number of process benefit scores available for the respondent in question. Thus, all respondents were not only given a uniform mean preference of zero, but were also standardized by the personal variance in responses.

The *a priori* arguments for these alternative measures are not in themselves persuasive, although survey folklore suggests that the raw score measure is likely to be most troublesome. The appropriate way to resolve the issue is to expose each measure to the data. Two criteria can be proposed. First, a superior measure of preference ought to be more closely related to actual time allocation across a sample of respondents. The test is to regress actual hours spent by respondents in various activities on the corresponding preference measures, using each adjustment procedure in turn. If one of the three process benefit measures tends to have uniformly greater explanatory power across a variety of activities and demographic groups, it would suggest that the measure managed to capture interpersonal differences in preference more accurately.[10]

Space limitations preclude a detailed exposition, but the mean-adjusted process benefit measures had uniformly superior explanatory power with respect to actual time use compared to the raw score and variance-adjusted measures. In quantitative terms, the differences were small. On balance, the raw score measures seemed superior to the variance-adjusted measures, suggesting that adjusting for personal variance in responses tends to suppress real interpersonal differences in intensity of feeling.

The second criterion involves the capacity of these measures to explain the distribution of process well-being among social and economic groups. Based on the preceding arguments, we would anticipate that a measure of PWB using mean-adjusted preferences would provide a sharper focus on how process well-being is distributed in society, since the spurious variance attributable to differences in personal anchor points would be eliminated. Thus a regression of mean-adjusted PWB on various social, economic, and demographic characteristics of respondents should yield a higher R^2

than a corresponding regression of raw-score PWB on the same characteristics. A priori, we do not know how the mean-adjusted and variance-adjusted PWB's would compare.

Three regressions were estimated, using each measure of PWB as a dependent variable and a standard collection of sociodemographic independent variables. To account for the fact that while all respondents had a set of preferences covering 11 basic activities in common, they did not all engage in market work or child care, two dummy variables were included in each regression—whether the respondent's well-being score included an element of market work, and whether the well-being score included child care time.

The data in Table 5.5 show striking differences in the ability of the various process benefit measures to differentiate among individuals. The first column, which gives coefficients for PWB-R, shows virtually no differences among the various groups, with only about seven percent of the total variance explained. A number of small significant effects show up—blacks have higher PWB-R than whites, high school graduates have less than nongraduates, Catholics have less than Protestants, and those with a job have somewhat more than others. But all these differences are small, and on the borderline of nonsignificance.

In sharp contrast, Columns 2 and 3 show very sizable differences among various groups in expected levels of PWB-M and PWB-V, with the mean-adjusted data in Column 2 showing somewhat stronger associations than the mean-and-variance-adjusted data in Column 3. The standard error in Column 2 is 20 to 25 percent lower than in Column 1, about 20 percent of the variance is explained rather than seven percent, and a number of the effects are not only significant but quantitatively powerful. Column 3 does not show results that are quite as strong, although the sociodemographic characteristics that are associated with differences in PWB in Column 2 tend to show up also in Column 3.

The results that seem to be consistent in Columns 2 and 3 are that females have lower process well-being scores than males, married people have lower scores than single people, older people have higher scores than younger people, those with a job have higher scores than those without one, and those with children have lower scores than others. Other differences appear in one or the other column, but are not consistently strong: Blacks have positive scores in Column 2, but are not significantly different from others in Column 3; Hispanics are negative in all three columns but the effect is not very strong; those with high school degrees have significant negative differences from others in Column 2, but the difference dis-

Table 5.5
ANALYSIS OF FACTORS ASSOCIATED WITH DIFFERENCES IN ALTERNATIVE PROCESS WELL-BEING SCORES

Independent Variable	PWB-R		PWB-M		PWB-V	
	Coeff.	t	Coeff.	t	Coeff.	t
Constant	7.76	24.0**	1.19	4.41**	.067	1.8
Black	.55	2.2*	.50	2.36*	.017	0.6
Hispanic	−.66	−1.4	−.61	−1.57	−.100	−1.9
Female	−.23	−1.8	−.58	−5.31**	−.063	4.1**
Poor health	−.27	−1.5	.05	.33	.010	0.5
Urban	.08	.6	.03	.28	.028	1.8
Married	−.07	−.5	−.40	−3.33**	−.022	−1.3
High school	−.39	−2.4*	−.37	−2.75**	−.003	−0.2
Bachelor's degree	−.22	−1.1	−.23	−1.34	.048	2.0*
Catholic	−.33	−2.4*	−.14	−1.22	−.007	−0.4
Jewish	.07	.2	.21	.64	−.057	−1.2
Middle income	−.05	−.3	−.15	−1.22	−.018	−1.0
High income	−.22	−1.0	.02	.09	−.010	−0.4
Age	.00	.1	.01	3.63**	.001	2.7**
Job = Yes	.30	2.2*	.31	2.76**	.055	3.5**
Children = Yes	.08	.6	−.35	−3.14**	−.050	−3.2**
R^2	.07		.21		.16	
SE	1.41		1.18		.17	

* = significant at 5 percent level; ** = significant at 1 percent level; N = 606 for all equations.

appears in Column 3; those with a bachelor's degree are negative in Column 2 and significantly positive in Column 3; Catholics continue to be negative in all three columns but the effects are very slight, etc. Interestingly enough, differences in income level never appear to have a significant impact in any of these data.

The most plausible interpretation of these results is that various demographic or situational characteristics impose constraints of a sort which produce lower per hour process well-being. Thus, being female is typically associated with a set of activities that tend to have low process benefit scores—household production activities for the most part. Being married shows a significant negative differential, presumably for the same reason—it is a characteristic as-

sociated with constraints requiring involvement in a significant number of activities which are low on the preference rating scale. The most interesting case here is the result for children, where the process well-being scores for those with children are significantly lower than for those without. This appears to contradict the fact that child care is typically assigned very high process benefit scores compared with other activities. What must be happening is that people with children derive considerable satisfaction from activities with children, but having children imposes a set of other activities with below-average process benefits. Having a job is highly valued, and appears not to be associated with constraints that counteract the positive effects of labor force participation on process well-being.

As a generalization, it turns out that there are definable groups having higher or lower levels of process well-being than others. Financial constraints do not turn out to be very important in these data, controlling for whether the respondent has a job, as reflected by the lack of differentiation in process well-being associated with income differences. On the other hand, demographic situational variables (marital status, sex, age, children) turn out to be very important. Young mothers who do not work have overall process benefits that are markedly lower (almost 1.5 scale points) than those achieved by other members of society.

Many of the observed differences could be taken to reflect transitory influences. While respondents with young children have significantly lower process well-being than others, children eventually grow up, and respondents with grown children may have higher process benefit scores than respondents who have never had children to begin with. Similarly, everyone starts out being young and ends up being old, and negative process benefit scores for the young do not have a negative life cycle connotation. Just how these measures vary over the life cycle, taking into account the fact that certain activities may be undertaken for their investment character rather than for their current consumption benefits, is yet to be determined.

If we now ask how the distribution of process well-being among the population relates to the distribution of satisfactions with quality of life generally, the answer is that the two measures are almost entirely unrelated. A regression of life satisfaction (measured on a 1 through 7 scale, with 1 representing "terrible" and 7 representing "wonderful") on the same set of constraint variables explains much less of the total variation among the population (about 7 percent compared to 21 percent; see Table 5.6). It indicates that being married is positively and significantly related to satisfactions (while process well-being is negatively related to being

married), and indicates virtually no effect on life satisfaction of variables like age, sex, labor market status, or children (while process well-being is significantly related to all four). Moreover, regressing life satisfaction on process well-being (the mean adjusted variant) yields the result that the correlation between the two is virtually zero.

To check further on the demographic characteristics associated with differences in process well-being and in life satisfaction, we estimated additional regressions which divided the marital status variable into the categories of separated, divorced, widowed, single, and presently married; we also estimated separate regressions for males and females. Those equations show that process well-being is significantly *higher* for both divorced males and females, significantly *higher* for single males, and higher, but not significantly so, for widowed females and separated males. Generally, a marital status other than currently married tends to be associated with higher process well-being scores. In sharp contrast, those same factors are almost always negatively associated with overall life satisfaction. Being separated or divorced is associated with significantly lower satisfaction for both males and females, being widowed with significantly lower satisfaction for females, and being single with significantly lower satisfaction for males. All the coefficients reflecting a status other than currently married are negative in the life satisfaction equations.

While these results may seem contradictory, a little reflection suggests that they really tell a coherent story. Process well-being measures a set of satisfactions associated with an individual's current set of activities, and with the goods and service flows associated with those activities. The quality-of-life measure reflects an assessment of certain stocks or contexts that may be thought of, in part, as a consequence of past activities. The absence of current constraints on time use should be associated with relatively high process benefit scores, hence being divorced, separated, widowed, or single is quite likely to be associated with more flexibility in the allocation of time to activities. Thus we expect high process well-being for such individuals, even though these states may be associated with a less satisfactory life generally.

In short, the process well-being estimates may be taken to reflect a transitory measure of satisfactions associated with a set of activities partly undertaken to modify the values of the stocks or contexts which provide the sources of satisfaction in a longer term framework. Thus the negative association between process well-being and the married state or the presence of children could be explained by a life-cycle model in which people invest now in order to

Table 5.6
FACTORS ASSOCIATED WITH DIFFERENCES IN LIFE SATISFACTION

Independent Variable	Coeff.	t
Constant	5.48	22.6**
Black	−.01	−0.1
Hispanic	.10	0.3
Female	−.04	−0.4
Poor Health	−.17	−1.3
Urban	−.18	−1.9
Married	.49	4.4**
High School	.03	0.2
Bachelor's Degree	.15	1.0
Catholic	.01	0.1
Jewish	−.27	−0.9
Middle Income	.07	0.6
High Income	.07	0.5
Age	−.004	−1.3
Job = Yes	−.04	−0.4
Children = Yes	−.13	−1.3
R^2	.07	
SE	1.06	

* = significant at 5 percent level; ** = significant at 1 percent level; N = 604.

obtain future benefits—a finding consistent with the positive association between age and process well-being. Alternatively, we could be observing a learning process in which preferences change as consumers are exposed to activities.

These brief interpretive comments should not be taken as a definitive characterization of what is doubtless a complicated problem which we have really just begun to understand. However, they highlight the proposition discussed earlier—that the psychological flows of satisfactions associated with activities are not a full reflection of the flow of utilities generally, and the satisfactions or utilities associated with various stocks and context are a highly important determinant of overall well-being. The notion that process well-being reflects a transitory state and may have an investment character seems to us a fruitful conceptualization. And finally, we need to worry much more about the validity of the activity satisfac-

tion data, since in one such activity (housework) intrinsic satisfactions and extrinsic ones are clearly being mixed. It seems likely that nonmarket work activities will generally have that problem, and we need to devise methods of adjusting the data to take account of that bias.

Notes

[1]This chapter is adapted from Dow and Juster (1985) and from Juster (1985).

[2]Much of this literature is concerned with a set of conceptual and measurement problems associated either with changes over time or differences among societies in flows of material goods and services.

[3]These aggregate measures ignore the distributional issues involved in societal well-being. Economists have been very cautious in inferring that person A is "better off" than person B simply because A has a higher income. This stems from a refusal to attempt to make interpersonal comparisons of utility or well-being. Still less are economists willing to say how much better off A is compared to B. Taking this literally, we should not conclude that "society" is unambiguously better off after an increase in aggregate real income unless every member of society has a higher level of real income after the change. If someone is made worse off, we must simply throw up our hands; the before and after comparison cannot be made without violating the prohibition against interpersonal utility comparisons, regardless of what the aggregate statistics might say.

[4]This is a standard problem in microeconomic theory. For a nontechnical discussion, see Rees (1973, pp. 22–30).

[5]The explicit normative use of aggregate statistics as social indicators began in response to the shortcomings of GNP as a welfare measure. Some representative references are U.S. Department of Health, Education, & Welfare (1969); Bauer (1966); Wilcox, Brooks, Beal, & Klonglan (1972); Olson (1969); Sheldon & Moore (1968); Gross & Straussman (1974).

[6]The data do not necessarily contradict the income plus leisure model, since the theory really speaks to the rewards from shifting a marginal amount of time from one activity to the other, and argues that total satisfaction should not be able to be increased by such a shift. Thus it is certainly possible that, while the average intrinsic rewards from work are very high, rewards at the margin are very low—the marginal satisfaction curve could drop off very sharply for activities like work. Under this interpretation the indifference curves between income and leisure simply have a region where they bend back as one moves out in the leisure direction. That is, at high levels of time out of the labor market, leisure is a bad and market work is a good. An alternative interpretation, however, is that the marginal rewards are not in equilibrium, that many people would prefer more work but are constrained from doing so, and that rigidities in work schedules prevent a great many people from reaching their preferred work/leisure time allocation. Our data do not bear on that question, since the intrinsic satisfaction measures in the survey are clearly average or typical rewards rather than rewards at the margin of time allocation.

[7]All the positive and negative features of jobs have the correct sign—those who report that they rate their job as X because they "like the people they work with" have higher mean process benefit scores from work than other respondents, for example. For the neutral category, there is no "correct" sign, but it turns out that those reporting neutral attitudes (e.g., "job is okay") have higher process benefit scores than others.

[8]As was the case for the data on market work in Table 5.3, the housework data in Table 5.4 always have differences in mean process benefit scores that accord with expectations. And again, respondents providing "neutral" responses have higher mean scores than others.

[9]One difficulty in our data is that process benefit scores were often not recorded if the respondent did not perform the activity. It is certainly plausible to expect that, if such responses had been obtained, we would have found low process benefits (relative to other activities) to be associated with activities not performed. This is not a problem for constructing a per hour index of process well-being, since regardless of the ranking of such activities, they would be assigned a zero weight on the basis of hours spent on the activity. However, this does introduce a possible bias into models where time use (a dependent variable) is a function of activity preference or process benefits (an independent variable). If in fact many respondents with zero hours for a given activity would have ranked this activity as relatively undesirable, omitting these cases from such empirical analysis will bias estimates of intercept and slope coefficients.

[10]The same type procedure could be used to evaluate other measures of process well-being. We do not mean to suggest that the three we have examined exhaust the possibilities.

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6

Quality of Life among Persons of Mexican Descent

Vilma Ortiz and Carlos H. Arce[1]

This study examined factors affecting the quality of life among Chicanos. Chicanos of higher socioeconomic status perceived their quality of life in more positive terms than did lower-status Chicanos. Older respondents were *less* happy but *more* satisfied than younger respondents. In addition, after adjusting for socioeconomic status the perceptions of older persons became more positive. Women were less positive in their perceptions of their quality of life than were men, and married persons were more positive than were nonmarried persons. In addition, we compared our findings to published reports from prior studies among the general U.S. population. We found that while Chicanos had slightly less positive perceptions of their quality of life, the factors that influenced the quality of life among Chicanos were similar to those that affected the quality of life among Americans in general.

In the past several decades, considerable research has been done on the quality of life of the American people (e.g., Andrews & Withey, 1976; Bradburn, 1969; Campbell, Converse, & Rogers, 1976; Cantril, 1965; Gurin, Veroff, & Felds, 1960; Veroff, Douvan, & Kulka, 1981). This research has focused primarily on native-born, white Americans. Only recently has research on the quality of life of racial and ethnic minority groups in the United States been conducted (e.g., Ball, 1983; Campbell et al., 1976; Veroff et al., 1981). One group in particular, Hispanics, has not been surveyed at all with respect to the quality of life.

Among the Hispanic groups in the United States, people of Mexican descent constitute the largest group, over 9 million persons. Over 80 percent reside in the five southwestern states, while the rest are in major urban centers outside the southwest or in nonurban locales that have attracted Mexican American agricultural workers over the years (Jaffe, Cullen, & Boswell, 1980). Mexican Americans are younger than other groups in the United States, have larger families, and exhibit a high level of mother tongue maintenance (Angel & Tienda, 1982; Arce, 1982; Jaffe et al., 1980; Lopez, 1978). Although less than a fourth of Mexican-origin people in the United States are immigrants, their geographical proximity to the country of their own or their ancestors' origin makes this

population very different from other ethnic groups in the United States. All of these characteristics are relevant influences on the status of Chicanos and affect their perceptions about the quality of their lives in this society.

Other factors that are crucial in understanding the Chicano quality of life relate to the socioeconomic status and the politically marginalized condition in which most Chicanos have existed in this country until recent years. The present research examines the factors that relate to the quality of life of Mexican Americans. In this analysis, we examined factors that have been shown to be important in predicting the quality of life for Americans in general—age, socioeconomic status, marital status, and gender. In addition, because of the greater than expected association between age and socioeconomic status, the analyses were done with controls for interrelationships among the independent variables. This allows us to determine the unique effect of factors related to Chicanos' socioeconomic status.

Another important aspect of this analysis is the differences between reports of current happiness and estimates of past and anticipated future happiness. We explore not only the factors that affect these self-reports but also the phenomenon of Mexican Americans' unwillingness to estimate future happiness. Finally, we compare our findings to benchmark findings on the general U.S. population in order to identify similarities and differences in quality of life processes between Chicanos and other Americans. A central objective in both the group-specific and the comparative analysis is to determine the relative importance of structural factors vs. cultural factors in explaining Chicanos' life quality.

Methods

Sample

The data for this analysis come from the 1979 National Chicano Survey (NCS) conducted by the Survey Research Center of The University of Michigan. Interviews were conducted on a probability sample of Mexican ancestry households in the southwestern United States (California, New Mexico, Arizona, Colorado, and Texas) and the Chicago metropolitan area. Mexican ancestry households were defined as those in which the primary provider or his/her spouse were of at least half Mexican ancestry. If only one of them was of Mexican ethnic origin, that person was interviewed; if both were eligible, the respondent was randomly chosen. Nearly 11,000 households were screened for ancestry in 41 primary sampling units; of these, almost 1,300 were of Mexican descent and 991

interviews were completed. Further details of the population definition and multistage sampling design and procedure are found in Arce and Santos (1981). The interviews, which required an average of 3 hours and 20 minutes to administer, were conducted in either English or Spanish, as preferred by the respondents. All interviewers were fully bilingual and the questionnaire booklets were printed in Spanish and English, side-by-side. The interview covered numerous topics, including labor force issues, language, culture, social identity, political consciousness, mental health and personal well-being, and family-related phenomena.

Dependent Variables

Quality of life. Four dimensions of current quality of life were measured.

1. Happiness: Taking things altogether, how do you feel these days—*very happy*, *happy*, *more or less alright*, *a little unhappy*, or *very unhappy*?
2. Satisfaction: In general, how satisfied are you with your life these days? Would you say your life is *completely satisfying*, *pretty satisfying*, or *not very satisfying*?
3. Fulfillment: Looking back on your life, do you think you got *all* of the important things you have wanted, *most* of them, *only some*, or *none* of the important things you have wanted?
4. Worrying: Everybody has some things they worry about more or less. Do you worry about such things *a lot* or *not very much*?

For all four items, higher scores represent a perception of a more positive quality of life. (Since the item on worrying was worded in a direction opposite to that of the other items, the response categories were reversed for consistency with the other items.) The scale range varied for the four items: for the happiness item, 1–5; for the satisfaction item, 1–3; for the fulfillment item, 1–4; and for the worrying item, a dichotomy of 0 and 1. Although analysis on single items is not as powerful as analysis using multi-item measures, we did not combine these four items to form a general measure of quality of life. Conceptually, quality of life is a broad concept that is often defined and operationalized to consist of several distinct subconcepts. The four items were thus recognized as distinct from each other in conceptual terms, and the results produced important differences by item.

Past and future happiness. In addition to the items on quality of life at the present time, respondents were also asked about happiness in the past and expectations for happiness in the future.

These measures assess past and future happiness relative to the respondent's current happiness.

1. Past happiness: In general, compared to your life today, how were things one year ago—would you say things were *happier* then, *about the same*, or *not quite as happy* as they are now?
2. Near future happiness: What about one year from now, do you think things will be *happier* for you than they are now, *about the same*, or *not quite as happy*?
3. Far future happiness: Now think about five years from now, do you think things will be *happier* then, *about the same*, or *not quite as happy* as they are now?

For the purpose of comparison to the other happiness variables, the present happiness item was recoded to include the same number of response categories as the past and future happiness items, which ranged from 1 to 3. This was done by combining the *very happy* and *happy* categories and combining the *little unhappy* and *very unhappy* categories. For the remainder of the analysis, i.e., for comparisons to the other quality of life measures, the original version of the happiness measure was used.

Independent Variables

Socioeconomic status. This scale is constituted of (1) years of education, (2) family income, (3) occupational status, and (4) employment status (employed vs. not employed). Since the response scales for these items differed, the items were standardized (i.e., transformed to *z*-scores) before averaging together. For the purpose of cross-tabulation with other variables, the socioeconomic status index was divided into three categories with approximately equal numbers of respondents in each category.

Age, gender, and marital status. In addition to examining age as a continuous variable, we divided age into three categories with approximately equal *N*s for the purpose of cross-tabulation with other variables (30 years and under, 31 through 45, and over 46). Gender comparisons and comparisons among married, previously married (widowed, divorced, and separated), and single respondents were also made.

Analysis Strategy

The analysis was pursued in five interconnected stages. First, it was important to examine the extent of missing data on measures of anticipated happiness before examining the relationships among the measures of happiness (the second stage). The third stage was to examine the factors that influence perceptions of happiness and

other measures of quality of life at a bivariate level (through cross-tabulations and analysis of variance), and the fourth step was a multivariate examination of relationships, with appropriate controls. Finally, we compared the analysis of our data with similar data from the general U.S. population.

Results

Missing Data on Future Happiness

This survey included questions about happiness at the present time and also in the past and future relative to the present. While the respondents had little difficulty answering questions about whether they had been happier a year ago or were happy at the present time, a considerable number resisted answering the questions about anticipated happiness either one or five years in the future. Over 15 percent could not or would not estimate their anticipated happiness one year into the future, and approximately 30 percent did not estimate their happiness five years into the future. The respondents who did not answer the future happiness questions were compared to those who did. The results in Table 6.1 reveal that the respondents who did not answer the questions were more likely to be of lower socioeconomic status, older, and female (significant only for the far future question). In addition, these respondents were found to differ on other factors. As can be seen in Table 6.1, they were more likely to be of more recent generational status[2] and Spanish speaking.[3] Essentially, these differences demonstrate that respondents who did not answer the future happiness measures are more identified with traditional Mexican culture than with American culture. In addition, the respondents who did not answer the future happiness questions may not have done so because their poor and marginal status provides less control over their lives and environment. Indeed, the respondents not answering the question on happiness five years in the future were also found to score significantly higher on a measure of external locus of control.[4]

Relationships among Happiness Measures

Over half of the respondents in this survey said they were happy or very happy at the present time; 35 percent said they were more or less all right; and only 10 percent said they were unhappy or very unhappy. As can be seen from the cross-tabulations in Table 6.2, present happiness was found to be related to past and future happiness. Persons who were happy at the present time were more likely to say they were just as happy a year ago than persons who were unhappy at the present. In contrast, persons who were

Table 6.1

CHARACTERISTICS OF PERSONS WITH MISSING DATA ON FUTURE HAPPINESS MEASURES

	Near Future			Far Future		
	Not Missing	Missing	Eta	Not Missing	Missing	Eta
SES (mean z-scores)	−.044	−.236	.10***	.017	−.287	.19***
Age (mean years)	39.427	42.379	.07*	38.872	42.279	.11***
Female (%)	.595	.634	.03	.571	.673	.10***
Married (%)	.755	.725	.02	.766	.714	.06
Generational distance[a]	3.216	2.895	.08**	3.240	2.993	.08*
Language orientation[b]	2.607	2.188	.11***	2.700	2.178	.17***
Locus of control[c]	.493	.452	.04	.509	.432	.10***
(N)	(838)	(153)		(697)	(294)	

Notes: *$p < .05$, **$p < .01$, ***$p < .001$.

[a]See footnote 2 in text for description of scale.

[b]See footnote 3 in text for description of scale.

[c]See footnote 4 in text for description of scale.

Table 6.2
CROSS-TABULATION OF PRESENT HAPPINESS BY PAST AND FUTURE HAPPINESS

	Present Happiness		
	Unhappy	More or Less All Right	Happy
Past			
Unhappier	21.1%	25.6%	25.7%
Same	44.2	54.4	60.7
Happier	34.7	19.9	13.6
Total	100.0	100.0	100.0
(*N*)	(95)	(351)	(545)
Near Future			
Unhappier	23.5	12.3	7.4
Same	37.0	43.0	41.2
Happier	39.5	44.7	51.4
Total	100.0	100.0	100.0
(*N*)	(81)	(284)	(473)
Far Future			
Unhappier	26.7	19.7	8.9
Same	25.0	28.3	33.9
Happier	48.3	51.9	57.2
Total	100.0	100.0	100.0
(*N*)	(60)	(233)	(404)

unhappy at the present were much more likely to say they had been happier a year earlier. The relationship of present happiness to expectations for the future differed from this pattern. Essentially, being happier at the present time meant having higher expectations for happiness in the future. For instance, among those were were happy now, 51 percent expected to be happier in one year and 57 percent, happier in five years. In contrast, among the currently unhappy respondents, only 40 percent expected to be happier in one year and 48 percent, happier in five years. Thus, although those who were currently unhappy would seem to have a greater latitude for becoming happier, they did not actually expect to do so. These findings suggest that persons who were currently unhappy expected that the forces that were making them unhappy then would will continue to operate in the future. In the same vein, persons who were currently happy did not expect any reversals that would cause them unhappiness; instead, they expected to get happier and happier.

Factors Affecting Happiness

Socioeconomic status. Table 6.3 presents mean happiness by levels of socioeconomic status and the other independent variables. It should be remembered that the scales of these four measures all range from 1 to 3, with higher scores being greater happiness, and that the past happiness and both future happiness measures are relative to one's reported current happiness. As can be seen from the results presented in Table 6.3, happiness varied by level of socioeconomic status. Compared to lower-status respondents, higher-status respondents reported significantly greater happiness in the present and in their expectations for the future but reported less happiness for the past. The class differences in the present and future happiness measures were of greater magnitude than the class differences in past happiness.

Age. As can be seen in Table 6.3, happiness varied significantly by age. However, the direction of the differences was not the same for the four happiness measures. Older persons reported higher levels of past happiness than did younger ones, but lower levels of present happiness and increasingly lower levels of expected happiness for the immediate and the far future. In sum, compared to younger people, older people apparently felt they had experienced more happiness in the past then in the present, and felt less optimistic about their chances for future happiness.

Gender. Men and women differed in terms of their present happiness but not in terms of past or future happiness (see Table 6.3).

Marital status. The happiest group was the married respondents, with single respondents only slightly less happy and the previously married respondents considerably less happy. While the differences in future happiness were not significant, the pattern of results was similar—compared to those previously married, the married and single respondents expected higher levels of future happiness.

Factors Affecting Quality of Life

Socioeconomic status. Table 6.4 presents means for the quality of life measures by socioeconomic status and the other independent variables. The results presented in this table demonstrate that quality of life varies by level of social class. Higher-status respondents were happier, more satisfied, more fulfilled, and less worried than lower-status respondents. Furthermore, the impact of socioeconomic status was quite pronounced. For each measure of quality of life, the effect of socioeconomic status was stronger than the effect of any other factor.

Table 6.3
MEAN HAPPINESS BY SES, AGE, GENDER, AND MARITAL STATUS

	Past	Present	Near Future	Far Future
SES				
Low	1.988	2.271	2.168	2.144
Middle	1.932	2.442	2.360	2.388
High	1.851	2.670	2.593	2.639
Eta	.08*	.24***	.26***	.28***
Age				
30 and under	1.852	2.516	2.530	2.594
31 to 45	1.892	2.466	2.453	2.566
46 and over	2.047	2.376	2.095	1.963
Eta	.12***	.08*	.27***	.38***
Gender				
Male	1.959	2.544	2.383	2.438
Female	1.904	2.394	2.367	2.382
Eta	.04	.11***	.01	.04
Marital Status				
Married	1.929	2.519	2.387	2.425
Previously married	1.936	2.213	2.312	2.301
Single	1.864	2.407	2.392	2.475
Eta	.02	.18***	.04	.07

Notes: *p < .05, **p < .01, ***p < .001.

Age. Quality of life was also found to vary by age (see Table 6.4). Older respondents were less happy than younger respondents. However, although the relationships were not significant, older respondents were more satisfied and fulfilled than younger respondents. In addition, the youngest and the oldest groups worried least about things and the middle group worried most about things. Thus, while the relationships were weak, age affected the different components of quality of life in different ways. Older persons report less happiness but at the same time report more satisfaction, more fulfillment, and less worry.

Gender. For the most part, women had less positive perceptions of their quality of life than did men (see Table 6.4). The gender differences were statistically significant with respect to happiness, satisfaction, and worrying. However, men and women did not differ with respect to fulfillment.

Marital status. Marital status significantly affected perceptions of quality of life (see Table 6.4). Married respondents were the hap-

piest, most satisfied, and most fulfilled. Single respondents were happier than previously married respondents but no different with respect to satisfaction and fulfillment. The differences in the extent of worrying were small and not statistically significant.

Multivariate Analysis

In addition to the bivariate relationships presented in Table 6.4, the impact of the demographic factors on quality of life was examined, controlling for interrelationships among them. In this analysis, each measure of quality of life was regressed on socioeconomic status, age, gender, and marital status. For the most part, the results obtained in the bivariate analysis were replicated by the regression analysis. For one of the independent variables, the multivariate analysis produced a substantially different result from the bivariate analysis.

The relationship of age to quality of life was found to be larger in magnitude after adjusting for socioeconomic status. This is demonstrated by the figures in Table 6.5, which also presents the unadjusted relationships between age and quality of life and the relationships adjusted for socioeconomic status, gender, and marital status. As can be seen from this table, the relationship between age and quality of life becomes more strongly positive after controlling for socioeconomic status. Furthermore, adjusting for gender and marital status does not increase the relationships much more. This pattern occurs because of the strong relationship between age and socioeconomic status—that is, older persons are more likely than younger persons to be of lower socioeconomic status. Because of the strong impact of socioeconomic status on quality of life, older and younger persons did not appear very different in their perceptions of their quality of life when we did not control for socioeconomic status. However, adjusting for this relationship reveals that, relative to younger persons at similar levels of socioeconomic status, older persons had more *positive* perceptions of their quality of life.

The more positive effect of age was found primarily with the measures of satisfaction, fulfillment, and worrying. The relationship of age to happiness does not actually increase in magnitude after adjusting for socioeconomic status but moves from a negative relationship (which is opposite to the results of the other measures) to a positive one. For the happiness measure, the results are consistent in the sense that the relationship with age becomes more positive after adjusting for socioeconomic status. Further investigation of the relationship between age and happiness revealed that at higher levels of socioeconomic status, older respondents were happier than younger respondents; while at lower levels of

Table 6.4

MEAN QUALITY OF LIFE[a] BY SES, AGE, GENDER, AND MARITAL STATUS

	Happiness	Satisfaction	Fulfillment	Worrying
SES				
Low	3.378	1.883	2.405	.333
Middle	3.618	2.063	2.550	.421
High	3.928	2.078	2.735	.522
Eta	.24***	.15***	.17***	.15***
Age				
30 and under	3.709	1.984	2.505	.450
31 to 45	3.660	1.992	2.556	.395
46 and over	3.513	2.048	2.616	.431
Eta	.08*	.05	.06	.05
Gender				
Male	3.744	2.092	2.556	.481
Female	3.555	1.948	2.559	.385
Eta	.10**	.12***	.00	.10*
Marital Status				
Married	3.735	2.053	2.608	.421
Previously married	3.272	1.851	2.411	.441
Single	3.441	1.898	2.390	.389
Eta	.20***	.14***	.11***	.02

Notes: *p < .05, **p < .01, ***p < .001.

[a]See text for description of items.

Table 6.5

BIVARIATE AND PARTIAL CORRELATION COEFFICIENTS BETWEEN AGE AND QUALITY OF LIFE[a]

	Happiness	Satisfaction	Fulfillment	Worrying
Unadjusted	−.079	.056	.079	.020
Adjusted for SES only	.003	.111***	.150***	.085*
Adjusted for all factors	.022	.122***	.168***	.075*

Notes: *p < .05, **p < .01, ***p < .001.

[a]See text for further description of items.

socioeconomic status, older respondents were less happy than younger ones. Thus, while this pattern differed slightly from the results for the other measures, these findings illustrate the same point—the necessity of controlling for socioeconomic status when examining the relationship between age and quality of life.

As was shown in Table 6.4, the relationship between age and worrying was not actually linear—the youngest and oldest respondents worried the least and the ones in the middle worried the most. In the coefficients presented in Table 6.5, the assumption is that the relationship of age to worrying is linear. If we compare the age categories instead—i.e., do not assume linearity—and adjust for socioeconomic status, we find that the responses of older persons become more positive, in that they worried less than the younger ones, and those in the middle category continued worrying the most. In sum, despite the slightly different patterns among the four measures of quality of life, these findings emphasize the same point—older respondents have more positive perceptions after controlling for socioeconomic status. Thus, the negative perceptions of life that seem to be associated with age are actually a result of lower socioeconomic status; age, per se, has a positive impact on perceptions of quality of life.

Chicanos in a Comparative Context

Up to this point, our discussion has focused on quality of life only among Chicanos. While there is clear merit to understanding the influences on quality of life among this group, it is also important to understand how Chicanos compare to other groups. Two basic comparisons may be made. One, do Chicanos differ from other groups in their perceptions of quality of life? In other words, are there mean differences between Chicanos and other groups? Two, are the relationships between demographic characteristics and quality of life found among Chicanos in this study different from those found among other groups? Since the analysis for this paper is based on a dataset that includes only Chicanos, we must rely on published reports from prior studies among the general U.S. population in order to make comparisons. This clearly limits the comparisons that can be made. Nevertheless, some comparisons are possible, and these are discussed in the following sections. In addition, we present further analysis on the National Chicano Survey to provide support for the conclusions drawn from these comparisons.

Differences in Quality of Life

Ethnic differences. Other studies conducted at The University of Michigan have used measures of quality of life that are similar to

those used in the present study. One study in particular, conducted three years prior to the National Chicano Survey (Veroff, Douvan, & Kulka, 1981), contained two measures of quality of life—satisfaction and worrying—worded identically to two of our questions.[5] Table 6.6 presents the distribution of responses to these questions for the two surveys. Similar percentages of Chicanos and Americans in general reported being completely satisfied. However, a higher percentage of Americans in general reported being pretty satisfied, while a higher percentage of Chicanos reported being not very satisfied. Furthermore, a higher percentage of Chicanos reported worrying a lot rather than not very much. Chicanos do report somewhat lower levels of quality of life, although these differences are not very pronounced.

Generational differences. There may be many reasons for the slightly lower level of quality of life among Chicanos, but most important is probably their disadvantaged socioeconomic position, resulting from being a relatively recent immigrant group and from the social and structural discrimination faced by the group. While we cannot control for these factors in the present comparisons between Chicanos and other groups, we can examine the role of these factors just among Chicanos. As we saw earlier, socioeconomic status did have a substantial impact on quality of life among Chicanos. In addition, we can see from the means presented in Table 6.7 that quality of life also varied by generational status. This table clearly shows that first-generation Chicanos had the most negative perceptions with respect to quality of life, while later generations had more positive perceptions. The generational differences were most evident with respect to happiness, while generational differences in satisfaction were not significant.

Table 6.7 also shows that the generational differences were explained to a considerable extent by socioeconomic status. For the three measures where the bivariate relationship with generational status was stronger—happiness, fulfillment, and worrying—holding constant socioeconomic status reduced the relationships considerably. For fulfillment, the relationship was no longer significant, and for the other two measures, the relationship was significant but weaker. The remaining demographic factors did not explain much more of the generational differences in quality of life. If we make the assumption that the experiences of third-generation Chicanos are most similar to those of white Americans, those of the second generation less so, and those of the first generation least so,[6] then we can generalize from these results. In the same manner that socioeconomic status explained much of the generational differences in quality of life, it can explain ethnic differences in quality of life.

Table 6.6

DISTRIBUTION OF QUALITY OF LIFE MEASURES FROM NATIONAL CHICANO SURVEY AND VEROFF ET AL. SURVEY

	NCS	Veroff
Satisfaction		
Not satisfied	17%	10%
Pretty satisfied	65	74
Completely satisfied	18	16
Total	100	100
Worries		
A lot	58	45
Not very much	42	55
Total	100	100

Table 6.7

MEAN QUALITY OF LIFE[a] BY GENERATION, WITH UNADJUSTED AND ADJUSTED INCREMENTS IN MULTIPLE R

	Happiness	Satisfaction	Fulfillment	Worrying
Generation 1	3.472	1.997	2.459	.340
Generation 2	3.652	2.009	2.553	.480
Generation 3	3.810	2.014	2.683	.466
Unadjusted	.149***	.012	.116***	.131***
Adjusted for SES only	.080*	.033	.057	.084*
Adjusted for all factors	.098**	.014	.060	.085*

Notes: $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

[a]See text for further description of items.

Thus, the socioeconomically disadvantaged position of Chicanos among other Americans has important negative consequences for their quality of life.

Similarities in Relationships

In the same manner that Chicanos differed from the general U.S. population in reports of quality of life, they may differ in the forces that influence quality of life. For these comparisons we used the results of studies conducted at The University of Michigan by Veroff, Douvan, and Kulka (1981), Andrews and Withey (1976), and Campbell, Converse, and Rodgers (1976). These studies also included measures on happiness, satisfaction, and worrying. Table

6.8 summarizes the relationships investigated in the present study of Chicanos and the prior surveys among Americans in general.

Socioeconomic status. The strong impact of socioeconomic status on quality of life among Chicanos is supported by studies of the general population. In all four studies, socioeconomic status had a significant effect on happiness. With respect to satisfaction and worrying, the results among Chicanos were consistent with the results of at least one study among Americans in general.

Age. The effect of age on quality of life among Chicanos was similar to the findings among Americans in general. Before controlling for economic status, we found that among Chicanos, older persons were less happy but, although not significantly so, were more satisfied with their life and less worried about things. The findings among the general population were similar. Furthermore, the only study of the general population that examined these relationships with and without controls for socioeconomic status (Campbell et al., 1976) found that age differences increased—i.e. the responses of older persons became more positive when income was held constant. Finally, Veroff et al. found that older persons were less optimistic about the future, just as was found among Chicanos. Thus, the intricate pattern of age differences found among Chicanos is consistent with prior findings among the general population.

Marital status. Both the studies among Americans in general and our study among Chicanos found that married persons were happier and more satisfied than unmarried persons, but that they did not worry any more or less than the unmarried. In sum, socioeconomic status, age, and marital status impacted on the quality of life of Chicanos in a manner similar to that of Americans in general.

Gender. The major inconsistency between our findings and the studies on Americans in general was in the relationship between gender and quality of life. Among Chicanos, men were happier and more satisfied than women, while among Americans in general, men and women did not differ. Since Chicanos are of significantly lower socioeconomic status than Americans in general, status may be a reason for the greater gender differences among Chicanos. Further analysis with the National Chicano Survey revealed that the differences between men and women do vary by level of socioeconomic status. Among lower-status respondents, women were less positive in their quality of life perceptions than men, while among higher-status respondents, women were similar to men in happiness, satisfaction, and worrying and were actually more positive than men in fulfillment.[7] Thus, as we move down the

Table 6.8

SUMMARY OF RESULTS FROM THE NATIONAL CHICANO SURVEY AND FROM STUDIES OF THE GENERAL U.S. POPULATION

	Happiness	Satisfaction	Worrying
SES			
NCS	High > low	High > low	High > low
Veroff	High > low	No difference	High > low
Andrews	High > low	High > low	No difference
Campbell	High > low	–	–
Age—Unadjusted for SES			
NCS	Older < young	No difference	No difference
Veroff	–	–	–
Andrews	Older < young	No difference	No difference
Campbell	Older < young	Older > young[a]	–
Age—Adjusted for SES			
NCS	No difference	Older > young	Older > young
Veroff	No difference[b]	Older > young	Older > young
Andrews	–	–	–
Campbell	–	Older > young	–
Gender			
NCS	Men > women	Men > women	No difference
Veroff	No difference	No difference	No difference
Andrews	No difference	No difference	No difference
Campbell	–	No difference	–
Marital Status			
NCS	Married > not married	Married > not married	No difference
Veroff	–	–	–
Andrews	Married > not married	Married > not married	No difference
Campbell	–	Married > not married	–

[a]Although Campbell et al. found a difference prior to adjusting for socioeconomic status, this difference was small and increased after adjusting for status.

[b]Veroff et al. found no age differences among men but did among women.

socioeconomic ladder (i.e., comparing Chicanos to the general population and comparing lower-status Chicanos to higher-status ones), the differences between men and women increase, with women having more negative perceptions of their life quality.

Summary and Discussion

Among the findings reported in this paper, there are several that deserve further mention and that require some interpretive synthesis. The following are particularly important.

Persons who were unhappy at the present time recalled relatively more happiness in the past but anticipated further unhappiness in the future, while those who were happy at the present time recalled relatively more unhappiness in the past but anticipated becoming happier in the future.

Higher-status persons were considerably more positive in their perceptions of the quality of life at the present time than were lower-status ones. Furthermore, higher-status Chicanos had more positive expectations for happiness in the future then lower-status ones.

Married persons had more positive perceptions of their quality of life than did single or previously married respondents, and married persons were slightly more optimistic for the future than were single or previously married respondents.

Older persons differed from younger ones in their perceptions of the quality of life. They were more positive in many aspects of their life quality (satisfaction, fulfillment, and worrying) but were less happy and were much less optimistic about their future happiness than were younger persons. The perceptions of older persons, however, became more positive after adjusting for socioeconomic status. In other words, older persons had more positive perceptions than younger ones of a similar socioeconomic status.

Comparisons with surveys of the general U.S. population showed slightly more negative perceptions of the quality of life among Chicanos.

Generational differences in quality of life among Chicanos were examined in order to parallel differences between Chicanos and Americans in general. Holding constant socioeconomic status explained much of the generational differences among Chicanos.

The influence of socioeconomic status, age, and marital status on the quality of life among Chicanos was similar to the influence of these factors among the general U.S. population.

Gender differences in perceptions of the quality of life were found among Chicanos but not among the general U.S. population. In addition, among lower-status Chicanos, women had lower quality of life perceptions than did men; but among higher-status Chicanos, women had similar or higher perceptions.

Most of the results of this study parallel the findings on majority Americans' quality of life. However, some of the results suggest that ethnic-specific processes may be operating. In the first place, it is important to note that on an absolute level Mexican Americans report lower levels of quality of life than the general U.S. population. This is to be expected, given the higher incidence of poverty and poorer education of Chicanos, and is confirmed by the clear relationship, found consistently in the present study as well as others, between socioeconomic status and perceived quality of life. In addition, Chicanos have various resources (extended family and strong cultural maintenance) that would be expected to increase the quality of their lives (Keefe, 1980; Padilla & Ruiz, 1973). Chicanos also have been found to be less inclined to report negative views of their condition. It is thus likely that Chicanos' reports of the quality of their lives would have been lower, compared to the general population, if these familial and cultural forces were not influencing reporting toward the positive end. Understandably, being married and having a higher socioeconomic status is strongly and consistently associated with better quality of life for all populations, including Chicanos. Within the social norms that prevail in U.S. society, marriage provides the stability, companionship, and support that is associated with life satisfaction, happiness, and fulfillment. Single (never married) and previously married (widowed, divorced, or separated) people apparently do not have substitute resources that would produce scores on the quality of life equal to the married ones. Similarly, higher socioeconomic levels provide other kinds of resources that generate better life quality. Along with the psychosocial impact of having higher-status occupations and living in more prestigious neighborhoods, there are the the more concrete elements of access to better health care, more vacation travel, more leisure time activities, and more access to material goods. All of these combined to produce higher assessments of one's life quality.

Age is another influence on the quality of life that operates on the general population as well as on Chicanos. We noted earlier that, when asked to estimate future happiness, older Mexican Americans report more negative prospects than do younger ones. This is not surprising given the greater incidence of illness of self and others, of death of significant others, and of the more serious

pressures to survive on modest and fixed incomes. More interesting are the findings on current happiness and on other elements of life quality that require a retrospective view of life. Older Chicanos report being less happy than do younger ones, but this relationship totally disappears when socioeconomic status is held constant. This suggests that the key explanation of older people's unhappiness is the lack of socioeconomic resources needed to maintain a quality living standard. Satisfaction and fulfillment among older Chicanos is higher than among younger ones, thus indicating that on these rather more retrospective measures older people are at a more "completed" stage of their lives. Finally, older people, perhaps with more adjustment and accumulated coping skills, worry less than younger ones.

The differences between Chicanos and the general U.S. population that do exist demonstrate the probable role of group-specific factors. One major difference between Chicanos and the general U.S. population was in the relationship between gender and quality of life (significant among Chicanos but not so among Americans in general). At first glance, one might argue that this difference is due to practices and beliefs that characterize Chicano culture. For instance, less egalitarian personal relationships between men and women and less egalitarian views about women's place in society may lead to greater frustration among Chicanas, which in turn would produce more negative perceptions of their quality of life. However, other findings suggest this is not the case. First, Chicanas with higher educational attainment are more likely to have egalitarian views than men at a similar level; while at lower levels, Chicano men and women do not differ much in these views (Ortiz & Arce, 1984). From this, one would predict that greater frustration regarding their role in society would exist among higher-status Chicanas and that, in turn, they would differ most from their male counterparts in their perceptions. However, we find this not to be the case—it is among lower-status, not higher-status Chicanos, that the largest gender differences in perceived quality of life exist. Another piece of evidence that counters this argument is that egalitarian views do not, in and of themselves, impact on quality of life perceptions (unpublished data from NCS). Thus, cultural practices and beliefs do not appear to offer a sufficiently plausible explanation for the gender differences in quality of life among Chicanos.

The more reasonable explanation lies in the structural position of Chicanos in American society. Recent changes in the status and role of Chicanas explain their unique experiences. For instance, the proportion of Mexican American women who participate in the labor

force has increased sharply in the last 20 years and now equals that of majority women, so the pressures experienced by Chicanas in fulfilling both home and work responsibilities are probably greater than those experienced by other groups because of this rapid change in participation. We can further see the importance of structural forces in the larger gender differences in the quality of life found among lower-status Chicanos. This is not surprising since lower-status persons are clearly more negatively affected by their position in society. However, by this we do not mean that structural forces do not impinge on the experiences of Chicano men. The data clearly show that the perceptions of all Chicanos are strongly affected by their status. Rather, we mean that lower-status Chicanas are simply more affected than are lower-status Chicanos.

This structural explanation is important for another important finding in this study—generational differences in the quality of life. We examined these differences as a way of approximating ethnic differences in the quality of life and found that socioeconomic status explained a considerable amount of the generational variation. In sum, we have seen throughout these analyses how socioeconomic status plays a pivotal role in understanding the quality of life among Chicanos—it impacts directly on the quality of life, explains generational differences, and modifies the relationship of gender to the quality of life. And so we see that the common thread throughout these findings is the extent to which the marginal, economically disadvantaged position of Chicanos in this society determines their quality of life.

Notes

[1]Data collection and analysis of the National Chicano Survey were supported by a grant from the National Institute of Mental Health (NIMH), Center for Minority Group Mental Health Programs (MH30244) to Carlos H. Arce, Principal Investigator. The first author was supported by a postdoctoral fellowship from NIMH (MH08669).

[2]Generational distance is an ordinal scale composed of the following five categories: (1) born in Mexico and arrived in the United States after the age of 21; (2) born in Mexico and arrived in the United States at or before the age of 21; (3) born in the United States of two Mexican-born parents; (4) born in the United States of one Mexican-born parent, and (5) born in the United States of two U.S.-born parents.

[3]Language orientation is constituted of seven items tapping language spoken to spouse, siblings, children and friends; language used when discussing personal or intimate matters or when angry; and language of interview. The response categories to these items were 5-point scales ranging from *English only* to *Spanish only*, with the midpoint representing *both languages equally*. The seven language items were averaged together with higher scores representing exclusive English use; middle scores, the use of both languages equally; and

lower scores, exclusive Spanish use.

[4]This scale was created by averaging the following three items: (1) What happens when you make plans? Do you get to carry out things *the way you thought*, or do things usually come that *change your plans*?; (2) What is more true for you: that your life will turn out the *way you want* or that you're *not sure* how your life will turn out?; and (3) Some people feel they can *live much the way they want*; others feel that the *problems of life are too big*. Which are you most like?

[5]Veroff et al. (1981), Andrews and Withey (1976), and Campbell et al. (1976) have other similar measures in their studies. However, the response categories of measures in their studies were not the same as those in our study, so exact comparisons could not be made.

[6]By this we do not mean to imply that Chicanos who have been in the United States longer (i.e., the third or later generations) have the *same* experiences as other groups. No doubt third-generation Chicanos, and certainly first- and second-generation Chicanos, have unique experiences, both in how they are treated by the dominant society and in their attitudinal and behavioral identification with Mexican culture.

[7]This was tested for significance by examining the interaction between socioeconomic status and gender. For the measures of satisfaction and fulfillment, the interaction was significant; while for the measures of happiness and worrying, the interactions were not. However, for all four measures, the pattern of differences was similar.

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7

The Subjective Life Quality of Black Americans

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This chapter examines reports of global life quality collected during the period 1979–1980 from a national sample of the black population. Previous research on subjective well-being has been largely restricted to analyses of small and often unrepresentative samples of blacks. The inadequate size and the nonrepresentative nature of the samples in this previous research may have contributed to our lack of knowledge regarding the distribution and correlates of well-being within this population. The role of social and economic status in the nature of subjective life quality has important theoretical and policy implications. This chapter focuses particularly on the effects of income and education. Similarly, because previous research has highlighted the changing life conditions of black Americans over time and thus possibly important age and cohort differences, the moderating role of age in social and demographic relationships to well-being is explored. The results of the overall analyses reveal no effect of socioeconomic factors on reported well-being. As in previous studies the variables that showed a consistent relationship were those closely related to the quality of living arrangements and interpersonal relationships. Education emerged as an important predictor only in the young group. Overall, however, the effects of social and demographic factors were very slight. Similarities and dissimilarities of these findings to those of previous research are discussed, along with suggestions for future study.

Introduction

This chapter investigates the relationships of sociodemographic and background factors to global subjective assessments of life quality from the National Survey of Black Americans, which interviewed a national probability sample of the black population during 1979 and 1980. One of the more consistent findings in previous research on global well-being has been the generally weak relationships between indicators of social and demographic characteristics on the one hand and subjective reports of satisfaction and happiness on the other (Andrews, 1982). Few research efforts have examined the relationships of these social and demographic factors to well-being in different racial and ethnic groups. In the few exceptional cases, generally weak relationships have also been reported (Campbell, 1981; Campbell, Converse, & Rodgers, 1976; Andrews & Withey, 1976). Other research findings, while confirming the generally weak magnitude of the relationships, have also pointed to

patterns of relationships within the black American samples that are slightly different from those observed in the general population (Jackson, Herzog & Chatters, 1980; Herzog, Rodgers & Woodworth, 1982; Campbell et al., 1976).

Some researchers have emphasized the similarities in observed relationships (e.g., Andrews & Withey, 1976), while others have suggested that the differences in relationships might indicate the operation of different processes in the development of subjective well-being across racial groups (Jackson et al., 1980). Because of the inferior social, political, and economic conditions of many racial and ethnic minorities within the American society, the processes underlying the development of subjective expressions of well-being may differ between these minorities and the majority group. At the very least the processes postulated to underlie subjective well-being should show heightened or exaggerated relationships within racial/ethnic populations. For example, if the gaps between aspirations and accomplishments help account for satisfactions in life (Michalos, 1980), then we might expect to observe this effect even more clearly within groups whose life accomplishments have been restricted by systemic forces. On the other hand, the operation of adjustment factors might well abrogate any gap relationship to reported satisfaction (Campbell et al., 1976). Or, as the work by Carp and Carp (1982) suggests, perceptions of societal inequity may be a more prominent and salient process underlying satisfaction than gaps in aspirations, expectations, and attainments.

The limited amount of previous research on racial/ethnic minorities has been conducted mostly on small and restricted samples. This lack of previous systematic research on quality of life within the black American population, and the existence of a few studies that report some demographic variation, suggests the need to document the effects of social and demographic factors on subjective well-being in a large, representative sample of black Americans. Our analyses of data from the National Study of Black Americans lets us explore these matters.

Because of the relatively poor socioeconomic status of blacks and the acknowledged contribution of systematic societal factors in this status, the impact of income and education are highlighted and receive major treatment in our analyses. Our investigation of education and income effects focused attention on the distribution of subjective reports of well-being across different subpopulations of black Americans as well as on the impact of the possession of these resources on subjective life quality. Because much prior research has focused on age and age changes (Campbell, 1981) and particularly on the role of age and ethnicity (Janson & Mueller, 1983;

Herzog et al., 1982; Jackson et al., 1980), this demographic factor is also given special attention. In fact, because of suspected age and cohort effects in the impact of social and economic resources (Campbell et al., 1976; Janson & Mueller, 1983; Herzog et al., 1982: Veroff, Douvan, & Kulka, 1981), age is treated in the present chapter as a possible moderator of socioeconomic and demographic effects on subjective well-being.

Quality of Life in Black Americans

Campbell et al. (1976) provide one of the most comprehensive coverages of the global quality of life of black Americans. A similar detailed but more methodological treatment can also be found in the book by Andrews and Withey (1976). However, small sample sizes and possible lack of representativeness restrict the generality of these findings and the application of multivariate analyses. In addition, questions regarding comparability of the conceptual meaning of the well-being items across racial/ethnic groups have largely been ignored.

Two distinct interpretations of well-being assessments are presented in the literature and have relevance for blacks. First, there is an expectation that social indicator measures are useful as monitors of the economic, social, and political changes that affect the black population (Campbell et al., 1976). Under this expectation, levels of subjective well-being should reflect trends in black performance in economic, political, and social areas. Consequently, socioeconomic factors (i.e., income and education) should serve as general indices of the improved status of blacks and bear a positive relationship to overall evaluations of life quality. As presented in the next section, however, trends in the subjective well-being of blacks indicate a consistent decline over a number of years despite general improvement in the status of blacks (the exception being an apparent upturn in evaluations in 1978 and 1980). Some have suggested that the failure to find expected relationships between objective and subjective measures of life quality raises questions of the meaning and validity of subjective indicators (e.g., Duncan, 1975). Others (e.g., Andrews, 1982) have argued that a number of methodological and substantive factors may influence this expected objective and subjective linkage, leading to the commonly observed lack of high covariation.

A second interpretation of global well-being assessments suggests that substantial relationships with indicators of objective circumstances (i.e., sociodemographic factors) should not necessarily be anticipated (Andrews, 1982; Rodgers, 1982). Subjective evaluations of life quality are considered to be complementary to indicators

of objective circumstances as opposed to substitutions for them (Andrews, 1982; Rossi & Gilmartin, 1980; Campbell et al., 1976). Rather than a direct correspondence between objective conditions and subjective evaluations of those conditions, some theorists suggest that global evaluations involve both cognitive and affective processes (Andrews, 1982).

It has been proposed in recent work that the nature of these subjective evaluations of life quality can be described in terms of various "gaps" or inconsistencies between relevant status levels (see Michalos, 1980, for a review of the gap-theoretic literature). One application of a gap theory explanation suggests that the apparent discrepancy between the objective advancement of blacks and trends in subjective evaluations merely reflects the differences in expectations for advancement held by blacks and actual progress attained. As recent work indicates (Andrews, 1982), there is a growing appreciation for different reference points in the formulation of subjective evaluations and the way they relate to other indicators of life quality. Racial differences in the meaning of quality of life measures have not been thoroughly explored, however, despite interest in issues of stimulus equivalency and the conceptual meaning of constructs of global well-being in other areas (Szalai & Andrews, 1980).

Trends in Global Well-being

An examination of close to 30 years of research on quality of life reveals relatively little systematic information on the life quality of American blacks (Campbell, 1981). Attempts to address this phenomenon within black subsamples included in larger surveys of the general population are noted in the literature (Jackson et al., 1980). Research on both happiness and life satisfaction assessments indicates that blacks evaluate the overall quality of their lives in a less positive manner than do whites (Jackson et al., 1980; Andrews & Withey, 1976). Table 7.1 shows the trends over time for both happiness and satisfaction ratings. These figures are taken from a number of secondary (Campbell et al., 1976; Converse, Dotson, Hoag, & McGee, 1980) as well as primary sources (Veroff et al., 1981; Campbell, 1981). With the exception of the 1965 and 1968 sources reported by Campbell et al. (1976), all data reported in Table 7.1 were obtained from national population surveys. Because the response format and question stems have remained fairly constant across the 23-year history of the happiness item, we can be fairly confident in making comparisons across groups and time. On the other hand, the response categories for the satisfaction item represent only a crude trichotomy. The original question stems and

Table 7.1
REPORTED HAPPINESS AND LIFE SATISFACTION FOR THE GENERAL POPULATION AND BLACK AMERICANS: SURVEYS CONDUCTED 1957–1980

Happiness

	General Population				Black Americans			
Year of Survey	Very Happy	Pretty Happy	Not Too Happy	N	Very Happy	Pretty Happy	Not Too Happy	N
1957[a]	35%	54%	11%	2,452	22%	54%	23%	188
1971[b]	29	61	10	2,146	19	61	19	223
1972[c]	24	66	10	1,057	18	55	26	105
1976[d]	31	58	10	2,264	18	61	21	242
1978[e]	29	63	9	3,692	22	62	15	371
1980[f]	—	—	—	—	29	54	16	2,107

Life Satisfaction

	General Population				Black Americans			
Year of Survey	Completely Satisfied	Somewhat Satisfied	Dis-satisfied	N	Completely Satisfied	Somewhat Satisfied	Dis-satisfied	N
1965	23%	66%	11%	962	26%	64%	10%	93
1968	25	65	10	1,205	14	69	17	223
1971	22	71	7	2,146	18	71	11	223
1976	16	73	10	2,231	12	72	16	242
1978	22	71	7	3,692	24	63	13	371
1980	—	—	—	—	31	48	21	2,107

Sources: These data were assembled from a number of primary and secondary sources that are described in the text. The following surveys were all conducted by the Institute for Social Research at The University of Michigan: (a) Americans View Their Mental Health, 1957; (b) The Quality of American Life, 1971; (c) American National Election Studies, 1972; (d) Americans View Their Mental Health, 1976; (e) The Quality of American Life, 1978; and (f) National Surveys of Black Americans, 1980.

response formats on this item are very different across the various national studies. Any comparisons made on life satisfaction are thus affected by these problems of equivalency.

Over the years, black reports of happiness and unhappiness have remained fairly constant. The slight drop in happiness observed in 1971 and 1972 is also reflected in a similar but slightly larger decrease in reported happiness among whites. Interestingly enough, our own data in 1980 show that black Americans report elevated happiness ratings—an increase in reports of being "very happy" accompanied by a decrease in reports of "not too happy." This finding continues the trend of the 1976 and 1978 data and is comparable with a similar trend observed among whites during the same period. Overall, then, while reported levels of happiness among blacks are lower than for whites, recent trends and our own 1980 data show that recently a larger proportion of blacks are happier than at any of the previous time periods.

Looking next at life satisfaction, a trend of increasing dissatisfaction can be observed, culminating in the highest levels of reported dissatisfaction in our 1980 data collection. When combined with the 1976 and 1978 data, an increasing polarization can be observed: Greater numbers of black Americans are indicating satisfaction with their lives in the last few years, but greater numbers are also indicating dissatisfaction. This polarization may indicate increasing variability in reports among selected demographic subgroups within the black population.

Correlates of Well-being

Although prior studies have been hampered by the small number of black respondents usually found in national population surveys (Veroff et al., 1981), some demographic subgroup variation has been reported. To summarize the findings on black Americans from several studies (Campbell et al., 1976; Veroff et al., 1981; Campbell, 1981), being older is associated with higher levels of both happiness and life satisfaction. Similarly, being married or widowed (as opposed to divorced or single) and a resident of the South (as opposed to the North) are related to increased well-being. In addition, men are more likely than women to report greater life satisfaction, but gender is virtually unrelated to reports of happiness (Campbell et al., 1976).

In a racial comparison of the demographic correlates of well-being, blacks resemble whites in several respects. The relationships of life satisfaction with region and marital status are comparable across both groups. Few gender differences are generally found for whites. While age is positively associated with satisfaction for both

blacks and whites, the relationship is more pronounced among blacks. Income and education are positively but weakly related to satisfaction for whites but have little systematic influence on satisfaction evaluations for blacks. In happiness ratings, black and white respondents are similar, and marital status effects are apparent in both groups. White respondents, however, are different in that income and education are positively associated with happiness, while age of respondent is negatively related. Among blacks, income and education bear little relationship to happiness, while age is positively associated.

In a comprehensive examination of the well-being issue, Jackson et al. (1980) performed secondary analyses on a large aggregated sample derived from the black subsamples of 12 datasets. One portion of this research focused on the effects of sociodemographic factors on reports of happiness and life satisfaction. Separate analyses were conducted within three age groupings of respondents—young (18 to 34 years), middle-aged (35 to 54 years), and old (55 years and above). These analyses revealed that slightly different sets of factors were predictive of well-being. Among young persons, greater levels of happiness were related to being female, employed, and having higher levels of income. Additionally, for young respondents, being married was the only sociodemographic factor that was related to increased happiness and life satisfaction. In the middle-aged group, being older and married was predictive of greater life satisfaction, while an advantage in happiness was found among female, married, and employed respondents. Finally, among older persons, being older and married was associated with increased happiness while being older and employed was predictive of greater life satisfaction.

This chapter contributes to the debate on the meaning and usefulness of subjective measures of global well-being. The relationships of social and demographic characteristics to reports of happiness and satisfaction among black Americans are examined in a more systematic manner than in past studies. Of particular interest in the present analyses is the general failure to find reliable evidence that socioeconomic factors markedly affect well-being among black Americans. As described in the next section, the dataset from the National Survey of Black Americans (NSBA) addresses many of the problems of lack of representativeness and small sample sizes that have characterized previous analyses on black well-being.

Study Sample and Analysis Approach

Sample and Data Collection

Analyses were conducted on a nationally representative cross-section sample of the adult (18 years and older) black population living in the continental United States. The sample was drawn according to a multistage, area probability procedure designed to insure that every black household had the same probability of being selected for the study. This self-weighting sample is unique and the procedures used permitted a true probability sample of the entire black population to be obtained.

Based on the 1970 census (and subsequent updates) distribution of the black population, 76 primary areas were selected. These sites were stratified according to racial composition and income; then smaller geographical areas ("clusters," generally representing city blocks or groups of blocks) were randomly chosen. Actual sampling and interviewing were conducted in these smaller geographical areas. Preliminary scouting of the selected clusters within each primary area provided a check of new construction, destruction, number of households, and racial composition. Since correct identification of eligible dwelling units was critical, two special screening procedures were developed for finding black households. The Standard Listing and Screening Procedure (SLASP), which was applied in mixed and mostly black areas, provided a unique method of identifying black households by using reference housing units. After all housing units were identified by referents as black-occupied or "other"-occupied, eligible housing units were selected from the list of black housing units. A subset of the "other" occupied housing units was selected for screening to assess the accuracy of the informants in the reference housing units.

The Wide Area Screening Procedure (WASP) was developed for use in areas with few or no black-occupied housing units. Whereas the SLASP interviewers listed and classified each housing unit in a cluster, the WASP interviewers asked the reference housing unit about blacks in the area and listed only the black-occupied housing units. In order to check the effectiveness of the procedure, 20 percent of the WASP clusters were chosen at random and received the more thorough SLASP coverage. The WASP procedure allowed the self-weighting probability sample to be obtained because it permitted, at acceptable cost, the screening of large areas of the country where blacks represented less than one percent of the population. These blacks had the same probability of selection as blacks who lived in areas that were more heavily black-occupied. Within each selected black household, a single person was randomly

chosen to be interviewed. No substitutions were allowed. A refusal to be interviewed by the selected person resulted in the household being classified as a nonresponse.

A demographic profile of the selected respondents is presented in Table 7.2. Although not reported in detail here, the major deviation of this sample from sociodemographic distributions of the black population, based upon the 1980 Census, is a trend toward lower income.

Measures

Happiness was measured by the following question: "Taking all things together, how would you say things are these days—would you say you're *very happy*, *pretty happy*, or *not too happy* these days?" Life Satisfaction was measured by the following question: "In general, how satisfied are you with your life as a whole these days? Would you say that you are *very satisfied*, *somewhat satisfied*, *somewhat dissatisfied*, or *very dissatisfied*?" The univariate distributions on these measures are given in Table 7.1. The major demographic and background variables used in our analyses included age, education, marital status, region, family income, employment status, degree of urban development, and gender.

Analysis Approach

Both bivariate and multivariate analyses were used in examining the relationships of sociodemographics to well-being that are reported here. Multiple Classification Analysis (MCA) was the analytic technique employed (Andrews, Morgan, Sonquist, & Klem, 1973). This procedure is analogous to dummy variable regression but permits the use of nominal pattern predictor variables as well as simultaneously providing both bivariate and multivariate analyses.

Results and Discussion

Life Satisfaction

The results of the MCA analysis on life satisfaction for the full sample is shown in Tables 7.3 and 7.4. Significant bivariate relationships are found for age, education, marital status, region, income, and degree of urban development. As shown in Table 7.4, the effect of age is linear, with older respondents reporting greater satisfaction than younger respondents. This finding is consistent with relationships found in the general population as well as for blacks separately (Campbell et al., 1976). The significant marital status effect is also similar to earlier work and indicates that the

Table 7.2
DISTRIBUTIONS OF SELECTED SOCIOECONOMIC AND DEMOGRAPHIC CHARACTERISTICS OF THE NSBA CROSS-SECTION SAMPLE (N = 2,107)

Category	(%)	(N)
Gender		
Men	37.8	(797)
Women	62.2	(1,310)
Age		
18–20	5.8	(121)
21–29	23.2	(488)
30–39	20.6	(433)
40–49	15.2	(320)
50–59	14.1	(297)
60–69	10.9	(163)
70–79	7.8	(163)
80–101	2.4	(50)
Education		
0–11 years	44.0	(919)
12 years	31.1	(650)
13–15 years	16.0	(334)
16 years or more	8.8	(184)
Total Household Income		
Less than $5,000	25.1	(461)
$5,000 – $9,999	25.6	(469)
$10,000 – $19,999	26.8	(492)
$20,000 plus	22.5	(413)
Region		
North East	18.6	(391)
North Central	22.2	(467)
South	53.4	(1,125)
West	5.9	(124)
Degree of Urban Development		
Large Urban	47.7	(1,005)
Smaller Urban	31.3	(660)
Less Urban, More Rural	21.0	(442)
Work Status		
Working	57.0	(1,199)
Jobless		
Officially Unemployed		
Discouraged	3.0	(53)
Not Discouraged	7.0	(147)
Hidden Unemployment		
Discouraged	2.0	(50)
Not Discouraged	13.0	(276)
Not Interested in Job	18.0	(380)
Occupation		
Professional	12.9	(160)
Managerial	5.8	(72)
Sales	2.8	(35)
Clerical	16.5	(204)
Crafts	9.7	(120)
Operatives	19.4	(240)
Laborers	5.5	(68)
Farmers	1.0	(13)
Service Workers	26.4	(327)

Table 7.3
MULTIPLE CLASSIFICATION ANALYSIS SUMMARY TABLE; SOCIODEMOGRAPHICS AND WELL-BEING

Predictor	Eta	Beta
Panel A: Life Satisfaction		
Age	.25**	.26
Education	.20**	.10
Marital Status	.15**	.10
Region	.13**	.09
Income	.07*	.07
Employment Status	.02	.05
Urban/Rural	.11**	.04
Gender	.04	.004
R(adj.) = .31 F(23,2042) = 10.63, p < .01		
Panel B: Happiness		
Age	.30**	.30
Marital Status	.22**	.13
Region	.12**	.09
Income	.05	.07
Urban/Rural	.11**	.05
Employment Status	.02	.04
Education	.17**	.04
Gender	.03	.01
R(adj.) = .33 F(23,2032) = 11.93, p < .01		

*p < .05, **p < .01.

highest satisfaction is found within the married and widowed respondents and the lowest within the divorced or separated group. This has been a traditional finding in the literature (Veroff et al., 1981, for example). Also in agreement with Campbell (1981), our findings show the highest satisfaction for individuals who live in the South and the lowest for those who live in the North. One of the strongest bivariate effects is found for the relationship of education to life satisfaction. While this effect was not statistically significant in the studies conducted in 1971 and 1978 (Campbell, 1981), the same trend is evident in the present findings; higher satisfaction is found for both the lowest educated and those with post graduate degrees or training. The lowest satisfaction levels are present among those individuals with some college. While further analyses are needed, this curvilinear relationship may be due to the availability of opportunities for blacks possessing different levels of education credentials in comparison to rising expectations and aspirations (Abbott, 1978).

Unlike the findings for education, income shows only a weak

Table 7.4
MULTIPLE CLASSIFICATION ANALYSIS: LIFE SATISFACTION PREDICTED BY INCOME, EDUCATION, AND AGE

Category	N	Unadjusted Mean	Eta	Adjusted Mean	Beta
		Panel A: Income			
Under $5,000	453	2.10	.07*	2.01	.07
$5,000–$9,999	464	2.05		2.07	
$10,000–$19,999	487	2.09		2.13	
Above $20,000	410	2.06		2.10	
Missing Data	(252)	(2.22)		(2.17)	
		Panel B: Education			
0 to 8 years	451	2.33	.20**	2.18	.10
9 to 11 years	456	2.06		2.08	
H.S. Graduate	648	2.03		2.07	
Some College	329	1.91		1.96	
College Graduate	92	2.10		2.11	
Postgraduate	90	2.21		2.21	
		Panel C: Age			
18 to 25 years	392	1.99	.25**	2.01	.26
26 to 34 years	457	1.90		1.90	
35 to 54 years	652	2.05		2.03	
55 to 64 years	235	2.23		2.21	
Above 65 years	330	2.45		2.46	

*$p < .05$, **$p < .01$.

bivariate relationship to life satisfaction. In the study by Campbell et al. (1976), income was found to be positively, but weakly, related to satisfaction. In the current case, the bivariate income effect is largely the result of those individuals who did not respond to the income question differing from all other categories, particularly individuals making over $5,000 a year.[1] Somewhat surprisingly, given previous research demonstrating greater satisfaction among black men (Campbell et al., 1976; Veroff et al., 1981), gender shows no significant relationship to satisfaction. Also unexpectedly, employment status shows no significant relationship to reported satisfaction. Finally, degree of urbanization is found to be significantly related to satisfaction; individuals in rural environments report higher levels of satisfaction.

Overall, the bivariate effects are consistent with those reported previously, particularly those of Campbell et al. (1976). The income effect, however, is largely accounted for by the fact that respondents with missing data on income also report the highest levels of

satisfaction. While additional analyses suggest that in other demographic characteristics these respondents are similar to low-income respondents, an interpretation of this finding is not clear. The only other surprise is the lack of an effect for gender; unlike other studies, black females are not found to be less satisfied than black males. The remaining effects are similar to those reported by Campbell et al. (1976).

The results of the multivariate analysis on life satisfaction are also shown in Tables 7.3 and 7.4. The objective of this analysis was to determine the joint contribution of the full set of social and demographic factors to satisfaction as well as the independent relationship of each of them. Age is the only variable of any real importance in the multivariate context, and this effect is consistent with previous findings (Campbell et al., 1976; Campbell, 1981; Veroff et al., 1981).

Happiness

Education, age, region, and marital status (Tables 7.3 and 7.4) show the same relationships to happiness as found for life satisfaction and as reported by Campbell et al. (1976). Respondents with lower education, those who are married or widowed, and those who live in the South and rural areas show the highest levels of happiness. Gender again shows no significant effect on happiness levels, consistent with Campbell et al. (1976). Neither income nor employment status demonstrate any marked relationship to happiness. In the multivariate analysis, age—and to a lesser degree marital status—emerges as the only important predictors of happiness, similar to the life satisfaction analysis. Education and income show no substantial relationships to happiness.

Age Subgroup Analyses

The results of the bivariate and multivariate analyses on the two well-being measures provide a great deal of support for previous findings on the social and demographic correlates of reported well-being. Clearly the only two important variables in the set of multivariate analyses reported thus far are age and, in the case of happiness, marital status.

These previous analyses, however, do not directly speak to the possible interactive role of age with the remaining predictors. In addition to the analytic issue, some previous research has pointed to the possible pivotal role that age may play in moderating the relationship of socioeconomic variables and well-being. Veroff et al. (1981) reported a significant interaction between age and income on happiness. This effect indicated that income was most important in

Table 7.5
MULTIPLE CLASSIFICATION ANALYSIS: HAPPINESS PREDICTED BY INCOME, EDUCATION, AND AGE

Category	N	Unadjusted Mean	Eta	Adjusted Mean	Beta
		Panel A: Income			
Under $5,000	452	2.13	.05	2.06	.07
$5,000–$9,999	460	2.08		2.11	
$10,000–$19,999	486	2.12		2.16	
Above $20,000	409	2.16		2.19	
Missing Data	(249)	(2.18)		(2.16)	
		Panel B: Education			
0 to 8 years	452	2.33	.17*	2.16	.04
9 to 11 years	452	2.06		2.10	
H.S. Graduate	644	2.06		2.12	
Some College	327	2.06		2.13	
College Graduate	91	2.16		2.18	
Postgraduate	90	2.18		2.16	
		Panel C: Age			
18 to 25 years	389	1.95	.30*	1.96	.30
26 to 34 years	457	1.99		1.98	
35 to 54 years	646	2.10		2.09	
55 to 64 years	235	2.24		2.25	
Above 65 years	329	2.50		2.54	

*$p < .01$.

the well-being of middle-aged individuals and less important in the happiness of either younger or older people. They interpreted this result as perhaps due to the fact that middle-aged individuals can no longer anticipate any changes in their social or economic status and thus their current status signifies the quality of their life. Young people, on the other hand, are building for the future, while older people may be attending to other aspects of their lives that deemphasize the importance of such factors as income for their well-being. Veroff et al. (1981) did not report whether this same interaction was found in separate analyses on blacks or whether a higher order interaction with race was found.

In a related analysis of age effects, Herzog et al. (1982) report a significant race-by-age interaction. Their findings indicated that young blacks were much less happy than young whites, but that middle-aged and older blacks did not differ from their white counterparts. While this effect is net of income, education, and health, they did not report whether they tested for the same inter-

actions as found by Veroff et al. (1981) within the different race groups. Finally, in a previous study that combined blacks from twelve different large datasets, Jackson et al. (1980) conducted separate analyses by age, using the same categories as Veroff et al. (1981): 18–34; 35–54; and 55+. Different factors emerged as important across the groups. The most salient finding was that income was a significant positive predictor of happiness only for younger respondents (18–34). Income was not an important predictor for either middle-aged or older respondents. Somewhat counter to the Veroff et al. (1981) argument, Jackson et al. (1980) suggested that the lack of a history of blocked opportunities in the youngest group and thus less adaptation to deprived conditions may lead to the increased importance of socioeconomic variables in contributing to subjective well-being. This argument is similar to one advanced by Campbell et al. (1976) to explain why income may play a more important role in subjective well-being during times of economic recession. Because of the nature of the dataset, however, it was of course impossible to disentangle the effects of age and cohort on the observed effect.

The previous findings, although not definitive, suggest that age may be a moderator of the effects of social and other demographic factors on well-being. In the present set of analyses, we were particularly concerned with whether education and income would emerge as significant independent predictors of happiness and satisfaction for the youngest age group (18–34).

The MCA analyses for the young subgroup are shown in Tables 7.6 and 7.7. Education emerges as the most important independent predictor of life satisfaction (see Table 7.6), followed by age. Similar to the overall analyses, the education effect is curvilinear. Respondents with little education report fairly high levels of satisfaction, and individuals with some college report the least amount of satisfaction with life. As shown in Table 7.7, the best predictors of happiness are marital status and education. Just as in the analysis on the full dataset, married respondents are the happiest, while separated or divorced respondents report the least happiness. In contrast to the analysis on satisfaction, education is positively and linearly related to happiness. Income is not an important predictor for either satisfaction or happiness.

The MCA analyses of satisfaction and happiness for the middle-aged group are also shown in Tables 7.6 and 7.7. Unlike the young group, the best predictors of life satisfaction are marital status and region. Again, married respondents report being the most satisfied while respondents in the South and West report being more satisfied than those in the North.

Table 7.6
MULTIPLE CLASSIFICATION ANALYSIS SUMMARY TABLE:
SOCIODEMOGRAPHICS AND LIFE SATISFACTION BY AGE GROUPS

Young (18–34) (N = 849)			Middle-Aged (35–54) (N = 652)			Older (55+) (N = 565)		
Predictor	Eta	Beta	Predictor	Eta	Beta	Predictor	Eta	Beta
Education	.11*	.11	Marital status	.17*	.12	Age	.16*	.19
Age	.09	.10	Region	.15*	.11	Marital status	.15*	.15
Region	.13*	.08	Age	.11	.11	Region	.14*	.14
Urban/rural	.11	.08	Income	.11	.10	Income	.12	.12
Marital status	.09	.07	Urban/rural	.16*	.10	Empl. status	.03	.11
Income	.06	.07	Education	.08	.05	Education	.10	.08
Empl. status	.05	.03	Empl. status	.05	.01	Urban/rural	.01	.07
Gender	.02	.002	Gender	.04	.004	Gender	.10*	.03
R(adj.) = .17 F(21,827) = 2.14, p < .05			R(adj.) = .23 F(21,630) = 2.68, p < .01			R(adj.) = .25 F(21,543) = 2.85, p < .01		

Table 7.7
MULTIPLE CLASSIFICATION ANALYSIS SUMMARY TABLE: SOCIODEMOGRAPHICS AND HAPPINESS BY AGE GROUPS

Young (18–34) (N = 846)			Middle-Aged (35–54) (N = 646)			Older (55+) (N = 564)		
Predictor	Eta	Beta	Predictor	Eta	Beta	Predictor	Eta	Beta
Marital status	.15*	.13	Empl. status	.19*	.15	Age	.20*	.21
Education	.10*	.09	Marital status	.20*	.13	Marital status	.20*	.18
Age	.08	.09	Urban/rural	.14*	.10	Region	.16*	.15
Region	.11	.09	Region	.11*	.09	Income	.07	.10
Income	.10	.06	Income	.16*	.09	Education	.10	.06
Urban/rural	.07	.06	Education	.04	.07	Gender	.03	.04
Empl. status	.04	.01	Age	.07	.07	Urban/rural	.06	.01
Gender	.01	.007	Gender	.07	.02	Empl. status	.08	.003
R(adj.) = .17			R(adj.) = .26			R(adj.) = .27		
$F(21,824) = 2.25, p < .05$			$F(21,624) = 3.01, p < .01$			$F(21,542) = 3.10, p < .01$		

Employment status emerges as an important predictor of happiness for the middle-aged. As would be expected, employed individuals are much happier than respondents who report not working. The effects for both marital status and degree of urbanicity are similar to the overall effects for the total sample. Individuals who are married report being happier than those who are not married, and residents of rural areas are happier than residents of more populated urban areas. Somewhat surprisingly, given the previous analyses, income shows a fairly strong bivariate relationship to happiness and, unlike the effect observed in the total sample, is positively related to happiness. This relationship, however, disappears in the multivariate analysis. As was the case in the young group (with the exception of the one bivariate effect), income does not play an important role in either happiness or life satisfaction ratings.

Tables 7.6 and 7.7 reveal more similarity between the predictors of happiness and satisfaction for the older age group than between those found in analyses for the young and middle-aged. The important predictors of both happiness and satisfaction are age, marital status, and region. Neither income nor education play a significant role in well-being for this sample of older respondents. The significant effects are all in the same direction as for the total sample and the other two age groups; older respondents tend to report greater satisfaction and happiness. Married or widowed respondents are the happiest, although married or divorced are the most satisfied. Older respondents who live in the South report being the happiest while older persons in the West or South report being more satisfied than older respondents in the North.

What is notable about these findings on the three age subgroups is that they are simultaneously convergent and divergent. Income had no independent relationship to satisfaction or happiness across all three age groups. Its only effect was the bivariate relationship to happiness within the middle-aged group, an effect that was attenuated in the multivariate analysis. Marital status was an important predictor for both satisfaction and happiness in older and middle-aged respondents. Somewhat surprisingly, divorced respondents in the oldest age group (55 years and over) reported the same high levels of satisfaction as married respondents. Although marital status was not an important predictor for satisfaction in the young, it was important for reported happiness. Increasing age was significantly associated with increased satisfaction and happiness only among respondents 55 years of age and older. Age had no independent relationship to satisfaction or happiness in the other two age groups. Region was an important predictor for both older

and middle-aged blacks; those respondents living in the South or West reported being more satisfied and happier than those respondents residing in the North. Again, as with the overall analyses, gender did not play a significant role in reported well-being.

Summary

Little support is found for a major role of achieved status variables like income and education in the reported subjective well-being of black Americans. Only partial support is found for a moderating role of age (or cohort) in these relationships. In the analyses conducted on the age cohorts, education did emerge as the most important predictor of life satisfaction and the second most important predictor of happiness among the young group. Neither income nor education contributed significantly to happiness or satisfaction in middle-aged or older blacks, although there was a significant bivariate effect of income on happiness for the middle-aged. However, the overall equations were only marginally significant, and the effects were particularly weak—even weaker than the sociodemographic effects normally observed (Andrews, 1982).

More importantly, the variables that did consistently emerge as important in our analyses were those that related to the quality of living arrangements and interpersonal relationships. Blacks who lived in the South reported that they were more satisfied with their lives and also happier than those in the North. Other research (Chatters, Taylor, & Jackson, 1985) has shown larger networks of friend and family relationships in the South. The urban–rural finding undoubtedly reflects this same phenomenon. The marital status effect probably reflects the impact of social support on reported levels of happiness and satisfaction. Consistently reporting the highest levels of well-being were the married respondents, followed closely by widowed respondents, who may depend upon living children for support that spouses once provided. Consistently worse off were divorced, never-married, and separated respondents. This general finding is certainly congruent with the large body of literature on this topic (Veroff et al., 1981). One very interesting finding is that age is most strongly related to happiness and satisfaction for the group of respondents over 55 years of age. Age within the other two subgroups is not related in an important manner to reports of subjective well-being.

The absence of strong and clear findings for the importance of income and education, particularly when such variables as employment status were controlled, is not supportive of a simplistic application of the thesis that blocked opportunities, reflected in low

achieved status, lead directly to lowered assessments of life quality. Michalos (1980) suggested that objective indicators have only weak direct effects on subjective reports of well-being and that their effects are carried indirectly through perceptions of attainments in relevant life domains. On the other hand, Andrews (1982) has suggested several methodological and conceptual reasons why objective and subjective indicators might not be linked in a straightforward, obvious manner.

Veroff et al. (1981) argued that while adaptation to gaps, particularly those caused by systemic factors, may result in the absence of a socioeconomic status effect on subjective well-being, those gaps—e.g., blocked opportunities—may result in other negative social and psychological outcomes. Carp and Carp (1982) suggest that perceived inequities in societal position may be more predictive of subjective reports of well-being than are gaps in aspiration and attainments. Thus, indices that assess group identity and group consciousness may prove to have direct effects on subjective well-being, or to interact with social and demographic factors in relating to well-being.

Many arguments can be advanced to explain why social and demographic factors do not show any direct effects on global measures of life quality; however, this lack of observed covariation raises serious questions about the notions that have been advanced to describe and explain the nature of subjective well-being (Duncan, 1975). The absence of strong effects of socioeconomic factors on reports of well-being in a minority that is discriminated against, together with the absence of trends paralleling changes in the social and economic fortunes in this population, raise serious questions about both the use and usefulness of these subjective well-being measures as social indicators of individual or group progress among black Americans.

Perhaps, however, more refined theoretical approaches and analyses are needed. Among the reasons for not finding strong effects might be: (1) in actuality there are no strong relationships with sociodemographics and well-being; (2) appropriate models are more complex than the ones tested in this chapter; (3) other measures that more directly assess blocked opportunities and expectancies than the measures used in this chapter are needed in order to show this relationship; and (4) models that include perceptual and attitudinal factors as well as demographic ones are needed in order to reveal the hypothesized effects. Further analyses following these lines of research are currently being conducted.

Note

[1]Because the respondents who did not provide information about their income were the highest in reported satisfaction (and happiness), analyses were conducted to determine what other characteristics were common to members of this group. Generally, the results of these analyses indicated that these individuals were predominantly of lower education and lower on other traditional socioeconomic indicators, such as occupational prestige.

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8

Recent Findings from "Monitoring the Future: A Continuing Study of the Lifestyles and Values of Youth"

Jerald G. Bachman, Lloyd D. Johnston, and Patrick M. O'Malley

Using data from large-scale surveys of high school seniors in the classes of 1975 through 1984, as well as follow-up data from some of these respondents during the years after graduation, we review a number of findings which have a bearing on the quality of life for young people currently reaching adulthood. Most seniors plan and hope for marriage, children, and material well-being; however, the last few graduating classes evidence increased concern about attaining those goals, and thus place growing emphasis on job security, status, and income. At a global level, concerns about the threat of nuclear war have increased substantially from the mid-seventies to the early eighties, and the predominant view among young people is that world conditions will not improve during the next few years. Analyses of drug use showed growing use of marijuana from 1975 through 1979, followed by a decline during the past few years. The decline was accompanied by increasing proportions believing that regular use of marijuana carries great risks of harm. While these recent trends are encouraging, it remains true that nearly two-thirds of seniors have tried at least one illicit drug, substantial proportions occasionally engage in heavy drinking, and significant numbers are regular cigarette smokers. Thus the high amounts of substance use and abuse remain a very important basis for concern about the quality of life for many young Americans.

Introduction

"Monitoring the Future" is an ongoing study of youth and young adults. Its primary purpose is to monitor change and, to the extent possible, to sort out the nature of change. Our purposes in this chapter are to report some changes—and also some non-changes—that have much to do with the quality of life for youth, and also to illustrate some of the special strengths of the Monitoring the Future research design. Among the subjects to be reviewed are the general life goals of today's youth; their plans in relation to marriage, parenthood, and jobs; their expectations and worries about the future; and finally their experiences with drug, alcohol, and cigarette use.

Research Design

The research design has been described extensively elsewhere (especially in Bachman & Johnston, 1978; see also Bachman, Johnston, & O'Malley, 1980a, 1980b, 1981, 1984; Johnston, Bachman, & O'Malley, 1980a, 1980b, 1980c, 1982; and other publications cited herein). Briefly, the project employs what has been termed a cohort-sequential research design (Schaie, 1965) consisting of (a) a series of annual, nationwide questionnaire surveys of seniors in high schools and (b) annual follow-up surveys mailed to subsets of each sample during the years following graduation.

The annual surveys of seniors began with the class of 1975, and involve samples of about 17,000 each year, located in about 130 high schools. Five different questionnaire forms are used, with somewhat more than three thousand seniors responding to each. The questionnaires are confidential, self-administered in classroom settings, and deal with a broad range of plans, values, attitudes, and behaviors. The samples are large and accurate enough, and the procedures are consistent enough from year to year, so that we can detect fairly subtle trends with a good deal of confidence.

Results

Goals and Values of Today's Youth

Any examination of young people in the present or the recent past almost inevitably invites a comparison with youth in the more turbulent late sixties and early seventies. Compared with young people during that earlier time, today's youth seem quieter, less conspicuous in dress and behavior, and less given to excesses in their political views and actions. A more accurate description is that the flamboyant *minority* among students in the late sixties and early seventies does not have much of a counterpart today.

Young people today, in contrast with those a decade or so earlier, are not faced with such crises as the Vietnam war and the draft. Thus, they are freer to concentrate on the more immediate issues in their personal lives—their own hopes and plans. And, in large measure, those hopes and plans fit the conventional view of the "American dream" of marriage, children, a good and secure job, an attractive home, and a wide range of other material advantages.

One of our survey questions presents a list of 14 life goals, and asks seniors to rate their importance. Table 8.1 shows the five that are given the highest ratings. "A good marriage and family life" leads the list, with 67 percent of the males in the class of 1984 and 79 percent of the females rating them "extremely important."

Table 8.1
IMPORTANT THINGS IN LIFE
(Percentage rating "extremely important," classes of 1976–1984)

	1976	1977	1978	1979	1980	1981	1982	1983	1984
Males									
A good marriage and family life	66	69	70	73	70	71	69	69	67
Finding steady work	66	65	67	68	68	69	73	74	73
Being successful in my work	53	55	58	6	55	58	61	60	59
Strong friendships	57	58	63	62	59	60	62	60	61
Finding purpose and meaning in my life	54	53	57	55	54	52	51	52	48
Females									
A good marriage and family life	80	78	80	82	82	82	83	82	79
Finding steady work	61	58	62	63	62	65	70	73	71
Being successful in my work	52	53	54	57	55	57	60	61	59
Strong friendships	60	62	65	65	67	65	66	65	64
Finding purpose and meaning in my life	75	72	74	73	68	72	71	72	67

"Finding steady work" has, not surprisingly, grown in importance over the past few years; the same can be said of "being successful in my work." "Strong friendships" have consistently ranked high in importance, with slightly higher ratings among females. The largest sex difference to appear in this set of questions involves the importance of "finding purpose and meaning in my life," which was consistently rated extremely important by about 15–20 percent more of the women than the men.

Marriage and Parenthood

One of the things that most seniors expect will provide purpose and meaning in their lives is marriage and parenthood. By the end of their senior year, roughly 2 percent of both males and females reported that they were married; another 9 percent of the women and 4 percent of the males reported that they were engaged. As one might expect, there were substantial differences linked to college plans—those who expected to complete four years of college were only one-third as likely as their non–college-bound classmates to be either married or engaged. In the long run, the great majority of all seniors do expect to get married, and most rate it "very likely" that they will stay married to the same person for life. Four out of five seniors, both male and female, consider it at least "fairly likely" that they will want to have children; however, many report having given the matter little or no thought thus far. Among females, just over half said they had thought "a lot" about whether to have children, and how many; among males the figure is just over one quarter.

Our questionnaires include a number of items about how seniors would like to divide up family responsibilities between husband and wife if they were married. The most preferred arrangement is to have husbands and wives take equal responsibility for the day-to-day care of children; nevertheless, there is also a clear preference that mothers of preschool children not be employed full-time. In fact, the most preferred arrangement is that mothers of preschool children not be employed outside the home at all. On the other hand, it is the strong preference of both males and females that fathers of preschool children work full-time. When there are no children, then the most preferred arrangement for the wife is full-time employment, although part-time employment or no outside employment for the wife are acceptable to significant proportions of females and larger proportions of males. The preferences for husbands, however, remain consistent and strong: Most arrangements involving less than full-time employment by the husband are rated unacceptable by majorities of both males and females. This means, of course, that the male sex role is more narrowly circumscribed than the female one, at least when it comes to majority views about any lifestyle involving less than full-time employment. (For an extensive reporting of Monitoring the Future data on sex-role attitudes and preferences, see Herzog & Bachman, 1982.)

In sum, when it comes to marriage and parenthood, today's young people do not exhibit any radical break with the past, judging by their own plans and preferences. In large proportions they

prefer marriage, they want children, and they seem willing to make accommodations to the needs of those children.

Jobs

What about the kinds of jobs seniors hope to attain? Table 8.2 shows importance ratings for a variety of job characteristics. The largest majorities of both males and females give the top rating ("very important") to having a job that is "interesting to do," and the next highest rated job characteristic involves making use of the individual's own skills and abilities. The high ratings of these two characteristics have remained relatively constant since 1976. The importance of advancement, prestige, and income have all increased in recent years, fully consistent with the widespread view that young people are becoming more concerned about their own individual outcomes, perhaps partly in reaction to the difficult job market which faces them. Also consistent with these data is our finding (data not shown) that working for a large corporation has been growing increasingly popular as a goal among high school seniors, whereas schools and universities and social service organizations have all grown less attractive as career locations.

As Table 8.2 indicates, ratings of job characteristics are fairly similar between the sexes; males and females want much the same sort of things from their jobs. Within the larger context of similarity, there are some discernible differences; relative to males, females rate the chance to make friends and to be worthwhile to society as more important, and the chance to earn a good deal of money as less important.

Most high school seniors have already had at least some amount of first-hand experience in the world of work. Three out of four (75 percent) report some job income during the average school week, and for many it exceeds fifty dollars a week (true of 41 percent of males and 35 percent of females in the class of 1984). The typical part-time job for high school seniors involves 16–20 hours per week; however, about one in ten seniors works more than thirty hours a week, and another two in ten work 21–30 hours. Our data on incomes of high school seniors confirm what many observers have noted and many merchandisers have turned to advantage: Teenagers have a good deal of money at their disposal, much of it available for what economists call "discretionary spending." (Another term for it is "premature affluence," since many high school students have budgets for luxury items that they may not be able to sustain later on when earnings will have to cover such nonluxury items as food and rent.)

Table 8.2
IMPORTANT THINGS IN A JOB
(Percentage rating "very important," classes of 1976–1984)

	1976	1977	1978	1979	1980	1981	1982	1983	1984
Males									
Interesting to do	84	88	87	88	85	85	85	86	86
Uses skills and abilities	65	70	69	71	68	70	68	69	66
Predictable, secure future	62	64	66	65	64	63	66	64	66
Good chances for advancement	59	65	67	64	65	67	66	65	67
See results of what you do	55	55	58	58	54	58	56	54	53
Chance to earn a good deal of money	54	54	56	60	58	59	61	61	61
Chance to make friends	47	50	47	52	47	48	46	44	45
Worthwhile to society	39	40	36	39	36	40	37	39	36
A job most people look up to and respect	32	35	33	35	36	37	36	36	38
High status, prestige	22	24	24	28	26	29	30	29	29

Continues

Views of the Future

The great majority of seniors see their personal futures in mostly positive terms; 90 percent in 1984 expected things to get much better or somewhat better for them during the next five years. Most of the rest thought things would remain about the same. Fewer than 2 percent thought things in their own lives would be worse.

The seniors are much less positive about how things will be for this country during the next five years. About half (47 percent) of the males think things in this country will get better; for females,

Table 8.2 (continued)

	1976	1977	1978	1979	1980	1981	1982	1983	1984
Females									
Interesting to do	92	91	91	91	91	91	91	89	88
Uses skills and abilities	76	78	74	73	76	76	76	75	76
Predictable, secure future	62	62	62	64	65	66	66	67	65
Good chances for advancement	54	59	59	65	61	66	65	65	64
See results of what you do	61	63	63	62	64	64	62	61	61
Chance to earn a good deal of money	40	43	44	47	50	52	52	51	54
Chance to make friends	61	63	61	62	59	59	57	57	58
Worthwhile to society	50	51	50	50	51	49	50	51	47
A job most people look up to and respect	36	37	39	38	39	42	43	41	43
High status, prestige	18	21	23	23	24	28	30	27	29

the percentage is 34. As one might expect, the outlook for the rest of the world is gloomy. Almost half think things will get worse, and most of the rest think things will stay about the same; only 21 percent expect things to get better for the rest of the world during the next five years.

Some of the problems facing the nation are listed in Table 8.3, along with the percentages of seniors who indicated that they worry "often" about them (which was the highest response possible on a four-point rating scale). Heading the list in overall importance is crime and violence; half or more of the females and a third or more of the males report worrying often about these problems. Some other problems, such as population growth and pollution, seem a bit more under control—or at least they are less in the forefront of seniors' concerns these days, compared with 1975. Concerns about

hunger and poverty are down slightly since 1975–1976. Concerns about energy shortages peaked in 1979–80, but dropped to very low levels by 1984. Worries about economic problems have been quite variable; between 1975 and 1978, such concerns declined from over 30 percent of all seniors to 18 percent; between 1978 and 1980, concerns rose again to over 30 percent; and concerns dropped again between 1983 and 1984. One of the most dramatic changes shown in Table 8.3 is the large rise in percentages of seniors who worry often about the chance of nuclear war.

The Threat of War

In addition to the data shown in Table 8.3, several other items in the Monitoring the Future questionnaires also suggest that nuclear war is a genuine concern for young people. Two such items are part of a series using an agree–disagree format. The first states: "My guess is that this country will be caught up in a major world upheaval in the next ten years." More than one-third (37 percent) of the seniors in 1984 indicated that they "Agree" or "Mostly agree" with that statement, another third (35 percent) have mixed views, and just over one quarter (28 percent) "Disagree" or "Mostly disagree." That rather depressing item is followed immediately by one a great deal stronger: "Nuclear or biological annihilation will probably be the fate of all mankind, within my lifetime." The class of 1984 split on this item also, with three out of ten on the agreement side (29 percent), four out of ten in disagreement (39 percent), and the rest (31 percent) choosing the "Neither" category. Back in 1975 the disagreers outnumbered the agreers by almost 2 to 1 (43 percent versus 22 percent). It is worth noting that the question sequence does not end with the annihilation item; the last statement in the series is upbeat: "The human race has come through tough times before, and will do so again." About two-thirds of the seniors are on the agreement side of this item, and only one in ten disagrees—a pattern which has held fairly constant. If that appears inconsistent with the gloomy responses to the preceding items, that is probably a fair assessment. We suspect, however, that the same questionnaire sequence administered to a cross-section of adults would produce similar inconsistencies; the threat of nuclear war is clearly there, but most people would rather think about and emphasize the positive.

Drug Use

While the risk of nuclear war involves forces that most seniors would view as largely beyond their control, another problem area listed in Table 8.3 lies much closer to home—the problem of drug

Table 8.3
PROBLEMS FACING THE NATION
(Percentage who worry often, classes of 1975–1984)

Of all the problems facing the nation today, how often do you worry about each of the following?	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Males										
Chance of nuclear war	7	13	18	19	23	30	27	31	28	29
Population growth	18	14	12	13	10	8	9	7	6	4
Crime and violence	43	43	39	38	35	29	40	37	34	30
Pollution	38	35	36	32	26	24	24	19	16	16
Energy shortages	39	31	42	32	49	51	40	23	15	12
Race relations	15	17	16	16	14	13	15	16	16	14
Hunger and poverty	18	16	13	11	9	11	13	11	12	13
Economic problems	32	26	20	20	25	36	33	28	31	23
Drug abuse	23	24	23	24	22	20	25	26	23	22
Females										
Chance of nuclear war	8	8	12	11	18	24	20	30	23	30
Population growth	21	24	20	15	14	10	10	8	9	6
Crime and violence	63	65	67	61	55	49	67	59	57	52
Pollution	36	37	34	29	28	21	21	18	16	13
Energy shortages	33	26	38	31	44	47	33	17	12	7
Race relations	23	24	25	24	19	17	22	20	20	18
Hunger and poverty	36	31	27	29	22	24	28	27	29	26
Economic problems	32	24	22	17	23	30	31	29	30	22
Drug abuse	38	40	39	37	38	37	42	41	41	40

abuse. Although *abuse* turns out to be a slippery concept to define, there is no doubt that *use* of both licit and illicit drugs by young people rose dramatically during the 1970s, so that in recent years the majority of seniors have used marijuana and many have had other experiences of illicit drug use. Moreover, half of the males and about 30 percent of the females in each of the recent classes of seniors have reported taking five or more drinks in a row on at least one occasion during the two weeks preceding the survey. Drug use and related attitudes are central topics in the Monitoring the Future project, and data in this area have been analyzed fairly extensively. We summarize some of the key findings here, both because they are an important aspect in the quality of life of many young people and because they illustrate some of the ways in which the Monitoring the Future design can be employed to analyze change.

Trends in drug use by seniors. Some rather straightforward trend data are provided by the comparisons of the senior classes of 1975 through 1984, as shown in Figure 8.1. The left side of the figure shows that daily marijuana use reached its highest level among seniors in the classes of 1978 and 1979. Data on monthly use (not shown) confirm that these were the peak years for marijuana use. The figure also shows that daily use of a half pack or more of cigarettes reached its peak several years earlier, and has declined substantially since then.

Figure 8.2 shows what is surely a key reason for the recent decline in marijuana use among seniors. In increasing proportions they are coming to perceive that there are great risks of harm involved in regular use of marijuana—in 1983 and 1984, such use was seen to be even riskier than smoking a pack of cigarettes daily.

Period, age, and cohort effects. The reporting of trends in drug use among high school seniors has been a primary contribution of the Monitoring the Future study as a source of social indicator data (see Johnston, O'Malley, & Bachman, 1984, for a recent example). However, the trends based on high school seniors leave some questions unanswered as to the nature of the changes underlying the trends. The follow-up component of the study is designed to help answer such questions.

Turning first to the rapid rise and then substantial decline in marijuana use, we can ask whether these shifts from one senior class to another represent secular trends (which would show up in much the same way across a broader band of ages—say 15 to 25) or cohort differences (distinctions between those in the classes of, say, 1975 and 1978, which will continue for some years to come). The data in Figure 8.3 indicate rather clearly that the differences observed among senior year samples reflect a secular trend or

period effect—marijuana use hit its peak in the late seventies not only for those who were high school seniors but also for those in their very late teens and early twenties.

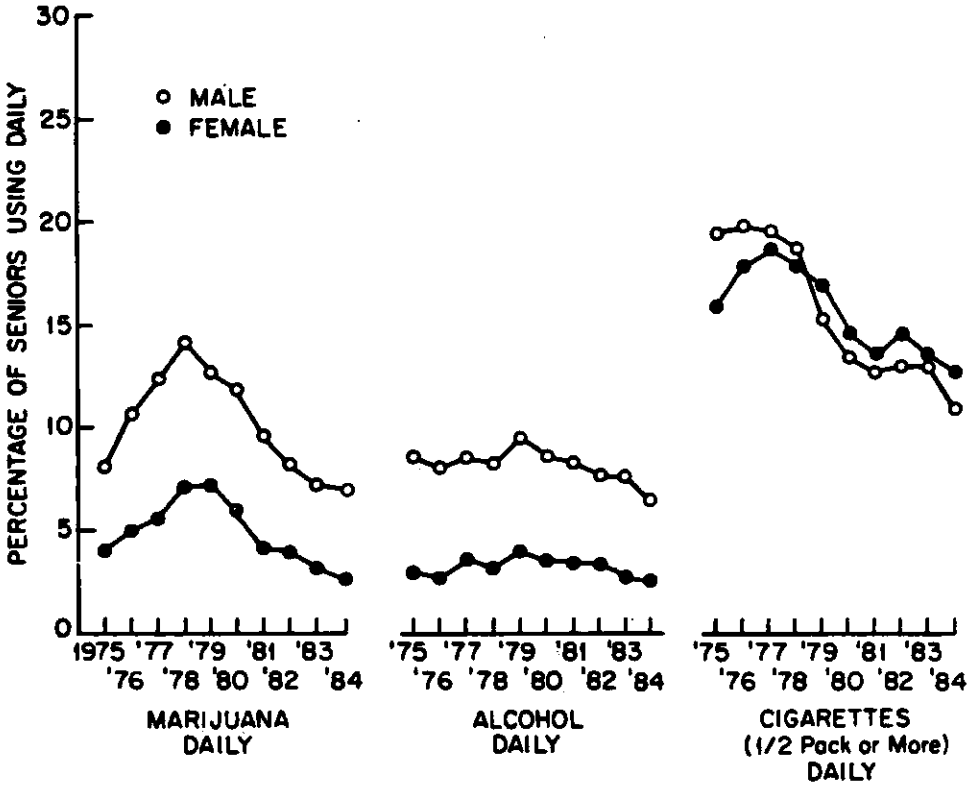
The story for cigarette use is quite a bit different, however, as illustrated in Figure 8.4. Our follow-up data, coupled with the senior year survey results, show that there are persistent differences from one graduating class to another in proportions of cigarette users. The more recent cohorts have lower proportions of smokers not just at age 18 (senior year) but also at ages 19, 20, etc., than do the cohorts who graduated in the mid-seventies. An additional finding concerning cigarettes is evident in Figure 8.4; the proportion who smoke a half pack or more daily increases in each cohort soon after graduation, most likely reflecting the change in social environments—in particular, the reduced constraints associated with leaving high school.

The patterns of base-year and follow-up data presented in Figures 8.3 and 8.4 illustrate some of the ways in which the Monitoring the Future cohort-sequential design can be used to demonstrate period effects, consistent cohort differences, and age-related effects. (For a more detailed reporting of our efforts to differentiate period, age, and cohort effects on substance use among youth, as well as a discussion of some of the problems and complexities involved, see O'Malley, Bachman, & Johnston, 1983a, 1984.)

Stability and change in use after high school. Another application of the follow-up data from the Monitoring the Future project takes advantage of the panel design—the fact that the same individuals are surveyed in both base-year and follow-ups. Relatively little longitudinal research exists on the progression of drug-using behaviors through the early adult years, a period during which young people make a number of important transitions into new social environments and experiences.

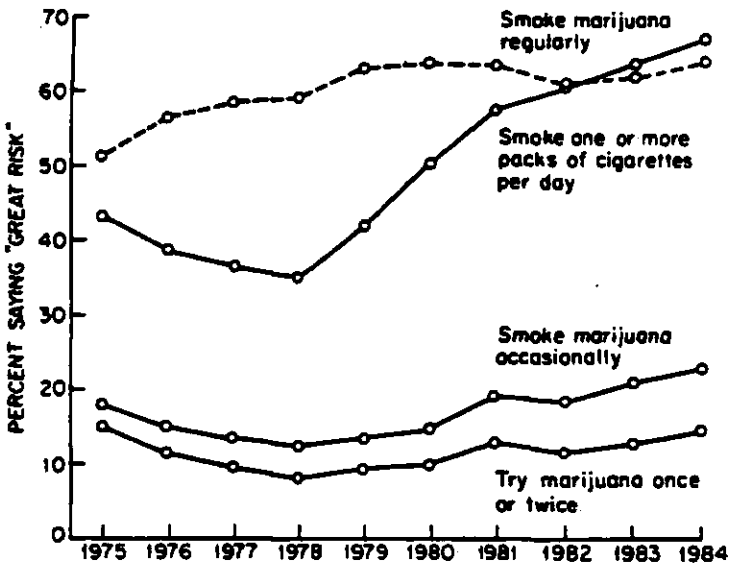
One question of considerable importance is the extent to which drug-using behaviors remain relatively stable from year to year. Our panel analyses indicate quite a strong correlation between senior year use of a drug and use of that same drug during the first several years after high school. After adjustments for measurement reliability, we estimate annual stabilities at 0.9 or higher for cigarette use and 0.8 or higher for use of alcohol, marijuana, and other illicit drugs. This means that the single most important *predictor* of post-high school drug use is use during high school. We do not interpret the strong correlation between earlier and later drug use as indicating simply that senior year drug use *causes* drug use several years later. Rather, we recognize that many of the fac-

Figure 8.1
TRENDS IN 30-DAY PREVALENCE OF DAILY USE OF MARIJUANA, ALCOHOL, AND CIGARETTES, BY SEX *(Note: "Daily use" for alcohol and marijuana is defined as use on 20 or more occasions in the past 30 days. Daily use of cigarettes is defined as smoking a half pack or more per day in the past 30 days.)*



tors that influence drug use—factors such as religious commitment, commitment to education, peer and family pressures, personal attitudes about drugs, and other aspects of lifestyle—all have a certain stability themselves. Thus, in a sense, our measures of senior year drug use are convenient proxies for a wide array of more fundamental (and relatively stable) causes of drug use, of which we have measured and analyzed only a portion. (For more extensive treatments of stability in drug use and methods of estimation, see

Figure 8.2
TRENDS IN PERCEIVED HARMFULNESS: MARIJUANA AND CIGARETTES



Bachman, O'Malley, & Johnston, 1981, 1984; and O'Malley, Bachman, & Johnston, 1983b.)

Impacts of post-high school experiences. Given that much of drug use after high school is predictable from senior year drug use, it remains important to understand those shifts in use which may be attributable to post-high school experiences. We have thus far examined three interrelated dimensions of experience: education, occupation, and living arrangements. It would have been unwise to examine any one of these dimensions in isolation, because they are so closely interconnected. For example, those employed in full-time jobs are unlikely also to be full-time students. As another example, recent high school graduates who are primarily college students are less likely to be married and living with a spouse, but also less likely to be living with parents, than those who are employed full-time and not going to college. When we took account of such overlaps, our analyses revealed little direct impact attributable to post-high school educational and occupational experiences. On the other hand, living arrangements did seem to produce clear, consistent, and readily interpretable shifts in drug use, as shown in Figure 8.5.

Figure 8.5 presents data for four dimensions of drug use, showing base-year and follow-up (one, two, and three years beyond high school, data combined) percentages for those in four different living

Figure 8.3
MARIJUANA: DAILY PREVALENCE

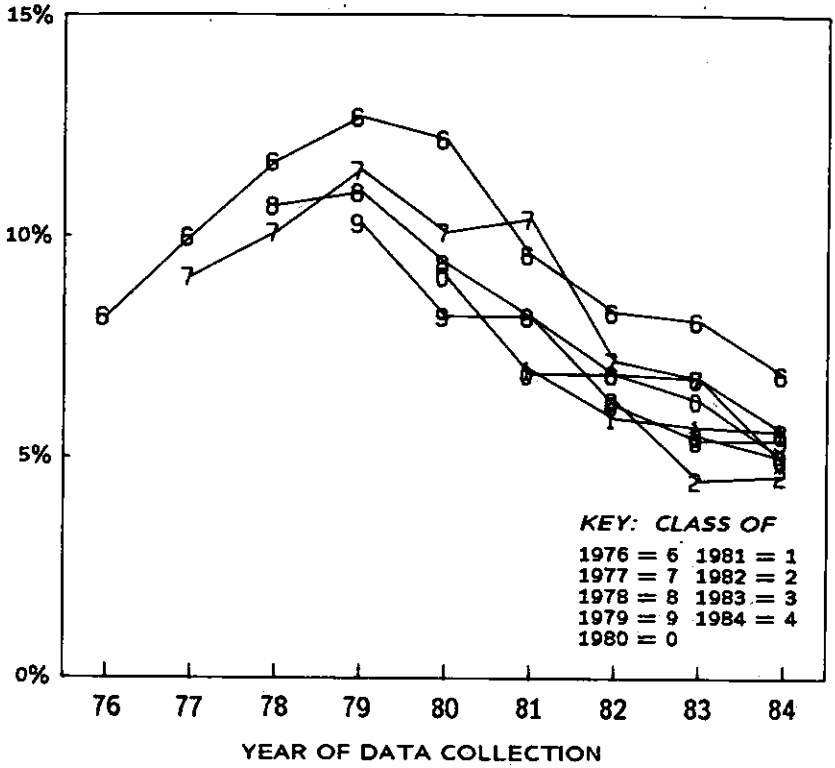


Figure 8.4
CIGARETTES: DAILY PREVALENCE *(half pack per day)*

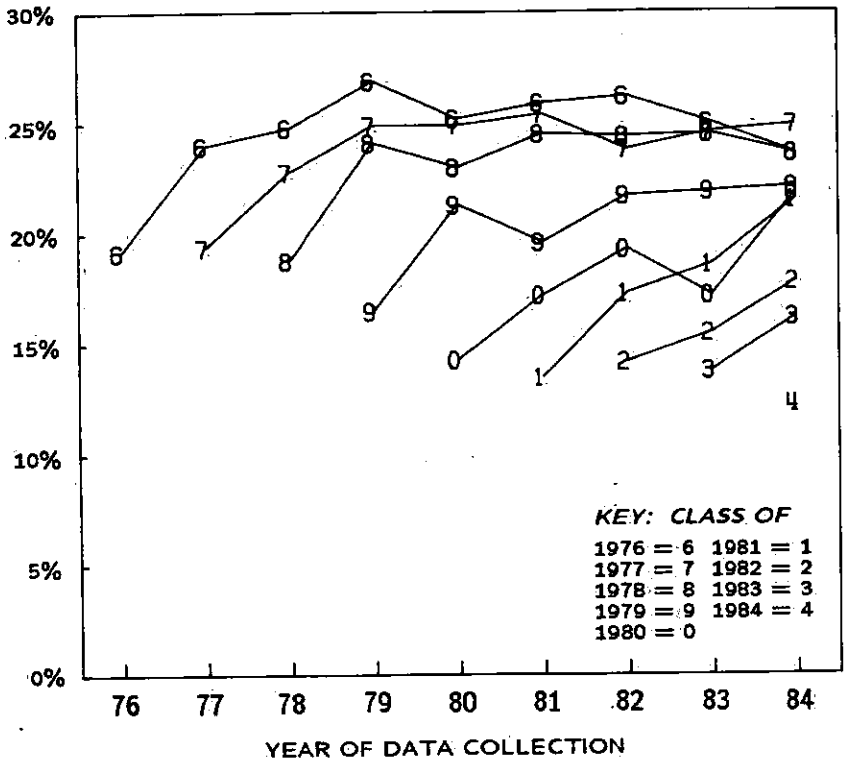
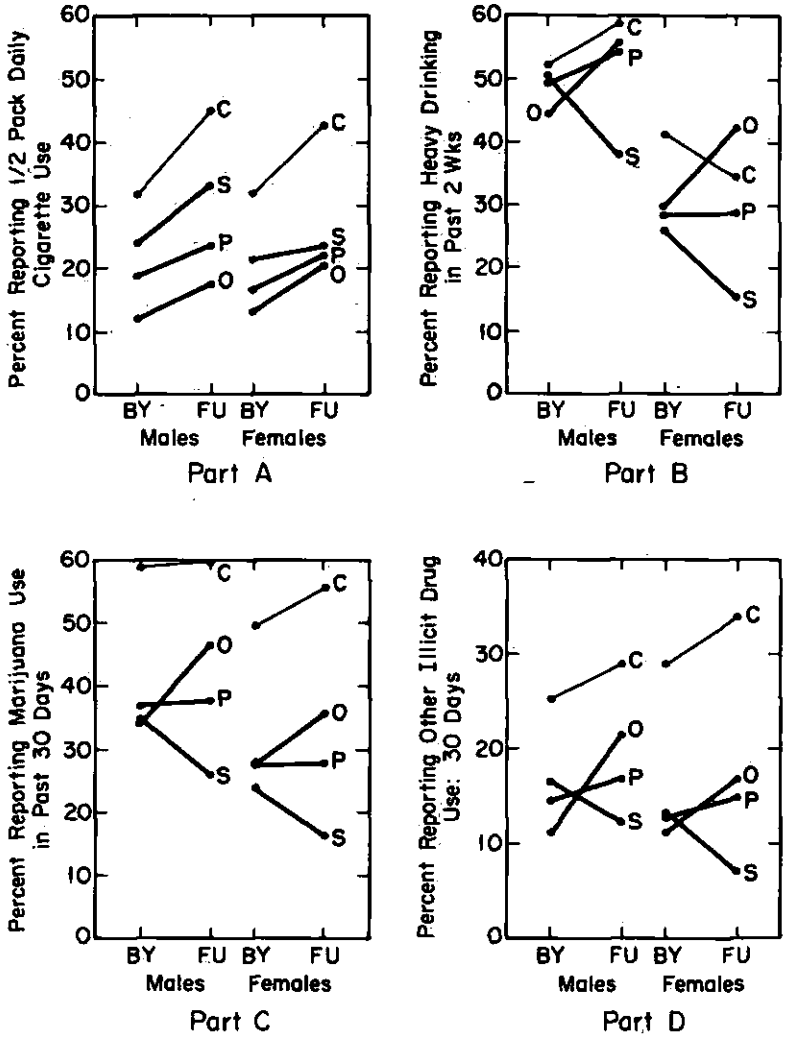


Figure 8.5

DRUG USE RELATED TO LIVING ARRANGEMENTS: BASE-YEAR AND FOLLOW-UP PERCENTAGES *(S = living with spouse; C = living with cohabitant of opposite sex, unmarried; P = living with parents; O = all other living arrangements)*



arrangements. (For a more extensive discussion of methods and findings, see Bachman, O'Malley, & Johnston, 1981.) The data concerning cigarette use show rather little in the way of differential shifts during the first years after high school. We noted earlier an increase in the proportion of half-pack-a-day smokers in the first year following high school, and Part A of Figure 8.5 reflects that increase. However, in other respects the figure indicates that differences associated with living arrangements are clearly evident before the end of high school. The pattern displayed in Part A results from the fact that there are different proportions of college students in the different living arrangements (e.g., more students in the "other" living arrangements category, few students living with a spouse), and college plans as well as eventual educational attainment show a strong negative correlation with smoking during high school and afterward. In other words, the higher the level of educational aspiration and the later the attainment, the less likely the youth is to be a smoker; and this holds true just about as strongly during the high school years as afterward. (This finding based on the Monitoring the Future project is fully consistent with results from our earlier longitudinal study, Youth in Transition; see Bachman, O'Malley, & Johnston, 1978.)

Use of alcohol, marijuana, and other illicit drugs (see Parts B, C, and D of Figure 8.5) all are influenced by post–high school living arrangements, and the effects are closely parallel. Being married and living with a spouse appears to reduce drug use, compared with usage levels as high school seniors. (Incidentally, while the data shown in Figure 8.5 are percentages above a certain threshold of drug use, other analyses dealing with mean frequencies of drug use produced very similar findings. Thus we refer to increased or decreased use rather than simply changes in percentages of users.)

The smallest category in terms of post–high school living arrangements consists of those who reported living unmarried with a partner of the opposite sex. When these individuals were seniors (and in most cases still living with their parents), they were far above average in their rates of drug use; and the above-average use continued after graduation. It thus appears that cohabitation experiences are rather different from marriage when it comes to impacts on drug use during the first years after high school.

Many young adults continue living with parents for a while after high school (more than half at one year beyond graduation, and more than one third at three years beyond graduation). For those in this category, use of alcohol, marijuana, and other illicit drugs showed rather little change, on average, during the first few years after high school.

The rest of the high school graduates were grouped together as "all other living arrangements." This category includes people living alone or with others in apartments, in dormitories, on military bases, etc. As high school seniors their average levels of drug use were not different from their classmates who would continue living with parents or marry during the first few years after graduation. However, those who entered these "other living arrangements" after high school showed increases in their use of alcohol, marijuana, and other illicit drugs. A number of more specific subgroups were examined, including those living in dormitories, those on military bases, and those who reported living alone (rather than with one or more roommates); however, none of these subgroups showed a sufficiently distinct departure in trends and/or sufficient sample size to warrant separate analysis.

In sum, our analyses of the impacts of post-high school experiences reveal that use of alcohol, marijuana, and other illicit drugs decreases among those living with a spouse, remains largely unchanged among those living with parents, and increases among those in most other living arrangements. Post-high school educational and occupational experiences show relatively little independent impact on drug use, once their statistical association with living arrangements is taken into account.

Concluding Comments

We have summarized a number of findings here that have a bearing on the quality of life for young people currently reaching adulthood. We noted that their hopes and plans still fit rather well into the "American dream" of marriage, children, and material well-being. But we have also seen some evidence of increasing concern about attaining that dream. The last few graduating classes have placed increased emphasis on job status, income, and opportunities for advancement. No doubt this is in response to the recent high levels of unemployment. For some it may also reflect an awareness of the special problems of being at the tail end of the baby boom—they may face a crowded job market for much of their lifetime.

At a more global level, the predominant view among young people is that world conditions will not improve during the next few years, and many expect matters to get worse. In particular, concerns about the threat of nuclear war have shown a dramatic rise from the mid-seventies to the early eighties.

Our data from 1975 through 1979 might have suggested that the growing concerns mentioned above led young people to an increasing reliance on drugs; however, the last few years have actual-

ly seen a decline in their use of illicit drugs, especially marijuana. One of the reasons for the decline is another concern—a growing perception that regular use of a drug such as marijuana carries great risks of harm.

Despite such good news about very recent changes in drug use, it would be a disservice to leave the impression that the drug abuse problem among American youth is anywhere close to being solved. It is still true that: (a) Nearly two-thirds (62 percent in the class of 1984) have tried an illicit drug before graduation from high school. (b) At least one in every twenty seniors is smoking marijuana on a daily or near daily basis, and 16 percent have done so for at least a month at some time in their lives. (c) About one in twenty is drinking alcohol daily or near daily; and half the males and about 30 percent of the females have recently engaged in heavy drinking (five or more drinks in a row). (d) Some 29 percent have smoked cigarettes in the past month, a substantial proportion of whom are, or soon will be, daily smokers.

These remain disturbing levels of substance use and abuse among American youth, whether by historical standards or in comparison with other countries. It clearly has important implications for the quality of their lives both now and in the future.

In addition to reporting some findings bearing on the quality of life among youth, our purposes in this paper included illustrating the special strengths of the Monitoring the Future research design. Some of those strengths have been demonstrated by the use of multiple cohorts and multiple follow-ups to sort out age, period, and cohort effects, and also in attempting to measure the impacts of various post-high school experiences. But another strength of the design is so ubiquitous that it may have gone unnoticed: The fact that we measure such a wide variety of factors having to do with the lifestyles and values of youth means that we are able to discover quite a number of interesting changes, even though a much greater number of factors do not show change. The basic rationale for conducting the study is that measuring and reporting such changes—and nonchanges—can play an important part in our attempts to understand the quality of life of young people.

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9

Satisfaction among Older Adults

A. Regula Herzog and Willard L. Rodgers[1]

Older adults tend to report somewhat higher levels of satisfaction than do younger adults. Replications in several U.S. and European studies suggest that this finding reflects a generalized tendency in developed Western nations. At the same time, considerable variability in the basic pattern was also observed. Explanations were sought for the general age-pattern as well as for its variability. Among the factors possibly affecting the variability are the phrasing of the question, the type and generality of the domain of satisfaction, and the relative status of the aged. Among the possible explanations for the general age pattern are individual adjustment processes that differ by age level, aspects of the objective situation that change across age levels, and methodological considerations. Although this chapter reports fragmentary evidence to date supporting various of the postulated explanations, most of them must be considered essentially worthwhile hypotheses.

A positive association between age and expressed satisfaction with a number of areas of life received ample attention by Angus Campbell, Philip Converse, and Willard Rodgers (1976): Based on their 1971 survey, they found that older adults report somewhat higher satisfactions than their younger counterparts. Less well known may be the fact that such a positive association has also been noted in research on work satisfaction (Quinn, Staines, & McCullough, 1974); or that, although a controversy exists about a possible initial dip, a gradual upswing of marital satisfaction over the later parts of the marital and thereby the life cycle is uncontested (Gilford & Bengtson, 1979; Rollins & Cannon, 1974; Rollins & Feldman, 1970; Schram, 1979; Spanier, Lewis, & Cole, 1975).

We have been interested in establishing the robustness of that relationship and in trying to understand what accounts for it. The following pages summarize some of our findings and discuss some further hypotheses that so far have had to remain untested because we lacked the necessary data.

Age and Satisfaction—Survey Results

Following up on the analysis of the 1971 Quality of Life data

(Campbell et al., 1976), we examined the relationship between age and satisfactions in several additional surveys conducted in the 1970s. Among the studies we used were the 1978 Quality of Life survey conducted by Angus Campbell and Philip Converse; a combined set of seven of the General Social Surveys conducted by NORC; two surveys conducted by Andrews and Withey in 1972 (Andrews & Withey, 1976); a number of the Survey Research Center's Omnibus surveys; and a survey of the Detroit area conducted by Rodgers and Marans in 1976. All of these surveys used probability samples of the coterminous United States, except for the survey that was restricted to the Detroit area and the two earliest years of the General Social Surveys that used a quota sampling technique at the block level. We found that the pattern observed by Campbell and his colleagues generally held up with some variations: Reported satisfactions were higher among older than younger respondents. Table 9.1 shows correlations between age (range 20–90) and satisfactions with various domains as indicated in the rows, and across different studies as indicated in the columns. Correlations, of course, capture only the linear relationship between age and satisfaction. We also examined the possibility of non-linear patterns, but found that the relationships are mostly linear. (For a more detailed account of our investigations see Herzog & Rodgers, 1981a.)[2]

The correlations are stronger for domain-specific than for general measures such as general life satisfaction or happiness. Moreover, they are stronger for certain domains of life such as housing, community of residence, standard of living, and work, than they are for other domains such as family life, marriage, or friendships (Table 9.1). We speculate that the latter differences reflect a difference between more and less person-oriented domains. Our primary conclusion, however, is that the general positive relationship is present to some degree across all domains except health. Satisfaction with health declines with increasing age.

The strengths of the positive relationships also vary somewhat by survey. They tend to be stronger in the two Quality of Life and the Detroit surveys than in the remaining surveys. Wording of the specific questions and form of the response scale varied somewhat across these surveys.[3] The surveys with the stronger relationships tend to be those that used the "Completely satisfied" to "Completely dissatisfied" response scale, while the other surveys used other response scales, most notably the "Delighted–Terrible" scale. And, of course, the position of the question in the survey and its specific context also varied. Although we could not fully account for the variation across studies, we consider it proof of the robustness of

Table 9.1
UNITED STATES: RELATIONSHIPS BETWEEN AGE AND SUBJECTIVE WELL-BEING VARIABLES, ACROSS SEVERAL SURVEYS

	Quality of Life 1971	Quality of Life 1978	General Social Surveys 1972–78	Detroit Study 1974	Social Indicator Study 1972	Omnibus 1973–75	Omnibus 1976 "Terr.-Delight."	Omnibus 1976 "Comp. Diss.-Comp. Sat."
Satisfaction with:								
Finances/income	.06*	.12*	.17*	.11*	.04	.09*	NA	NA
Job	.19*	.22*	.17*	.19*	.11*	.07*	NA	NA
Family life	.08*	.14*	−.06*	.15*	−.02	NA	NA	NA
Marriage	.10*	.11*	.02	.04	−.02	−.08	.09	.08
Spare time	.14*	.14*	−.03*	.16*	.09*	NA	NA	NA
House/apartment	.26*	.24*	NA	.26*	.12*	NA	.15*	.21*
Community	.19*	.16*	.23*	.17*	.15*	NA	NA	NA
Friendships	.16*	.10*	.03	NA	.07*	NA	NA	NA
Standard of living	.21*	.20*	NA	.19*	.06*	.04*	.17*	.22*
Health	−.26*	−.20*	−.22*	−.16*	−.24*	NA	−.20*	−.18*
Life	.05	.11*	NA	.09*	−.03	−.05*	−.02	.06
Happiness	−.05	−.02	.03*	.00	−.05	NA	−.01	.10*
Range of N	1,180–2,070	2,140–3,520	5,970–10,330	680–1,180	920–2,250	960–3,670	510–790	470–690

Note: Entries are correlation coefficients between age and subjective well-being. High scores indicate high satisfaction or happiness. Statistical significance levels are based on an effective sample size of two thirds of the actual sample size to adjust for a presumed average design effect of 1.5; *$p < .05$.

Source: Various studies as indicated in column heads.

the general finding that it has been replicated to a certain extent under variable conditions. (A full report of these investigations is provided in Herzog & Rodgers, 1981a.)

A further attempt at establishing the generality of the relationship led us to examine a unique set of European data,[4] the Euro-Barometer, collected from Britain, France, Germany, the Netherlands, Denmark, Ireland, Italy, and Belgium in 1975 and 1976 under the sponsorship of the Commission of the European Communities (Rabier & Inglehart, 1978a; 1978b). Data were collected by different polling agencies in the respective countries but the same questionnaire, appropriately translated, was used by all. Approximately 1,000 respondents were sampled in each country by stratified quota or full probability sampling procedures and were interviewed in the spring of 1975 and 1976. The data from these surveys were made available in archived form by the Inter-University Consortium for Political and Social Research.

Table 9.2 shows the zero-order correlations between age (range 20–99) and satisfaction for the different countries (as columns) and the different domains (as rows). The two entries reflect correlations based on data from 1975 (above) and 1976 (below). We selected these domains from a larger number of domains that were used in these studies, since they were most similar to the domains we had examined in the American studies. Again, the questions in these surveys were somewhat differently phrased from the questions in the American surveys, and the response scales were not identical either.

Nevertheless, some findings from these European countries look fairly similar to the findings from the American surveys reported above. Thus, satisfaction with housing and with community are almost without exception positively related to age in these European countries, and in most cases the relationships are statistically significant. Satisfaction with persons and with leisure are less consistently related to age. Also, global life satisfaction[5] is generally weakly related to age except in two countries—Italy and Belgium—where the relationship is negative and of fair strength.

Some of the findings from the European countries, however, differ from the findings observed in the United States. Thus, satisfaction with income, standard of living and work are positively related to age in some countries but not in others; in a few countries they are actually negatively related to age. Among the latter countries are Italy and Belgium. We will return to the negative relationships in these two countries later in this chapter. Also, reported happiness shows a clearly negative relationship with age in several countries.

Table 9.2
EUROPE: RELATIONSHIPS BETWEEN AGE AND SUBJECTIVE WELL-BEING VARIABLES, ACROSS SEVERAL COUNTRIES

	Euro-Barometers								Zapf
	France	Belgium	The Netherlands	Italy	Denmark	Ireland	Britain	Germany	Germany
Satisfaction with:									
Family income	.00	−.09*	.06	−.07	.07	−.01	.01	.05	.10*
	.09*	−.15*	.03	−.13*	.07	−.05	.00	−.02	
Work	.11*	.04	.05	.02	−.04	.10	.03	.04	.12*
	.10*	−.01	.01	−.12*	.05	.06	−.02	−.01	
Relations with others	.23*	.09*	.06	.02	.05	.16*	.15*	.02	NA
	.19*	.01	.05	.02	.15*	.06	.09*	−.03	
Leisure activities	.13*	.09*	.15*	.11*	.17*	.13*	.22*	.11*	.23*
	.04	−.03	.07	−.11*	.11*	.12*	.07	.03	
House/apartment	.21*	.13*	.12*	.05	.08*	.12*	.16*	.12*	.15*
	.20*	.10*	.12*	−.08	.18*	.09*	.20*	.02	
Community	.18*	.11*	.17*	.06	.05	.14*	.10*	.11*	.12*
	.20*	.10*	.08	.01	.21*	.12*	.16*	.00	
Standard of living	.07	−.01	.09*	−.04	.06	.06	.10*	.08*	NA
	.15*	−.05	.04	−.16*	.17*	.04	.07	.01	
Health	NA	NA	NA	NA	NA	NA	NA	NA	−.32*
	−.38*	−.40*	−.24*	−.42*	−.29*	−.33*	−.31*	−.40*	
Life	.09*	.00	.10*	.01	−.01	.12*	.03	.02	NA
	.07	−.14*	.06	−.13*	.00	.05	.04	−.03	
Life satisfaction	.01	−.09*	−.03	−.06	−.06	.00	−.01	−.05	.06*
	.05	−.14*	.02	−.13*	.01	.07	.03	−.06	
Happiness	−.06	−.14*	−.12*	−.13*	−.10*	−.06	−.05	−.13*	−.09*
	−.09*	−.21*	−.03	−.17*	−.03	−.03	.00	−.17*	
Approx. N	1,070	1,380	1,020	925	945	865	950	980	1,990
	1,100	880	800	820	930	850	930	900	

Note: Entries are correlation coefficients between age and subjective well-being. High scores indicate high satisfaction or happiness. Statistical significance levels are based on an effective sample size of two thirds of the actual sample size to adjust for a presumed average design effect of 1.5; *$p < .05$.

Source: Euro-Barometer survey 3, 1975 (top figures) and Euro-Barometer survey 5, 1976 (bottom figures); German Welfare Survey, 1978.

These findings taken together do not replicate the differential strength of the age relationship involving satisfactions with person-oriented and non–person-oriented domains noted in the data from the United States, nor do they replicate the differential strength of the relationship between global and domain-specific measures of subjective well-being.

Estimates of age relationships from these European data collected in 1975 and in 1976 do not always agree well with one another. Since major trends in relationships from one year to the next are unlikely, these differences may best be attributed to unreliability inherent in these data.

A German survey conducted by Zapf in 1978 showed a relationship between age and satisfaction that was clearly positive and of substantial strength (Table 9.2, last column). The lack of relationship in Germany observed in the 1976 Euro-Barometer study is therefore not replicated.

To summarize, it appears that older persons report somewhat higher satisfaction—particularly where residential satisfaction is concerned—and that this general pattern holds across a number of studies and across several developed countries. Specific relationships, however, vary somewhat between countries and between surveys.

Explanations for the Satisfaction-Age Relationship

Why, then, should older persons be more satisfied than their younger counterparts? To many this finding might sound quite counterintuitive. After all, isn't older age associated with such circumstances as increasing physical frailty, a lessening of many personal and societal ties, and an increasingly unfriendly environment?

Campbell et al. (1976) suggested that the higher levels of satisfaction might be caused by a combination of subjective adjustment processes and an improved objective situation that the aged have built for themselves. We have tested a number of the specific adjustment and situational hypotheses and have come to the conclusion that both types of processes play a role in explaining the relationship, but that an additional part of the relationship may be explained by the fact that older persons react differently to a survey—i.e., methodological effects partly explain the reports of higher satisfaction.

Before we describe some of the specific explanations that we identified, let us note something about the nature of these age differences. The cross-sectional nature of the studies that we employed in these investigations does not permit us to specify

whether the observed age differences reflect an aging process or permanent differences between cohorts. Without going into the controversies about the data matrices and analytic designs that may be appropriate for distinguishing between these two broad categories of explanations, let us just say that our concern is rather with specific explanations. Moreover, once specific explanations have been identified, a guess as to whether the relationship between age and satisfactions is generalizable to future cohorts of older people is often possible based on the nature of the explanation.

We should also add that in the United States the observed age differences do not seem to be caused by differential meaning of the satisfaction concept for different age groups. In another paper we examined the factorial structure of the satisfaction measures across age groups, using satisfaction measures from the two Quality of Life surveys and analyzing them by confirmatory factor analysis. We found no clear indication of age differences in factor structure except for the very youngest age group. (For a complete report on these investigations see Herzog & Rodgers, 1981c.)

We tested the hypothesized explanations in a multiple regression framework. Specifically, we controlled on each explanation by including the indicator(s) of the explanatory concept along with age as a predictor of satisfaction in a multiple regression. If the coefficient between age and satisfaction is reduced after controlling on the explanatory variable in this way, this suggests that the explanatory variable may be operating as a partial explanation of the relationship between age and satisfaction. Of course, indicators referring to each substantive explanation must be tested separately if the effect of that particular explanation is to be assessed. On the other hand, if the total power of all explanations is to be determined, indicators for all of them need to be tested simultaneously, since the various explanations are likely to be related to each other.

Campbell et al. (1976) suggested that the higher satisfaction among older adults is a function of their declining aspirations. Whether such a decline is interpreted as resignation or as realistic assessment, it is presumed to lessen the discrepancy between what is attained and what is hoped for, and thereby to increase the resulting satisfaction. We had the opportunity to examine data from a large survey, the German Welfare survey by Zapf referred to earlier, that contained measures of the "best income that you could ever expect to have" and the "actual income that you have." When the discrepancy between these two scores is plotted against age, a very marked decrease is noticeable, replicating some of the findings reported by Campbell et al. (1976). A similar pattern is observed for the discrepancy in answers to a parallel pair of questions

asked about best expected and actual housing. When the discrepancy scores are tested as potential explanations in the fashion described before, the relationships between age and the relevant satisfactions are completely wiped out (Table 9.3). In other words, the lessening of the discrepancy between what is expected and what is attained may be sufficient to explain the increasing satisfaction among older ages, at least in the German population.

A potential reason for the decline in aspirations lies in the declining number of alternatives that older persons perceive as realistically existing for them. For example, if asked how easy it would be to find a job similar to the one they hold now, older persons perceive more difficulties than younger ones. That the perception of available alternatives has an impact on the evaluation of the present situation is suggested by some findings reported by Carp (1975). She asked people who had recently applied to get into a public housing project for the elderly to rate their existing housing arrangements and found they tended to rate them as satisfactory, although most were actually living in crowded or substandard housing conditions. After some of these persons learned they had been accepted to move into the housing project, they were again asked to rate their existing housing. This time, knowing they had a better alternative and would be able to move, they gave reduced satisfaction ratings to found they tended to rate them as satisfactory, although their existing housing. Unfortunately, we are not aware of any available data sets that include satisfaction measures as well as measures of perceived alternatives to directly test this hypothesis. However, both of these explanations—perceived alternatives and aspiration level—remind us that we need to pay attention to the frame of reference that is being used by the individual in arriving at satisfaction ratings, and that the frame of reference may change as a function of age.

Carp and Carp (1981) also speak to the psychological process that might intervene between perceptions and satisfactions. They argue that the higher satisfaction among older adults may reflect their reluctance to admit to anything that sounds like an inability to cope. They show that questions asking for an objective description of income or health provide a relatively worse picture of the status of the aged than questions asking about satisfaction with health or income, and satisfaction questions, in turn, show a worse picture than those asking about problems with income or health. In other words, Carp and Carp argue that for older respondents the expression of dissatisfaction is tantamount to acknowledging a problem or the inability to cope with it. Moreover, since older persons indeed have been found to be very reluctant to admit to problems (Moen,

Table 9.3
GERMANY: RELATIONSHIPS BETWEEN AGE AND SUBJECTIVE WELL-BEING VARIABLES, CONTROLLING ON DISCREPANCIES BETWEEN ASPIRATIONS AND PRESENT LEVELS

		Discrepancy on	
		Dwelling Unit	Household Income
Satisfaction with:			
Household income	(r = .10*)	.04	−.05
Job	(r = .12*)	.08	.09*
Leisure time	(r = .23*)	.21*	.22*
House/apartment	(r = .15*)	−.02	.10*
Neighborhood	(r = .12*)	.05	.10*
Health	(r = −.32*)	−.34*	−.33*
Life (2-item index)	(r = .06*)	−.00	−.01
Happiness	(r = −.09*)	−.12*	−.14*

Note: Entries are standardized regression coefficients regressing subjective well-being variable on age, controlling on two discrepancy measures. Statistical significance levels are based on an effective sample size of two thirds of the actual sample size to adjust for a presumed average design effect of 1.5; *$p < .05$.

Source: German Welfare Survey, 1978.

1978), they might also report themselves to be more satisfied than they really are.

A related explanation is the hypothesis formulated by Lazarus and Golden (1981) and by Tobin and Lieberman (1976) that older adults tend to deny unpleasant or anxiety-provoking facts. For example, Tobin and Lieberman interviewed older adults who were on a waiting list to be moved into an institutional-care setting for the aged. About one third of those interviewed never mentioned the impending institutionalization throughout a number of relevant open-ended questions; and another third mentioned it only once.

We also noted some evidence that could be taken as a reflection of denial in data from an open-ended question about reasons for worrying (Herzog, Rodgers, & Woodworth, 1982). Older respondents were more likely to declare that "they never worry." Although we could not test a denial hypothesis directly because of lack of relevant data, it is reasonable to hypothesize that if older adults are more likely than younger adults to use denial as a coping strategy, this propensity might explain their tendency to rate their satisfac-

tions as relatively high.

Another of the explanations ventured by Campbell et al. (1976) referred to the fact that older adults have had more time in which to become used to their lot in life. In a similar vein, students of job satisfaction have paid considerable attention to job tenure as an explanation of the relationship between job satisfaction and age, and they tend to show that tenure explains some but not all of the relationship between age and job satisfaction (Herzberg, Mausner, Peterson, & Capwell, 1957; Hunt & Saul, 1975; Schwab & Heneman, 1977). In our investigations of the two Quality of Life surveys, we found a very modest reduction of the relationship between age and residential satisfaction due to a variable indicating the length that the individuals lived in their present residence (Table 9.4, Column 1; see also Herzog & Rodgers, 1981a).[6] Interestingly, it was not only satisfaction with residence that was affected but also satisfaction with other domains such as friendship and leisure time.

We might go on to ask how older adults "have gotten used" to their lot. Is it a rather passive form of habituation as reflected, for example, in the relationship between familiarity and liking documented in Zajonc's (1968) work on mere exposure? Or is it an active use of past experiences in dealing with current life situations? At present, we do not know.

Another possible explanation is the stronger religious orientation that has been observed among older adults (e.g., Moberg, 1965). Thinking about another world may make the shortcomings of this world seem less painful; or maybe just lessen the expectations placed on this world. And indeed, religiosity was found to be related to life satisfaction and mental health (Gurin, Veroff, & Feld, 1960; Hadaway, 1978). Thus, it may provide yet another clue to the increased satisfaction among the aged. Measures of religiosity were available in a number of surveys with which we worked: the two Quality of Life surveys and the 1976 Euro-Barometer surveys. The 1971 Quality of Life survey contained measures of how religious-minded the respondents rated themselves to be; how important religion was to them; and how often they attended religious services. The 1978 Quality of Life survey contained only the first and the last of these measures, and the Euro-Barometer surveys only the latter two. Religiosity contributes to the explanation of the relationship in a very modest way (cf. Table 9.4, column 2; see also Herzog & Rodgers, 1981a, 1981b).[7] In other words, the higher religiosity among older adults explains some of their propensity to report higher satisfactions.

While most of the explanations discussed so far refer to in-

Table 9.4
UNITED STATES: RELATIONSHIPS BETWEEN AGE AND SUBJECTIVE WELL-BEING VARIABLES, CONTROLLING SEVERAL EXPLANATORY VARIABLES

		Variables Controlled				
		Length in Residence	Religi-osity	Semantic Differential	Social Desirability	Income, Education, Health
Satisfaction with:						
Income	(r = .06*)	.03	.03	−.02	.04	.18*
Job	(r = .19*)	.17*	.17*	.14*	.17*	.26*
Family life	(r = .08*)	.06	.06*	.01	.04	.11*
Marriage	(r = .10*)	.12*	.08*	.05	.06	.12*
Spare time	(r = .14*)	.13*	.12*	.07*	.10*	.20*
House/apartment	(r = .26*)	.23*	.25*	.20*	.24*	.30*
Community	(r = .19*)	.16*	.18*	.15*	.17*	.22*
Friendships	(r = .16*)	.14*	.14*	.11*	.13*	.20*
Standard of living	(r = .21*)	.19*	.20*	.13*	.19*	.32*
Health	(r = −.26*)	−.26*	−.27*	−.29*	−.27*	.02
Life	(r = .05)	.03	.03	−.04	.01	.15*
Happiness	(r = −.05)	−.04	−.07*	−.13*	−.09*	.05

Note: Entries are standardized regression coefficients regressing subjective well-being variable on age, controlling on various explanatory variables as indicated in column heads. Statistical significance levels are based on an effective sample size of two thirds of the actual sample size to adjust for a presumed average design effect of 1.5; *p< .05.

Source: Quality of Life Survey, 1971.

dividual adjustment processes, an intriguing hypothesis refers to how differential stress levels—and thus an aspect that is at least partly a reflection of the environment—might account for the observed relationship. Typical major life events scales, which are often used to assess the level of stress, show a declining number of such life events with increasing age. The 1978 Quality of Life survey contained a check list of some 30 life events. As predicted, with increasing age, respondents reported a decreasing number of life events for the previous five years.

The finding of declining stress due to fewer life events has been challenged from several vantage points. First, life events scales have been said to be biased towards events of younger ages such as marriage, birth of a child, change of job, etc. Second, even if events were fewer among older people, those they do encounter are more likely to be of a negative or threatening nature than those met in younger years and thus the declining stress implied by such life events measures may instead be a measurement artifact. Furthermore, life events scales do not necessarily represent subjectively experienced stress, since the same events may vary in stressful impact for different persons.

There is, however, another argument supporting the hypothesis that stress declines with age. It has recently been argued by some that the traditional major life events methodology may not be the best assessment of stress because stress may instead be created through the wear and tear or "daily hassles" that we experience when carrying out our routine transactions with the environment (Kanner, Coyne, Schaefer, & Lazarus, 1981). It is possible that these daily hassles decline in frequency for older persons, as they are released from many of the roles and constraints that make life difficult.

Therefore we used two measures of subjectively experienced stress in addition to the life events measure available in the 1978 Quality of Life survey: two semantic differential scales that were included in the 1971 and 1978 Quality of Life surveys and that have at least some face validity as measures of daily subjective stress. The respondents rated their lives as to whether they were "free" or "tied down" and whether they were "easy" or "hard." Older adults more frequently rated their lives as "easy" and as "free" than did younger adults. We believe that these age differences reflect more than just another form of the over-positiveness of older adults, since eight other semantic differential scales, which also reflected an evaluative dimension, did not show the same increases with age.

When the two semantic differential ratings are controlled by in-

cluding them as predictors, the coefficients of age on satisfactions are reduced substantially (Table 9.4 column 3; see also Herzog & Rodgers, 1981a). The coefficients are also reduced when the cumulative number of recent life events measured in the 1978 Quality of Life study is included as control variable, although somewhat less substantially than when the semantic differential scales were controlled (Herzog & Rodgers, 1981a). Therefore both indicators of stress produce a reduction in the original age–satisfaction relationships and these findings are consistent with the interpretation that a decline in stress accounts for the increased satisfaction among older adults.

We now come to the last set of explanations, those having to do with how older persons deal with the interview situation. We have identified a few such methodological age differences that provide possible explanations for the age differences in reported satisfactions. First, older adults generally demonstrate a stronger tendency to give socially sanctioned responses, as measured by the Crowne-Marlowe scale (Campbell et al., 1976; Gove & Geerken, 1977). This finding suggests that older adults are more likely to try to show themselves from their best side. Similarly, in an experimental setting we have observed a heightened tendency among older adults to conform to the apparent demands of the situation (Herzog, 1979). Reporting satisfaction (as opposed to dissatisfaction) is clearly the statistical norm, and perhaps older adults increasingly conform to that norm. At any rate, if social desirability is controlled by including scores on the Crowne-Marlowe scale as a predictor of satisfaction—which we could do in the 1971 Quality of Life data set—it explains a small part of the relationship (Table 9.4, column 4).

Another potential methodological explanation refers to the increased tendency among older respondents to utilize rating scales in a somewhat stereotypical fashion. For example, they are more likely to use the extreme positions of a rating scale than are younger respondents (Herzog & Rodgers, 1982). Although we have not yet been able to test this particular hypothesis directly, we suspect that the tendency for older respondents to use the extreme positions of satisfaction scales may increase their apparent satisfaction relative to that of younger respondents.

Before concluding this examination of the relationship between age and satisfaction ratings, we need to remind ourselves of another observation by Campbell et al. (1976). These authors maintain that the positive relationship between age and satisfaction obtains only if no obvious situational factors work against it, i.e., only if older persons are not drastically worse off than younger persons. Where

that is the case, it may wipe out or, in statistical terms, suppress the relationship. The foremost example is, of course, the relationship between age and satisfaction with health: Older adults' health is so much worse that despite their tendency to respond with higher satisfaction they report lower satisfaction with health. Other factors that suppress the age-satisfaction relationship are the lower income that persons after retirement typically report and the lesser education that older cohorts obtained. When these three factors—health, income, and education—are controlled, the negative relationship between age and health satisfaction disappears and the other relationships become stronger (Table 9.4, column 5; see also Herzog & Rodgers, 1981a). Another example is the negative relationships of age and satisfactions observed in the Italian and Belgian data from the Euro-Barometer surveys. Older persons in those countries report themselves as much worse off economically than do younger persons, to the extent of having to cut down on consumption and particularly on food in order to make ends meet. They also are more likely than younger respondents to feel treated unfairly by society. When these economic and societal factors are controlled in a multiple regression, the coefficients of satisfaction on age are no longer negative in the Italian and Belgian data (Herzog & Rodgers, 1981b).

Summary and Conclusion

Older adults tend to report somewhat higher levels of satisfaction than do younger adults. Replications in several U.S. and European studies suggest that this finding reflects a generalized tendency in developed Western nations. At the same time, considerable variability in the basic pattern was also observed. Possible explanations were sought for the general age-pattern as well as for its variability. Among the factors possibly affecting the variability are the phrasing of the question, the type and generality of the domain of satisfaction, and the relative status of the aged. Among the possible explanations for the general age pattern are individual adjustment processes that differ by age level, aspects of the objective situation that change across age levels, and methodological considerations. Although this paper offers some bits and pieces of evidence supporting various of the postulated explanations, at this point most of them must be considered nothing more than worthwhile hypotheses.

We believe that these hypotheses deserve further attention in future research because of their theoretical and practical significance. One aspect of their theoretical significance is their con-

nections to some of the central themes of social and personal aging. The suggestion, made here and by others (House & Robbins, 1983), that the level of stress may *not* be higher among the aged than among other age groups, is intriguing because it is in contradiction to some of the major assumptions underlying much social-gerontological research. These assumptions maintain that adults face increasing difficulties as they get older. Therefore, much existing research deals with adjustment to these presumed difficulties. Yet we know little about the types, the quantity, and the quality of stress and how it changes across the life span.

Another central theme that is evoked by the finding of higher satisfaction among the aged is the ways they cope with their difficulties and how effective these ways are. Some have argued that older persons are more willing to disregard certain aspects of their lives, particularly those aspects over which they have little control. Others have argued that older adults modify their aspirations and expectations. These hypotheses deserve more research. It would also be useful to examine the role of experience in older adults' coping with some of their problems, thereby focusing on potential strengths of the aged. How do older persons bring their accumulated experience to bear on the specific problems confronting them? Have they learned how to cope with situations such as the loss of a loved one or disabling health problems? These we believe are all important theoretical issues that are raised by the age-related increase in satisfaction, and that deserve further research attention.

Some of the hypotheses also have enormous practical implication. To date there are substantial indications that, compared to younger respondents, older respondents have a somewhat different style in answering survey questions (Herzog & Rodgers, 1982). If the increased levels of satisfaction reported by the aged are the distortions of defensive reactions or methodological artifacts, as argued here as well as by others (Carp & Carp, 1981), these measures are inadequate to accurately identify problems and shortcomings in the lives of the older population. Yet these measures are often used in surveys assessing needs of the elderly and by those evaluating services and programs for the elderly. Their unreflective use and the careless interpretation of resulting data should be suspect.

Notes

[1]The authors would like to thank Ronald Inglehart for comments on an earlier draft of this paper. Partial funding for work reported in this paper was provided by the National Institute of Mental Health under the grant R01 MH29747.

[2]For readers who compare the tables presented here with tables in the

original publication we would like to point out that the original tables include a few minor errors in the data from the 1976 Omnibus Survey that have been corrected in the tables presented here.

[3]Specific wordings for each question in each survey are available from the authors.

[4]An earlier report of these investigations was presented at the 12th International Congress of Gerontology, Hamburg (Germany), July 1981 (Herzog & Rodgers, 1981b).

[5]Note that two indicators of global life satisfaction were measured in these surveys.

[6]The findings from the 1971 Quality of Life survey are presented here in Table 9.4. The findings from the 1978 Quality of Life survey and from the Euro-Barometer studies are only described in the text. Findings from these two sets of studies are available in tabular form in Herzog & Rodgers, 1981a and 1981b, respectively, or from the authors.

[7]The German study by Zapf and his colleagues contained only a measure of religious attendance. Such a measure is not an ideal indicator for age comparisons because attendance is confounded with mobility among the aged. Religiosity contributed less when only this attendance measure was used.

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10

Social Support and the Quality and Quantity of Life

James S. House[1]

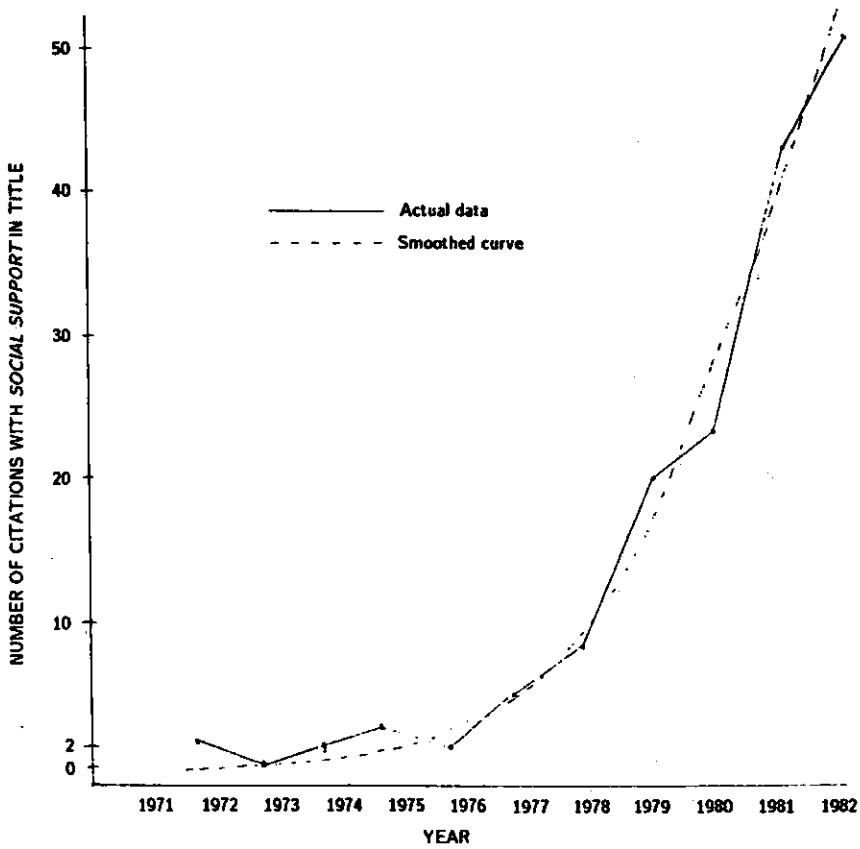
This chapter reviews theory and evidence on the nature of social support and its relation to the quality and quantity of life. Although we as yet lack a precise, consensual definition of social support, most definitions suggest that social relationships are supportive when they involve a flow between persons of one or more of the following: emotional concern or caring, instrumental aid, information, and appraisal. In research on animals and on humans in both work and nonwork settings, social relationships, especially supportive ones, appear to reduce the levels of stress experienced, improve health, and buffer the impact of stress on health. The extent and nature of one's social relationships not only predict the quality of one's life but have also been shown to predict its quantity as well. Prospective mortality studies have found that people with higher levels of social relationships and activities are less likely to have died during a 6- to 10-year interval than people with lower levels. Future research should specify conditions under which particular kinds of relationships and supports affect particular stress and health outcomes. Attention should also be paid to the social determinants of support, and whether current social trends may be inimical to the development and maintenance of supportive social relationships.

The study of social support in relation to human health and well-being is a relatively recent development, and the field is still undergoing exponential growth. In a computer search of all entries in the Social Science Citation Index containing the term "social support" in the title, we found an average of 2 articles per year were published during the five years from 1972 through 1976, 7 articles in the year 1977, 10 in 1978, 21 in 1979, 43 in 1981, and there were already 43 more entries for the first half of 1982. Figure 10.1 shows that exponential growth curve. If growth continues at this rate, publication on social support will exceed the rate of publication on satisfaction and happiness (Michalos, Chapter 2 of this volume).

Work done at the Institute for Social Research, particularly in the Social Environment and Health Program, played a seminal role in the development of research and theory regarding social support and its effects on individual health and well-being, and continues to play a major role in the field today. This chapter aims to provide a brief overview of the current state and future directions of research

Figure 10.1

ENTRIES IN THE SOCIAL SCIENCE CITATION INDEX WITH THE TERM *SOCIAL SUPPORT* IN THE TITLE, 1972–1982



at ISR and elsewhere on social support in relation to the *quantity* as well as quality of life. I hope this review will show why social support has been and will continue to be a focal concern in any program of research on social and psychological factors in the quality of life. The present chapter addresses four major questions or issues:

1. What is social support?
2. How and why do we expect that social support should be related to the quality and quantity of life?
3. What evidence do we have for the impact of social support on the quality and quantity of life?
4. And what are some of the major issues for future work?

What Is Social Support?

The term social support has often been used undefined or defined tautologically. For example, one widely cited study defined social support as "support accessible to an individual through social ties"—in other words, social support was defined as support that is social, which is true enough, but not very illuminating. Work at ISR has contributed more explicit definitions. Sidney Cobb (1976:300) offered one of the first definitions of social support as "information leading the subject to believe that he is cared for and loved, that he is esteemed and valued, and that he belongs to a network of communication and mutual obligation." Robert Kahn and Toni Antonucci (1980) more recently have defined social support as interpersonal transactions involving affect, affirmation, and/or aid. Finally, I have suggested that social support involves the flow between people of emotional concern, instrumental aid, information, or appraisal (House, 1981). Table 10.1 provides examples of each of these types of support. The table also suggests that we can receive support from many different types of people, and that we can conceive of and measure support as quite general or more problem-specific, and as an objective or subjective phenomenon. In sum, at this point, although there is reasonable consensus on the general nature of social support, it can and has been defined and measured in a number of different ways and we are still discovering which definitions and measures are most appropriate under different circumstances.

Social Support and the Quality and Quantity of Life: Theory

The current fascination with social support stems from its purported ability to promote human health and well-being in multiple ways, illustrated in Figure 10.2. First, social support appears to

Table 10.1
POTENTIAL FORMS OF SOCIAL SUPPORT*

Content of Supportive Acts	Sources of Support								
	(1) Spouse or Partner	(2) Other Relative(s)	(3) Friend(s)	(4) Neighbor(s)	(5) Work Supervisor	(6) Coworker(s)	(7) Service or Care Giver(s)	(8) "Self-help" Group(s)	(9) Health/ Welfare Professional(s)
1. *Emotional Support* (esteem, affect, trust, concern, listening)									
2. *Appraisal Support* (affirmation, feedback, social comparison)									
3. *Informational Support* (advice, suggestion, directives, information)									
4. *Instrumental Support* (aid in kind, money, labor, time, modifying environment)									

Within this matrix of types of social support, each can be:
a. *general* versus *problem-focused*
b. *objective* versus *subjective.*

*From: House (1981).

directly promote human health and well-being (arrow c) because it meets basic human needs for meaningful relationships. Second, as indicated by arrows a and d, support can indirectly promote health and well-being by reducing people's exposure to stress or other health hazards at work or elsewhere. Third, support can mitigate or buffer the deleterious effects of stress or other health hazards. Whereas the first two potential effects of social support on health and well-being are additive or main effects (one direct and one indirect via effects on stress), the buffering effect represented by arrow d of Figure 10.2 involves a statistical interaction between stress and support in predicting health or well-being. The nature of this interaction is illustrated in Figure 10.3 (panels a and c involve buffering, while panel b does not). This potential buffering effect of social support has been a source of special interest in research on social support because it suggests ways of reducing or even eliminating the deleterious effects of stress or other health hazards even when we cannot or will not reduce levels of exposure to such stresses or hazards. Finally, work by Robert Caplan, John R. P. French, Jr., and others at ISR and elsewhere suggest that support also promotes health behaviors of various types, including adherence to therapeutic medical regimens (Caplan et al., 1976).

Social Support and the Quality and Quantity of Life: Empirical Evidence

Empirical evidence that social support can improve health, reduce exposure to stress, and buffer the impact of stress on health comes from a wide range of types of studies: laboratory experimental studies of animals as well as humans, cross-sectional and retrospective field studies of human populations, and some longitudinal or prospective field studies as well. Although the results of most individual studies are open to alternative interpretations, the pattern of results across the full range of studies strongly suggests that social relationships, social networks, and social support have important causal effects on health, exposure to stress, and the relationship between stress and health. I did not enter the field of social support research as an enthusiast, but have repeatedly found social relationships, networks, and supports to be perhaps the most powerful and reliable psychosocial predictors of physical and mental health in my own work. The evidence is not, however, entirely uniform and consistent, and the pattern of inconsistencies often reflects more than chance variation and hence provides important insights for future theory and research regarding the critical social psychological mechanisms explaining these effects.

Figure 10.2
POTENTIAL EFFECTS OF SOCIAL SUPPORT ON WORK STRESS AND HEALTH *(from House, 1981)*

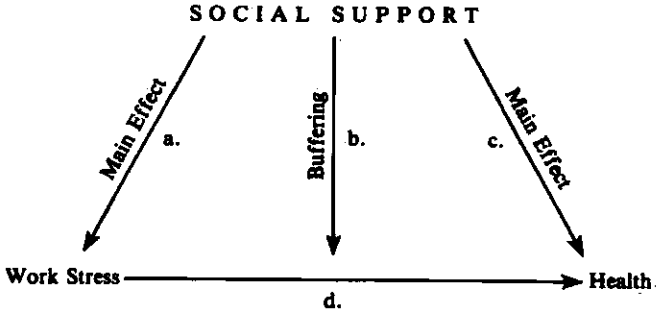
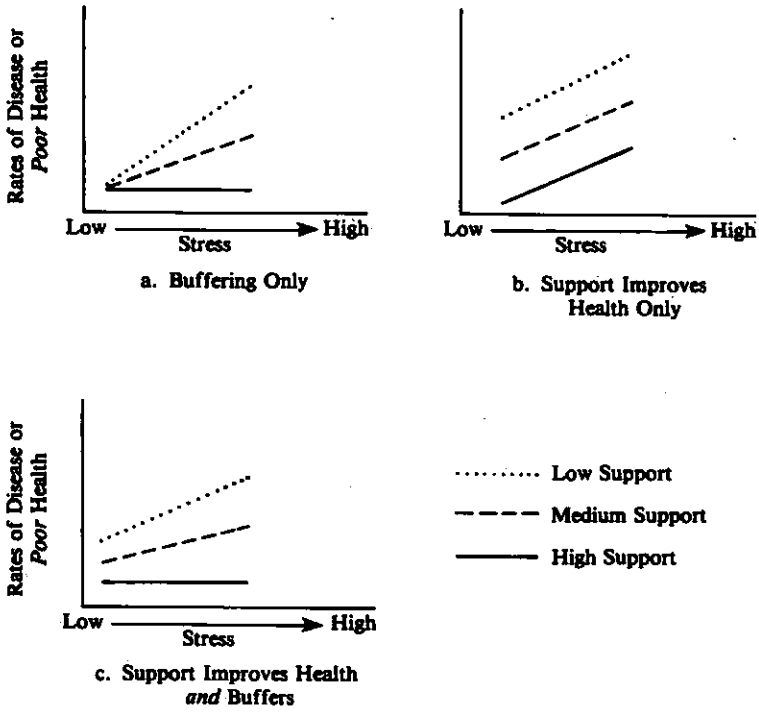


Figure 10.3
DIFFERENT PATTERNS OF EFFECTS OF SOCIAL SUPPORT AND OCCUPATIONAL STRESS ON HEALTH *(from House, 1981)*



Laboratory experiments on both animals and humans have demonstrated that the presence of others, especially familiar others, can reduce the adverse effects of experimentally induced stressors or other health hazards on psychological, physiological, and behavioral functioning. Exactly how these "others" protect organisms against stress and other health hazards is not clear. Nevertheless, studies show that the presence of familiar others protects goats, rats, and mice in stressful situations against neuroses, ulcers, and hypertension, respectively (Liddell, 1950; Conger et al., 1957; Henry & Cassel, 1969), and even reduces the rate and severity of chemically induced carcinogenesis in mice. The presence of familiar others also reduces anxiety and physiological arousal among humans in potentially stressful laboratory situations (Wrightsman, 1960; Back & Bogdonoff, 1967). Finally, students of human–pet interaction have suggested that social support can operate across species, with pets enhancing the well-being of people in a variety of ways, and we now have evidence that people can be effective sources of social support for animals as well. A recent study found that if rabbits on a high-fat diet are cuddled, fondled, and talked to by their handler, they are somehow protected against developing arteriosclerotic heart disease, while rabbits on the same diet but not given such "social support" generally succumbed to heart disease (Nerem et al., 1980).

Longitudinal studies and field experiments outside of the laboratory provide further evidence of the ability of social support to improve health, reduce exposure to stress and other health hazards, and buffer the impact of stress on health. "Psychosocial assets," of which social support is a major component, have been shown to buffer the impact of life stresses on complications of pregnancy (Nuckolls et al., 1972). Social epidemiologists in England have found that social supports reduce the tendency of widowhood to lead to reactive depression (Brown et al., 1975), while an Australian psychiatrist has shown that providing social support to widows reduces the incidence of major health impairments in the year following widowhood (Raphael, 1977).

Finally, a long tradition of research on "social integration" by sociologists and social epidemiologists, beginning with Durkheim's (1951) classic, *Suicide*, has consistently found better mental and physical health and greater longevity among the more socially integrated than among the less integrated, especially when comparing the married to the unmarried (cf. also Ortmeyer, 1974; Gove, 1972; 1973). However, such research is generally cross-sectional or retrospective in nature, and hence is subject to the criticism that mental or physical illness may be the *cause* of the social isolation

rather than its result. Thus, much of this evidence could say more about the effect of health on social integration than vice versa. Two recent prospective mortality studies are, therefore, especially important and striking because both provide evidence against this alternative interpretation and indicate that social relationships and supports can increase the actual *quantity* of life as well as its quality.

In 1979, Berkman and Syme reported results of the prospective study of a probability sample of 2,229 men and 2,496 women ages 30–69 living in Alameda County, California (i.e., Oakland) at the time of an initial mail questionnaire survey in 1965. The initial questionnaire obtained self-report assessments of health behaviors and health status and of a variety of psychosocial variables. The mortality status of the sample was determined nine years later, in 1974, and Berkman and Syme assessed whether the presence or absence of four kinds of social relationships in 1965—marriage, contacts with friends, church membership, and organizational memberships—predicted subsequent mortality. They found that persons who were low or lacking in each of these relationships, and low on a Social Network Index combining all four (as shown in Figure 10.4), were from 30 to 300 percent more likely to have died by 1974. As Figure 10.4 also shows, the basic findings hold for all age and sex groups.

The Berkman and Syme findings hold up even with controls for age, and a range of self-reported health behaviors and health status variables, but the use of self-report data on health leaves some possibility that undetected illness in some individuals may have accounted for both their lower levels of social integration in 1965 and their higher probability of death by 1974. In collaboration with Cynthia Robbins and Helen Metzner, I recently had the opportunity to replicate and extend the Berkman and Syme findings using data from the Tecumseh Community Health Study (House et al., 1982). Here we had not only self-report interviews and questionnaires, but also detailed medical examinations and tests completed in 1967–69 on a cohort of 1,322 men and 1,432 women in Tecumseh, Michigan. The mortality status of this group was determined in 1979.

The results shown in Figure 10.5 and Table 10.2 show again that both men and women with low levels of social relationships and activities were more likely to die over the succeeding 10- to 12-year follow-up period, even after controls for age and other known biomedical risk factors of mortality. The results, however, were stronger and more significant for men than for women in Tecumseh, suggesting that processes of social integration may operate differently for women in small towns than for men in these same towns or for both sexes in larger urban areas. The explanation

Figure 10.4
AGE- AND SEX-SPECIFIC MORTALITY RATES FROM ALL CAUSES PER 100 FOR SOCIAL NETWORK INDEX, HUMAN POPULATION LABORATORY STUDY OF ALAMEDA COUNTY, 1965–1974 *(figure adapted from Berkman & Syme, 1979)*

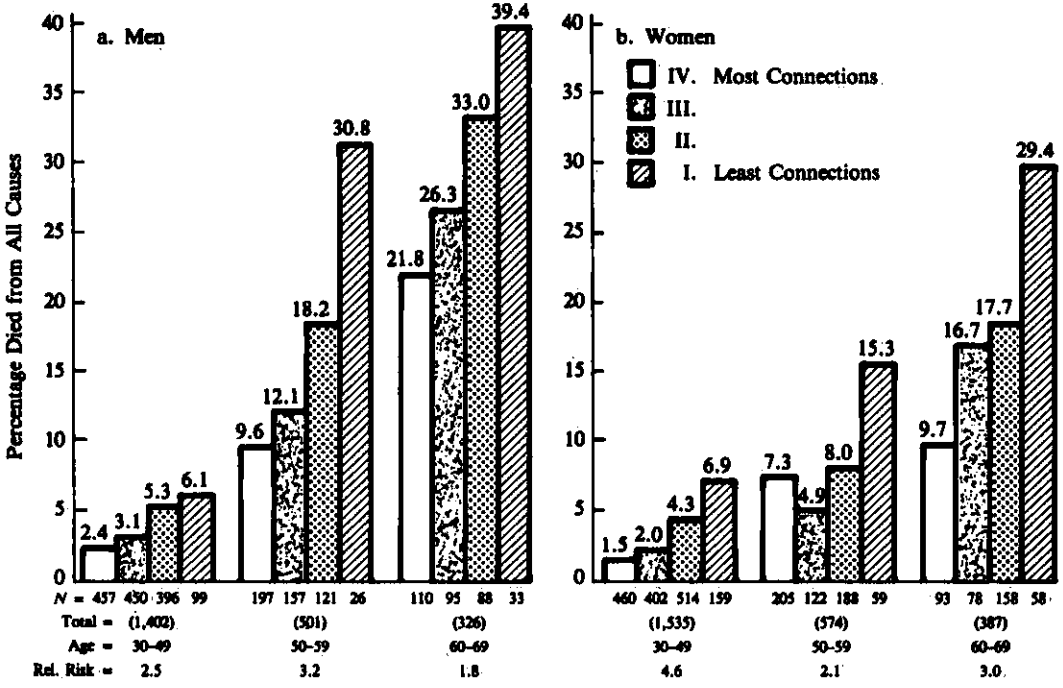


Figure 10.5

AGE-ADJUSTED MORTALITY RATES OF MEN AND WOMEN ACROSS LEVELS OF SUMMARY INDICES OF SOCIAL RELATIONSHIPS AND ACTIVITIES—TECUMSEH COMMUNITY HEALTH STUDY, 1967–1979 (*figure adapted from House et al., 1982*). The count index value is the sum of the number of responses greater than the lowest level for each of seven variables measuring the existence and frequency of social relationships and activities. The mean index is the mean over the full range of values for these seven variables. For these purposes, married has a value of 6, unmarried, 1. The six levels shown represent a categorization of actual mean values as follows: 1 = mean $\leq$ 2.00; 2 = 2.00–2.49; 3 = 2.50–2.99; 4 = 3.00–3.24; 5 = 3.25–3.49; 6 $\geq$ 3.50.)

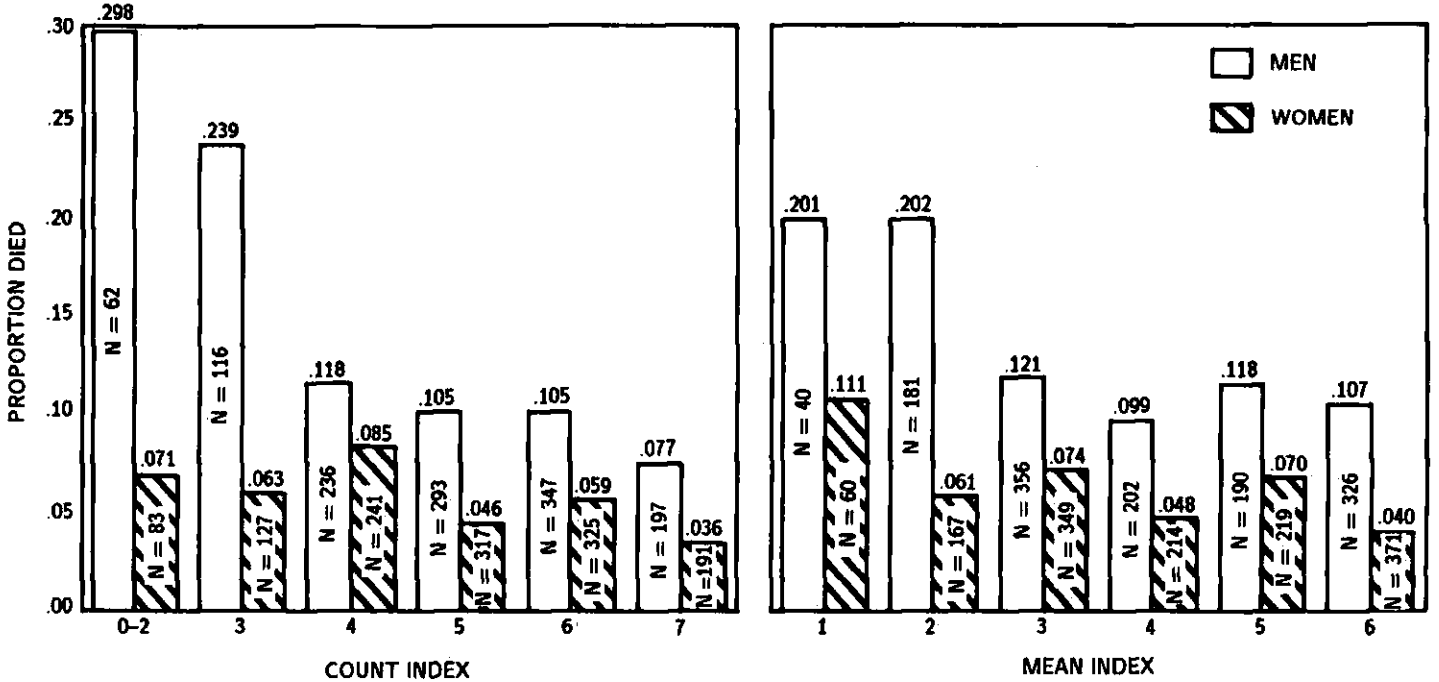


Table 10.2

MULTIPLE LOGISTIC COEFFICIENTS FOR ASSOCIATION OF SOCIAL RELATIONSHIPS AND ACTIVITIES WITH MORTALITY, TECUMSEH COMMUNITY HEALTH STUDY, 1967–1979[a, b]

Social Relationships and Activities	Zero-order		Adjusted for Age		Adjusted for Age and Other Risk Factors	
	Male	Female	Male	Female	Male	Female
Intimate Social Relationships						
Marital status	−.862***	−.879***	−.710***	−.307	−.614*	−.262*
Frequency visiting friends and relatives	−.092	.010	−.088	−.026	−.078	−.002
Frequency going on pleasure drives/picnics	−.128**	−.172**	−.127**	−.118	−.099	−.102
Organizational Involvements						
Frequency of church attendance	−.071	−.121*	−.046	−.135**	−.018	−.134**
Frequency attending meetings of voluntary associations	−.391**	−.010	−.280***	.026	−.222**	.070
Active/Social Leisure Activity						
Frequency attending spectator events (movies, plays, fairs, sports events)	−.932***	−.749***	−.443***	−.274	−.419**	−.155
Frequency attending class or lectures	−.353***	−.152	−.252**	−.096	−.260*	−.060
Passive/Solitary Leisure Activity						
Time spent watching television	.137***	.251***	.110*	.195***	.024	.190***
Time spent listening to radio or reading	.361***	.167	.224*	.147	.083	.130

Note: ***$p < .005$, **$p < .025$, *$p < .05$ (one-tailed tests).

[a]From House, Robbins, & Metzger (1982).

[b]After deletion of missing data, numbers range from 1,279 to 1,322 for men and from 1,364 to 1,431 for women. Risk factors controlled were coronary heart disease, FEV_1 (forced expiratory volume in 1.0 second), smoking, and working as a farmer or laborer or being retired or disabled for men; coronary heart disease, FEV_1, hypertension, and bronchitis for women.

may lie in an additional but unmeasured form of social integration available to women in the more traditional lifestyle prevalent in this small-town community. The women may be benefiting from a network of friendly neighborhood contacts that occur in the context of other activities such as shopping, gardening, and attending to children. The standard questions used to assess social integration may be measuring only the amount of contact people have with their friends and family in contexts readily recognized as "social" and failing to capture this extra dimension available primarily to women in this small town. In contrast, women in urban areas and men in both locations are likely to see friends and relatives primarily in the context of specific social occasions of the types assessed in the Tecumseh and Alameda County studies.

Overall, however, the Tecumseh results provide a second striking demonstration that social relationships and activity can enhance the quantity as well as the quality of life. Aside from basic sociodemographic variables, I know of only one other psychosocial variable—the Type A or coronary-prone behavior pattern—for which we have similarly compelling prospective evidence of effects on consequential forms of morbidity or mortality.

The evidence that these effects are due to social support is much more indirect, however, but still suggestive. In both Tecumseh and Alameda County, as in many prior studies, we find that men benefit more than women from being married. Further, many studies, including the Berkman and Syme study, find that women benefit more from contact with friends (though in the Tecumseh data the questions on friends and relatives proved nonsignificant for all groups). Since friends tend to be of the same sex, a hypothesis emerges that social relationships with women are more beneficial to health and well-being than relationships with men. This hypothesis is confirmed by a study of Rochester University students which found that for both sexes time spent interacting with women is inversely related to felt loneliness, while contact with men is unrelated to loneliness (Wheeler, Reis, & Nezlek, 1982). Since women are often found to be more empathic, warm, open, and skilled socioemotionally, they may simply be better providers of social support, especially emotional support. The study of gender differences in giving and receiving support appears a crucial one for future work, and is already receiving attention in the Social Supports of the Elderly (SSE) project currently being conducted by Robert Kahn, Toni Antonucci, and Charlene Depner at ISR.

The SSE Project continues a long tradition of ISR research—especially studies of occupational stress and health in the Social Environment and Health Program—that has attempted to directly

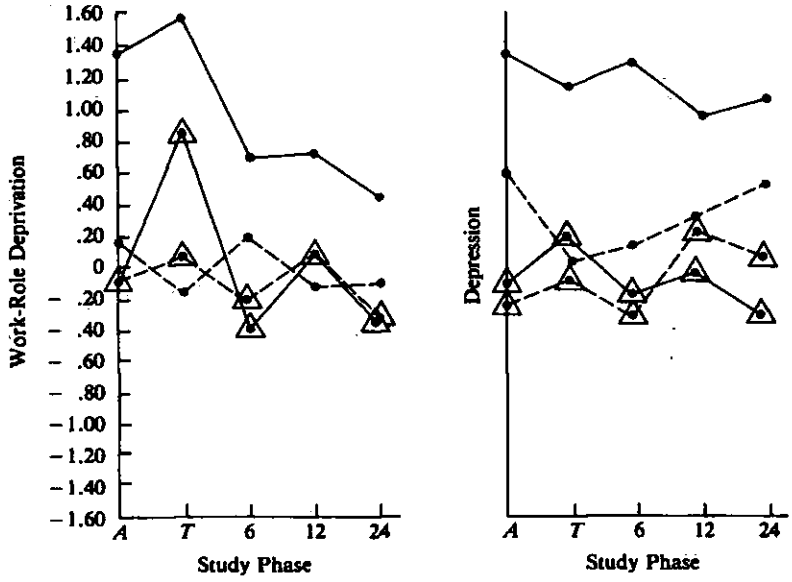
measure social support and its relationships with stress and health. In a seminal study, Cobb and Kasl (1977) demonstrated that social support can reduce or virtually eliminate deleterious health consequences of job loss and unemployment. As shown in Figure 10.6 they found that persons who were exposed to substantial unemployment as a result of plant closings and who also lacked social support experienced sustained depression and feelings of work-role deprivation. In contrast, persons experiencing the same degree of unemployment but who had social support (mainly from family and friends) were indistinguishable in terms of these outcomes both from persons who lost their jobs but were quickly reemployed and from a control group who experienced no job loss or unemployment.

These findings led us to look more closely at whether social support could also reduce stress on the job and/or buffer its effects on health. Here we have obtained confirming evidence from two independent studies using similar methods. In the early 1970s Robert Caplan, Sidney Cobb, John R. P. French, Jr., and others conducted a survey of stress and health in 23 occupations spread over much of the country (Caplan et al., 1980). Soon thereafter, I was involved with the University of North Carolina School of Public Health in a study of working conditions, including stress and health, in a tire, rubber, plastics, and chemicals factory (House, 1980; House et al., 1979). Analysis of both data sets assessed the relation of social support—especially emotional support from supervisors, coworkers, and people at home—to levels of self-reported stress and health, and also tested whether social support buffered the impact of stress on health.

The results showed that reported social support from people at work was associated with lower levels of stress at work, while levels of support at home were unrelated to work stress. However, home support was effective, along with support from people at work, in buffering the impact of work stress on a number of health outcomes, especially mental health ones. Intriguingly, however, we found that in our factory setting, which tended to limit opportunities for interaction among workers, supervisor support was most effective in buffering the effect of stress, while in the Caplan et al. study, which included a broad range of occupations, many with at most nominal supervision, coworker support was most consequential (House & Wells, 1978; LaRocco et al., 1980). These studies and others suggest that we all need and benefit from social support but who can provide the most effective support depends upon a particular situation.

Figure 10.6

THE JOINT IMPACT OF SOCIAL SUPPORT AND UNEMPLOYMENT ON WORK-ROLE DEPRIVATION AND DEPRESSION *(from House, 1981)*



A = Anticipation (1 month before plant closing)
T = Termination (6 weeks after closing)
6 = 6 months after plant closing
12 = 12 months after plant closing
24 = 24 months after plant closing

(1) Low support, more unemployment
(2) Low support, less unemployment
(3) High support, more unemployment
(4) High support, less unemployment

NOTE: All scores are expressed as scored deviations from the scores of a control group of workers who were stably employed throughout the study phases in a similar plant.

Conclusion: Retrospect and Prospect

Our own research at ISR and my reading of the research of others suggest that social relationships and social supports are potent variables that can reduce exposure to stress, promote health, and buffer the impact of stress on health, thus contributing to increases in both the quality and quantity of life. The evidence also suggests, however, that all types of people and all types of support are not equally effective in these regards, and all types of stress and health may not be equally affected. What is needed at this point are more careful analyses and interpretations of the conditions under which given types of relationships and supports do or do not affect given indicators of stress and health. We also must attend more to the mechanisms through which support operates. These are issues in which we have a continuing interest.

We are also increasingly attracted, for both scientific and practical reasons, to a set of issues and questions that have been relatively neglected in the recent flurry of research and writing on social support, though they have a long and quite respectable heritage beginning with the work of Emile Durkheim. Durkheim was interested not only in the consequences of social integration for individuals and society, he was even more interested in the causes or determinants of levels of social integration. Similarly, I think we need to understand not only the consequences of social support but also its sources and determinants. This is a question of intrinsic scientific interest, and it is crucial to developing our ability to enhance levels of social support in any population.

A concern with the social causes or determinants of socially supportive relationships seems especially appropriate at this time. Evidence from the ISR surveys of mental health in America in 1957 (Gurin et al., 1960) and in 1976 (Veroff, Douvan, & Kulka, 1981; Veroff, Kulka, & Douvan, 1981) indicates that the *prevalence* of significant informal social relationships, networks, and supports has been declining over the last quarter century while people are increasingly calling on those same sources of support for help in dealing with personal problems. Compared to the 1950s, American adults in the 1970s were less likely to be married, more likely to be living alone, less likely to belong to voluntary organizations, and less likely to visit informally with others. What factors, both cross-sectionally and over time, determine the level and patterns of social relationships in our society? And how are the changing patterns of social relationships and networks in our society related to the experience of social support and to the quality and quantity of life? These are important questions on our agenda for future research.

Let me close on a cautious note. Social support is obviously not all there is to the study of stress and health, much less quality of life, as Sutton and Kahn illustrate in their chapter in this volume. As further confirmation that social support is not everything, it is clear that the rate at which we are able to deal with some of the questions for the future that I have raised depends not on the availability of social support, at least not emotional support, but on financial support. Two aphorisms from my wife's favorite writer on psychotherapy, who has become mine—Sheldon Kopp—put it all properly in perspective. In the epilogue to his book *If You Meet the Buddha on the Road, Kill Him*, Kopp (1972) offers what he calls an "Eschatological Laundry List: A Partial Register of the 927 (or was it 928?) Eternal Truths." Truths No. 29 and 30 are:

Love is not enough, but it sure helps.

We have only ourselves, and one another.
That may not be much,
but that's all there is.

Note

[1]This paper provides a brief, nontechnical overview of a broad range of research. Much of the material prior to 1981 is covered more fully in House (1981). Although I am responsible for the specific form and phraseology of this paper, the work I discuss has involved many other ISR staff, including Sidney Cobb, John R. P. French, Jr., Robert L. Kahn, Stanislav Kasl, Robert Caplan, Toni Antonucci, and Charlene Depner. Their individual contributions are acknowledged at appropriate points, but I also wish to recognize a larger collective debt. I am also grateful to Marie Klatt for preparing the manuscript.

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11

Living Arrangements and Social Integration

Duane F. Alwin, Philip E. Converse, and Steven S. Martin[1]

Changes in the composition of American households over the past several decades, particularly increases in the numbers of persons living alone and single parents living with their children, call attention to potential differences in levels of social integration that accompany differing types of living arrangements. In this chapter we review the nature of trends in household living arrangements and examine the potential consequences of types of living arrangements for levels of social integration. With respect to the latter objective, we examine data from a 1978 national survey (N = 3,692) of the U.S. population, showing that persons living alone frequently exhibit higher levels on important measures of "extra-household" social connectedness than do those living with others. While lacking the social contact that naturally accompanies living with others, persons living alone appear to be no less attached outside the household and in some instances have higher levels of such contact. These results are supported by a complementary analysis of national data on time use, which confirms the broad outlines of these findings. We conclude from these analyses that living alone is often a preferred arrangement for which compensating mechanisms of social support often exist, rather than an isolating situation into which persons are forced against their will.

Introduction

There is widespread agreement among students of marriage and family life that major changes are occurring in traditional family arrangements (Masnick & Bane, 1980; Cherlin, 1981; Thornton & Freedman, 1983). Recent trends in rates of divorce and remarriage (Norton & Glick, 1976; Cherlin, 1981), increases in the age at marriage and changing attitudes toward marriage (Thornton & Freedman, 1982), increased female labor force participation (Waite, 1981), and delays in child-bearing and reduced fertility among women of child-bearing age (Spain & Bianchi, 1983) are recently documented patterns that reflect fundamental changes in the nature of family and household relationships. As a consequence of these changing patterns of family life, living arrangements in American society have also undergone major changes over a period of several decades. Indeed, in recent years demographers have drawn attention to trends in the composition of American households, reinforcing the view that the traditional link between the family and

household living arrangements is breaking down. According to recently assembled data providing documentation of these trends (e.g., Kobrin, 1973, 1976a, 1976b; Glick, 1976; Michael et al., 1980), it appears that persons in the United States are increasingly achieving privacy and independence at the expense of family membership, and that household headship is no longer necessarily associated with family responsibility.

The pervasive nature of these trends in household composition over the past few decades raises questions as to their consequences for individuals. This is particularly significant given the existing literature on the quality of life and subjective well-being (Gurin et al., 1960; Campbell et al., 1976; Veroff et al., 1981), which indicates that persons in intact marriages enjoy greater satisfaction and psychological well-being than persons who are unmarried. The latter often show many more signs of stress and strain in their lives, and one of the factors identified in this process is the relative isolation of the unmarried (e.g., Pearlin & Johnson, 1977; Pearlin, 1980; Hughes & Gove, 1981; Kessler & Essex, 1982), a sizeable proportion of whom live alone or alone with children.

On the basis of empirical research to date, it can be argued that the proximate social environment is the most fundamental determinant of the availability of social support for individuals, and that it is from this immediate environment that most persons derive central aspects of their identity that contribute to emotional well-being. Although an established research literature suggests that social relationships do impinge on social and psychological outcomes, the link between recently emerging forms of living arrangements and social and emotional connectedness is complicated by the inherent association of living arrangements with marital status/life stage, gender, and age.

In the present study we examine patterns of social integration across the several categories of marital status, gender, and living arrangements using a large representative sample of U.S. households. First, we briefly review trends in two aspects of changing household composition that have implications for social integration and psychological well-being: the increasing proportions of persons living alone and those living alone with children. We then discuss the potential consequences of living arrangements and examine empirical data regarding the relationships of living arrangements and measures of social integration.

Trends in Living Arrangements

A number of significant changes in household living arrange-

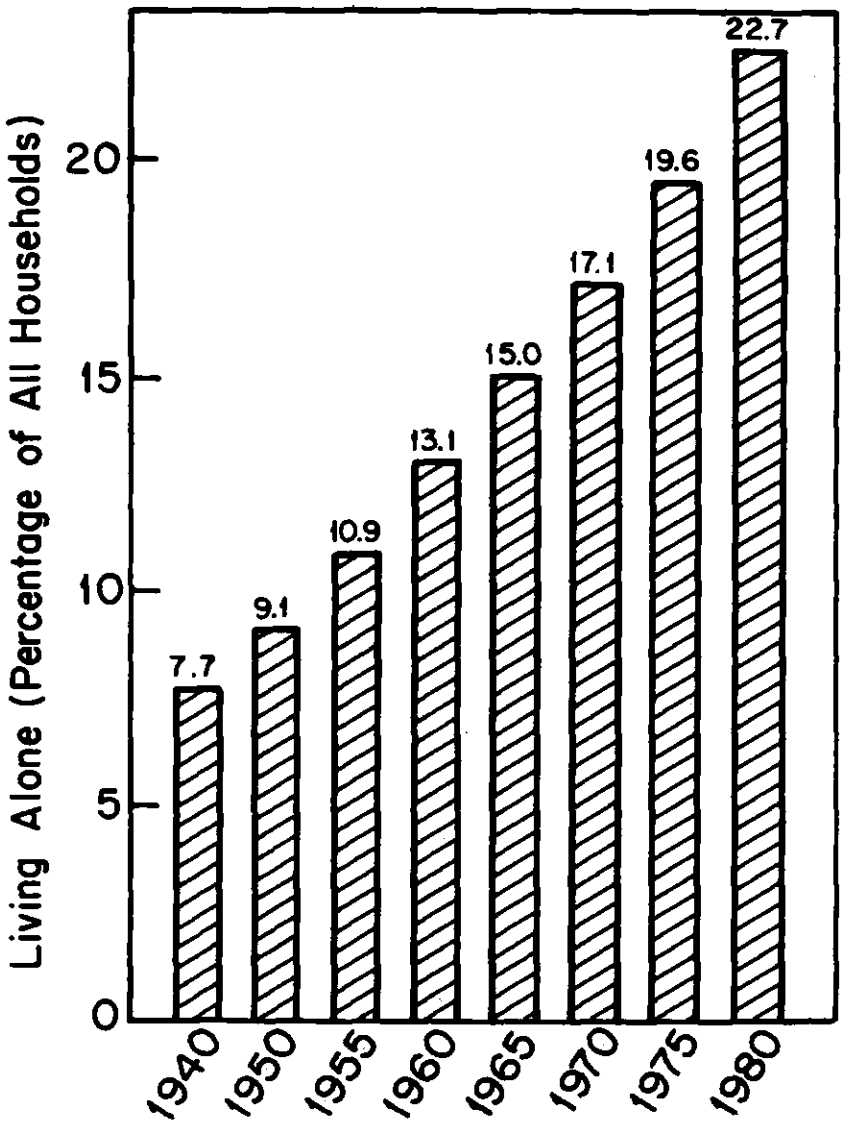
ments have implications for individual functioning and well-being. One important indicator of changing living arrangements is the average size of households, which has obvious consequences for the nature of household life. The decline in the average size of the American household has been consistently documented from the earliest available data. Recent changes have perhaps been somewhat more dramatic; for example, average household size has fallen from slightly over three persons per household in 1970 to about two and three-quarters in 1980 (Russell, 1981). Earlier declines in household size have been attributed primarily to declines in population fertility and mortality (more people are living longer, experiencing a greater likelihood of living alone), but changes since the 1940s have been viewed as growing out of changes in normative patterns of residential and family living (see Glick & Parke, 1965; Norton, 1974; Kobrin, 1973, 1976a, 1976b).

There are two significant aspects of these changing normative patterns of living, reflective of some of the most important recent trends in family and household membership: the increasing numbers of Americans living alone and the increasing numbers of households consisting of a single parent and her/his children. Traditionally, adults in the United States have lived primarily in households containing other adults, so these patterns reflect a major departure from past experience. According to data assembled from *Current Population Reports*, the proportion of households containing persons living alone has increased nearly threefold since the 1940s. In the early 1940s fewer than 8 percent of households were classified as containing just one person, whereas the comparable 1983 figure is about 23 percent (U.S. Bureau of the Census, 1983). Figure 11.1 depicts the gradual nature of these changes over a four-decade period.

These changes in the proportion of households occupied by persons living alone have their origins in a number of other social changes, and in recent years a small literature has begun to accumulate regarding their causes. The changing nature of the age distribution has been identified as partly responsible for these shifts. Since old age is increasingly a time of separation from family and children, particularly among women, the increase in both the longevity of women and in their economic independence in old age have accounted for some of the increased propensity to live alone (Beresford & Rivlin, 1966; Michael et al., 1980; Soldo et al., 1983). This increasing tendency of older persons to live alone is expected to continue (see Soldo, 1980).

In addition, at the younger end of the age spectrum, the post-1940s birth cohorts have also contributed significantly to patterns of

Figure 11.1
PERCENTAGE OF U.S. HOUSEHOLDS CONTAINING PERSONS LIVING ALONE—SELECTED YEARS 1940-1980
(Source: U.S. Bureau of the Census, 1983)



living alone in recent years. For example, 1980 Census data indicate that, while it is estimated that the population grew some eleven percent from 1970 to 1980, the number of never-married persons living alone more than doubled (Russell, 1981). These trends are due in part to the rising age at marriage in recent years, increases in rates of marital termination, the postwar growth in personal income (among all age groups), and changing residential preferences (see Masnick & Bane, 1980).

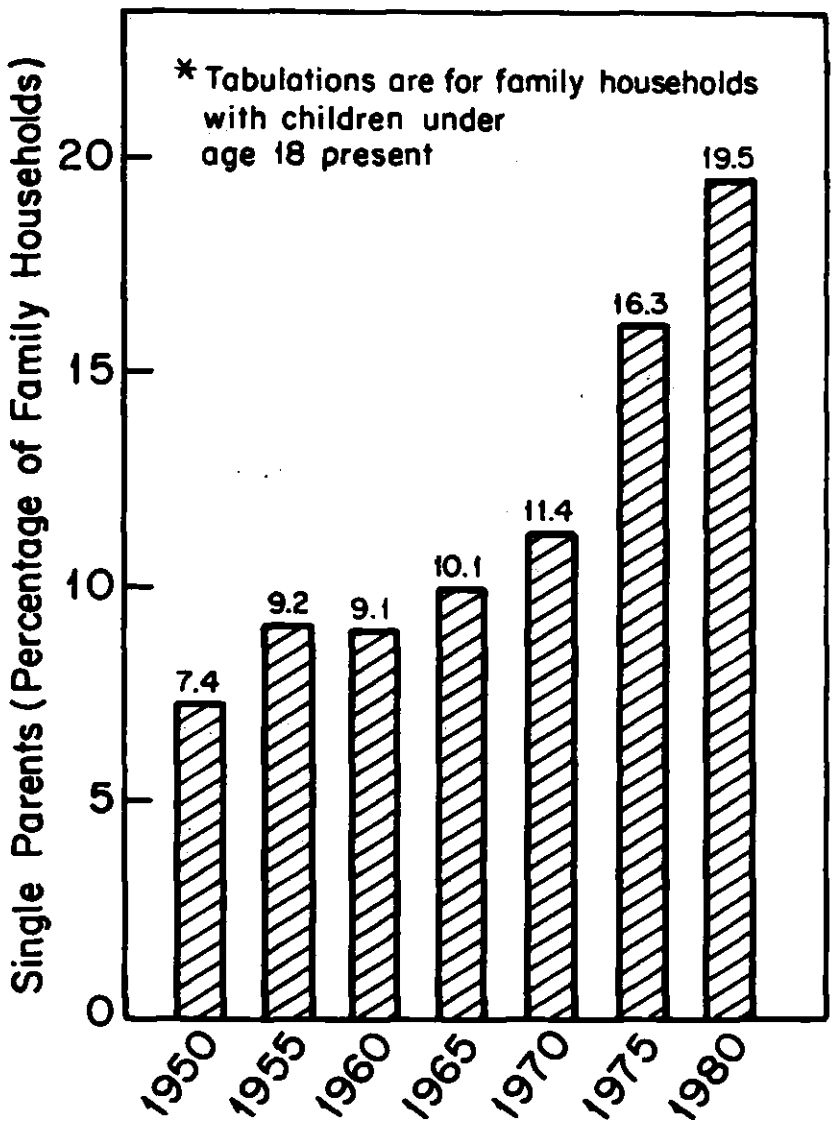
A second major trend occurring in the United States is the increasing number of households composed of parents, particularly women, living alone with their children (Ross & Sawhill, 1975; Glick, 1976; Bianchi & Farley, 1979). According to recent data from the *Current Population Reports* (U.S. Bureau of the Census, 1981a), in 1980 about 19 percent of all children under 18 were living in households headed by one parent, a 75 percent increase over the previous decade. Some demographers project that nearly half of all children born to parents in the early 1980s will spend some time prior to age 18 living with only one of their parents (Cherlin & Furstenberg, 1983). Figure 11.2 depicts the trends in the proportions of "family" households headed by single parents since the 1950s: While there has been a gradual shift upward in the proportion of single-parent families, these shifts have an exponential appearance over the past decade.

Changes in the proportion of households headed by single parents have their origins in two principal sets of factors. First, increases in the rates of marital separation and marital termination by divorce (Bane, 1976; Norton & Glick, 1976; Cherlin, 1981; Thornton & Freedman, 1983) contribute to these patterns in obvious ways. Marital separation and ultimate divorce expose both men and women to the risk of living alone with their children, but in practice this differs considerably by gender. And, women are increasingly likely to head their own households following marital termination.

Although it has been traditional for separated and divorced women to move into households with relatives, the tendency away from such a pattern is clearly evident in recent years. Even as recently as the 1960s, high rates of movement back to relatives' households existed among divorced women. Now divorced women are increasingly likely to head their own households (Ross & Sawhill, 1975; Masnick & Bane, 1980), with an attendant increase in the total number of single-parent household heads. A second factor contributing to these trends is the increasing rate at which never-married women with children head their own households (see Ross & Sawhill, 1975; Bianchi & Farley, 1979).

Figure 11.2

PERCENTAGE OF U.S. FAMILY HOUSEHOLDS CONTAINING SINGLE PARENTS, 1950–1980 (*Source: U.S. Bureau of the Census, 1951, 1956, 1961, 1966, 1971, 1976, 1981b*)



Consequences of Living Arrangements

The trends described above reflect changing conditions of household and family life and have implications for the social integration of individuals. It is a classic theme in sociological writing that individuals within society are dependent upon close primary relations and feelings of solidarity with others (see Durkheim, 1951; Simmel, 1950; Sorokin, 1927; Park, 1928). More recently, an impressive body of research has developed in support of this contention, suggesting that access to social contact plays an important role in individual adaptation to the stresses of life and of major life changes (Lowenthal, 1964; Lowenthal & Haven, 1968; Weiss, 1973; Cassel, 1976; Cobb, 1976; Dean & Lin, 1977; Kobrin & Hendershot, 1977; Berkman & Syme, 1979; Mueller, 1980; Kahn & Antonucci, 1980; Turner, 1981; House et al., 1982).

A person's living arrangements define and constrain the nature of his/her social interaction with others in the proximate social environment and may also affect the nature of his/her contact with others outside the dwelling unit. It can therefore be hypothesized that, to the extent living arrangements condition one's access to social contact with others both within and outside the household, they have potential consequences for the emotional and psychological well-being of individuals. An extensive literature suggests that living in social isolation, for example, has apparent consequences for a number of aspects of psychological functioning (see Hughes & Gove, 1981, for a review of this literature).

The various forms of household living arrangements would seem to have several apparent consequences for social contact with others, but little empirical information exists regarding the actual nature of this contact, nor is there systematic evidence of the role of living arrangements in providing social support for life stresses. The growing literature dealing with the role of social support factors in psychological well-being generally supports the thesis that availability and accessibility of social networks provide contacts that are important for individuals' emotional well-being.

This literature is, however, somewhat obscure regarding the specification of the kinds of social networks that are the most supportive (see Phillips & Fischer, 1981:226–227). There is some suggestion that in terms of promoting positive feelings of well-being, nonkinship ties are more important than kinship ties. Arling (1976) reports that having grown children in the nearby area and the associated contact with them does not appear to be related to the morale of elderly widows, whereas embedment in neighborhood and friendship networks is positively associated with feelings of well-

being. Similarly, Phillips and Fischer (1981) find that the number of out-of-household kinship ties is unrelated to well-being, but the number of nonkin members in the social network and the number of close social companions are the most powerful predictors of morale among a large set of measures obtained from social network information.

These results, then, suggest that the availability of kinship ties does not necessarily promote the access to the companionship and the socioemotional exchanges that are theoretically necessary for well-being. However, it is not clear from this research whether household-based social contact and the support that occurs in multi-person dwellings are more or less effective in promoting personal well-being than is social contact outside the household. Some kinds of household contact may actually be detrimental, as Hughes and Gove (1981:69) have recently suggested. They point out that unmarried persons living with others are typically not living in the best of circumstances, and in many instances unmarried persons living with others and/or with their children are subject to a number of strains (see also Pearlin & Johnson, 1977).

As indicated earlier, very little is known about the ways in which persons living alone or in other less typical situations (such as single parents living with children) compensate for their relative isolation. In this paper we investigate the relationships of a variety of living arrangements with two measures of social integration: the number of persons available in the individual's social environment and his/her actual contact with those available others. We use data from the 1978 national survey of the *Quality of Life* (QOL) conducted by the Survey Research Center of The University of Michigan (Campbell & Converse, 1980). These data are particularly well-suited to these purposes because of the large sample size and the diversity of measurement of social integration in the survey questionnaire.

Unfortunately, living arrangements are confounded with other factors, and it is difficult to assess the consequences of living patterns outside the context of other variables. For example, among people who live alone, many do so by choice, while others do not. More generally, one's living arrangements are usually conditioned by other factors such as marital status, life stage, age, and gender. For persons who have lost a spouse through separation, divorce or widowhood, living alone or living with one's children often results in a fundamental change in lifestyle to which they were unaccustomed in the past. Similarly, for many never-married young persons who leave the parental home, living on one's own represents a transition into a new stage of life. Therefore it is difficult to determine

whether an effect associated with a particular living arrangement is due to this pattern of living per se, or to the circumstances surrounding the life event that created it. Thus, the effects of living arrangements and marital status must be disentangled in any analysis of their combined effects on theoretically relevant outcomes.

Data and Procedures

While we shall verify some of our findings with more than one data set, the chief study to be exploited here involves a probability sample (N = 3,692) of persons 18 years of age and older living in households (excluding those on military reservations) within the coterminous United States. Interviews were conducted during June through August, 1978. The original sample of approximately 4,870 occupied housing units, consisting of two independently chosen multistage area probability samples, was used to represent the noninstitutionalized adult population of the United States. The overall completion rate was thus approximately 76 percent. The sampling details are given elsewhere (see Campbell & Converse, 1980). This sample systematically underrepresents males relative to females and also underrepresents the widowed, divorced, and separated to a slight degree, as is typically the case in applications of survey procedure.[2]

Living Arrangements

For purposes of this analysis we consider four types of living arrangements: (1) persons living alone, completely by themselves with no other adults and/or children present; (2) persons living only with children aged 17 or less; (3) persons living only with other adults aged 18 or more; and (4) persons living with both adults and children. As we mentioned earlier, marital status specifies the range of living arrangements available to persons, and it therefore becomes necessary to consider variation in living arrangements by marital status. Table 11.1 presents the cross-classification of the QOL sample data by gender, living arrangements, and marital category—never married, married, separated, divorced, and widowed. This table also gives the average age of persons within each subcategory.

Almost by definition, presently married persons live primarily with other adults or adults and children (categories 3 and 4). Only rarely—one percent of the time—do other types of living arrangements occur among the presently married. Widows (or widowers), on the other hand, are very likely to live alone. About 75 percent of

Table 11.1

DISTRIBUTION OF LIVING ARRANGEMENTS AND AVERAGE AGE BY MARITAL STATUS AND GENDER: 1978 QUALITY OF LIFE SAMPLE (N = 3,686)

Living Arrangements	Marital Category					Total
	Never Married	Now Married	Separated	Divorced	Widowed	
Males						
Alone	37% (34.2)	.5% (58.2)	57% (46.8)	66% (46.6)	72% (72.0)	18% (46.7)
Children	0% (–)	.5% (19.5)	14% (36.7)	10% (38.1)	7% (58.0)	2% (38.8)
Adults	42% (25.1)	47% (55.5)	25% (41.8)	17% (41.2)	12% (72.2)	42% (49.1)
Both	21% (20.7)	52% (38.0)	5% (49.0)	8% (41.3)	9% (60.0)	39% (36.5)
Total	100% (27.6)	100% (46.3)	100% (44.2)	100% (44.5)	100% (70.0)	100% (43.5)
N	298	1017	44	112	69	1540
Females						
Alone	37% (41.7)	.5% (63.4)	26% (44.5)	35% (54.9)	76% (69.9)	23% (60.3)
Children	9% (26.1)	.5% (51.8)	44% (33.3)	45% (35.0)	8% (47.8)	9% (35.7)
Adults	30% (30.1)	47% (51.1)	12% (46.7)	10% (44.0)	13% (67.2)	34% (49.4)
Both	24% (21.5)	52% (35.0)	17% (35.5)	10% (43.2)	3% (55.0)	34% (34.3)
Total	100% (32.0)	100% (42.7)	100% (38.2)	100% (43.7)	100% (67.4)	100% (45.4)
N	280	1191	99	203	373	2146

Note: Average age of subcategory in parentheses.

the widowed are found to be living alone; another 7–8 percent live with children only; and 12–13 percent live only in the company of other adults. Divorced and separated men are also very likely to be living alone. Among divorced and separated men, 60 percent live alone, another 20 percent live with other adults, and about 10 percent live with children. Divorced and separated women are only one-half as likely to be living alone as are comparable men (32 vs. 63 percent), but more than four times as likely as men to be living only with children. As a result, divorced and separated women are about one-half as likely as comparable men to be living only with other adults.

Never-married persons live primarily by themselves or with other adults. Thirty-seven percent of the never-married category live alone. Never-married men are somewhat more likely to live with other adults than are never-married women, but only about one in five of either sex lives in the company of both adults and children, and this living arrangement is usually made up of young persons living with their families of origin. Some never-married women live alone with children—about 1 in 10—but *no* males in this sample live under these conditions.

Patterns of living arrangements among divorced and separated persons are similar, although given the relatively small sample sizes (especially among men), it is difficult to generalize this observation. In these data, divorced men are nearly ten percent more likely to be living alone than are separated men. Separated men are more likely than divorced men to be living with other adults only, which most likely reflects temporary living arrangements during the transition from marriage to divorce. The separated men in these data are also slightly more likely to live alone with their children than are divorced men, but these differences are probably within sampling error. Separated women are less likely than are divorced women to live alone and more likely to live with both adults and children than are divorced women. Again, this appears to reflect transitional arrangements, and the differences are consistent with the stereotype of the separated woman returning (even if only temporarily) to her family of origin under such circumstances. The observations made here about the living arrangements of separated and divorced women must be taken as tentative, both because of the sample sizes involved and the rapidity with which these patterns have been changing in recent years.

An inspection of the mean age of each of the subcategories of living arrangements, marital status, and gender indicates that they are far from being age-homogeneous. The never-married category contains primarily young persons (under 30), while the widowed are

much older (over 50). In the following analysis we control for the effects of age by residualizing our dependent variables on age and observing the age-residualized means of the above categories.[3]

Measures of Social Integration

We examine the unique effects of living arrangements, gender, and marital categories for a variety of survey measures of social integration spanning the range of contact with relatives, friends, neighbors, and confidants. We measure both the *availability* of others in the individual's social environment and *actual contact.* Since, where there is a shortage of available others, a unit of contact presumably does not have the same meaning as a similar unit of contact in a denser social network we calculate measures of *contact per person* where possible. Our measures are as follows:

1. *Number of relatives living close*: The number of family members (parents, grown children, relatives, and in-laws), besides those living with the respondent, within a couple of hours' driving time from the respondent's home. This variable is the logarithm of the number of households mentioned.
2. *Relative contact*: Frequency of contact with relatives living close. This variable is coded on a five-point scale from almost daily to less than once a year.
3. *Number of friends in area*: The number of friends "in this area" on whom the respondent can call for advice or help in time of trouble. This variable is the logarithm of the number of households mentioned.
4. *Friend contact*: Frequency of contact with friends in area, measured on a five-point scale from almost daily to less than once a year or never.
5. *Number of good friends*: The number of persons the respondent could count on if he/she had any sort of trouble. This variable is measured on a three-point scale from "a good many" to "not very many" "very good friends."
6. *Number of confidants*: The number of "close" persons, not counting those living with the respondent, with whom the respondent is close enough to feel comfortable discussing just about any private problem he/she might have, no matter how personal it might be. This variable is the logarithm of the number of persons mentioned.
7. *Confidant contact*: The frequency with which the respondent visits the confidant he/she sees most often, scored on a five-point scale from every day to less than once a year.
8. *Number of neighbors known by name*: The number of

families out of the ten living closest to the respondent that he/she knows by name.

9. *Neighbor contact*: Frequency of visiting with neighbors: Of the ten or fewer families mentioned as familiar to the respondent, how many has he/she ever visited with, either in their home or the respondent's? Three measures of contact per person (i.e., contact measured relative to the available persons in the network) are included (items 10–12, following).
10. *Contact-per-friend index*: The difference of the standardized scores for number of friends and friend contacts.
11. *Contact-per-relative index*: The difference of standardized scores for number of relatives and relative contacts.
12. *Contact-per-neighbor index*: The difference of standardized scores for number of neighbors and neighbor contacts.

(On the last three measures a positive score means that a person has more contact per person, and a negative score means less contact per person. Since the measure of confidant contact is not a count over relevant confidants, but a measure of contact with the closest one, it is not possible to calculate a "per person" index in this case.)

All of these dependent variable measures are standardized with a mean of zero and a standard deviation of one, and all are scaled so that a positive score is associated with more of the quantity or quality being measured. For example, a positive score on *number of relatives* for a particular subcategory means that the category has a greater than average number of relatives living close. A positive score of 1.0, for example, means that the particular category is one standard deviation above the mean of the sample on this variable.

Living Arrangements and Social Integration

In this section we compare categories of persons who occupy different living arrangements, examining patterns of the availability of and contact with relatives, neighbors, friends, and confidants by living arrangements, gender, and marital category. These results are given in Tables 11.2–11.6 for persons in the 1978 sample who were presently married, never married, widowed, separated, and divorced, respectively. These tables also provide information regarding the statistical significance of the additive and nonadditive effects of living arrangements and gender within each category of marital status. The tables give p-values for the t-statistics where they are significant at or below the .10 level and otherwise indicate nonsignificance (ns). Since we have standardized all the dependent

variables and scored them so that a positive score reflects a larger or more positive quantity, the entries in these tables represent departures from the overall sample average. Positive numbers reflect above-average levels of contact, etc., and negative numbers reflect less-than-average levels.

The measures we have of social integration from the *Quality of Life* study, as described above, span the range of contact with relatives, friends, neighbors, and confidants. We measure both the availability of others in the individual's social environment and frequency of actual contact. We assume that greater numbers of persons in one's social environment and greater amounts of contact with them afford more opportunities for social support. But since the availability of persons is variable, actual contact takes on a somewhat indefinite meaning, so we also examine measures of "contact per person."

The picture that emerges from our analyses is that some individual differences in availability and access to social contact can be understood in terms of gender, marital stage, and household living arrangements. Overall, the amount of explained variance in our measures of contact is not large. Still, there are some differences that we believe can at least tentatively be assigned to patterns of living per se, but they are not always large, and in some cases are based on a relatively small number of cases.

All categories of unmarried persons tend to have fewer relatives nearby and less familiarity and contact with neighbors, but generally speaking, these groups have greater amounts of contact with friends and confidants. The never-married and widowed are among the most active in visiting friends, followed in level of visiting by the divorced and separated. As expected, being married lowers one's dependence on friends for social contact, and this pattern is strongly consistent for both sexes. Married persons with children tend to live closer to and have greater contact with relatives than those without children, and are also more likely to know and visit neighbors. These patterns are understandable in terms of residence patterns—married couples with children are much more likely to remain in their community or neighborhood of origin than are married couples without children, even controlling for age. Having family in the area appears to be positively associated with the presence of children for persons who are separated or divorced as well (Tables 11.5 and 11.6), but this association is not statistically significant.

Persons living alone are *not* less likely to count others as friends and to engage in social contact outside their residence. There is evidence, for example, that widows living alone (or with children) have slightly higher than average levels of contact with friends (see

Table 11.2

PATTERNS OF SOCIAL CONTACT BY LIVING ARRANGEMENTS AND GENDER: PERSONS PRESENTLY MARRIED (N = 2,186)

Dependent Variable	Living Arrangements*				p-Values			Eta
	Without Children		With Children					
	M (478)	F (559)	M (526)	F (623)	a**	b**	c**	
Number of relatives	.009	.067	.150	.109	ns	.086	.062	.079
Relative contact	−.038	−.009	−.025	.116	.058	.066	ns	.082
Contact per relative	−.045	−.077	−.178	.009	.093	ns	ns	.074
Number of neighbors	−.000	.009	.069	.234	.024	.001	.005	.129
Neighbor contact	−.057	−.009	.029	.179	.017	.088	ns	.104
Contact per neighbor	−.058	−.020	−.042	−.054	ns	ns	ns	.049
Number of friends	.114	−.071	.065	−.108	.000	ns	.073	.110
Number of good friends	−.043	−.040	.008	.030	ns	ns	.035	.071
Friend contact	−.054	−.163	−.167	−.043	ns	ns	.005	.086
Contact per friend	−.168	−.092	−.232	.064	.001	ns	.051	.105
Number of confidants	−.003	−.014	−.033	−.120	ns	ns	ns	.067
Confidant contact	−.222	−.003	−.214	−.001	.000	ns	.024	.134

*Figures show deviations from the mean, in standard score units.

**a = sex main effect, b = living arrangements main effect, c = sex by living arrangements interaction.

Table 11.3

PATTERNS OF SOCIAL CONTACT BY LIVING ARRANGEMENTS AND GENDER: PERSONS NEVER MARRIED (N = 578)

Dependent Variable	Living Arrangements*								p-Values			
	Alone		Children		Adults		Both					
	M (112)	F (104)	M (0)	F (24)	M (124)	F (85)	M (62)	F (67)	a**	b**	c**	Eta
Number of relatives	−.54	−.25	–	−.05	−.27	−.26	.19	−.14	ns	.002	.023	.195
Relative contact	−.22	−.32	–	.41	−.30	−.22	−.10	−.15	ns	ns	ns	.163
Contact per relative	.32	−.07	–	.46	−.03	.03	−.29	−.01	ns	.090	.021	.167
Number of neighbors	−.43	−.40	–	−.49	.00	.01	.58	.42	ns	.000	ns	.348
Neighbor contact	−.29	−.33	–	−.47	.01	−.53	.41	.40	ns	.000	ns	.289
Contact per neighbor	.14	.06	–	.02	.01	−.06	−.18	−.02	ns	.018	ns	.140
Number of friends	.11	−.02	–	−.58	.17	.00	.19	−.04	.045	ns	ns	.159
Number of good friends	−.02	.06	–	.71	−.04	−.12	−.02	−.05	ns	ns	ns	.150
Friend contact	.06	.19	–	−.03	.20	−.08	.23	.37	ns	ns	.082	.128
Contact per friend	.06	.20	–	.55	.03	−.09	.05	.44	ns	ns	ns	.143
Number of confidants	.03	.04	–	−.43	−.04	.14	−.02	.06	ns	ns	ns	.110
Confidant contact	−.03	.02	–	.00	−.04	.13	.02	.31	.069	ns	ns	.110

*Figures show deviations from the mean, in standard score units.

**a = sex main effect, b = living arrangements main effect, c = sex by living arrangements interaction.

Table 11.4

PATTERNS OF SOCIAL CONTACT BY LIVING ARRANGEMENTS AND GENDER: PERSONS WIDOWED (N = 412)

Dependent Variable	Living Arrangements*								p-Values			
	Alone		Children		Adults		Both					
	M (50)	F (254)	M (5)	F (28)	M (8)	F (50)	M (6)	F (11)	a**	b**	c**	Eta
Number of relatives	.00	.06	–	.23	–	.13	–	.09	ns	ns	ns	.081
Relative contact	.01	.22	–	.29	–	.06	–	−.02	ns	ns	ns	.147
Contact per relative	.01	.16	–	.05	–	−.02	–	−.11	ns	ns	.075	.153
Number of neighbors	−.21	.12	–	.06	–	−.09	–	.07	.022	ns	ns	.156
Neighbor contact	−.26	.22	–	.30	–	.03	–	−.03	.003	ns	ns	.188
Contact per neighbor	−.02	.10	–	.25	–	.12	–	−.11	ns	ns	ns	.105
Number of friends	.14	−.02	–	−.01	–	.06	–	−.31	.005	ns	.031	.214
Number of good friends	.07	−.04	–	−.38	–	−.08	–	−.40	ns	ns	.087	.159
Friend contact	.14	.16	–	.35	–	−.18	–	−.20	ns	.051	ns	.170
Contact per friend	.01	.19	–	.36	–	−.24	–	.11	.049	.014	.089	.220
Number of confidants	.22	.05	–	.03	–	.03	–	.04	.012	ns	ns	.164
Confidant contact	.05	.27	–	.49	–	.07	–	.04	ns	ns	ns	.146

*Figures show deviations from the mean, in standard score units.

**a = sex main effect, b = living arrangements main effect, c = sex by living arrangements interaction.

Table 11.5

PATTERNS OF SOCIAL CONTACT BY LIVING ARRANGEMENTS AND GENDER: PERSONS SEPARATED (N = 143)

Dependent Variable	Living Arrangements*								p-Values			
	Alone		Children		Adults		Both					
	M (25)	F (26)	M (6)	F (44)	M (11)	F (12)	M (2)	F (17)	a**	b**	c**	Eta
Number of relatives	−.06	−.52	–	.13	.38	−.53	–	−.32	.016	ns	ns	.301
Relative contact	−.40	−.20	–	.28	−.11	−.34	–	.16	ns	.022	ns	.293
Contact per relative	−.34	.32	–	.14	−.50	.19	–	.49	.009	ns	ns	.267
Number of neighbors	−.66	−.73	–	.08	−.99	−.26	–	−.33	ns	.006	ns	.348
Neighbor contact	−.51	−.49	–	.14	−.62	−.30	–	−.07	ns	.015	ns	.292
Contact per neighbor	.16	.23	–	.07	.38	−.03	–	.26	ns	ns	ns	.192
Number of friends	−.16	.15	–	−.15	−.08	−.62	–	−.55	ns	.091	ns	.270
Number of good friends	.09	−.07	–	.10	.56	.42	–	.57	ns	.058	ns	.262
Friend contact	.15	.22	–	.44	.05	−.25	–	−.22	ns	.097	ns	.232
Contact per friend	.31	.07	–	.58	.13	.37	–	.33	ns	ns	ns	.158
Number of confidants	−.08	.45	–	−.04	.33	.09	–	−.31	ns	ns	ns	.239
Confidant contact	−.14	.03	–	.16	.20	−.18	–	.59	ns	ns	ns	.248

*Figures show deviations from the mean, in standard score units.

**a = sex main effect, b = living arrangements main effect, c = sex by living arrangements interaction.

Table 11.6

PATTERNS OF SOCIAL CONTACT BY LIVING ARRANGEMENTS AND GENDER: PERSONS DIVORCED (N = 315)

Dependent Variable	Living Arrangements*								p-Values			
	Alone		Children		Adults		Both					
	M (74)	F (71)	M (10)	F (91)	M (19)	F (21)	M (9)	F (20)	a**	b**	c**	Eta
Number of relatives	−.35	−.16	−.13	−.04	−.18	−.41	–	−.27	ns	ns	ns	.142
Relative contact	−.19	.16	−.48	.18	−.31	−.00	–	.15	.004	ns	ns	.195
Contact per relative	.16	.32	−.35	.21	−.13	.41	–	.42	.075	ns	ns	.137
Number of neighbors	−.56	−.23	−.52	−.22	−.60	−.45	–	−.32	.084	ns	ns	.173
Neighbor contact	−.47	−.27	−.61	−.18	−.40	−.23	–	−.25	ns	ns	.066	.202
Contact per neighbor	.10	−.05	−.09	.04	.20	.22	–	.07	ns	ns	ns	.137
Number of friends	.17	−.14	.55	−.14	.20	−.01	–	−.11	.003	ns	ns	.198
Number of good friends	.07	.13	−.10	.18	−.04	−.14	–	−.02	ns	ns	ns	.108
Friend contact	.22	.12	−.33	.29	−.08	−.08	–	.53	ns	.043	ns	.199
Contact per friend	.07	.26	−.87	.42	−.28	−.07	–	.64	.034	ns	ns	.217
Number of confidants	−.03	.20	.48	.07	.41	.29	–	.11	ns	ns	ns	.140
Confidant contact	.06	.32	−.03	.23	.32	.11	–	.46	ns	ns	ns	.125

*Figures show deviations from the mean, in standard score units.

**a = sex main effect, b = living arrangements main effect, c = sex by living arrangements interaction.

Table 11.4). Persons living alone tend to have more contact with friends than all other categories of living arrangements, except women living alone with children. We should add, however, that this measure of *contact with friends* is one of the few social integration measures that is sensitive to variations in living arrangements across categories of unmarried persons who have previously been married. This is true also of never-married women, but never-married men living alone appear to be less likely than average to report contact with friends.

Contrary to conventional wisdom, however, our finding is that many persons who live alone are not socially isolated relative to others. Indeed, under most (although not all) life circumstances, they seem to show signs of an active "compensation" phenomenon, such that they visibly exceed persons living with others in the extent of their contacts with persons outside the household. On the other hand, some categories of persons living alone are less likely to have contact with others, but even the exceptions to the compensation rule turn out to be instructive. In broad outline, then, our findings are consistent with Hughes and Gove's (1981:69) suggestion that living alone may induce some persons to compensate for the absence of proximate social support by developing a greater degree of contact with friends.

Also consistent with the compensation hypothesis is the observation that never-married and divorced women report having the greatest numbers of confidants. However, this does not vary by living arrangements within any marital category to any statistically significant degree. The social arrangements of living apparently do not impinge on the availability of close emotional support for problems of daily living. Contact with confidants is somewhat more available to married women with children (from contact with others in similar situations) and never-married women, but, generally speaking, living arrangements themselves do not visibly affect availability and access to social support from these close friends and relatives.

One of the most interesting categories of never-married persons in this sample is the small group ($N = 24$) of never-married women who live just with children. For the most part, these are women who have experienced premarital pregnancy and the social consequences of being unwed mothers. These women report many fewer friends and confidants and less familiarity and contact with neighbors, but many more than average *good* friends, and more than average contact with relatives. Thus, these persons experience some aspects of social isolation, but they are by no means without social support.

There are also some gender differences of a general nature that occur regardless of living arrangements and marital status. Men generally report having more friends, while women generally have a greater degree of contact with friends, relatives, neighbors, and confidants, but the magnitude of this difference varies by marital status category.

Summarizing our discussion up to this point, all of the contact data from our primary study suggest that some type of compensation effect is occurring such that, for the most part, persons living alone tend to show more extensive social integration outside the household than persons living with others in more conventional family situations. This is a central finding, and one of great importance to contemporary theorizing regarding the consequences of various forms of living arrangements. However, our data suffer some limitations, and it seemed useful to see whether such compensation would be reflected in data collected by other methods. For example, our data indicate sheer *numbers* of friends, but these reports may be subject to exaggeration, particularly among those who do feel understocked. And our measure of contact speaks to frequency of visits but not to their actual duration: a brief stop-in at a friend's presumably counts as much as an all-day visit. Most crucial for any theoretical understanding of a compensation phenomenon, we have no way of calibrating whether the sheer amount of social contact outside the dwelling unit for those living alone matches that within the home enjoyed by those living with other adults.

If we insist on assessments of quality of interaction, we probably could never make such comparisons successfully. However, studies of time use by the diary method have in some instances collected data as to the sheer amount of time in hours and minutes spent in the company of other types of social partner, as compared with time spent alone. One such study was the large cross-national investigation reported by Szalai et al. (1972), with its United States sample conducted in 1965. The form of the data base accessible to us does not permit us to match all of our living arrangement and marital status discriminations. We can only sort between the majority of people who were "now married" and the remainder who were "not now married." Similarly, the data do not permit discrimination between time spent with friends and time spent with relatives. On the other hand, some new differentiations can be made and are highly welcome to this discussion. In particular, we can tell not only what time is being spent in the company of an individual's extramural social partners, but what corresponding absolute time is being spent with his or her spouse, or children, or

other adult members of the same household.

While we cannot review these data in detail here, it is clear that the main contours of these accounts of absolute time allocations mesh splendidly with our own measures of contact frequency, at all main points where reasonable replications can be examined. We see in Figure 11.3, for example, that while men claimed larger numbers of friends, it turns out that contact with extramural friends tends to occur more frequently for women than for men, just as it does where neighbors, relatives, and confidants are concerned. Correspondingly, the time-use data show that overall in this time period American women were spending about 30 percent more time in the company of friends, relatives, and neighbors from outside the household than were males. Nor was this difference some simple result of the fact that about half of the women sampled were not employed and hence had more time to spend with friends: the differences in time allocations to extramural social contacts were fully as large between employed women and men.

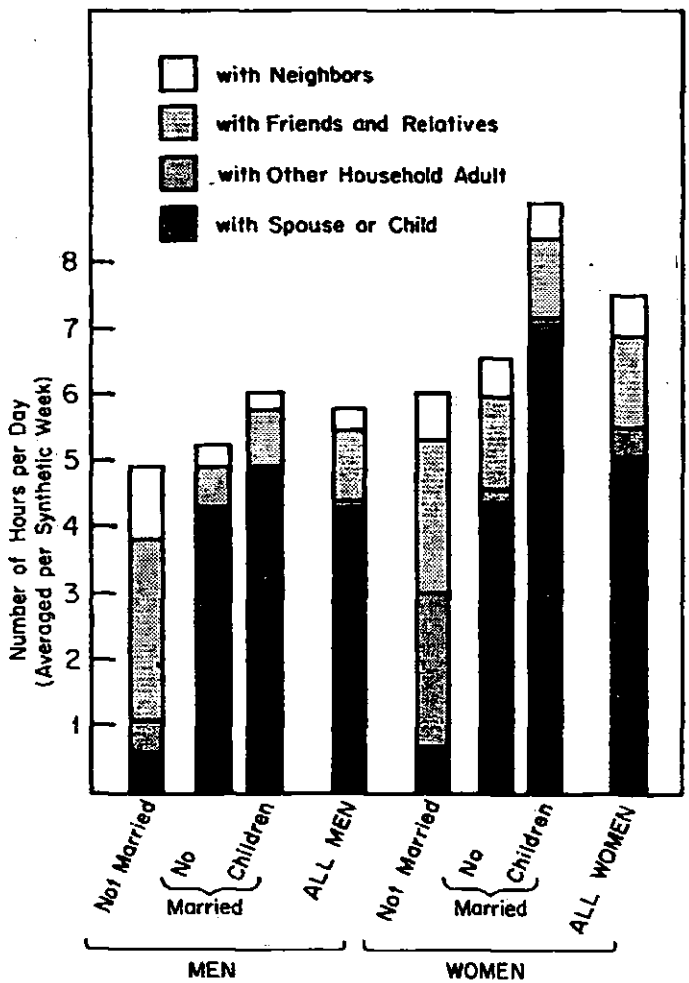
While the simple dichotomy into the now-married and not-now-married categories (the latter including separated, divorced, and widowed as well as never-married persons) does not speak as directly to living arrangements as we would like, it is clear that virtually all of those living alone fall into the minority category of those not now married. And we find it true of both sexes that those not married spend substantially greater amounts of time with neighbors as well as with friends and relatives (see Figure 11.3). The differences are sharper for males: for those not now married, compared to those married, the time spent with neighbors is 3.5 times greater, and the time spent with friends and relatives is almost 3 times greater. Among women, time spent with neighbors is only a modest 25 percent greater for those not now married. However, for the more important category of extramural friends and relatives, women who are not now married spend nearly twice as much time in their company as do those who are. If these be compensation effects, they are impressive in magnitude.

Discussion

Our analysis suggests that, in general, persons living alone are *not* fundamentally more socially isolated than others in comparable marital situations, and that they are generally more likely to be socially integrated outside the household. In nearly all categories of marital status/life stage, persons living alone tend to have somewhat more contact with friends and are as likely to have access to confidants as are persons living with others. These findings are

Figure 11.3

TIME SPENT IN THE COMPANY OF SELECTED TYPES OF SOCIAL PARTNERS *(Data are for United States, 1965)*



taken as evidence for a compensation effect, that is, evidence that unmarried persons living alone tend to go outside the household to compensate for the absence of living partners. In only a limited sense, then, are persons living alone socially isolated. Rather, it is the women who are single parents (including never-married, separated, and divorced women), living alone except for their children, who tend to be the true social isolates, although the countervailing effects of gender and children bring them into contact with some others, for example, neighbors and relatives.

In addition to mirroring our contact data very nicely, the time-use data permit us to ask one further question that we cannot otherwise address. Sleep time apart, do the compensating social activities of persons not now married bring them within range of the absolute amounts of social contact time enjoyed by those now married, who naturally spend substantial amounts of time in the company of the spouse and/or children? The answer is clearly no, especially for those who actually do live alone. Estimates are clouded somewhat because we cannot isolate those who live alone in any ideal way. However, among both males and females not now married, substantial amounts of time are spent with "other (nonspouse) adults in the same household." Indeed, for both sexes, the amounts of time here tend to run about eight times greater for the not-now-married than for the married, who are spending comparable time with spouse and children in the privacy of the nuclear family. Of course these other household adults run a gamut from parents and siblings of not-yet-marrieds to roommates. When these contacts are taken into account, those not now married show nearly as much social contact time (perhaps 85 percent as much for males; 75 percent as much for females) as do the married.

However this may be, it is clear by definition that those living alone lack such additional contacts as represented by "other household adults." And when we mentally set aside these particular time allocations among the not-now-married, it is clear that those not married and living alone do spend substantially less time in the company of others than do people in other living arrangements. It would not be a bad guess to suggest that among men, those living alone spend only about 70 percent as much time in social contact as do other men. Among women, the figure drops closer to 50 percent, especially if the "company" of children is excluded for the significant number of separated and divorced women. Indeed, it is important for the rest of our findings that the presence of children with a single parent seems to produce in both bodies of data a major inhibition to adult social interaction time.

Thus, while the rates of outside social contact time that appear

to be in some sense "compensatory" for those not married are quite impressive, they clearly do not bring total contact time even close to the levels displayed by those now married. On the other hand, it is worth keeping in mind that pure social contact time of the kind associated with the now-married is in itself somewhat exaggerated. A significant portion of that time, especially for women but for men as well, is spent with children, who often do not represent much in the way of social support. Furthermore, by time-use study conventions, waking time is considered spent "with" a spouse provided only that they are in the same room. They may be engaged in completely separate activities at opposite ends of the room—e.g., one reading, one watching television—with little or no conversation interspersed. By comparison, "time spent in the company" of friends, relatives, and neighbors by those who otherwise live alone is rather less likely to be passive and noninteractive. From this point of view, which attends to minimal needs for social support, it is likely that the compensatory social activities of most categories of persons living alone are of much greater significance than mere ratios of time spent "in company of others" might suggest.

Conclusion

There is little question that increasing numbers of persons in American society are living in less traditional family and household arrangements. Greater numbers of persons each year are achieving more independent lifestyles at the expense of family membership. In view of these demographic trends and the sharp concern expressed by some about the allegedly adverse effects of such living arrangements on the degree of social integration and mental health, we have investigated the patterns of several measures of social integration across relevant categories of living arrangements. The central result is that elaborate analyses aimed at isolating the effects of living arrangements from other confounding circumstances reveal no consistent negative association between measures of social integration and living alone. In fact, the opposite result seems to appear the most often, and some of our measures of contact with others external to the household actually reveal a compensation phenomenon to be operating, whereby there are heightened levels of friendly contact outside the dwelling unit for those living alone. In addition, these latter findings from our own data set are handsomely supported by further secondary analyses we conducted using time-use data (which register the hours and minutes per day spent in the company of friends and relatives). These data show the same compensation effect for categories of the unmarried, many of whom

live alone. In addition, broader evidence implies that living alone, rather than being an undesirable situation into which people have been forced against their volition, is frequently an active preference made possible by rising affluence and the greater desire for autonomy among all age groups in society.

Notes

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[2]The distribution of men and women living alone by marital status (data not shown) indicates that the 1978 QOL data closely resemble data from the 1979 Current Population Survey (U. S. Bureau of the Census, 1980), but there are a few small differences. There are slightly more divorced (especially men) and slightly fewer never-married persons in the QOL sample. These differences are probably due to differing survey procedures and not to the nature of the populations sampled.

[3]These residuals were obtained by regressing each dependent variable on continuous age and age-squared, and then subtracting the predicted value in this equation from the original score.

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12

Social and Economic Change, Intergenerational Relationships, and Family Formation in Taiwan

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This paper examines the influence of social change and economic growth on intergenerational relationships and the formation of families in Taiwan. Using data from two island-wide surveys in 1973 and 1980, the analysis shows that, as expected, social change has been accompanied by rapid changes in family structure and relationships, including the spread of schooling, the employment of young people outside the family, the increasing separation of the residences of parents and children before and after marriage, the growing independence of young people, and increases in premarital sex and pregnancies. The position of a family in the social structure also influences the way young people interact with their parents and form their own families; women with educated fathers have more nonfamilial experiences than others; and farm origins tend to exert a traditional influence on the life course. Finally, experiences early in the life course have important ramifications for later behavior and transitions.

Introduction

Recurring issues in theories of the family concern the interrelationships among social structure, family organization, and intergenerational relations across the life course. Of particular interest is the way in which family patterns are modified during industrialization, long-term economic growth, and urbanization. During the nineteenth and twentieth centuries, the countries of Europe and North America experienced social and economic transformations that were accompanied by modifications of the family economy, increased separation of the lives of the generations, and increased independence of young people. The forces of change have begun to transform the nature of life in many non-European societies in recent decades, suggesting the likelihood of extensive changes in family relationships there. This paper examines several theoretical propositions about the impact of economic and social change on family life and intergenerational relationships in one rapidly changing society, Taiwan. The examination of changing familial relationships in Taiwan permits an evaluation of the relevance of these theoretical propositions for Chinese society, which historically has had a quite different family structure, in both actual

and ideal forms, from that observed in European societies.

Settlers from Mainland China arrived in Taiwan in large numbers beginning in the eighteenth century, bringing with them their Chinese social and kinship structure. During the Japanese colonial period, 1895 to 1945, the island changed slowly with increases in the productivity and commercialization of agriculture, the establishment of a formal educational system, improvements in health, and the development of a small industrial sector (Barclay, 1954; Ho, 1978). Economic growth and social change proceeded rapidly after the war, producing a broad and extensive transformation of the society. Industrial and agricultural output has increased; the labor force is now primarily engaged in the industrial sector; literacy and education have become nearly universal; communication and transportation facilities are accessible to nearly all the population; and life expectancy is very high (Chang et al., 1981; Gallin, 1966; Ho, 1978).

This paper specifically examines the proposition that social and economic change in Taiwan has modified intergenerational relationships and the way young people proceed through the life course. These ideas are tested by examining long-term changes in the way young Taiwanese are educated, their work patterns, access to financial resources, living arrangements, selection of spouses, and premarital relationships with spouses. The paper also examines the dynamics of the changing transition to adulthood and the mechanisms producing change—evaluating how the life course is influenced by the position of parents in the social and economic structure and the extent to which the early experiences of young people influence later events and transitions.

Theoretical Framework

Descriptions of the economy of Europe before the nineteenth century and China before World War II place great importance upon the role of the family as the primary unit of both production and consumption (Cohen, 1970, 1976; Demos, 1970; Gallin, 1966; Greenhalgh, 1982; Laslett, 1965). In the historical family economy, the household organized, directed, and managed its internal sources of labor to produce its means of existence. In this organization, individual family roles, such as husband, wife, and child, implied and overlapped economic roles, such as master, helper, and servant (Laslett, 1965).

Historically, in both China and the West, the older generation maintained control over the family economy as long as they were able to organize and direct its operation (Berkner, 1972; Gallin,

1966; Taeuber, 1970; Tang, 1978). Consequently, the younger generation in both societies could not become truly economically independent until the father passed the family economic organization on to them or they obtained the financial ability to acquire another economic unit. This type of family structure and a scarcity of numerous economic alternatives outside the family greatly limited the independence of young people (Cohen, 1976; Gallin, 1966; Katz & Davey, 1978; Modell et al., 1976; Tilly & Scott, 1978).

With social change and economic development in the West, the nature of the family economy changed so that increasing numbers of people worked outside the boundaries of the family of residence (Tilly & Scott, 1978). This occurred to some extent through the establishment of cottage industries whereby young people as well as their mothers could be gainfully employed by someone other than the husband of the family. The establishment of large-scale industry also increased the opportunities for nonfamily employment, fostering a slow separation between the family and the emerging industrial structure of production (Levine, 1977; Tilly & Scott, 1978). Since the new production units often required large-scale activities and concentrations of workers, a relocation of people away from rural to urban areas occurred.

Modern societies also require an educated and skilled labor force. This led to the development of an extensive educational system that trains increasing numbers of young people in a nonfamily setting, greatly increasing school enrollment and levels of educational attainment.

These changes in school enrollment have far-reaching implications in the lives of young people. Young people spend increasing amounts of time in a public institution, away from their parents and with peers and friends. Education also introduces young people to new ideas and skills that are useful both in the market place and in interactions with parents. Furthermore, increased school enrollment of young people decreases their availability to work in the family economy and increases the age at which they commence regular employment.

With the changes in economic organization in Western societies, a larger proportion of young people worked for nonrelatives. However, during the early years of this change, young people remained very much a part of the family economy and contributed substantial portions of their earnings to their parents (Early, 1982; Tilly & Scott, 1978; U.S. Department of Labor, Women's Bureau, 1923). Young people increasingly work outside the family, but now they are rarely expected to contribute to the parental household, especially if they live apart from their parents.

While a number of families moved as entire units from agricultural areas where the family was the production unit to urban areas and a wage economy, young people often took jobs outside the family as wage laborers and migrated to urban areas while their parents maintained their original economic unit (Hareven & Tilly, 1979; Tilly & Scott, 1978). Many of these young people lived in dormitories and boarding houses where they probably received extensive supervision (Chudacoff, 1980; Hareven & Tilly, 1978; Modell & Hareven, 1973). In recent years, this trend has accelerated; young people increasingly live in their own dwellings and apart from parents and from family-type arrangements (Kobrin, 1976; Michael et al., 1980).

These changes have brought increased separation of the lives of the generations, and the amount of independence enjoyed by young people has increased (Goode, 1963; Kett, 1977). One reflection of this trend is the decreased control parents have in the marriages and choice of marriage partners of their children (Goode, 1963; Smith, 1973). Although data from the past are scanty and subject to multiple interpretations (Laslett et al., 1980; Shorter, 1975; Shorter et al., 1972), recent data indicate that the prevalence of premarital sex and pregnancy has increased in Western societies, and unmarried people increasingly live together in marital-type arrangements without formal marriage (Clayton & Voss, 1977; Glick & Spanier, 1980; Shorter, 1975).

Taiwan provides an opportunity to examine the extent to which the theoretical propositions useful for explaining trends in intergenerational relationships and family life in Western societies apply to other cultural settings. It is quite likely that the economic growth and social changes experienced in Taiwan during recent years have had many of the same effects on intergenerational relationships and the formation of families as have been documented in Europe and North America. While few systematic data exist about the nature of the changes in Taiwan, the theme of changing intergenerational relationships is a common one among observers of the Chinese family, with specific speculation addressed to the increased involvement of young people in the choice of their marital partners (Gallin, 1966; Lo, 1972; Wolf & Huang, 1980; Yang, 1959). Wolf and Huang (1980) also have documented for an area in northern Taiwan an important decrease during the Japanese period in the extent to which young men married their adopted sisters—a decrease they attribute to the growing opportunities for young people outside the family. The percentage of births to unmarried women may also have increased during the Japanese period (Barrett, 1980). There also is evidence that age at marriage has increased while fertility and the

prevalence of extended families have declined (Casterline, 1980; Chang et al., 1981; Coombs & Sun, 1981; Freedman et al., 1978, 1982). In addition, the data collected by Parish and Whyte (1978) in Hong Kong from refugees from Kwangtung Province on the Mainland suggest that both age at marriage and the involvement of young people in marital choices have been increasing there—with these changes being due, in part, to the collectivization of family property, rising educational levels, and the expansion of nonfamily activities for young people.

Of course, one would not expect the effects of social and economic change in Taiwan to be identical to those in the West, since there were historically substantial differences in family and social structure (see Hajnal, 1982). The Western family model has been primarily a nuclear one, while the Chinese family was often extended vertically to include parents and sometimes extended laterally to include multiple married brothers. In Western societies, the nuclear nature of the family dictated that young people could not marry until they were able to establish a functioning economic unit, whereas in China the extended family allowed children to marry before they were economically independent. Consequently, the average age at marriage and the percentage never marrying were historically lower in Chinese than in Western society (Barclay et al., 1976; Casterline, 1980). Chinese culture also has placed greater emphasis on familial piety than has the West. Furthermore, in Western societies unmarried children often did not live with their own parents but resided in the homes of other families where they lived as servants, whereas in China many fewer children left their parental homes to live with others as servants, but many were adopted into other homes as family members.

At the same time that social change alters the experience of successive cohorts of individuals, there are important intracohort differences in social origins. It is likely that young people growing up in rural areas, in farm families, and with parents with little educational attainment have less opportunity to be involved in nonfamily activities and have less independence relative to their parents. Passage through the life course also can be thought of as a developmental process with a number of accumulating steps or transitions involving, among other things, education, work, marriage, and childbearing. It is likely that the skills, experiences, and patterns of thought and behavior developed early in life influence how young people approach and make future decisions and transitions (Featherman, 1982; Hogan, 1981; Marini, 1982). Of particular importance are the educational experiences of young people. Those who devote extensive amounts of time to school and achieve a

high level of education spend a large fraction of their childhood in a public institution away from their parents, and learn new ideas and skills that are useful both for participating in modern society and for dealing with parents. Thus, educational attainment probably increases the extent of participation in economic activities outside the family, age at marriage, and independence from parents.

The importance of social change and economic growth in Taiwan is examined in this paper by comparing the intergenerational relationships and life-course experiences of cohorts of people born in Taiwan between 1930 and 1959. If the theoretical propositions of family change apply to Taiwan, one would expect the changes in social and economic organization to be accompanied by substantial shifts in the way young people make the transition to adulthood. The influence of social change is explicated further by investigating within cohorts the influence of different social origins on life-course experience. The expectation is that young people who grow up in agricultural families and have parents with little education receive less education themselves, are less involved in the formal wage economy, marry earlier, and have less independence from their parents. Finally, those who obtain substantial amounts of education are probably more prepared to participate in the formal wage economy and have greater independence relative to their parents. The importance of parental origins and early life-course experience is examined by estimating multivariate models of the experiences of young Taiwanese as they make the transition to adulthood.

Data and Methods

The data for this paper come from two cross-sectional surveys of married women living in Taiwan in 1973 and 1980.[2] Data were gathered from the women about their own and their husbands' experiences while growing up and making the transition to adulthood—information about education, work, residences, and marriage. The general approach to the analysis of change classifies the women according to their birth cohort, from 1933 to 1959, and then compares the nature of intergenerational relations and the transition to adulthood for the different cohorts. In addition, data about the husbands are examined, allowing a comparison of various birth cohorts (1930 to 1959) of husbands.

Several methodological problems present themselves in this type of analysis. First, since these data are retrospective, there is the issue of recall bias. That is, there may be systematic differences between the way respondents recall and report very recent experiences and the way they recall and report them years later. To

investigate this possibility, subsets of the two samples were defined to include birth cohorts who were between 20 and 39 years of age *both* years and who were married by the 1973 survey. With the same universe of women defined for the two years, it was then possible to see if the distributions of their responses to questions about the same events were the same in both 1973 and 1980. The comparisons are gratifying: with only a few exceptions, the 1980 distributions are virtually identical to those of 1973, indicating little systematic recall bias associated with aging. The exceptions involve questions that require some interpretation of events rather than the straightforward reporting of experiences. In these cases, it is likely that social change occurring between 1973 and 1980 modified the frame of reference for answering the questions. More will be said about these questions later.

A second problem is the limitation of the sample to married women, thereby restricting the universe to those who had married by the time of the interview. The result is that the percentage of each cohort that was married and eligible for the sample varied by the age of the cohort at the time of the survey. If there is any relationship of age at marriage to the other variables, the differential age at marriage distribution across cohorts could bias the observed results. This problem is particularly serious for the birth cohort of 1955 to 1959, which was aged 20 to 24 at the time of the 1980 interview. In 1979, 60 percent of the women and 88 percent of the men were still single at that age.[3] Consequently, the results for this cohort of women should be interpreted cautiously, and data for this cohort of husbands are not presented.[4] An additional source of potential bias results from the limitation of the sample of men to those who had wives between the ages of 20 and 39.

Cohort Trends in the Transition to Adulthood

Table 12.1 shows the distribution of wives and husbands by education, age at marriage, work experience, living arrangements, spouse selection, premarital sexuality, and premarital pregnancy for the various cohorts of Taiwanese.[5]

Education has been widespread for all cohorts of Taiwanese husbands included in the two surveys. Even for the birth cohort of 1930–34, who reached young adulthood immediately after World War II, less than one-sixth of the men had received no formal education. Education was truly universal for the 1950–54 birth cohort, with less than 1 percent of the husbands of that cohort having no formal education. However, at the same time that education has become nearly universal and a number of husbands have

Table 12.1

TRANSITION TO ADULTHOOD AND INTERGENERATIONAL RELATIONSHIPS, BY BIRTH COHORT

	Birth Cohort[a]					
	1930–34	1935–39	1940–44	1945–49	1950–54	1955–59
Number of wives	288	1,056	637	730	1,020	582
Number of husbands	705	1,269	768	812	807	–
Wife's Education						
None	35.4	39.8	30.6	16.0	7.4	4.0
Primary	55.2	52.4	52.3	56.0	61.4	54.4
Junior high	7.3	5.1	7.5	10.0	11.0	20.3
Senior high	2.1	1.8	6.8	10.3	13.9	20.1
College or university	0.0	0.9	2.8	7.7	6.2	1.2
N.A.	0.0	0.0	0.0	0.0	0.1	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Husband's Education						
None	14.6	13.9	7.0	1.0	0.4	–
Primary	63.4	57.3	53.5	48.3	46.1	–
Junior high	8.5	11.0	12.4	15.9	15.0	–
Senior high	10.5	12.8	18.0	20.6	26.5	–
College or university	3.0	5.0	9.1	14.2	12.0	–
Total	100.0	100.0	100.0	100.0	100.0	–
Wife's Age at Marriage						
14–18	24.3	20.9	18.7	17.8	15.9	b
19–20	35.0	31.3	26.3	23.7	23.5	b
21–22	22.6	22.9	25.0	24.1	26.1	b
23–25	12.2	18.8	21.8	24.3	28.6	b
26 and older	5.9	5.9	8.2	9.7	5.6	b
N.A.	0.0	0.2	0.0	0.4	0.3	b
Total	100.0	100.0	100.0	100.0	100.0	b
Husband's Age at Marriage						
16–22	35.9	30.2	19.0	16.8	b	–
23–24	25.5	25.1	24.2	26.4	b	–
25–26	18.6	22.1	24.7	28.2	b	–
27–29	12.8	15.6	19.7	22.4	b	–
30 and older	7.2	6.8	12.4	6.0	b	–
N.A.	0.0	0.2	0.0	0.2	b	–
Total	100.0	100.0	100.0	100.0	b	–
Wife's Work Pattern before Marriage[c]						
No work	29.5	26.9	14.3	9.0	6.3	5.0
Work at home—no money	38.2	35.1	40.5	31.0	15.6	8.9
Work at home for money	6.9	10.8	7.1	6.6	4.8	2.9
Work away from home	25.4	27.2	38.1	53.4	73.3	83.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Wife's Living Arrangements While Working[d]						
No non-home work	74.7	72.6	61.8	46.5	26.6	16.8
Home/relative	20.8	20.5	27.8	37.0	45.3	45.5
Dormitory	2.1	3.3	7.7	12.2	22.4	33.7
Other	2.4	3.2	2.7	4.0	5.6	4.0
N.A.	0.0	0.4	0.0	0.3	0.1	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Continues

Table 12.1 (continued)

	Birth Cohort[a]					
	1930–34	1935–39	1940–44	1945–49	1950–54	1955–59
Wife's Living Arrangements While Working—Non-home Workers Only[d]						
Home/relative	82.2	74.8	72.8	69.3	61.8	54.8
Dormitory	8.2	12.1	20.2	22.8	30.5	40.5
Other	9.6	11.7	7.0	7.4	7.6	4.7
N.A.	0.0	1.4	0.0	0.5	0.1	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Wife's Employer[e]						
No work for pay	67.7	61.8	54.8	40.0	21.9	13.9
Self/family/relative	5.6	9.3	6.2	7.2	6.3	5.9
Someone else	26.4	28.1	39.0	52.4	71.5	80.2
N.A.	0.3	0.8	0.0	0.4	0.3	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Wife's Employer—Workers for Pay Only[e]						
Self/family/relative	17.2	24.3	13.9	11.9	8.0	6.8
Someone else	81.7	73.7	86.1	87.4	91.6	93.2
N.A.	1.1	2.0	0.0	0.7	0.4	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Wife's Use of Earnings						
No earnings	67.7	61.9	54.8	40.0	21.9	13.9
Mostly to parents	26.8	27.9	34.8	45.2	56.4	66.1
Not mostly to parents	5.2	9.1	10.2	14.5	21.2	19.8
N.A.	0.3	1.1	0.2	0.3	0.5	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Wife's Use of Earnings—Workers for Pay Only						
Mostly to parents	82.8	73.2	77.1	75.3	72.3	76.8
Not mostly to parents	16.1	23.8	22.6	24.2	27.1	23.0
N.A.	1.1	3.0	0.3	0.5	0.6	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Husband's First Regular Job						
Prof./bus./mgr./white collar	24.4	26.9	30.9	33.2	28.4	–
Manual/service/laborer	33.2	34.7	38.4	45.4	53.8	–
Farmer	39.1	35.2	27.1	17.4	13.1	–
N.A.	3.3	3.2	3.6	3.9	4.7	–
Total	100.0	100.0	100.0	100.0	100.0	–
Husband's First Employer						
Self	22.8	19.6	20.2	15.4	12.6	–
Family/relative	21.1	26.2	19.9	17.7	14.8	–
Someone else	52.4	51.0	56.1	63.3	67.9	–
N.A.	3.7	3.2	3.8	3.6	4.7	–
Total	100.0	100.0	100.0	100.0	100.0	–
Husband's Age at First Job						
7–15	30.2	29.3	26.3	23.6	21.4	–
16–18	29.5	25.3	25.2	21.3	27.7	–
19–23	17.2	18.5	19.1	21.6	23.7	–
24–29	6.5	9.8	15.1	18.6	14.6	–
30–39	0.1	0.2	0.5	0.2	0.0	–
N.A.	16.5	16.9	13.8	14.7	12.6	–
Total	100.0	100.0	100.0	100.0	100.0	–

Continues

Table 12.1 (continued)

	Birth Cohort[a]					
	1930–34	1935–39	1940–44	1945–49	1950–54	1955–59
Husband's Age at First Job Relative to Age at Marriage						
Married before job	5.5	7.1	5.6	6.4	b	–
Married and job same year	2.3	3.1	3.8	4.9	b	–
Job 1–4 years before marriage	17.7	18.0	18.7	21.8	b	–
Job 5–8 years before	31.9	27.4	27.1	26.7	b	–
Job 9–12 years before	18.6	21.9	21.5	19.0	b	–
Job ≥ 13 years before	7.5	5.5	9.5	6.4	b	–
N.A.	16.5	17.0	13.8	14.8	b	–
Total	100.0	100.0	100.0	100.0	b	–
Who Decided Marriage						
Husband and wife	5.2	8.0	12.1	18.9	28.3	33.3
Parents	77.1	69.1	48.4	32.3	25.8	15.1
Both parents and couple	17.7	22.8	38.9	48.4	45.3	51.4
N.A.	0.0	0.1	0.6	0.4	0.6	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Where Lived and Ate at Marriage						
With husband's parents	90.7	90.0	83.2	79.4	76.6	77.7
Not with husband's parents	8.3	9.0	16.5	20.5	23.4	22.3
N.A.	1.0	1.0	0.3	0.1	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Premarital Sex						
Yes	f	f	13.5	18.6	30.2	47.9
No	f	f	86.3	81.4	69.7	51.9
N.A.	f	f	0.2	0.0	0.1	0.2
Total	f	f	100.0	100.0	100.0	100.0
Timing of First Birth						
Before marriage	0.3	1.6	0.9	0.4	1.3	1.4
1–7 months after marriage	6.3	5.7	9.0	12.5	19.4	31.3
≥ 8 months after marriage	93.4	92.7	90.1	87.1	79.3	67.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

[a]The birth cohorts are defined by the birth dates of the wife and husband, respectively. For the wives, however, the birth cohort labelled 1930–34 includes only women born in 1933 and 1934. The data for the birth cohorts 1930–39 were taken from the 1973 survey, while the data for the 1940–59 cohorts come from the 1980 survey.

[b]Data not included for age at marriage for younger cohorts, since the younger cohorts have a severe age-at-marriage truncation bias.

[c]Work away from home took precedence in coding; paid work at home took second precedence.

[d]Living away from home (dormitory or other) took precedence in coding.

[e]Employment by someone other than self, family, or relative took precedence.

[f]Question not asked in 1973 survey.

Statistical significance: With the assumption of simple random sampling, each association between cohort and the listed variables (except husband's age at first job relative to age at first marriage) is significant at the .001 level. Further, these computed chi-square test statistics all are sufficiently large that they could be divided by a number at least as large as 3.6 and still be significant at the .05 level, increasing confidence that the observed associations are not the result of sampling error.

obtained higher levels of education (over one-third of the birth cohorts of 1945–54 had completed senior high school or college), substantial proportions have not gone past primary school (almost one-half of the birth cohorts of 1945–54).

For all of the birth cohorts included in this analysis, women have received substantially less education than men. For the birth cohort of 1930–34, 35 percent of the women, as compared to 15 percent of the men, had received no formal education; for the birth cohort of 1950–54, the percentage of women having a primary education or less was 69 percent, as compared to 47 percent for the husbands. Over successive cohorts, however, women have increasingly received higher education; over 40 percent of the birth cohort of 1955–59 who had married had finished at least junior high school. Although the distribution of educational attainment in Taiwan still lags considerably behind that of the Western world, educational levels are continuing to rise in Taiwan, and the educational difference between men and women is likely to narrow in the future.

Increases in age at marriage in Taiwan have been reported by others (Casterline, 1980). Among women, the percentage who were married before age 21 declined from 59 percent for the birth cohort of 1930–34 to 39 percent for the birth cohort of 1950–54. At the same time, the percentage married at ages 23 and over increased by 16 percentage points. The trends for age at marriage have been similarly dramatic for men. The result is that marital decisions increasingly are being made at ages when the couple is more mature.

Turning now to the arena of work, most of the women born during the 1930s and reaching adulthood right after World War II did not work outside the home before marriage. Over 62 percent either did not work at all or only worked in a family enterprise without pay. Another 7 to 11 percent worked for pay at home, and only about one-fourth worked away from the home.

The changes that have occurred among more recent cohorts can only be described as revolutionary. The post-World War II period has seen a dramatic increase in the number of unmarried women working outside of family-run enterprises, with over 83 percent of the cohort of 1955–59 having worked away from home before marriage. This tremendous alteration in the loci of productive activities of young people substantially changes the nature of the interactions of parents and children. A likely, although not inevitable, consequence of the diminishing role of parents as supervisors is a general decline in overall parental control over their children (Gallin & Gallin, 1982a; Salaff, 1981).

Work before marriage is one item where the distribution of

responses from the same cohorts of women is not identical in 1973 and 1980. The number of women who said they had never worked before marriage was about 7 percent lower in 1980 than in 1973. At the same time, the percentage who said they had worked at home but not for money increased by about 7 percent, suggesting that there has been a substantial redefinition of the meaning of work in the home during these seven years, with activities that were not labeled as work in 1973 so labeled in 1980. Apparently the contribution of unmarried women to family enterprises has become more salient in Taiwan at the same time that increasing numbers are becoming involved in productive activities outside the home. Furthermore, this change in the definition of activities suggests that the shift in the distribution of work from the cohort of 1935–39 to 1940–44 (the cohorts where the switch was made from the 1973 to the 1980 data) is not as large as suggested by the figures in Table 12.1. Rather, some of the decline in the percentage reporting no work is due to a number of women redefining their activities as being unpaid work rather than nonwork.

Not only is the locus of the work of unmarried Taiwanese women shifting outside the home, but so are their living arrangements. Less than 5 percent of the birth cohort of 1930–34 had lived outside the home while employed. By the time the birth cohort of 1955–59 had married, nearly 38 percent had lived apart from their parents or other relatives and fully one-third had lived in a dormitory while working. While most of the increase in nonhome living has been in work-associated dormitory residences, where substantial supervision is likely, rather than in totally independent living arrangements such as apartments, it is likely that dormitory living modifies the nature of the authority structure and patterns of supervision and control exercised by parents in relation to their growing children.

The increase in nonhome living is not just the result of expanding numbers of young women working outside the home. The percentage of *workers* who live apart from parents and other relatives increased from 18 percent for the earliest cohort to 45 percent for the most recent cohort. It may be that unmarried women who work outside the home are now employed in locations further from home; there may have been a shift in desire for dormitory living; or the supply of employee dormitories may have increased, making it possible for more young women to live there.

The increasing involvement of unmarried women outside their parental homes is further documented by the nature of their employers. For the women born during the decade of the 1930s, only about one in four had worked for someone other than a rela-

tive. By the birth cohort of 1955–59, the number had increased to four out of five, which is another indication of the growing integration of young people into a formal market economy. This growth in nonfamily employment is not just a result of a general increase in paid employment. Among those who worked for pay, the percentage who worked for themselves or a family member declined from 17 percent for the oldest birth cohort to 7 percent for the most recent cohort.

As the next two panels of data in Table 12.1 clearly indicate, at the same time that a substantial proportion of unmarried women has shifted its productive activities away from family enterprises, unmarried women in Taiwan continue to be involved in the family economy—but now contributing money rather than labor to the family.[6] In all cohorts, over 70 percent of the unmarried women who worked outside the family mostly gave their money to their parents. Other studies have documented the importance of these earnings for the well-being of individual families (Arrigo, 1980; Diamond, 1979; Salaff, 1981). While the percentage of workers who gave most of their earnings to their parents decreased over time, the magnitude of that decline was fairly small. A small increase in the percentage of workers giving most of their money to their parents is recorded for the youngest cohort, but this may simply reflect the weighting of this cohort of married women toward those who married at a young age. Of course, since there was a large increase in the number of women earning wages, there was a significant increase in the percentage of all women who had significant spending money of their own—from 5 percent for the earliest cohort to 20 percent for the most recent. This trend does not necessarily mean financial independence or autonomy for young women, since the parental family continues to exercise considerable authority over its unmarried working daughters, but it does represent movement in that direction (see Diamond, 1979; Gallin & Gallin, 1982a; Salaff, 1981).

The next four panels of data document several features of the husband's first regular job. Note that these data refer to the husband's first regular job and ignore the distinction of whether or not that job occurred before or after marriage, making this a different question from that just considered for wives. However, as the table documents, the bulk of these jobs did occur before marriage.

The data indicate a substantial shift of first jobs away from farming occupations to manual, service, and laborer jobs and away from self-employment or work with family members and relatives to employment by someone else. Thus, the transition of the first jobs of husbands away from family-run enterprises is similar to the

change that has occurred in wives' premarital employment, but the magnitude of that shift has been smaller for men.

There has also been an increase in the age at which husbands begin their first regular job. The percentage beginning their first job before age 19, for example, declined from 60 percent for the birth cohort of 1930–34 to 45 percent for the birth cohort of 1945–49. The later ages for commencing employment result largely from the increased educational attainment of husbands. However, since the increase in age at first employment has been accompanied by an increase in age at marriage, the percentage of husbands who marry before they enter the labor force remains low, and there has been no statistically significant increase over time.

The shifts in premarital working and living arrangements and the increase in educational attainments and age at marriage have been accompanied by changes in spouse selection, premarital relations with spouse, and early marital living arrangements. The decrease in parental control over the choice of marital partners is particularly great. The percentage who said that their parents mainly made the marriage decision declined from a high of 77 percent to only 15 percent for the most recent cohort.[7] The percentage saying that the husband and wife decided the marriage for themselves increased from 5 to 33 percent, while joint couple–parental decisions increased from 18 to 51 percent. Obviously, the marital decision process has shifted from one mainly determined by parents to one of joint decisions, with a substantial minority now being decided primarily by the young people themselves.

The data also indicate that even for the oldest birth cohort (1930–34) a significant minority, 23 percent, reported some say in the choice of their husbands. This probably indicates that the change in spouse selection patterns had commenced prior to the time this cohort reached marital age (see Wolf & Huang, 1980), or perhaps parental control over spouse selection was never complete.

Some of the marked decrease from the birth cohort of 1935–39 to 1940–44 in the percentage saying that parents mainly made the marital decision reflects a trend in perceptions of marital decision making between 1973 and 1980. Apparently, between 1973 and 1980 a number of women reinterpreted the circumstances surrounding their marriage to indicate less involvement of their parents and more involvement of the couple in that process. This interpretation is suggested by the fact that, when the universe of respondents was defined exactly the same in 1973 as in 1980, the percentage of women who said their parents mainly decided the marriage was 8 percentage points lower in 1980 than in 1973, and the percentage who said both parents and children decided was 8 points higher in

1980 than in 1973.

Although the percentage of young people who begin their marriages in extended families is still very high, the likelihood of joint residence has noticeably declined. Approximately 90 percent of the women born in the 1930s reported that they began their marriages living and eating with their husband's parents, indicating the overwhelming commitment to the extended family, at least early in marriage.[8] This percentage has declined to just over 75 percent for the most recent cohorts of women. This suggests that while the influence of parents on their children early in marriage remains very strong even among the most recent cohorts, the integration of first- and second-generation families and the influence of parents over their children may be declining in an important way (also see Freedman et al., 1978, 1982).

The increased independence of young people and their involvement in activities outside the home before marriage is clearly reflected in their premarital relationships with their future spouses. While many writers have been astonished at the magnitude of the sexual revolution in the West, the trend among the Taiwanese is also substantial. The percentage of women who reported having sex before marriage with their future spouse increased from 14 percent for the birth cohort of 1940–44 to 30 percent for the cohort of 1950–54. Although there is no large or consistent trend in the percentage having a premarital birth, the percentage who had their first birth within the first seven months of marriage, suggesting a premarital conception, increased from 6 percent for the birth cohorts of the 1930s to 19 percent for the 1950–54 birth cohort.[9] The proportion with premarital sex and premarital pregnancies was even higher for the birth cohort of 1955–59, although the incidence of premarital sexuality among this cohort could reflect, in part at least, the low average age at marriage of this group and the association between young age at marriage and premarital pregnancy (also see C. H. Lin, 1981; H. S. Lin, 1982).

In summary, the data in Table 12.1 are generally consistent with theoretical expectations about the effects of social change. Young people are getting more education, are working and living away from the home more, are having more say about their marital partners, and are more often sexually involved with their spouses before marriage. All of this leads to a picture of greater separation of the lives of the generations in Taiwan, both before and after marriage, plus a greater degree of independence and freedom for young people. Concurrent with this increased independence and autonomy, however, is the persistence of parental involvement in the lives of their children. Unmarried women, while less involved in

family-run economic enterprises, continue to be involved in the family economy, contributing much of their earnings to their families. In addition, young people for the most part continue to live with the husband's parents early in marriage, which indicates a clear and pervasive influence of parents in the lives of their children.

Family Origins

To understand the mechanisms producing the observed changes in intergenerational relations and the transition to adulthood in Taiwan, the parental backgrounds of the young people are examined. As a consequence of the economic development and social change during the colonial period, the parents of later cohorts may have quite different characteristics from parents of earlier cohorts. Consequently, intergenerational relations and life-course experiences of young people may have changed at least in part because of trends in the characteristics of parents. Since the women participating in the 1973 and 1980 surveys were asked about the characteristics of their parents and parents-in-law, this issue can be addressed.

The data in Table 12.2 indicate that the educational achievements of the fathers of the young women in Taiwan are changing. Fewer women now come from families where the father is illiterate and more have fathers who have received some schooling. Nevertheless, even for the most recent birth cohorts of women, the educational attainments of fathers are fairly limited; nearly 50 percent had received no formal education and only about 7 percent had gone beyond primary school.

Table 12.2 also documents the farm origins of most of the women in Taiwan. Nearly two-thirds (when the N.A.'s are redistributed) of the oldest women grew up in families where the father was a farmer. This percentage decreased somewhat with time, but about one-half of the fathers of the birth cohort of 1955–59 still were farmers. The farm origins of Taiwanese women are highlighted even more by the data from the question about whether or not the woman had ever lived on a farm. Over three-quarters of the women had lived on a farm at some time in their lives, and there is no statistically significant decline in this fraction over the birth cohorts studied. This preponderance of rural background and the very small and statistically insignificant amount of change in geographical origins is also clear from the data about the wife's childhood residence.

While substantial numbers of Taiwanese women continue to

report farm origins, it is likely that the nature and meaning of farm life has changed. One important characteristic of social change in Taiwan is the growth of industry in many rural areas, which provides employment opportunities and the diversification of economic support for many rural families (Gallin & Gallin, 1982b). A substantial and probably increasing number of farm fathers maintain secondary employment in the industrial or business sector while keeping farming as their primary occupation. Other farm residents may be primarily industrial workers or independent businessmen while maintaining little or no involvement in the operation of the farm (Gallin & Gallin, 1982b; Lavely, 1982). This may help to explain the decrease in the number of farming fathers while the fraction of daughters with some farm residence has remained quite constant.

Over 70 percent of all the women had fathers who were self-employed or employed by a relative, an employment pattern that is relatively unchanged over the birth cohorts studied. Thus it appears that many unmarried women have entered the wage economy outside the home while their parents have maintained, at least partially, the system of family production (also see Gallin & Gallin, 1982a).

Recent cohorts of women have smaller families of orientation, as one would expect given the fertility decline occurring in Taiwan. While sampling variability prevents the precise timing of this change, it is quite clear that by the birth cohort of 1950–54 the women in the sample were coming from smaller families. In fact, the percentage of women from families of eight or more children has declined to around 20 percent for the most recent birth cohort, while about one-third of the women in the earliest cohorts had come from families of that size. Again, this is evidence that the family origins of young people in Taiwan have been changing.

Family Origins and the Dynamics of the Life Course

The data presented in the preceding sections are consistent with the theoretical expectation that extensive industrialization, the growth of large cities, and the expansion of educational opportunities in Taiwan have been accompanied by important shifts in the way young people interact with their parents and make their way through the life course to adulthood. Further explication of the importance of the occupational structure and educational opportunities is possible by investigating the extent to which the family origins of young people influence the way they relate to their parents and form their own families, and the importance of young

Table 12.2
FAMILY ORIGINS BY BIRTH COHORT

	Birth Cohort[a]					
	1930–34	1935–39	1940–44	1945–49	1950–54	1955–59
Education of Wife's Father						
None—illiterate	b	b	39.9	32.7	29.0	26.1
None—can read	b	b	19.5	21.2	20.9	21.1
Japanese—level N.A.[c]	b	b	7.4	7.3	7.4	5.2
Primary	b	b	24.1	28.4	31.0	38.5
Junior high or more	b	b	6.0	7.7	9.5	6.9
N.A.	b	b	3.1	2.7	2.2	2.2
Total	b	b	100.0	100.0	100.0	100.0
Occupation of Wife's Father						
Farm	60.8	60.2	59.2	50.7	54.4	50.9
Non-farm	31.2	33.9	37.3	47.7	43.1	47.7
N.A.	8.0	5.9	3.5	1.6	2.5	1.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Wife's Farm Background						
Has lived on a farm	77.8	79.0	75.6	73.6	75.2	77.2
Has not lived on a farm	22.2	21.0	23.9	25.3	23.8	21.8
N.A.	0.0	0.0	0.5	1.1	1.0	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Wife's Childhood Residence						
Large city	d	d	12.4	14.7	13.7	12.7
Small city	d	d	7.1	7.5	8.3	8.4
Urban township	d	d	31.7	31.3	31.6	30.8
Rural township	d	d	45.8	43.3	44.7	46.1
Other/N.A.	d	d	3.0	3.2	1.7	2.0
Total	d	d	100.0	100.0	100.0	100.0
Employer of Wife's Father						
Self/family/relative	72.2	73.4	74.1	71.9	73.0	72.0
Someone else	21.5	22.4	21.7	26.2	23.8	26.3
N.A.	6.3	4.2	4.2	1.9	3.2	1.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

Continues

Table 12.2 (continued)

	Birth Cohort[a]					
	1930–34	1935–39	1940–44	1945–49	1950–54	1955–59
Wife's Mother's Fertility						
1–4 children	21.5	20.6	15.5	21.0	20.6	22.7
5 children	12.5	14.4	12.9	14.9	19.0	22.5
6 children	16.7	13.9	17.9	20.1	22.3	21.5
7 children	15.6	16.7	18.8	16.8	17.3	14.4
8 or more children	32.0	33.6	34.6	26.9	20.8	18.9
N.A.	1.7	0.8	0.3	0.3	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

[a]The birth cohorts are defined by the birth dates of the wives; however, the birth cohort labelled 1930–34 includes only women born in 1933 and 1934. The data for the birth cohorts 1930–39 were taken from the 1973 survey, while the data for the 1940–59 cohorts come from the 1980 survey.

[b]1973 and 1980 data are not comparable.

[c]Respondent knew father had attended schools set up by the Japanese during the colonial period (1895–1945).

[d]Data not ascertained in 1973.

Statistical significance: With the assumption of simple random sampling, each of the associations between birth cohort and the father's education and occupation and the mother's fertility is statistically significant at the .001 level. The chi-square test statistics could be divided by 2.5 and still be significant at the .05 level. None of the other relationships are significant at the .05 level, even using simple random sampling assumptions.

people's early life-course experiences can be partially examined by considering the way their educational attainments influence subsequent behavior and transitions.

The influence of family origins and educational attainments on life-course experience is evaluated through a two-step multivariate analysis. The impact of parental characteristics is examined through several equations with life-course experiences as dependent variables and with four predictor variables—the father's education, his occupation, the mother's fertility, and the birth cohort of the child. The size of the family of orientation is included to control the impact of changing fertility on life-course experiences. The inclusion of birth cohort permits examination of parental variables while controlling for the effects of historical change and allows evaluation of the extent to which changing family origins account for the cohort trends in the way Taiwanese make the transition to adulthood. Childhood residence (rural/urban) is not included in the analysis be-

cause of its strong collinearity with the occupational position of fathers.

In the second stage of analysis, the educational attainment of the child is included with family origins and birth cohort as a fifth predictor of subsequent life-course experiences. This procedure provides a direct estimate of the importance of education for later experiences. Also, by comparing the estimates of the effects of the other predictors from the first set of equations with those from the second set, the extent to which the educational attainments of the child mediate the effects of family origins and birth cohort is examined. For the first four independent variables, the estimates from the original equations represent their total effects on the dependent variables, while the effects estimated in the second stage represent direct effects that are not mediated through the education of the daughter. The differences between the effects estimated in the two models reflect indirect effects that operate through education.

The multivariate analysis is conducted using multiple classification analysis (MCA), a form of dummy variable regression (Andrews et al., 1973). While this estimation procedure is ideal for interval-level dependent variables, its use for dichotomous dependent variables violates the heteroscedasticity assumption of regression. The procedure is used, however, because the dichotomous dependent variables are not badly skewed, and estimation of several of the equations using multivariate contingency table procedures (Goodman, 1970, 1972) produced results and conclusions virtually identical to those using MCA. The analyses, which are limited to the 1980 data for women, are summarized in Table 12.3. The unadjusted means indicate the overall relationships between the independent and dependent variables, while the first set of adjusted means for each variable (model 1) is taken from MCA equations containing the three parental characteristics and birth cohort. The second set of adjusted means (model 2) is derived from MCA equations that add the child's education to the earlier set of predictors.

The importance of the father's education in the life course of young women can be seen throughout much of Table 12.3. Daughters of well-educated men, on average, are better educated themselves, marry later, are more likely to work outside the home, to keep some of their earnings if they work, to have a voice in choosing their husbands, and to live apart from their husbands' parents when married. Furthermore, many of the differentials are substantial and only slightly decreased by the multivariate controls for other parental variables and birth cohort (model 1). For example, on average, daughters of men with at least a junior high

education received 11 years of schooling themselves, while daughters of illiterate fathers received only four and one-third years. Similarly, 85 percent of the daughters of well-educated men worked outside the home and 46 percent of the workers kept some of their earnings, whereas only 50 percent of the daughters of the least educated men worked outside the home and only 14 percent of these workers kept some of their earnings. However, while the father's education played a substantial role in most aspects of the children's lives, it had little influence on where working daughters lived or the incidence of premarital sexuality and pregnancy.

The occupation of the father has an important influence on all aspects of the children's lives studied. On average, daughters of farmers received less education, were less likely to work for nonfamily enterprises, were less likely to keep some of their earnings if they did work, married younger, had less say in choosing a husband, had less premarital sex (although not statistically significant), and were less likely to live apart from their husbands' parents when married. Furthermore, a number of the farm/nonfarm differentials are substantial and persist with the model 1 multivariate controls, although those controls reduce the differentials somewhat.

One effect of growing up in a farm family deserves special attention. While daughters of farmers are significantly less likely than others to work in nonfamily enterprises, those who do are substantially more likely than others to live away from home. This probably reflects the availability of more family and fewer nonfamily job opportunities for the daughters of farmers, leading to more work in family enterprises and less work in nonfamily enterprises. Farm daughters who do not work in family enterprises often leave their homes and go to other areas to find employment. Consequently, farm daughters are more likely than others to work and live at home *or* to work and live away from the family home, but less likely to work in nonfamily enterprises while still living at home. A likely consequence of this pattern is that farmers who can utilize their daughters in the family enterprise have more contact with them than do nonfarmers, but farm daughters who work and live outside the home probably have less contact with their families than women who do not grow up on farms.

A separate analysis examined whether or not the influence of farm origins on the transition to adulthood has remained constant as rural areas have become more thoroughly integrated with the rest of society. While farm origins continue to be a disadvantage to educational achievements and nonfamilial employment, these obstacles appear to have declined for the younger cohorts (see Table 12.4). This probably reflects the growth of industrial and

Table 12.3

MULTIPLE CLASSIFICATION ANALYSIS OF THE EFFECTS OF FAMILY CHARACTERISTICS, BIRTH COHORT, AND EDUCATION ON LIFE COURSE EXPERIENCES

		Years of Education		Any Nonfamily Work			Kept Most of Earnings[b]			Lived Away from Home[b]		
	N[a]	Unadj.	M1[d]	Unadj.	M1[d]	M2[d]	Unadj.	M1	M2	Unadj.	M1	M2
Father's Education												
None—illiterate	923	4.34	4.66	.50	.55	.59	.14	.15	.21	.38	.35	.32
None—can read	608	6.54	6.60	.62	.63	.63	.26	.26	.29	.40	.40	.38
Japanese—level N.A.[c]	202	8.10	7.95	.68	.68	.65	.26	.25	.21	.38	.41	.43
Primary	892	7.66	7.46	.71	.68	.66	.27	.27	.26	.37	.36	.37
Junior high or more	229	11.09	10.50	.85	.79	.70	.46	.44	.32	.26	.32	.39
Significance		*	*	*	*		*	*				
Father's Occupation												
Farmer	1,571	5.52	5.98	.54	.56	.58	.20	.21	.24	.49	.48	.47
Nonfarmer	1,288	7.99	7.36	.74	.70	.69	.31	.29	.27	.27	.28	.29
Significance		*	*	*	*	*	*	*		*	*	*
Mother's Fertility												
1–4 children	582	7.12	6.84	.66	.64	.63	.30	.29	.29	.35	.36	.36
5 children	507	6.96	6.71	.66	.63	.62	.21	.20	.20	.37	.37	.37
6 children	609	6.84	6.67	.66	.65	.64	.27	.26	.26	.41	.41	.41
7 children	495	6.33	6.51	.60	.62	.63	.25	.25	.24	.39	.39	.39
8–16 children	730	5.99	6.40	.57	.62	.63	.25	.26	.27	.34	.34	.33
Significance		*		*								
Birth Cohort												
1940–44	629	4.87	5.28	.38	.41	.44	.24	.24	.25	.27	.29	.29
1945–49	719	6.57	6.56	.54	.53	.54	.25	.24	.23	.31	.32	.33
1950–54	1,004	7.22	7.08	.74	.73	.72	.28	.28	.28	.38	.38	.38
1955–59	574	7.55	7.36	.83	.82	.80	.23	.24	.25	.45	.44	.44
Significance		*	*	*	*	*				*	*	*
Respondent's Education												
None	402			.33		.33	.11		.14	.36		.40
Primary	1,657			.60		.60	.17		.18	.43		.42
Junior high	348			.74		.74	.25		.25	.39		.37
Senior high	375			.88		.88	.43		.40	.25		.26
College or university	144			.88		.88	.63		.60	.17		.22
Significance				*		*	*		*	*		*
Total	2,926	6.62	6.62	.63	.63	.63	.26	.26	.26	.37	.37	.37
R^2			.32		.17	.20		.06	.12		.07	.09

*Statistically significant at the .001 level with assumptions of simple random sampling.

[a]Missing data cases on the predictor variables were included in the analysis, but not reported; cases with missing data on any of the dependent variables were excluded from the analysis. See Tables 12.1 and 12.2 for documentation of the extent of missing data for individual variables.

[b]Analysis limited to women who worked outside the home for money.

Table 12.3 (continued)

Age at Marriage			Who Decided Marriage[c]			Premarital Sex			Lived Apart from Husband's Parents		
Unadj.	M1	M2	Unadj.	M1	M2	Unadj.	M1	M2	Unadj.	M1	M2
20.4	20.4	20.9	.76	.81	.88	.24	.26	.26	.15	.16	.18
20.8	20.8	20.9	.96	.96	.97	.29	.29	.29	.24	.24	.25
21.5	21.4	21.1	1.01	1.00	.95	.22	.23	.23	.28	.28	.25
21.1	21.2	21.0	1.02	.98	.95	.30	.28	.28	.22	.21	.20
22.7	22.6	21.4	1.19	1.11	.95	.30	.28	.31	.31	.29	.23
*	*		*	*					*	*	
20.6	20.8	20.9	.83	.86	.89	.25	.26	.26	.18	.19	.20
21.4	21.2	21.0	1.07	1.03	1.00	.30	.29	.29	.25	.24	.22
*	*		*	*	*				*		
20.7	20.6	20.6	1.04	1.00	1.00	.30	.28	.28	.25	.24	.24
21.0	21.0	21.0	1.00	.96	.96	.36	.33	.33	.23	.23	.23
21.3	21.2	21.2	.93	.92	.92	.25	.25	.25	.21	.21	.21
21.1	21.1	20.1	.84	.86	.87	.25	.26	.26	.19	.19	.19
20.9	20.9	20.9	.87	.93	.94	.23	.26	.26	.18	.19	.20
		*	*			*					
21.2	21.3	21.6	.64	.67	.71	.14	.14	.15	.17	.18	.20
21.4	21.4	21.4	.87	.86	.86	.19	.19	.19	.20	.20	.20
21.3	21.2	21.2	1.03	1.02	1.01	.30	.30	.30	.24	.23	.23
19.7	19.6	21.0	1.19	1.17	1.14	.48	.48	.47	.23	.22	.21
*	*	*	*	*	*	*	*	*			
20.0		19.7	.57		.72	.14		.22	.10		.13
20.6		20.6	.88		.89	.29		.29	.20		.20
21.1		21.3	1.06		.99	.34		.30	.23		.21
22.3		22.5	1.28		1.18	.32		.26	.31		.28
24.5		24.1	1.37		1.32	.16		.16	.40		.37
*		*	*		*	*		*	*		*
21.0	21.0	21.0	.94	.94	.94	.27	.27	.27	.21	.21	.21
	.11	.20		.11	.14		.08	.09		.02	.04

[c]Responses were coded as follows: parents as 0, both parents and couple as 1, and couple as 2.

[d]M1 = model 1; M2 = model 2.

[e]Respondent knew father had attended schools set up by the Japanese during the colonial period (1895–1945).

educational resources in rural areas, the development of efficient communication and transportation facilities, and the construction of dormitories for housing factory workers. No significant changes appeared in the influence of farm origins on premarital sex, on who decided the marriage, and on living arrangements after marriage (data not shown).[10]

While family size is related to several aspects of the daughter's experience, those relations are primarily the result of family size being correlated with the other predictors. With multivariate controls, family size maintains negative, but statistically insignificant, effects only on the wife's education and living apart from the husband's parents after marriage. Thus this aspect of the family of origin seems to have little influence on the way young women proceed through the life course (also see Hermalin et al., 1982).

The multivariate analysis reveals that changing levels of parental education, nonfarm employment, and fertility can account only for a small part of the cohort trends in life experience. While almost all of the original differences in the experiences of the women across birth cohorts (unadjusted means) are reduced somewhat with the introduction of the controls of model 1, in all cases the reduction of the cohort differences with the model 1 controls is quite small. That is, the estimated cohort differences are very similar with and without the controls for parental characteristics. Thus, although parental education and employment are important determinants of children's experiences, *changes* in parental characteristics can account for only a small fraction of the historical *changes* occurring in the behavior of children.

The education of Taiwanese women plays a vital role in their relationships with their parents and the way they enter marriage. Highly educated women are more likely to work in nonfamily enterprises, to keep some of their earnings if they do work, to marry at an older age, to have a say concerning whom they marry, and to live apart from their husband's parents when they do marry. Furthermore, most of these differentials are substantial and very little affected by the multivariate controls. For example, of the most educated women, 88 percent worked outside the home and 40 percent lived apart from their husband's parents after marriage, whereas of the least educated, only 33 percent worked outside the home and 10 percent lived apart from their husband's parents. Differentials of this magnitude attest to the importance of education in affecting the way young people proceed through the life course.

One finding ran counter to the general conclusion that education positively influences activity outside the home and increases independence from parents. Among Taiwanese women who worked out-

Table 12.4

THE RELATIONSHIPS OF FARM ORIGINS, EDUCATIONAL ATTAINMENTS, AND NONFAMILIAL EMPLOYMENT FOR WOMEN BY BIRTH COHORT[a]

	1940–44		1945–49		1950–54		1955–159	
	Farm	Non-farm	Farm	Non-farm	Farm	Non-farm	Farm	Non-farm
Education								
None	38.1	19.1	21.4	8.4	9.2	4.9	4.8	3.3
Primary	54.2	48.1	65.9	46.5	72.1	47.8	60.1	48.4
Jr. high or more	7.7	32.8	12.7	45.1	28.7	47.3	35.1	48.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Premarital Work								
No nonfamily work	74.2	42.6	58.9	33.1	33.9	17.1	16.2	17.6
Nonfamily work	25.8	57.4	41.1	66.9	66.1	82.9	83.8	82.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	365	235	355	344	542	432	291	273

[a]The cell entries represent the percentage distributions of education and work experience by farm residence during childhood within birth cohorts.

side the family before marriage, education is negatively related to the likelihood of also living away from parents. One interpretation is that the dormitories in which the young women reside are associated with factories that rely primarily upon unskilled labor and, therefore, recruit workers who do not have extensive schooling.

Thus education increases the likelihood of unmarried women working outside the home and decreases the incidence of nonfamilial living among the workers. What is not clear from these data is the effect of education on the nonfamilial living of the entire group of women. When the positive influence of education on nonfamilial work is combined with its negative influence on nonfamilial living among the workers, the result is an inverse-U relationship for all women. Those with no education and those with college educations are the least likely and those with intermediate educational levels the most likely to live outside the parental home before marriage (data not shown).

Education also displays an inverse-U relationship with both premarital sex and premarital conceptions. The incidence of premarital sex and pregnancies is lowest among those with no education or with university training and highest among those with junior high education. This phenomenon can be partially explained by the fact that women with junior and senior high school educa-

tions are concentrated in the most recent cohorts; when birth cohort is controlled, the magnitude of the relationship is reduced. It was also thought that this pattern might be caused by the greater nonfamilial living arrangements of women with intermediate levels of education, but the introduction of a work–residence pattern variable has no influence on the education effect (data not shown).

Much of the influence of paternal education and occupation on intergenerational relations and family formation patterns operates through the effects of the parental characteristics on their daughter's education. This conclusion is reached through comparison of the model 1 and model 2 results in Table 12.3. For all aspects of the daughter's transition to adulthood, the total effects of father's education and occupation (model 1) are greater than the direct effects operating independently of the daughter's own education (model 2), which indicates that at least part of the effects of paternal characteristics is transmitted through the daughter's own schooling. In many instances, the daughter's education explains a substantial fraction of the impact that paternal characteristics have; and, for several variables, particularly who decided the marriage and where the couple lived after marriage, the daughter's education accounts for virtually all of the influence of the father's education. The daughter's schooling also accounts for almost all the effect that father's occupation has on her age at marriage.

While changes in family origins and educational achievements are associated with some of the cohort trends in the transition to adulthood, they can explain only a small proportion of most of those trends. This conclusion is reached by the observation that the relationships between birth cohort and the life-course variables are only slightly reduced by the inclusion of all of the controls (comparing unadjusted means with the means of model 2). The primary exception to this observation concerns residential patterns after marriage—a variable where the modest unadjusted cohort differences are largely eliminated by the multivariate controls of model 2.

The analyses of the dynamics of the transition to adulthood reported above are limited to data about the wives because the problem of sample bias and the potential for reporting error are less severe for them than for their husbands. However, when the husbands' life-course experiences were analyzed, the findings were very similar to those for the wives. For example, farm origins and modest educational attainments of fathers are associated with the sons receiving little education, commencing their first regular jobs at a young age, being employed by family members, and having less voice in the choice of a wife. The husband's own educational achievements are also strongly related to nonfamily employment

and older age at first job, having a say in choosing a wife, and living away from parents after marriage. The same inverse-U relationship between education and premarital sex reported for the wives also holds for husbands. However, one important difference between the men and women is observed: Husbands from farm origins are less rather than more likely than others to live with their parents after marriage.

Important causal interrelationships probably exist among labor force experiences and the circumstances of marriage. For example, women with extensive work experience outside the home and with nonfamily living probably marry later and have more say in choosing their spouses than those whose residences and work experiences have only been within the family. At the same time, it seems likely that the kind of work and living experience a woman accumulates prior to marriage would depend to some extent on the timing of her marriage. While the complexities of the causal connections preclude the specific examination of the work and marriage interrelationships in the empirical causal models examined above, the nature of several of those relationships merits comment.

There is a strong association between age at marriage and premarital work experience. Fifty percent of those married prior to age 19 had worked before marriage as compared to 80 percent of those married at age 26 or older (also see Chang, 1981). Further, women who had no nonfamily work before marriage had the least voice in choosing their husbands, were the least likely to have lived apart from their husbands' parents after marriage, and were the least likely to have had premarital sex or a premarital pregnancy.

Age at marriage is also related to premarital sex and pregnancy and where the couple lives after marriage. The older the woman is at marriage, the less likely she is to have had sex before marriage with her future husband or to be pregnant before marriage. Older age at marriage is also related to nuclear family residence after marriage. Unexpectedly, however, older women do not have an advantage over younger women in choosing whom they marry.

There are substantial interrelationships among who decided the marriage, where the couple lived after marriage, and premarital sexuality. Independence in the marital decision is accompanied by higher incidence of premarital sexuality and pregnancy and more independent living after marriage. Thirty percent of the marriages decided by the husband and wife resulted in separate residences from the husband's parents, compared to 14 percent of those decided by the parents and 21 percent of those decided by both the couple and their parents. Similarly, 46 percent of the couples deciding their own marriage had premarital sex as compared to 15 per-

cent where the parents decided and 25 percent where both the parents and the couple decided.

The final question of this paper concerns the extent to which historical trends in mate selection and premarital sex can be explained solely in terms of trends in the characteristics of parents and the experiences of couples before marriage. To investigate this issue, MCA equations of who decided the marriage and premarital sex were estimated using as predictor variables the wife's birth cohort, the characteristics of the parents of both the husband and wife (fathers' education and occupation and mothers' fertility), the age at marriage of both spouses, and the educational and work experience of both spouses, including how the wife spent any earnings before marriage and her experience with nonfamilial living arrangements. Although these equations contain questionable causal assumptions because of their neglect of reciprocal causation, they provide estimates of the maximum extent to which the observed cohort differences in premarital sex and mate selection can be accounted for simply by changes in these other factors.

In these equations, the adjusted proportions of the couples experiencing premarital sex were .16, .20, .30, and .45, respectively, for the birth cohorts of 1940–44, 1945–49, 1950–54, and 1955–59, while the adjusted means for who decided the marriage were .75, .90, .99, and 1.09, respectively, for the four cohorts. These adjusted differences in premarital sex and mate selection across the four cohorts are smaller than the unadjusted differences reported in Table 12.3; nevertheless, the differences that remain among the cohorts after the adjustments are made for parental characteristics and the premarital experiences of the couple are substantial. This finding indicates that historical trends in premarital sex and who decided the marriage cannot be explained simply by changing composition and experiences of the type examined here.

There are at least three possible explanations for our inability to account fully for the cohort differences in premarital sex and the involvement of young people in the mate selection process. One possibility is that the present analysis has not considered the full range of adolescent experiences influencing the mate selection process. Other dimensions of adolescent life besides schooling, employment, and living arrangements may also have changed and influenced trends in mate selection and premarital sexuality.

A second explanation is that the influence of social change is not limited to just those who become educated and work and live outside the family household. The behavior and ideas of those with extensive experience outside the household can be observed and modeled by those not directly experiencing those arrangements. Similarly,

even if children do not participate in school, work outside the family unit, or live apart from their parents, the availability of these opportunities can alter the relationships between parents and children (Anderson, 1971; Caldwell et al., 1982). In addition, as new patterns of behavior become more available, norms and aspirations can shift and influence the behavior and relationships of all members of society. Therefore, the spread of new family structure and behavior can proceed even more rapidly than the spread of school enrollment, the growth of paid employment, and the expansion of nonfamilial living arrangements.

Finally, social change and economic growth in Taiwan may have been accompanied or preceded by the infusion of Western ideas and values. These Western ideals may be reflected in general values about democracy and independence and specific views about husband–wife relationships, family size, and living arrangements. The diffusion of these ideas could significantly modify norms and behavior (Caldwell, 1976, 1982) and reinforce the effects of changes in education, employment, and living arrangements.

Summary and Conclusions

The data presented in this paper are consistent with theoretical expectations about the influence of social change and economic growth on intergenerational relationships and family formation. During recent decades, Taiwanese society has experienced rapid industrial growth and development and, as expected, that development has been accompanied by significant changes in family structure and relationships. These changes in intergenerational relationships include the spread of schooling, the shift of the productive activities of young people from family enterprises to wage jobs, the increasing separation of the residences of parents and children, the growing independence of young people, and increases in premarital sex and pregnancies.

The growth of formal schooling began during the colonial period, and in recent years education has become nearly universal. This has resulted in the transfer of children from the parental family to a nonfamilial institution where young Taiwanese now spend large portions of their maturing years. In addition, schools impart skills, information, and values that prepare young people for participation in a modern society.

The transformation of the family economy has been a crucial concomitant of social change in Taiwan. A majority of the women born between 1933 and 1959 had fathers who were predominately involved in family enterprises, with many being farmers. The

women from the earliest cohorts had little work experience outside of family enterprises before marriage, but this pattern has now been completely reversed, so that the majority of the youngest cohorts have experienced nonfamily employment. Not only have young women now become involved in nonfamily employment, but increasingly their work is taking them outside their parental families to work.

From the perspective of unmarried women, the family economy has clearly been transformed into a family wage economy, with its members pooling wages rather than labor. The vast majority of unmarried female workers contribute much of their earnings to their parents. There has been very little increase in the percentage of workers keeping substantial portions of their earnings for themselves. Thus, the transformation of the productive activities of unmarried women to a family wage economy appears to be nearly complete, matching the first stage of the transformation of family economies in Western societies (Tilly & Scott, 1978). However, there is virtually no evidence in Taiwan of the second stage of the transition that occurred in the West—where young people control their own wages. This second stage may not yet have occurred in Taiwan simply because economic development is relatively recent there and still not sufficiently advanced. As the society continues to change, the transformation of family economic relationships may continue to evolve, with unmarried people keeping control of ever higher percentages of their wages. Another possibility, however, is that the tremendous emphasis on family obligations in Chinese society might retard, if not limit altogether, the amount of control unmarried people gain over their earnings. The low relative wages for young people in Taiwan and the positive benefits of pooling family resources may also retard the extent of the shift toward individualism (Diamond, 1979; Salaff, 1981).

Spouse selection also is in the process of transformation in Taiwan—changing from a parent-controlled system to one that involves the couple themselves. Among younger cohorts, parents are beginning to be excluded altogether. If this transition continues, as it seems likely to do, it will probably have important ramifications not only on parent–child relations but on husband–wife relations. Particularly relevant in this regard is the increasing incidence of premarital sex and pregnancy.

While these changes seem to indicate a segregation of the generations in the marital choice, newlyweds in Taiwan continue to live with the husband's parents immediately after marriage. This suggests both the persistence of extended family relationships and their adaptability to new circumstances and patterns of behavior.

Of course, there have been declines in the number of young couples living with their parents, suggesting that the forces of social change might be influencing even this aspect of the Taiwanese family system.

Also consistent with theoretical expectations is the impact of position in the social structure on family relations and life-course experiences. Women with educated fathers have more nonfamilial experiences than others. Much of the influence of the father's education, however, operates through its influence on the daughter's education, which in turn affects her subsequent behavior.

The effects of farm origins are complex. As predicted, farm origins exert, for the most part, a traditional influence on life-course experiences. However, for women who work outside the family, farm origins are also associated with nonfamily living arrangements. Apparently, many young farm women do not find suitable employment close to home, and work and live away from their families. Of course, substantial fractions of young farm women who work outside the family continue to live at home. It is likely that they benefit from the extensive rural industrialization that has taken place in Taiwan—being able to work outside the home while still living with their parents. Thus, when compared to an urbanized industrial growth pattern, rural industrialization may be relatively consistent with preexisting patterns of behavior (see Gallin & Gallin, 1982b, and Lavely, 1982, on this point). The potential of new economic opportunities to increase interrelationships among kin has also been documented for England and France (Anderson, 1971; Tilly, 1979).

Finally, educational achievements early in the life course have important ramifications for later experiences (also see Casterline, 1980). Unfortunately, it is not clear what aspects of education are important—whether it is skill, knowledge, independence from parents, increased contact with the opposite sex, information, aspirations, or something else that produces its important influence. It is necessary that future work begin to unravel and estimate the many effects of educational attainment on subsequent life-course transitions.

Notes

[1]Reprinted with permission from *Demography*, 1984 *21*(4). This is a revised version of a paper presented at the Tenth World Congress of Sociology, Mexico City, August 1982. The authors have benefited greatly from the comments of Frank Andrews, Paul Cheung, Deborah Freedman, Ronald Freedman, William Lavely, Karen Mason, William Mason, and Martin Whyte concerning earlier versions of this paper. William Bonnell, Lois Groesbeck, and Lisa Neidert provided valuable assistance in the analysis of data and the preparation of the

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[2]The two surveys were conducted by the Taiwan Provincial Institute of Family Planning and are generally referred to as KAP-IV and KAP-V (Freedman et al., 1982). They were designed to be representative of the population of married women between the ages of 20 and 39. Since the focus of the analysis concerns intergenerational relationships and the transition to adulthood, including the process of mate selection and marriage, the samples are limited to families where the husband and wife were in their first marriage and to families with the husband's parents alive at the time of the couple's marriage. To control for the influence of the influx of Mainlanders, the analysis is also limited to native Taiwanese and families with the husband's parents living on the island rather than on the Mainland.

[3]For the other age groups, the percentages of women still single were: 25–29, 19 percent; 30–34, 7 percent; and 35–39, 3 percent. For men, the percentages never married for the same three age groups were: 40 percent, 13 percent, and 7 percent. Data from Table 9 of Ministry of the Interior, Republic of China (1980).

[4]The data for the women also were examined with the universe limited to those who were 25 years of age or older at the time of the interview and who had married before the age of 24 to see if the trends held when the truncation biases were similar for all cohorts. While this changed the distributions slightly, it had very little impact on the nature of the trends observed. Another check compared the total sample of 1973 with that of 1980, where the truncation biases would be similar. Those comparisons showed the general trends to be similar to those observed in the birth cohort analysis.

[5]The precise estimation of sampling errors and statistical significance from two different surveys with complex sample designs is difficult. In this analysis, standard tests of significance are used with the assumption of simple random sampling, which probably underestimates the magnitude of the sampling variability. Because of this difficulty, a criterion level of .001 is used for statistical significance. For further information about sampling variability in these surveys, see Kish et al. (1976) and Coombs and Freedman (1979).

[6]Wage earners were asked, "What did you mostly do with the money you earned when you were working before marriage?" Respondents who answered the question by saying only that they contributed it to family expenses were classified as "mostly to family." All others were classified as "not mostly to parents." Unfortunately, it is not clear whether, in answering this question, respondents were thinking only of money beyond essential living requirements or all of their income. However, we believe that most respondents were referring only to money not required for basic living expenses.

[7]The question wording was, "Would you say that your marriage was mainly decided by you and your husband, mainly decided and arranged by your parents and your husband's parents, or were both the couple and the parents involved in the arrangement?"

[8]Data were ascertained by the question, "At the time of your marriage, did you and your husband's parents live or eat together for more than the first month after marriage?"

[9]The data about premarital sex were ascertained only in 1980, using the question, "Before you were married, did you have sexual intercourse with your future husband?" The information about premarital conceptions was inferred by comparing dates of marriage and first birth.

[10]These conclusions were reached through multivariate contingency table

analysis, using the procedures outlined by Goodman (1970, 1972). The effects of education do not appear to vary by cohort.

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13

Prediction, Understanding, and Control as Antidotes to Organizational Stress

Robert I. Sutton and Robert L. Kahn

Social support has been studied and discussed widely as a factor that can reduce the deleterious effects of organizational stress on human well-being. Yet support is not the only situational variable that might serve as an antidote to work stress. This chapter proposes a trio of additional variables that should be investigated as potential antidotes to stress and strain in organizational life: *prediction*, *understanding*, and *control*. We hypothesize that a given situational stress will create fewer adverse physical, psychological, and behavioral responses when an organization member can (1) predict its frequency, timing, and duration; (2) understand how and why it came about; and (3) exercise effective control over the stressor or other relevant stimuli in the work setting. These hypotheses are derived from a wide-ranging review of organizational studies and of laboratory experiments with human and animal subjects. A model is proposed that specifies five pathways by which this set of variables may reduce organizational stress or relieve its negative effects. A key aspect of this model is its emphasis on reducing stress by redesigning jobs and organizations rather than selecting or training individuals to endure stressful events.

The purpose of this article is to propose prediction, understanding, and control as antidotes to stress, and to examine their relevance for organizational research. In using the term antidote we do not imply that all stresses are poisonous or that they can be completely counteracted. Rather, we mean that prediction, understanding, and control act in a variety of specific ways to reduce organizational stress or to relieve its negative effects.

Studies of stress have become numerous in organizational and medical research; investigators are apparently undeterred by the vagueness of the concept and the disparate definitions and measures in current use. Such problems, however, persist. Even the fundamental question of whether stress is to be regarded as an external stimulus (Lazarus, 1966) or as a reaction of the organism (Selye, 1956; 1971) remains unresolved.

We concur with Lazarus in finding the engineering analogy clarifying for theory and suggestive for empirical research. Engineers define a stress as an external force applied to some object or construction, and strain as the resultant change (distortion, com-

pression, destruction) in that object. When we bring this definition into organizational settings, we must be concerned with the objective stresses (demands and pressures, constraints and deprivations) imposed on individuals, and with the consequent strains (dissatisfactions, performance decrements, psychological and somatic symptoms).

Research along these lines, despite methodological and definitional problems, has discovered consistent and significant relationships between various organizationally generated stresses and individual strains. Much of this research has been summarized, with varying degrees of enthusiasm, by McGrath (1976), Kasl (1978), Katz and Kahn (1978), Beehr and Newman (1978), McLean (1979), and House (1981). The *Journal of Occupational Behavior* devoted an entire issue to studies of stress in 1982 (Jick & Burke, 1982), and in the same year the Institute of Medicine published a major evaluation of stress research and its prospects (Eisdorfer & Elliott, 1982). Continuing publication of stress research has been undertaken in the *Journal of Human Stress*, which began publication in 1975, and in two book series on occupational stress, one edited by McLean (1979) for Addison-Wesley and the other by Cooper and Payne (1978) for Wiley.

As might be expected, this volume of stress research has discovered a formidable number of stress–strain relationships that are relevant for organizational theory, for example, between role conflict and psychological tension (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964); between machine-paced work and adrenaline levels (Frankenhauser & Gardell, 1976); and between responsibility for the well-being of others and the prevalence of such diseases as hypertension, peptic ulcer, and diabetes (Cobb & Rose, 1973). The many studies of stress and strain vary greatly in the adequacy of their population samples, the specificity with which stress and strain are defined, and the objectivity with which they are measured. In some studies, stress is wholly inferred from occupational titles. In others, both stress and strain are measured entirely by self-report. Moreover, the findings tend to be weaker when the measures of stress and strain are methodologically independent of each other rather than based on self-report, a pattern that is strongly suggestive of correlated error. Kasl (1978) describes some painful examples of over-reliance on self-reported data in stress research, and of the resulting trivialities.

In addition to such problems, students of stress and strain have had to confront the fact that the relationship between the two, while often significant, is seldom large; correlations in excess of .40 are rare, and correlations around .20 are common. Researchers have

sought to account for these persistent but limited findings in two main ways—by demonstrating that certain personal characteristics (gender or age or Type-A personality) make some individuals "strain-prone" and others "strain-resistant," and by identifying situational variables that have similar interactive effects. Social support is by far the most studied of these situational stress-buffering variables.

For example, in a study of scientists, engineers, and administrators, French (1974) reported a correlation of .35 between role ambiguity (an organizationally imposed stress) and serum cortisol (an indicator of physiological strain) among those employees whose relations with their subordinates were poor, but a correlation of only .06 among those whose relations with their subordinates were good. The difference between these two correlations was interpreted as the buffering effect of supportive relations. In the same study, similar findings were reported between workload and systolic blood pressure, with a correlation of .33 among the scientists, engineers, and administrators whose relationships with their own supervisors were poor, but a correlation of only .06 among those who reported good relations with their supervisors. In a number of parallel analyses the stress–strain correlations for those people with poor relations to their colleagues were significantly higher than the correlations for those with good relations.

Cobb (1976) reviewed a broader literature of stressful events and associated indicators of strain, to see whether the stress–strain relationship was regularly reduced in the presence of social support. He reported that buffering effects of social support were apparent in the relationship between intrusive situational changes and pregnancy complications (Nuckolls, Cassel, & Kaplan, 1971); between hospitalization and psychological reactions among children (Jessner, Blom, & Waldfogel, 1952); between surgical operation and speed of recovery (Egbert, Battit, Welch, & Bartlett, 1964); between severe life stresses and affective disorder (Brown, Bhrolchain, & Harris, 1975); between job stress and escapist drinking (Quinn, cited in Katz & Kahn, 1978); between job loss and symptoms of rheumatoid arthritis (Gore, 1973); and between job loss and elevation of cholesterol level (Cobb, 1974). More recent studies in work settings (Cobb & Kasl, 1977; House & Wells, 1978) have presented additional evidence for the stress-buffering effects of social support.

This line of research is not without problems, however. First, the buffering effect, when measured as an interaction term in the stress–strain equation, is not always observable (Pinneau, 1975; Andrews, Tennant, Hewson, & Vaillant, 1978; LaRocco & Jones, 1978; Lin, Simeone, Ensel, & Kuo, 1979). Second, many of the

studies reporting significant buffering effects of support present serious methodological deficiencies—a fact that has been pointed out mainly by scholars who sought such effects unsuccessfully in their own data. LaRocco, House, and French (1980) have done a great deal to clarify these inconsistencies in research findings, and to explicate the mechanisms or pathways by which social support works. They present evidence that the buffering hypothesis is supported for physical and mental health variables such as somatic complaints but not for job-specific strains such as job dissatisfaction.

Such research on social support will continue, and should. In this article, however, we wish to urge an additional line of research. The discovery of social support as a variable that can moderate the relationship between stress and strain should stimulate a search for other variables with stress- or strain-reducing properties. Support is not a sovereign remedy for stress, and there is no reason to think that it is unique in its antidotal effects.

We propose three variables that deserve investigation as stress–strain antidotes in organizational life—*prediction*, *understanding*, and *control*. We hypothesize, for example, that a stress of a given type and magnitude will create less strain in an individual when he or she can predict the time of its onset, its magnitude, and its duration. We would also expect that an understanding of the stress—that is, having some knowledge of its causes, origins, and pathways—will have effects similar to, yet independent of, its predictability. Finally, we expect that control by the stressed individual—for example, control over the timing of the stress—will have both main effects (stress reduction, strain reduction) and interaction effects (reduction of the stress–strain relationships).

The triad of prediction, understanding, and control is of course not new to research workers. These concepts are the alleged and reiterated aims of research itself, of science. It is not unreasonable, we believe, to propose that the goals and motives of men and women everywhere, as they try to make sense of their world and anticipate its opportunities and hazards, are like those of scientists in these important respects. Scientists and other citizens engage in tasks of some underlying similarity, although differences in conceptual language, apparatus, and modes of investigation usually conceal the commonalities. And, of course, scientists and nonscientists share the unavoidable human limitation of bounded rationality in their efforts to predict, explain, and control their world.

In the remainder of this chapter we review the wide-ranging research literature that encourages us to consider prediction, understanding, and control as hypothetical antidotes to stress in organizational settings; we present a model for the relationship of

these antidotes to stress and strain; and we discuss the implications of this model for organizational theory and research.

Prediction

Prediction is the ability to forecast the frequency, timing, duration, and quality of events in one's environment. The main effects of the *lack* of predictability at work are well established in the literature on role ambiguity. (See Kahn, 1974; Katz & Kahn, 1978, Chapter 17; or Pearce, 1981, for reviews.) Pearce (1981) observes that most studies of role ambiguity (Ivancevich & Donnelly, 1974; Lyons, 1971; Rizzo, House, & Lirtzman, 1970) operationalize the concept as a generalized information deficiency rather than as the unpredictability of specific events. However, some rigorous research (e.g., Caplan, 1971; Caplan, Cobb, French, Harrison, & Pinneau, 1975; Beehr, 1976) has employed measures of role ambiguity that emphasize the unpredictability component.

This research on the lack of prediction has uncovered potent main effects on behavioral, psychological, and physiological strain. Of particular interest is Caplan's (1971) finding that the frequency of unscheduled work interruptions is related to such strains as elevated heart rate and serum cholesterol level. Unpredictable events tend to disrupt organized response sequences, and such disruption has been described as stressful to all organisms (Mandler & Watson, 1966).

While the association of unpredictability and strain has been fairly well documented in cross-sectional research on organizations, the potential of predictability as an antidote to job stress has not been demonstrated experimentally in organizational settings. Data from laboratory research, however, suggest that the ability to forecast the frequency, timing, and qualities of a stressor reduce its negative impact considerably. Seligman's (1975) experimental work on predictability and unpredictability has been especially influential. He presents the signal/safety hypothesis: when a stressful event can be predicted, the absence of the stressful event can also be predicted. Thus, the person knows when he or she can relax, and need not be in a constant state of vigilance or anxiety. As an example of the signal/safety phenomenon, Seligman cites the function of air raid sirens during the bombing of London in World War II. The air raid sirens worked so well as a signal that people could go about their business without immediate fear (i.e., in safety) a large percentage of the time; vigilance and protective action were required only when the sirens sounded.

Empirical support for the signal/safety hypothesis is provided by

a number of laboratory studies with animals (Seligman, 1968; Weiss & Strongman, 1969; Seligman & Meyer, 1970; Byrum & Jackson, 1971) and with humans (Glass & Singer, 1972; Price & Geer, 1972; Staub & Kellet, 1972). The set-up of these experiments varied, but a common arrangement in the animal research involved the delivery of electrical shocks at irregular intervals through a metal grid or floor and, for a random subset of the animals, the use of a buzzer or light as a warning signal just prior to the shock. In all these experiments, aversive stimuli were found to have weaker negative impact on subjects, both animal and human, that were able to predict the onset, duration, magnitude, or nature of the stress. This research appears to have profound implications for stress at work.

Job stressors that cannot be predicted may, by definition, appear at any time. According to the signal/safety hypothesis, this fact implies a constant state of anxiety since the person never receives a "signal" that he or she is safe, even for a short period of time. Such unpredictability, however, requires further specification. Any aspect of a stimulus may be unpredictable—its nature or quality, its time of onset, its strength or magnitude, its duration, and the like. Seligman emphasizes timing and strength. If both are predictable, persons at risk can relax most of the time and marshall their resources appropriately when required. The strain of continual vigilance or inappropriate mobilization is obviated.

Organizational researchers have not attempted to test the signal/safety hypothesis explicitly in any of its aspects. Nevertheless, some organizational research can be interpreted as supporting the proposition that predictable job-related stressors are less threatening than unpredictable stressors. Studies of organizational socialization (Van Maanen, 1976; Schein, 1978) indicate that the frustration and anxiety of new members are related to the gap between their initial expectations about the job and the actual attributes of the new role. In other words, lack of ability to forecast events increases the stress associated with a life change that is already threatening for most people—entry into a new social system. Perhaps this is one of the reasons that realistic job previews appear to reduce turnover among new employees (Ilgen & Seely, 1974; Wanous, 1973).

Indirect evidence for the value of predictability as an antidote is also found in research on job transfers. Brett (1980) has conducted an excellent review of the literature on job transfer. She reports that, as one would expect, transfers are more disruptive when the new job and work environment are dissimilar to the old. Brett suggests that disruption may be greater because dissimilarity implies

lack of knowledge about behavior–outcome contingencies in the new setting. In other words, unpredictable stimuli (both threatening and benign) are more stressful than predictable stimuli.

Understanding

Understanding, in this context, is knowledge about the causes of significant events in the workplace. If predictability involves questions of *what* and *when* with respect to stimulus events, understanding involves questions of *how* and *why*. Little organizational research has been conducted directly on understanding. Studies that explore opportunities for learning on the job (Rousseau, 1978), task identity and feedback (Hackman and Oldham, 1975), and social support as information from others (Caplan et al., 1975) are relevant, however. Information from co-workers and from task performance itself may increase knowledge about the causes of events at work. For instance, the positive relationships observed between feedback and job satisfaction (Hackman & Lawler, 1971; Hackman & Oldham, 1975) may involve understanding as an unmeasured intervening variable. This is a testable, but as yet untested, hypothesis.

Until such hypotheses on the antidotal effects of understanding are tested in organizational settings, the arguments in favor of the understanding concept must come from other sources. Three are of particular relevance: (1) the conceptual distinction between prediction and understanding as it has been made in other fields; (2) the substantial body of research that implies a human need to understand; and (3) the suggestion in some laboratory research that understanding and prediction have different empirical consequences even for animals.

The conceptual distinction between prediction and understanding. This distinction is explicit in our definitions; it is the difference between knowledge of the timing, duration, magnitude, and quality of a future stimulus on the one hand and, on the other, knowledge of its causes and the mechanisms by which it acts. The distinction is familiar to research workers, who often find that they can predict an outcome but cannot specify the pathways or mechanisms by which it is produced. In medicine, for example, the pain-relieving effect of aspirin and the contraceptive effect of intrauterine devices are established beyond doubt, but research biochemists and physiologists are not yet able to specify fully the pathway or sequence of physiological events by which either of these effects is created. They say, and we concur, that in these cases prediction exceeds understanding and that the two are distinct.

The human need to understand. The postulation of universal human needs by theorists has been more productive of long lists than good theory; nevertheless, the assumption of a motive to understand significant aspects of one's environment underlies a great deal of research and practice. The "Aha!" experience of Gestalt psychology, which refers to the momentary feeling that accompanies the recognition of a pattern or the sudden grasping of the solution to a problem, implies a drive to understand and a release of tension when understanding is attained (Kohler, 1929). Another example comes from psychoanalytic theory and practice, which involve the assumption that understanding of (insight into) the causes of one's own behavior is both a necessary step in altering it and is in itself relieving of neurotic symptoms (Dollard & Miller, 1950). In social psychology, the tendency of human beings to create causal explanations, even from the most meager perceptual cues, was demonstrated in Heider's (1958) classic experiments. More recently, cognitive social psychology has become the dominant subfield of that discipline, and the attribution of cause under conditions of uncertainty is a central issue in cognitive psychology.

For example, experimental subjects who are required to make predictions under conditions of uncertainty, drawing on data provided by the experimenter, rely most on those facts that enable them to make causal attributions (Nisbett & Ross, 1980; Ajzen, 1977; Tversky & Kahneman, 1980). So powerful is the propensity to seek causal explanations that the experimental subjects tend to neglect information that would enhance their predictions but would not contribute to their implicit theories about the causes of events.

Research with animals. Finally, some research with animals also suggests that understanding is empirically distinct from prediction. Animals that have been trained to work for food by pressing a lever show adverse physiological reactions (elevated plasma corticoids) when reinforcement contingencies are changed so that regular lever pressing no longer produces food (Coover, Goldman, & Levine, 1978). This is interpreted by Levine (1982) as an effect of unpredictability rather than deprivation, since the animals continue to be fed regularly. However, in a variation of this experiment, in which the lever itself was removed, the animals did not show the same adverse physiological responses. Kahn (1981a) suggests that in the latter case the animals were able to "understand" the situation; they observed that the food-producing lever had been removed. This research implies that understanding the cause of a stress may serve as an antidote independent of control or prediction.

Control

Our concept of control in organizational settings is straightforward; it consists of a dependent relationship between the behavior of an organizational member and the subsequent occurrence of outcomes in the work environment desired by that member. Control is thus the exercise of effective influence over events, things, and persons. Its opposite, as Seligman's (1975) work makes clear, is helplessness.

The importance of control over one's immediate environment is a persistent theme in the behavioral sciences. Adler stated in 1930 that the need to control one's relevant environment is "an intrinsic necessity of life itself" (cited in Langer & Rodin, 1976, p. 398). In more recent years, Seligman's (1975) work on learned helplessness in animals and humans, Rotter's (1966) research on locus of control, Lazarus' investigations of "direct action" in coping with stress (Lazarus, 1966; Lazarus & Launier, 1978), and Bandura's (1977) experiments on self-efficacy all emphasize that dependence between behavioral responses and preferred outcomes in one's environment has important consequences for well-being.

Such dependence is also a persistent theme in the literature of occupational stress, although the label "personal control" is rarely used. Writings on participation in decision making (Alutto & Belasco, 1972; Caplan et al., 1975), autonomy (Hackman & Lawler, 1971; Hackman & Oldham, 1975), authority (Kay, 1974), power (Kahn et al., 1964), and alienation (Blauner, 1964; Seeman, 1972) focus on the relationships among organizational properties, individual behavior, and desired outcomes in the work environment.

Additional evidence that links control with well-being, at least by implication, comes from research that demonstrates the negative consequences of lack of control. Laboratory research on learned helplessness suggests that independence between outcomes and responses may directly reduce motivation (Thornton & Jacobs, 1971), interfere with cognitive processes (Kemler & Shepp, 1971), and lead to emotional disturbances such as depression (Roth & Kubel, cited in Seligman, 1975).

The link between lack of control and poor mental and physical health is also visible in the job stress literature. Caplan et al. (1975) found substantial relationships between lack of participation in decision making, boredom, and job dissatisfaction. These latter variables predicted in turn to anxiety, depression, and somatic complaints. Similar patterns are found in research on lack of autonomy (Hackman & Oldham, 1975) and on alienation (Blauner, 1964).

The persistence of such "control effects" and their diffusion across different life roles have yet to be fully explored. Most of the relevant field studies are cross-sectional, attempt to assess chronic conditions of control or its absence, and do not measure off-the-job consequences. Nor have the field studies made explicit the pathways through which control has its effects.

Many such paths are possible. For example, the perception of control may cause an individual to construe an aversive event as less threatening, independent of any main effects of control on strain. A number of experiments indicate that subjects with control over an aversive stimulus are more likely to tolerate higher levels of that stimulus than subjects who do not have control. Experiments of this type have been conducted with stimuli such as shock (Bowers, 1968), cold pressor pain (Kanfer & Seidner, 1973), and noise (Glass, Singer, & Friedman, 1969). In fact, Thompson (1981) reports that perceived control has been consistently linked to tolerance for aversive stimuli, although not to arousal at impact of the stimulus and not to perceived pain caused by the stimulus.

Most laboratory experiments on control do not measure postexperimental behaviors. Some experimenters (Glass & Singer, 1972; Mills & Krantz, 1979), however, have done so. They report that lack of control has a negative impact on the performance of tasks attempted *after* the experiment has been completed. Seligman (1975) would interpret these findings as short-term examples of learned helplessness. Thus, both laboratory research on general stress and field research on organizational stress suggest that control has potent main effects on well-being. Some studies indicate that control can also reduce strain through indirect mechanisms as well.

A field experiment by Langer and Rodin (1976) provides evidence both for the indirect effects of personal control on well-being and for the complex paths by which such benefits are attained. Members of the experimental group in the Langer-Rodin study of nursing home patients attended a "pep talk" that encouraged them to take greater control over their lives. They were then asked to care for a house plant that was placed in their room, and to choose which night they would attend movies shown by the nursing home staff. Members of the control group attended a lecture emphasizing all the things the staff could do to help them. They were told that the plants in their rooms would be cared for by the staff, and were also told on which nights they were to attend the movies.

The results of this seemingly modest experimental intervention were impressive, although the numbers were small. Members of

the experimental group chose to participate in more recreational activities and expressed more positive attitudes towards life in general. Moreover, an 18-month follow-up by Rodin and Langer (1977) indicated that a lower percentage of patients in the experimental group had died during the intervening period. We assume that control over mundane matters in life, such as which night to watch the movie or when to water the plant, do not have powerful main effects on stress. The other demands and constraints of nursing home routine were not directly affected by the experimental manipulation. The Langer-Rodin findings tell us not that these threats to well-being were eliminated but that they had fewer negative effects on members of the experimental group. The relationship between these stresses and the consequent strains (negative attitudes and mortality) was reduced or buffered by the experimental intervention.

Both the direct stimulus-modifying effects of control on stress and the indirect moderating effects of control on the stress–strain relationship have been well demonstrated in organizational settings. Pasmore and Friedlander (1982) describe a field experiment in which the immediate effects of increased employee control appear to have been what Averill (1973) called stimulus modification, that is, the direct elimination or reduction of stressful stimuli.

This action-research project addressed a recalcitrant problem of high on-the-job injury rates by increasing the level of employee participation. A representative group composed of five workers, two supervisors, and the manager of employee relations was chosen to work on the problem. This group and the action research team together conducted interviews and designed a questionnaire to identify causes and possible solutions, as seen by the workers themselves. The questionnaire data were then used to develop a list of suggestions for reducing injuries at work. After some resistance from management, many of these suggestions were implemented. In some cases they addressed the causes of injuries directly, by altering or adjusting mechanical equipment. In areas where injuries had been most frequent, methods-redesign groups of managers and employees were established to develop additional proposals. The results were dramatic. The number of injuries in the plant dropped from almost 80 during the first year of the intervention to less than 10 during the fourth year following the change effort. While other factors, including a change in management, may have influenced these data, they are suggestive of the power of stimulus modification. It appears that, as they acquired increased control, employees drastically reduced on-the-job injuries by the design and implementation of changes that had a direct impact on physical threats to

their well-being.

Karasek's (1979) excellent study of employees in Sweden and the United States suggests that control may also be a potent modifier of the stress–strain relationship. This study was based on national survey data from both countries. A primary finding was that employees who had heavy job demands (measured as role overload and conflict) suffered mental strain when they had *low* decision latitude. In contrast, Karasek reported that the relationship between heavy job demands and strain was not present among those employees who had *high* decision latitude. Decision latitude was operationalized as the amount of potential control an organization member had over his or her tasks and conduct throughout the working day.

There are at least two possible reasons that control attenuated the stress–strain relationship for these respondents. First, as in the nursing home study, the ability to control relevant aspects of the environment may have changed the meaning of certain stressors that could not be eliminated. To illustrate, employees who have both high levels of control and high levels of role overload (measured in terms of hours worked) may suffer less mental strain than similarly overloaded workers without such control because the high-control workers feel that working 60 hours a week is their own choice, or at least that they had some input in the decision. In contrast, employees compelled to labor 60 hours may suffer mental strain because the workload is inconsistent with their wishes, quite apart from the fatiguing effect of the overtime itself.

Second, employees with higher levels of control in the Karasek study may have been able to alter when and in what way the stressors were received. This kind of control corresponds to Averill's (1973) concept of regulated administration—that is, regulated by the subject. Averill's review of laboratory research with animals and humans suggests that regulated administration independently reduces the negative impact of stress. Although it is impossible to reduce the level of some stressors, control may enable a person to regulate where, when, and in what way the stress is encountered. The overloaded employee with a high level of control may choose to work 16 hours one day and 8 hours the next. The overloaded employee with a low level of control may be forced to work 12 hours each day. The ability to regulate when the overload occurs increases both the predictability of the stressor and the dependence between the member's preferences and outcomes in his or her relevant environment.

The virtues of regulated administration can also be inferred from the small body of literature on flexitime (Elbing, Gadon, &

Gordon, 1974; Golembiewski, Hilles, & Kagno, 1974; Walker, Fletcher, & McLeod, 1975; Hicks & Klimoski, 1981). Research on this topic implies that dull and repetitive jobs create less subjective stress and strain when workers can control the days and hours that they work. This research involves no differences in total work demand. An essential attribute of flexitime is that the number of hours worked (i.e., the overall level of the stressor) remains constant; only the worker's power to regulate when the stimuli are received is altered.

Prediction, Understanding, and Control

In sum, our central assertion is that less strain will be suffered by organization members who can forecast the type and frequency of a stressor, who know the causes and mechanisms of that stressor, and who can produce responses to change significant aspects of that stressor. The cognitive limits of the human species restrict the degree to which any organization member can predict, understand, and control job-related threats to his or her well-being. Yet these three elements are variables rather than constants. As they increase, so does the success of organization members in interpreting, avoiding, and mastering stressors in their work environment.

The specific ways in which prediction, control, and understanding may serve as antidotes to occupational stress are shown in Figure 13.1. This figure builds on the ISR model of social-environmental determinants of health (French & Kahn, 1962; Katz & Kahn, 1978) and on the model of the relationships among occupational stress, social support, and health proposed by LaRocco et al. (1980). We propose that objective organizational (work) stress leads to subjective stress (link a), which in turn leads to strain (link b). Strain is any aversive behavioral, psychological, or physiological response by a person. For instance, a person whose daily hours of work have been increased from 8 to 12 (an objective stress) may report role overload (a subjective stress). This subjective role overload may lead to strains such as excessive smoking (a behavioral response), depression (a psychological response), or elevated blood pressure (a physiological response). The figure also indicates that some forms of objective work stress can lead directly to strain (link c). For example, the presence of lead particles in the work environment (an objective stressor) may cause a wide range of adverse physiological conditions independent of the worker's perceptions (Ledford, 1981). The relationships among objective stress, subjective stress, and strain are firmly established in the literature on

work and health. (For reviews, see Cooper & Marshall, 1978; Katz & Kahn, 1978, Chapter 17; and Schuler, 1980.)

The primary emphasis in the above discussion has been on the links that are numbered 1–5 in Figure 13.1. We have proposed a variety of different ways in which prediction, understanding, and control can serve as antidotes to job stress. As mentioned above, control over a stressor can reduce such objective stress directly (link 1). Further, it appears that all three of these antidotes can weaken the relationship between objective stress and subjective stress (link 2), reduce subjective work stress directly (link 3), and weaken the relationship between subjective stress and strain (link 4). In addition to these first four links, a wide-ranging set of empirical research studies suggests that prediction, understanding, and control have main effects upon strains (link 5).

Discussion

Our basic proposition is that prediction, understanding, and control in work settings act as buffers or antidotes to stress, both by directly reducing certain stressful aspects of work and by weakening the complex relationship between such stressors and the resulting physiological and psychological strains. The application of this proposition involves two major assumptions: first, that jobs and organizations can be modified to provide their members with increased ability to predict, understand, and control significant aspects of their immediate work environment; and second, that people want such increases. There are, of course, subsidiary assumptions—for example, that organizations can increase the predictability, understandability, and controllability of jobs without incurring unacceptable costs; and that most people not only want such increases but are able to handle them appropriately. Whether these assumptions are justified remains to be discovered, but discovery is possible; the assumptions are testable.

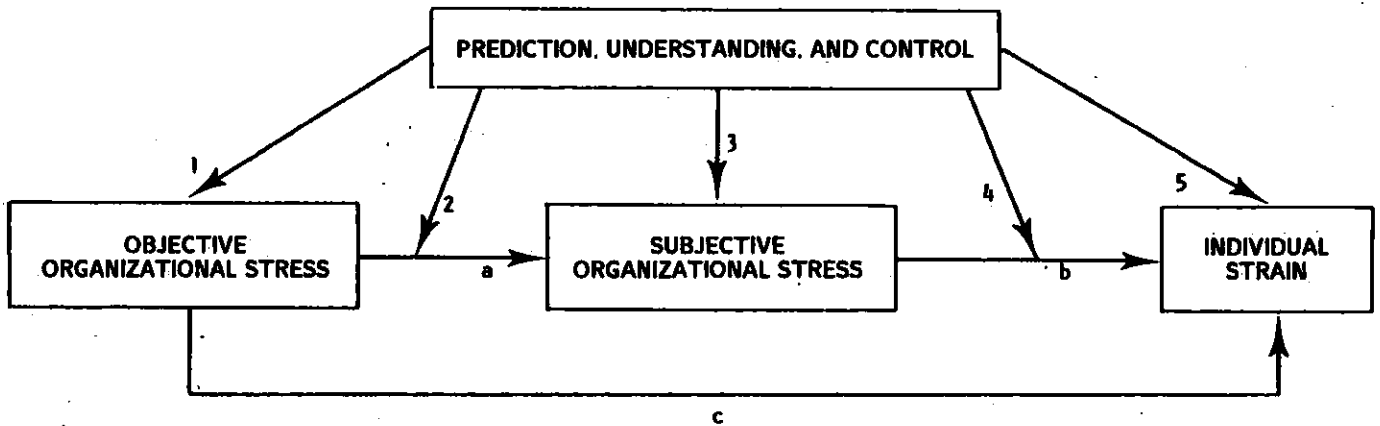
In emphasizing the potentialities of stress reduction through the design or redesign of jobs and organizations, we are urging a line of research and application that is different from and complementary to the thrust of most current investigations. Researchers and proponents of meditation, diet, exercise, and other diverse regimens have in common an emphasis on the individual and his or her vulnerability to life's stressful events, at work and elsewhere. They offer advice and activity patterns that are intended to increase the individual's ability to endure such stressful events without damage or decrements in performance.

Specialists in personality measurement and personnel selection

Figure 13.1

FIVE PATHWAYS BY WHICH PREDICTION, UNDERSTANDING, AND CONTROL SERVE AS ANTIDOTES TO ORGANIZATIONAL STRESS

(Based on French & Kahn, 1962; Katz & Kahn, 1978; and LaRocco, House, & French, 1980)



are similarly individualistic in their orientation; they are trying to see to it that, to paraphrase Harry Truman's too-often-quoted dictum, those who can't stand the heat are kept out of the organizational kitchen. And conventional programs of counseling and psychotherapy, insofar as they address organizational impacts on individual behavior and well-being at all, concentrate on increasing individual resilience and resistance to job-imposed stress. These individualistic approaches to organizational stress bear about the same relationship to our approach as individual medicine does to public health. For the most part, they are remedial rather than preventive, and they are expensive. The difference between the two approaches, individual and organizational, is well illustrated by two recent field experiments. In one (Ganster, Mayes, Sime, & Tharp, 1982), employees of a public agency were involved in an eight-week training program designed to help them recognize and alter their cognitive interpretations of stressful stimuli; results were favorable in direction but modest in magnitude. Attempts at replication were unsuccessful, and the authors do not recommend that such programs of stress management should be adopted.

The Ganster et al. experiment can be compared with that of Pasmore and Friedlander (1982), in which the injury rate was dramatically reduced by a series of employee-initiated changes in methods, equipment, and the like. This experiment in participative decision making and hazard reduction is the more impressive because it was preceded by unsuccessful attempts to achieve similar results by making individuals more "safety conscious." Both for its impact on employee well-being and for its cost-effectiveness, the reduction of stressful elements in the work setting through increased employee control was preferable to the attempt to increase the employees' tolerance level for stress at work.

We suspect that this would often be the case, and that the preference ordering for dealing with organizationally induced stressors should begin with the reduction of the stressors themselves, proceed to the introduction of moderating factors, and only then consider the difficult and costly effort to increase individual tolerance for stress. It is a preference ordering that we propose not only for practitioners but for research colleagues as well. The current concentration on individual stress tolerance creates a tendency in both groups to treat stressors as constant or irreducible even where their modification is possible.

For those of our colleagues who find this argument plausible, the search for organizational stress-moderators a challenge, and the triad of prediction, understanding, and control intriguing, we offer four researchable questions: (1) What are the relationships among

the proposed antidotes—prediction, understanding, and control? (2) What is the relationship between social support and these three antidotes? (3) What is the relationship between these variables and the explication of stress in terms of episodes (stressful life events)? (4) How do individual differences enter into our approach to stress, strain, and antidotes?

1. What are the relationships among the three antidotes? We have discussed separately the stress- and strain-reducing properties of prediction, understanding, and control. The relationships among them, however, are relevant for a comprehensive theory of stress and for organizational practice. Competing hypotheses about these relationships are easily proposed. One hypothesis is that in organizational life as in science, prediction and understanding and control constitute a continuum of increasing power. Control, according to this view, incorporates prediction and understanding. By controlling a stress or a stress–strain relationship, we show that we understand it. As for prediction, by definition a stress or a stress–strain sequence that we control occurs only when we permit it.

An alternative hypothesis about the relationship among the proposed antidotes accepts control as the most potent of the three but does not rank the other two. Understanding may lead to and may be tested by prediction, but prediction may stimulate the kind of speculation that leads to understanding. Still another possibility is that the three stress antidotes are to some extent interchangeable, so far as their stress-reducing effects are concerned. If so, we would expect the three to share a common antidotal effect and each to have an additional unique effect of its own.

It is likely, of course, that none of these hypotheses will hold without qualification, and that the effectiveness of a given antidote will be contingent on properties of the specific stress–strain sequence under consideration. For example, if Malkiel (1973) is correct in his assertion that investing in the stock market constitutes a "random walk," efforts at prediction and control will be useless. Understanding the chance nature of the enterprise, however, might nevertheless provide some relief from strain.

Our main point here, however, is not the relative plausibility of these alternative hypotheses; it is the importance of determining the degree of independence, the substitutability, and the relationship under varying conditions of the three stress-reducing variables—prediction, understanding, and control. These are research tasks.

2. What is the relationship between social support and the other three antidotes (prediction, understanding, and control)? To the extent that social support is defined as the expression of positive inter-

personal affect—direct expression of fondness, liking, love, or esteem to another person—its relationship to the other stress antidotes is a matter for empirical determination. To the extent that social support is defined more broadly, and it often is, its relationship to prediction, understanding, and control becomes in part a definitional issue.

For example, House (1981) includes in his definition a form of support that he calls informational, and that includes advice, suggestions, directives, and relevant factual material. If the information is accurate and appropriate to the problem at hand, one would expect it to increase the ability of the receiver to predict and understand the confronting stressors. Information can also increase control, especially when the information describes strategies that have been controlling in similar situations. House also describes a class of supportive behaviors that he calls instrumental, and that involve direct assistance in effort, material, or money. The seeming intent of such actions is to increase the recipient's control over his or her immediate situation.

Assuming that informational and instrumental support indeed operate in these ways, either of two interpretations seems appropriate. One can say that these kinds of support reduce strain because they make the situation more predictable, understandable, and controllable. Or one can say that prediction, understanding, and control are actually forms of social support. They may thus provide a basis for classifying several kinds of supportive acts. Both views imply a more proactive model of stress management than is usual in the literature of social support, much of which treats support as alleviating strain without affecting the external stresses that cause it.

3. What is the relationship between these three antidotal variables (prediction, understanding, and control) and the episodic approach to stress? Our discussion of stress and stress antidotes has been cast in variable language. We agree with Lazarus (Lazarus, 1966; Lazarus & Launier, 1978), however, that stress occurs through a series of transactions or episodes between the individual and the immediate environment, and we believe that the reduction of stress and strain occurs in similar fashion. Prediction, understanding, and control as variables are useful summaries of specific transactions between an individual and others in his or her environment. When we say, for example, that a person has a great deal of control over his or her workload, that statement is reducible to a specific set of transactions in which that person's behavior and certain outcomes (reduced workload, altered pacing, or the like) are linked.

The fact that measures of stress and of stress antidotes ul-

timately reduce to transactional episodes reminds us of an additional issue that requires theoretical and empirical attention—the gross differences in the importance of different episodes. To be told, for example, that one may be laid off for a month is a work-related stress; to be told that one may be dismissed is a much greater stress, although both pose problems of uncertainty and possible loss. If these episodes are combined in a single count of "uncertainty episodes," such distinctions of importance and magnitude are lost. One can, of course, assign weights to different episodes, according to the magnitude of the stress that they involve. The more general point is that the language of variables, for all its convenience and quantitative advantage, has its costs. As abstractions from episodes, variables are a form of data reduction, and the more different and complex the episodes, the more drastic the data reduction.

4. What is the role of individual differences in the stress framework that we have proposed? The core proposition in our model is that work-imposed stresses cause individual strains. We have proposed that three additional attributes of the work setting (the predictability, understanding, and controllability of the stress) act in several ways to reduce such strains. Almost nothing has been said about individual differences, although different people of course respond differently to most stresses. Our model could be elaborated to take account of such differences.

If that were to be done, we would propose beginning with personality variables that are linked theoretically to the three stress antidotes—prediction, understanding, and control. For example, research on the distinction between Type A and Type B personalities (Chesney & Rosenman, 1980) indicates that people who are Type A's—competitive, often hostile and aggressive, and oppressed by the urgency of time—have a greater need for control than do Type B's (usually operationalized simply as people who are not Type A). We would predict, therefore, that lack of control would create more strain for a Type A than for a Type B person, and that the antidotal effect of increased control would be greater for the Type A's.

Similar predictions can be made involving other measures of the need for control. Rotter's (1966) work on locus of control would be especially interesting because it suggests two conflicting hypotheses. Rotter measures locus of control on an internal–external scale in terms of questions about the extent to which an individual believes that people have control over major aspects of their lives (internal locus of control) vs. believing that people's lives are largely shaped by external forces (external locus of control). If one interprets

responses to such questions as direct measures of an individual's *need* for control, then the "internals" on Rotter's scale should respond like the Type A's in Rosenman's categories. If, on the other hand, one interprets the internal control response as a *defense* mechanism, Rotter's "internals" will try to relieve the strain from low-control jobs by distorting the objective properties of those jobs.

Understanding and prediction could be treated in analogous fashion. Tolerance for ambiguity, for example (Kahn et al., 1964), is a personality attribute that would enter into an elaborated form of our model. Organization members with a low tolerance for ambiguity would be hypothesized to suffer more strain from unpredictable stresses than members with a high tolerance for ambiguity. The research task is to discover which enduring characteristics of individuals should be incorporated into the subsequent development of the prediction–understanding–control framework.

Conclusion

In this paper we have reaffirmed the relevance of stress research for organizational theory, acknowledged the importance of social support as a "buffer" or partial antidote to stress, and proposed the investigation in organizational settings of three other hypothesized antidotes—prediction, understanding, and control.

We have not proposed that these are perfect antidotes, that is, that they work in all circumstances, for all individuals, and for all amounts of stress. On the contrary, their effectiveness is likely to vary, depending on the nature of the stress and the personality of the individual. Moreover, it is likely that, as with other good things, one can get too much of prediction, understanding, and control in one's life. We do not assert that these variables reduce stress in linear fashion, but rather that their stress-reducing properties in organizational life deserve exploration. A further proposal is that the theoretical and empirical search for stress antidotes be extended. Prediction, understanding, and control do not exhaust the set of antidotes. We wish to stimulate the search, not end it.

Finally, we have used examples and cited research that suggest the importance of stress-antidotes for organizational practice as well as theory. Their introduction into organizational life should be a task for the designers and managers of organizations. Prospective attention to stress antidotes becomes especially important during a period of rapid technological change, such as computer-assisted and computer-directed equipment is now introducing in offices as well as factories. The extent to which working life is predictable, understandable, and controllable is in part the result of technological

design, and these properties can be made criteria for the design of technology as well as for the social aspects of organizations.

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Angus Campbell: His Career and Major Books*

Angus Campbell, a founder and long-time Director of the Survey Research Center and subsequent Director of the Institute for Social Research, died suddenly on December 15, 1980. Although he had stepped down from his role as Director in 1976 and was entering a nominal retirement, he had remained a vigorous member of the Institute. His last book, *The Sense of Well-Being in America*, had just been published a few weeks before his death.

Angus Campbell was born August 10, 1910, in Leiters, Indiana and grew up in Portland, Oregon. He entered the University of Oregon in 1927 and received his B.A. and M.A. in psychology from that institution in 1931 and 1932.

He transferred to Stanford University in the fall of 1932, and there encountered Kurt Lewin, who was a visiting professor in the Psychology Department. Campbell attended Lewin's classes and established a friendship which lasted throughout Lewin's life. Lewin became one of the major contributors to Campbell's education as a psychologist.

In 1934, Campbell began to work with Ernest R. Hilgard, who had just come to Stanford as a professor of experimental psychology. Campbell completed his doctorate in 1936 and accepted a position as an instructor in the Department of Psychology at Northwestern University where he taught social psychology, which rapidly became his major teaching responsibility.

In 1939 Campbell received a post-doctoral fellowship for a year's study in the Department of Anthropology at Cambridge University in England. The onset of World War II brought an early end to his stay at Cambridge, and he spent the rest of the year in the Virgin Islands, conducting a field study of the black population of St. Thomas. Early in 1942 he moved to Washington to join the staff of social scientists that Rensis Likert was assembling at the Department of Agriculture's Division of Program Surveys to provide information to federal agencies concerning social and economic problems. At the end of the war, in 1946, he and a small group left government for The University of Michigan where they established the Survey Research Center. When the Research Center for Group

Dynamics joined the Survey Research Center in 1948, the two centers formed the Institute for Social Research.

In the subsequent three decades, Angus Campbell ably and vigorously pursued what for many would be two full careers—one as a skilled research administrator, the other as a scholar of international distinction. During the first quarter-century of the Institute's life, while Rensis Likert was Director of the Institute, Campbell served as Director of its founding unit, the Survey Research Center. After Likert's retirement in 1970, Campbell succeeded to the position of ISR Director, which he held until 1976.

But Campbell was not merely a gifted administrator. While he was central in crafting an organization that encouraged inquiry in many areas of social research, he himself remained at the intellectual forefront.

He, with his colleagues, initiated studies of the political processes in 1948 and these led to the founding of the Center for Political Studies, the third center in the Institute for Social Research. A series of monographs culminated in *The American Voter* (1960) by Campbell, Converse, Miller, and Stokes.

Early in the 1960s Campbell began to turn his attention from political behavior to thoughts of constructing a portfolio of measurements of many different features of the life of the American population, monitored for signs of change over time in the same vein that the election studies followed the attitudes of voters. He had become particularly interested in the possibility of examining the sense of fulfillment or well-being that Americans experienced from various aspects of their everyday lives.

In 1967, at the request of the National Commission on Civil Disorders, Campbell collaborated in carrying out a study of race problems in 15 major American cities, some of which had experienced severe disturbances in the previous summer. Campbell's interest in monitoring trends in racial attitudes continued throughout his career.

Campbell's later years of research were primarily concerned with finding ways to conceptualize and measure the psychological quality of American life. In a series of collaborative undertakings, he co-edited a volume on the human meaning of social change, designed and implemented a 1971 national survey of Americans' life quality perceptions, and carried out a second national survey on this topic in 1978. Results of the 1971 survey were reported in *The Quality of American Life* (co-authored with Philip Converse and Willard Rodgers). Campbell's last book, *The Sense of Well-Being in America*, brought together data from the 1978 survey with information from a number of other surveys conducted by Campbell or

others at the Institute for Social Research.

The collegial recognition of Campbell's work and his status in the research community is well reflected by the long list of honors that he received. In 1961, he was elected to the American Academy of Arts and Sciences. In 1962, he received the Distinguished Achievement Award of the American Association for Public Opinion Research. The University of Michigan gave him its Distinguished Faculty Award in 1969. In 1970, he was granted an honorary degree of Doctor of Letters by the University of Strathclyde in Glasgow, Scotland. The American Psychological Association recognized his lifetime of scholarship with its Distinguished Scientific Contribution Award in 1974, and in 1977 the Council for Applied Social Research gave him its Lazarsfeld Award. In 1979, he presented the Distinguished Senior Faculty Lecture Series at The University of Michigan, using materials from his work on the quality of life. In 1980 the International Society of Political Psychology honored him with its Lasswell Award, and he won election to the National Academy of Sciences.

Note

*Adapted from an article by Robert L. Kahn in the *ISR Newsletter* (Summer, 1981), and from an autobiography by Campbell that appeared in the *American Psychologist* (January, 1975).

Angus Campbell's Major Books

The Voter Decides (with G. Gurin and W. E. Miller). Evanston, IL: Row Peterson, 1954.

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