

Age and Satisfaction

Data from Several Large Surveys

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The authors studied the relationship between age and variables measuring satisfactions with specific domains of life as well as global satisfaction and happiness. Data from several large, mostly national, surveys of American adults were utilized. The results showed an increase in satisfaction with housing, community, work, and, somewhat less consistently, with finances/income, standard of living, and leisure/spare time. The increase was less clear for family, marriage, friends, and global well-being. Various explanations for the relationship were tested by multiple regression procedures, using two national surveys. Higher religiosity of the aged, increased desire to respond in a socially acceptable manner, and a lessening of change in life conditions appear to contribute to higher satisfaction. Although these factors individually represent only partial explanations, a combination of them accounts for a substantial part of the relationship. On the other hand, certain aspects of older people's lives are actually worse and, as such, suppress an even more substantial association between age and satisfactions.

It is part of our popular wisdom that the later years are not the best part of life. When asked to choose the best life stage, only a very small portion of an adult cross section opts for the later years, while a considerable minority terms the later years actually

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the worst (Harris et al., 1976). These views are largely shared by the aged respondents themselves.

On the other hand, when adults are asked to evaluate their own lives, a different pattern of findings emerges. The general tendency seems to be for older respondents to report higher satisfaction than do middle-aged or young respondents. This finding has been reported in different research areas. In the area of occupational psychology a strong relationship between age and work satisfaction has been documented by Quinn et al. (1974) for eight national surveys, and has been investigated by various authors (Gibson and Klein, 1970; Glenn et al., 1977; Hunt and Saul, 1975; Schwab and Heneman, 1977). In research on marriage and the family, marital satisfaction has been charted across the family life cycle and thereby indirectly across age. The relationship is often reported as curvilinear—a decline in satisfaction over the first few years of the family life cycle followed by a gradual upswing in the later stages—although the evidence is not entirely consistent (Gilford and Bengtson, 1979; Rollins and Cannon, 1974; Rollins and Feldman, 1970; Schram, 1979; Spanier et al., 1975).

Recently, measures of satisfaction with life and its various facets were developed as part of the efforts to design social indicators of the subjective quality of life, and were included in several large national surveys (Andrews and Withey, 1976; Bradburn, 1969; Campbell et al., 1976). Campbell et al., (1976) examined satisfactions with various facets of life by age. They found fairly linear age-related increases in satisfaction in almost all areas (such as housing, community, nonwork activities, and savings) and even with life in general; only with regard to health and happiness did they find an actual decrease. In fact, they were so impressed with this increase in satisfaction across a variety of life domains that they postulated it to be a general phenomenon. Other research, however, examined sex differences and noted that the increase in satisfaction was not as clear for women as for men (e.g., Spreitzer and Snyder 1974; Schwab and Heneman, 1977).

This article is designed to assess the generality of an age-related increase in satisfaction by means of replications across a diversity of life domains and across several nationwide, cross-sectional

surveys. Although differences in response scales and in question wordings prohibit the strict comparison of results, successful replications under these slightly varying conditions would demonstrate all the more clearly that the phenomenon is generalizable (Kerlinger and Pedhazur, 1973). A priori, no conceptual distinctions between measures of happiness and satisfaction and between different response scales are postulated. Since the various measures tend to be quite highly correlated (Andrews and Withey, 1976; Campbell et al., 1976), they are all assumed to be measures of the underlying concept of subjective well-being (Larson, 1978). The final verdict on whether this assumption is justified depends on the results of the analyses to be reported below.

The relationship between age and satisfaction, if established, will of course go only one step toward an explanation, since chronological age reflects the effects of a multitude of variables that are correlated with it; any one or a combination of these could actually cause the association between age and satisfaction. One of the major distinctions to be made is that between aging and cohort effects: Aging effects are associated with the length of time since birth, including biological, psychological, and social changes. Cohort effects, on the other hand, are associated with being of a particular age at a particular time in history. No final resolution between these two classes of effects is possible with the cross-sectional data that are available for the present analyses. But even if cohort or aging effects could be identified, many explanations for either type of effect would still remain possible. Some of the specific explanations can be tested with the available data, and the nature of these specific explanations, in turn, may shed some light on whether the age differences amount to a cohort or an aging effect (Glenn et al., 1977).

Possible explanations can be subsumed under two of the categories discussed by Campbell and his colleagues (1976) as subjective adjustment processes and objective improvements of the external situation. Let us start with explanations that involve purely subjective processes. Among these, Campbell et al. highlighted aspirations and expectations, which they found to decline with age. Whether such a decline is interpreted as resignation (Wright and Hamilton, 1978) or as realistic assessment (Herzberg et al., 1957), it is presumed to lessen the

discrepancy between what is attained and what is hoped for and thereby increase the resulting satisfaction. Other aspects of a reorientation related to age include a turn toward religious values (Moberg, 1965). Such a change may well provide a clue to the relative satisfaction of many older people, since religiosity tends to be positively related to life satisfaction and mental health (Gurin et al., 1960; Hadaway, 1978; Spreitzer and Snyder, 1974).

Another adaptive mechanism of a purely psychological nature is suggested by Zajonc's (1968) work on the effect of mere exposure and is also implied by Campbell et al.'s discussion of the relationship between age and satisfaction. Zajonc has shown that the level of liking for an object is a function of familiarity with it, which is in turn related to the length of exposure. It could thus be argued that older people are more satisfied with various conditions of their life simply because they have spent more time under those particular conditions. For example, since on the average they have lived longer in their residences than younger people, they would resumably be more satisfied with their houses and their communities as well as with related aspects, such as standard of living or neighbors. In a similar vein, students of job satisfaction (e.g. Herzberg et al., 1957; Hunt and Saul, 1975; Schwab and Heneman, 1977) have paid considerable attention to job tenure as an explanation of the relationship between job satisfaction and age. These studies tend to show that tenure explains some but by no means all of the relationship.

Finally, explanations that imply a more superficial adaptive mechanism refer to older people's increased tendency to conform (Klein, 1972; Klein and Birren, 1972). Specifically, it has been noted that older respondents are more inclined to respond to survey questions in a manner that they believe meets with the approval of others, or what Crowne and Marlowe (1964) have termed social desirability (Campbell et al., 1976). According to this hypothesis, older respondents would be more likely to express high satisfaction than younger ones, to the extent that they believe that such answers are the ones desired.

A second category of explanations for the age-related increase in satisfactions refers to improvements in the objective situation. In terms of particular life domains this means that unsatisfactory marriages have been dissolved (Campbell et al., 1976) or have improved once the burden of child rearing is relinquished

(Deutscher, 1964), that jobs have become better with regard to salary level, security, pace, supervisory power, and use of skills (Campbell et al., 1976; Quinn et al., 1974; Wright and Hamilton, 1978), or that housing has improved as the starter home is replaced by increasingly prestigious homes, and so on.

A particularly interesting improvement refers to diminishing stress in later years that presumably results from fewer major life events such as marriage or divorce, change of job or residence, birth of a child, loss of spouse or friend, or unemployment. Although listings of major life events traditionally include a variety of specific experiences—some with a positive, some with a negative, and many with an ambiguous connotation; some voluntary, and some involuntary—all of them may be viewed as stressful, because of the change they necessitate (Holmes and Rahe, 1967; Hultsch and Plemons, 1979). Indeed, the sheer number of them has been found to relate negatively to indicators of mental health by some (e.g., Myers et al., 1972), while others report mental health to be related only to the number of negative events (Dekker and Webb, 1974; Pykel, 1974). The number of events declines quite markedly across the life span (Dekker and Webb, 1974; Duncan and Morgan, 1980; Uhlenhuth et al., 1974), suggesting that the bulk of major events happens in young adulthood and life stabilizes rapidly thereafter.¹ Older people themselves seem to experience life as less burdensome and less trying than do younger people, since in the two Quality of Life surveys to be discussed below they rate life as less hard ($r = -.19$ and $r = -.22$) and less tied down ($r = -.22$ and $r = -.17$) on a set of semantic differential scales. It thus seems possible that at least part of the increased subjective well-being reported by older respondents could be accounted for by the lesser disruption of their daily lives from life events and related strains.

To qualify the contention of objective improvements across the life span, it needs to be acknowledged that the quality of certain domains most certainly declines as individuals enter older age. The foremost example is health. Among people over 65, more than 40% report limitations in activities due to health or physical condition, compared to somewhat over 10% in the total population (U.S. Department of Health, Education, and Welfare, 1979), and about 85% report at least one chronic disease (Shanas and

Maddox, 1976). This worsening of health is in fact so strong that it produces the clear decline in health satisfaction that appears to be the only clearly negative relationship with age (Campbell et al., 1976). Given the pervasive impact of health on various areas of life, health may well affect satisfaction with other domains and certainly with life in general. Another fairly obvious example of a loss in objective quality of life is the reduction in income after retirement. Although income increases within the younger age groups, an aggregate decrease sets in after the age of 55 (U.S. Bureau of the Census, 1976). Adjustment for family size is likely to mitigate the effect somewhat, since older people have smaller families to support; but the fact remains that people over 65 are still overrepresented among the population in poverty (U.S. Bureau of the Census, 1979). Finally, differences in mean education are an important aspect of status differences between today's age strata, although educational differences reflect a cohort rather than an aging effect.

The explanations discussed above will be explored in this article insofar as relevant measures are available.

Method

The studies examined in this article include the set of social indicator studies conducted in 1972 by Andrews and Withey; the seven General Social Surveys conducted annually from 1972 through 1978 by the National Opinion Research Center (Davis et al., 1978);² a set of three Omnibus surveys conducted by the Survey Research Center between 1973 and 1975; an Omnibus survey conducted by the Survey Research Center in 1976; a study of the Detroit area (Rodgers et al., 1975); and the Quality of Life survey conducted by Campbell et al. in 1971 as well as its replication, conducted by Campbell and Converse in 1978.³ With the exception of the two earliest General Social Surveys and the Detroit study, all of these studies use full probability samples of American adults living in private households, varying in size from 1,100 to 10,000. The two earliest General Social Surveys used probability sampling down to the block level and quota sampling on the block level; the Detroit study used a probability sample of

the Detroit metropolitan area. Thus, for the most part the respondents can be considered representative of the American noninstitutionalized population. Only respondents between 20 and 90 years old are included in these analyses. All surveys are used for the examination of the age-related increase in satisfactions. Only the two Quality of Life studies are used for the exploration of possible explanations of these age effects, since these two data sets contain the largest number of relevant questions.

Since the samples of these studies are multistage, stratified cluster samples rather than simple random samples, traditional tests of significance may not be accurate. This is the case because the selected households are clustered (typically about four households are selected from a small geographic area such as a city block), and therefore the estimates based on these samples have a larger error margin than if each household were selected independently. This loss in accuracy is taken into account by reducing the sample size to two-thirds of its original size for the calculations of significance levels. (That is, we assume a design effect of the typical value of 1.5, which is consistent with values actually calculated for design effects of samples and variables of the type discussed here.)

Each of the studies contains a set of subjective well-being measures. A few of those measures refer to global feelings of satisfaction or happiness, but most of them assess satisfaction with particular domains of life. While the domains are similar across studies, they are not always phrased in the same way. For example, some questions probe "family life," while others ask about "things you do with your family"; or some refer to "spare" time, others to "leisure" time. All of the studies use seven-point scales to measure satisfaction, but the nomenclature differs from study to study. Respondents in the Quality of Life and the Detroit studies could give answers ranging from "completely satisfied" to "completely dissatisfied"; in the General Social Surveys the extreme alternatives were "a very great deal [of satisfaction]" and "none"; in the Social Indicator studies and 1973-1975 Omnibus surveys respondents were offered a series of choices ranging from "delighted" to "terrible"; finally, the 1976 Omnibus survey used a split-ballot technique according to which a random half of the sample responded to a "delighted-terrible" scale, while the other

half used the “completely satisfied-completely dissatisfied” response scale. A few miscellaneous scales were used for single items. One item in particular, probing present happiness, was included in six of the seven studies; three response alternatives were given: “very happy,” “pretty happy,” and “not too happy.” Moreover, in the General Social Surveys marriage satisfaction was measured by a question asking about happiness in marriage and providing the above three-point scale, and satisfaction with finances was measured by a three-point and satisfaction with work by a four-point response scale.

Results

GENERALITY OF THE AGE-SATISFACTION RELATIONSHIP⁴

The strengths and significance levels of the relationships between age and various satisfactions were examined by means of bivariate standardized regression coefficients, which are displayed in Table 1. Since these coefficients capture only the linear component of the relationship, eta values were also calculated, with the age variable bracketing ten-year segments (data not shown). Eta values indicate the strength of any form of relationship; by comparing eta values and regression coefficients an assessment can be made concerning how much of the total relationship is lost by restricting it to a linear form. On the average, little difference between these values is evident, particularly if the eta values are corrected for shrinkage due to the ratio between number of categories and number of respondents (Kerlinger and Pedhazur, 1973). This finding suggests general linearity of the relationships. The largest differences occur for family and marriage satisfactions and for happiness and life satisfaction, but even there the sizes of the differences are inconsistent across data sets.

A cursory examination of Table 1 reveals that there is no entirely uniform relationship with age. Although most relationships—except the ones involving health satisfaction—are positive, they vary in strength and are not always statistically significant. Two factors appear to be related to the strength of the relationship. First, the average regression coefficient varies by

TABLE 1
Relationships Between Age and Subjective Well-Being Variables, Across Seven Surveys

Standardized bivariate regression coefficients, regressing each subj. well-being variable on age								
	Quality of Life 1971	Quality of Life 1976	General Social Surveys 1972-78	Detroit Study 1974	Social Indicator Study 1972	Omnibus 1973-75	Omnibus 1976 "Terr. Delight"	Omnibus 1976 "Comp. Dis. Comp. Sat."
Satisfaction with finances/income	.06* (2035)	.12** (3478)	-.17** (10,324)	.11** (1173)	.04 (2229)	.08** (3663)	NA	NA
Satisfaction with job	.19** (1184)	.22** (2143)	.17** (8020)	.19** (678)	.11** (1386)	.07** (2486)	NA	NA
Satisfaction with family life	.08** (1984)	.14** (3481)	-.06** (8731)	.15** (1148)	-.02 (2129)	NA	NA	NA
Satisfaction with marriage	.10** (1425)	.11** (2158)	.02 (5971)	.04 (786)	-.02 (923)	.08 (957)	.13* (514)	.14* (469)
Satisfaction with spare time	.14** (2059)	.14** (3504)	-.03* (8720)	.16** (1174)	.08** (2205)	NA	NA	NA
Satisfaction with house/apartment	.26** (2059)	.24** (3509)	NA	.26** (1178)	.12** (2229)	NA	.17** (789)	.23** (687)
Satisfaction with community	.19** (2060)	.16** (3519)	.23** (8760)	.17** (1173)	.15** (2228)	NA	NA	NA
Satisfaction with friendships	.16** (2058)	.10** (3497)	.03 (8755)	NA	.07** (222)	NA	NA	NA
Satisfaction with standard of living	.21** (2067)	.20** (3490)	NA	.19** (1170)	.06* (2234)	.04* (3666)	.17** (789)	.24** (687)
Satisfaction with health	-.26** (2013)	-.20** (3514)	-.22** (8759)	-.16** (1171)	-.24** (2239)	NA	-.17** (789)	-.13** (687)
Satisfaction with life	.05 (2046)	.11** (3496)	NA	.09* (1170)	-.03 (2227)	-.05* (2895)	.06 (789)	.10* (687)
Happiness	-.05 (2055)	-.02 (3502)	-.03* (10,330)	.00 (1173)	-.05 (2249)	NA	-.08 (789)	.02 (687)
Average coefficient (exc. health sat.)	.13	.14	.07	.14	.05	.01	.08	.14

NOTE: High scores indicate high satisfaction or happiness. Figures in parentheses indicate numbers of respondents for each coefficient; statistical significance levels are based on two-thirds of the actual sample size to adjust for a presumed average design effect of 1.5. * $p < .05$. ** $p < .01$. Labels for subjective well-being variables are approximate descriptions; more details about items and response scales are provided in the text.

data set; it is somewhat higher in the Quality of Life, the Detroit, and the 1976 Omnibus studies than in the Social Indicator, the General Social Survey, and the 1973-1975 Omnibus studies. None of the readily available hypotheses—such as question or response scale format, presentation of the questions as a battery or spread out throughout the questionnaire—has proven to be a valid explanation of these observed differences.

A second source of difference is the particular domain of life with which satisfaction is expressed. As shown in Table 1, satisfactions with some of the domains are quite strongly related to age, and the strengths of the relationships are reasonably consistent across data sets. Examples are housing, community, and work; satisfactions in those areas increase considerably with age. Satisfaction with health is also strongly and consistently related to age; but in this case the relationship is negative, reflecting a clear-cut decrease in satisfaction with increasing age. Other areas of life such as finances, standard of living, and leisure time, show in some instances strong relationships with age, but the relationships are less consistent across data sets. Finally, the measures of global well-being—satisfaction with life and happiness—as well as satisfaction with interpersonal domains—family, marriage, and friends—show coefficients which are inconsistent and quite often fairly low. Note also that the decline in happiness paired with an increase in life satisfaction as reported by Campbell et al. (1976) is not consistently replicated.

With regard to sex differences, the observed coefficients are similar when calculated separately for the two sexes, although the positive relationships appear, on the average, somewhat less strong for females than for males (data not shown).

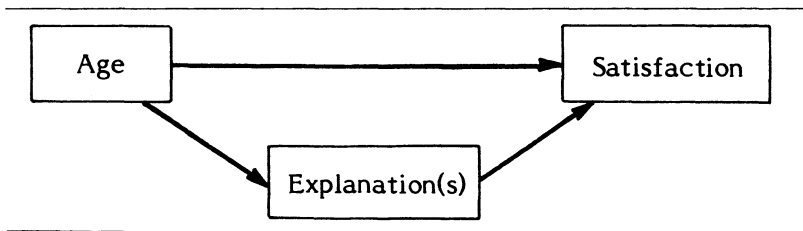
In conclusion, an examination of these data sets reveals a positive relationship between age and feelings of subjective well-being for several domains of life. The relationship is therefore generalizable beyond satisfaction with any one particular area, although the phenomenon is hardly as omnipresent as judged by Campbell et al. (1976) exclusively on the basis of their own data. Interestingly, their replication of the Quality of Life study in 1978 shows equally strong age relationships as their original study.

In the remaining part of this article we will attempt to explain this age-related increase in subjective well-being. We will use only

the two Quality of Life studies, since in these studies the relationship is present with reasonable strength and measures are available that are relevant for testing the hypothesized explanations.

*EXPLANATIONS OF THE
AGE-SATISFACTION RELATIONSHIP*

In examining the contribution of the various hypothesized explanations, we assume a causal model of the following form:



In other words, we postulate these explanations to be causally intervening between age and a particular domain satisfaction.⁵ According to path analytical procedures the explanatory power of such an intervening concept is tested in a multiple regression analysis of the particular domain satisfaction, in which an indicator of the explanatory concept is included as a predictor along with age; the usefulness of the explanation is then assessed by the degree of reduction in the regression coefficient between age and the particular domain satisfaction when the intervening variable is included (Kerlinger and Pedhazur, 1973: 314ff.) 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. Given the cross-sectional nature of the data, these tests cannot conclusively establish the causal role of any particular concept but only document the consistency of the data with the hypothesis.

This analytical strategy led to a set of regression analyses for each domain satisfaction. In each regression a particular domain satisfaction was regressed on age plus one or several indicators

referring to potential explanations. Specifically, indicators were introduced (a) separately for each subjective explanation, (b) simultaneously for all subjective explanations, (c) separately for each situational explanation, (d) simultaneously for all situational explanations, (e) simultaneously for all the above explanations that produced any reduction in the age-satisfaction relationships. Tables 2 and 3 present the standardized regression coefficients between age and each domain satisfaction after introducing the controls in the order described above. Comparisons between the bivariate coefficients (given in the first column of the tables) and the multivariate coefficients, therefore, indicate whether the data are consistent with the explanations that are controlled in each specific analysis.

Subjective processes. As described above, several subjective processes were hypothesized to explain the relationship between age and satisfactions. Specifically, it was argued that older respondents' higher religious inclinations, their adaptation over time, and their eagerness to please may account for their relatively high reported satisfactions. A first look at the total explanatory power of the entire set of hypothesized explanations is therefore provided by a multiple regression analysis in which indicators for all explanations are included simultaneously (Table 2, column 5; Table 3, column 4). Only explanatory variables that did produce a modification of the relationship in preliminary analyses were included; this excluded a few measures of expectations. Standardized regression coefficients of satisfactions on age, when all subjective process variables are controlled, indicate that for many satisfaction variables a part of the original relationship is explained by this set of subjective processes. Except for the originally negative relationships, most coefficients are reduced in strength, some to a nonsignificant level.

Separate regression analyses for each set of variables referring to a distinct explanation provide additional insight into the contribution of each single explanation (Table 2, columns 2-4; Table 3, columns 2, 3). Increased religiosity among older adults provides a part of the explanation. Responses to three different questions on religious commitment are available in the 1971 survey; two of them were also asked in 1978. One question

TABLE 2
Quality of Life Survey, 1971: Relationships Between Age and
Subjective Well-Being Variables, Controlling on Explanatory Variables

	Bivar. stand. regress. coeff.	Standardized regression coefficients controlling on:								
		Subjective Variables				Situational Variables				All Variables, except Inc., Ed., and Health
		Relig. LR.	Length in Resid. (LR)	Soc. Des.	Soc. Des.	Life Evals.	Inc., Health	Ed., Life Eval.	Health	
Satisfaction from finances	.06*	.03	.03	.04	-.01	-.02	.18**	.09**	-.08*	
Satisfaction with job	.19**	.17**	.17**	.17**	.15**	.14**	.26**	.20**	.10*	
Satisfaction with family life	.08**	.06*	.06	.04	.01	.01	.11**	.03	-.06	
Satisfaction with marriage	.10**	.08*	.12**	.06	.07	.05	.12**	.06	.02	
Satisfaction with spare time	.14**	.12**	.13**	.10**	.09*	.07**	.20**	.13**	.02	
Satisfaction with house/apartment	.26**	.25**	.23**	.24**	.21**	.20**	.30**	.24**	.16**	
Satisfaction with community	.19**	.18**	.16**	.17**	.14**	.15**	.22**	.17**	.10**	
Satisfaction with friendships	.16**	.14**	.14**	.13**	.09**	.11**	.20**	.14**	.04	
Satisfaction with standard of living	.21**	.20**	.19**	.19**	.17**	.13**	.32**	.23**	.09**	
Satisfaction with health	-.26**	-.27**	-.26**	-.27**	-.28**	-.29**	.02	-.01	-.31**	
Satisfaction with life	.05	.03	.03	.01	-.01	-.04	.15**	.05	-.10**	
Happiness	-.05	-.07**	-.04	-.09**	-.09*	-.13**	.05	-.05	-.17**	

NOTE: See Table 1.

about the frequency of attendance at religious services and one on personal religious commitment ("In general, how religious-minded would you say you are?") are included in both surveys; in 1971 respondents were asked in addition how important religion is to them ("How important is having a strong religious faith?"). The responses to all these questions yield moderate relationships with age (product-moment correlation coefficients ranging from .14 to .18). When the set of these religious indicators is statistically controlled, a moderate reduction in the age-satisfaction relationships is observed, which occurs consistently across almost all domain satisfactions. We conclude that increasing religiosity is not a complete explanation of the relationship between age and satisfaction, but that it explains a consistent part.

Another factor that contributes to the explanation of the relationship between age and satisfaction refers to the time spent in the present residence and the adaptation process that presumably ensues. In both Quality of Life surveys questions were included about the length of time the respondents had lived in their present houses and communities, and the number of years

TABLE 3
Quality of Life Survey, 1978: Relationships Between Age and Subjective Well-Being Variables, Controlling on Explanatory Variables

	Bivar. stand. regress. coeff.	Standardized regression coefficients controlling on:							All Variables, except Inc., Ed., and Health
		Subjective Variables			Situational Variables				
		Relig.	Length in Resid.	Relig. Length	Life Events	Life Eval.	Inc., Ed., and Health	Ed., Inc., Health, Life Events, Life Eval.	
Satisfaction with income	.12**	.11**	.08**	.07**	.06**	.03	.19**	.06*	-.05
Satisfaction with job	.22**	.22**	.23**	.23**	.19**	.18**	.25**	.18**	.16**
Satisfaction with family life	.14**	.12**	.15**	.14**	.09**	.08**	.15**	.03	.04
Satisfaction with marriage	.11**	.09**	.10**	.08*	.09**	.05	.13**	.04	.00
Satisfaction with spare time	.14**	.12**	.14**	.13**	.12**	.07**	.19**	.09**	.04
Satisfaction with house/apartment	.24**	.23**	.23**	.21**	.20**	.19**	.28**	.17**	.13**
Satisfaction with community	.16**	.15**	.14**	.13**	.13**	.11**	.17**	.09**	.07*
Satisfaction with friendships	.10**	.09**	.07**	.06*	.08**	.05*	.12**	.04	.00
Satisfaction with standard of living	.20**	.18**	.18**	.17**	.15**	.11**	.27**	.14**	.05
Satisfaction with health	-.20**	-.20**	-.20**	-.20**	-.23**	-.25**	.03	-.02	-.27**
Satisfaction with life	.11**	.09**	.11**	.10**	.07**	.01	.17**	.05	-.01
Happiness	-.02	-.04	-.01	-.02	-.04	-.10**	.05*	-.06*	-.12**

NOTE: See Table 1.

reported indeed shows the expected relationship with age. The bivariate relationships between age and satisfactions are reduced somewhat when these variables are controlled. As expected, reductions are more noticeable for coefficients involving satisfaction with residence, economic status, and friendships.

Perhaps the most critical psychological explanation is provided by the desire of older persons to respond in a socially acceptable manner. An index of social desirability is formed from six items, which were selected from the Social Desirability Scale developed by Crowne and Marlowe (1964) and included in the 1971 Quality of Life Survey. Three of the items paraphrase socially acceptable behaviors and measure social desirability by agreement, and three paraphrase socially unacceptable behaviors and measure social desirability by disagreement. (For a more complete discussion of the index, see Campbell et al., 1976.) Controlling on this index consistently reduces the coefficients between age and each domain satisfaction. In other words, the age-related increase in satisfactions is to a considerable degree explained by the greater eagerness among the aged to give socially

acceptable responses. The effect is most pronounced for satisfactions with family, marriage, spare time, and life. These are also the domains where such an effect is most likely, since social sanctions against not being satisfied with one's family, one's spouse, and one's life are probably stronger than sanctions against not being satisfied with one's house, community, finances, or health.

Objective situation. An aspect of life that appears to reflect an improvement as people get older is the declining number of major life events. The 1978 Quality of Life study contains an extensive set of questions probing the frequency of thirty different life events over the five years preceding the interview. The list is based on the scale proposed by Holmes and Rahe (1967). Cognizant of suggestions that available weighting procedures provide insignificant improvements (Chiriboga, 1978; Lorimor et al., 1979), the researchers used a simple sum of reported life events here, which shows the predicted relationship with age ($r = -.40$). But can this decline in the number of presumably disruptive events account for the increased satisfaction with life and its various domains experienced by older Americans? The results of a set of regression analyses in which the number of life events was entered as an additional predictor variable (Table 3, column 5) suggest that the number of recent life events does provide at least a partial explanation, since the effect of age on satisfaction is weakened across all satisfaction variables except the few which were originally negative (i.e., happiness and satisfaction with health).⁶

Ratings of life on two semantic differential scales, "free-tied down" and "easy-hard," corroborate the observed decline in numbers of life events and the presumably related stress: Older respondents are more likely to rate their lives as free and easy than are younger ones. When the two variables are included in the regression analysis, rather substantial reductions in the relationships between age and satisfaction are observed (Table 2, column 6; Table 3, column 6). We conclude from this result that the lesser burdens and constraints experienced in later life do indeed contribute to the higher satisfaction among the aged. While the two semantic differential measures contain an evaluative component which could make the observed age effect

nothing more than another expression of the higher satisfaction among the elderly and the explanation provided by them tautological, this does not appear to be a realistic alternative hypothesis; eight additional semantic differentials carrying a similar evaluative connotation and included in the same battery of questions do not show any age effects.

As mentioned earlier, there is evidence that in many respects the objective situation is actually worse for older than for middle-aged or young individuals; some of the most obvious examples include lower levels of health, income, and education. These observations tend to vitiate the claim that the increasing satisfaction displayed by older individuals reflects generally their improved living conditions. When the effects of health, family income, and education on the relationship between age and satisfactions are empirically tested, it is found that these specific instances of a relatively unfavorable objective situation actually suppress an even more substantial association between age and satisfactions.

Let us consider the evidence in somewhat greater detail. A measure of functional health was used in both Quality of Life surveys. The measure consists of two questions, resulting in a four-point functional health scale (1 = health problems that keep one from doing lots of things; 2 = health problems that keep one from doing certain things; 3 = health problems, but one can do almost anything; 4 = no particular health problem). Correlations between this health rating and age are quite high in both surveys ($r = -.38$ and $r = -.35$). Family income was measured by a question providing a showcard with seventeen income categories; for analysis purpose, the midpoint dollar amount was assigned to each category. A decline in income with age is apparent in both Quality of Life surveys ($r = -.19$ and $r = -.10$). These effects are also registered by the older respondents themselves, who are more likely than younger ones to report that their "financial situation has been getting worse" ($r = .14$ in the General Social Surveys). Although the absolute dollar amount of family income would appear to be of lesser consequence than the income adjusted for need, it apparently is the former that is registered by the older respondents as worsening financial situation, since income level adjusted for family size does not decline with age ($r = .05$ and $r =$

.05). Finally, educational attainment was measured by the number of years of schooling that the respondent had completed. Of course, none of these measures is truly objective, since they are self-reports and therefore open to bias; however, they deal with important factual information and thus would be expected to be recalled rather accurately. For example, self-reports of health are usually found to be quite closely related to assessments resulting from medical examinations (Balamuth, 1965; Maddox, 1962; Maddox and Douglas, 1973; Tissue, 1972).

When the three variables—health, family income, and education—are included in the regression equations predicting satisfaction measures (Table 2, column 7; Table 3, column 7), the standardized regression coefficients between age and satisfactions are actually somewhat strengthened compared to the respective bivariate coefficients. In concrete terms, if health, income, and education were not lower among older than among younger respondents, older respondents would be even higher compared to younger ones in their reported satisfactions. Technically, health, income, and education are said to “suppress” the relationship between age and satisfactions.

When the indicators of the objective situation discussed thus far are included simultaneously in a regression analysis (Table 2, column 8; Table 3, column 8), the relationships between age and satisfactions tend to be lower than the bivariate relationships. This outcome depends, of course, on the specific selection of variables, some of which strengthen, some of which weaken, the relationship. A different subset may well have affected the overall balance differently. However, even this limited set of indicators shows that in contrast to the hypothesis which gave rise to the argument that increased satisfaction among the aged reflects their improved life situation, the objective quality of life in older age is in many important respects actually worse. The objective situation is therefore unlikely to provide a general explanation for the positive relationship observed between age and satisfactions. On the contrary, if their objective situation were not worse in some regards, older respondents would display an even greater increase in their satisfactions than they now do. On the other hand, some aspects of life—in this case we examined the exposure to major life events and evaluations of life as hard and restricted—do

seem to improve when people age, and these factors actually contribute to their increased satisfactions.

Finally, the entire set of objective and subjective explanations discussed here, with the exception of income, education, and health, were included simultaneously in the regression equations. Comparisons of the resulting regression coefficients of satisfactions on age (Table 2, column 9; Table 3, column 9) with the corresponding bivariate coefficients reveal many substantial reductions, which are considerably more marked than the ones resulting from any single explanation or group of explanations considered so far. In fact, many of the coefficients become nonsignificant, and some which originally were not very strong even take a negative direction, implying lesser satisfaction among the older parts of the population. Only the very strongest relationships retain significant positive coefficients, but even these are reduced by a substantial amount. This means, first, that the entire set of explanations examined here does indeed account for a large part of the relationship between age and satisfactions, and, second, that the explanatory variables explored here illuminate somewhat different aspects of the explanation, since the reductions are generally more marked when all the explanatory variables rather than only one of them are simultaneously included in the regression equation.

Summary and Discussion

The purpose of this article has been to document the degree of generality of the supposed increase in satisfaction and happiness with age and to test possible explanations of this relationship. Measures of overall satisfaction with life and happiness, as well as measures of satisfaction with specific areas of life, were examined in several different data sets. It was found that satisfactions with housing, community, and work show consistently strong age-related increases. Satisfactions with other areas as well as overall satisfaction and happiness show less consistent and less strong effects, although, with the exception of health satisfaction, the direction of the relationships is almost always positive. Upon this evidence, the relationship was interpreted as generalizable across

several but not all domains of life investigated in these surveys.

We postponed a decision about differentiating between various terms for denoting subjective well-being and between various response scales until after the presentation of the results. Given the pattern of results, we see no reason for a systematic differentiation. For example, while the relationships between age and subjective well-being were lower in the 1973-1975 Omnibus and the 1972 Social Indicator studies, where the "delighted-terrible" scale was used, than in the Quality of Life and the Detroit studies, where the "completely satisfied-completely dissatisfied" response scale was used, the 1976 Omnibus results show little difference between the two types of scales. Also, while happiness shows a relationship with age that is the reverse of the overall life satisfaction measure in the Quality of Life study, the pattern is not consistently upheld in the other studies.

Explanations were sought by examining the original relationships between age and satisfactions for reductions after statistically controlling on hypothetical explanatory variables. From these explorations it was learned that in comparison to young respondents, older people's increased tendency to be religious and increased eagerness to respond in a socially approved fashion contribute to their higher sense of subjective well-being. Also contributing to the age relationships are the declining number of major life events encountered by older people and the sheer amount of time they have spent in a particular situation with the adaptation effects that presumably took place during that time. Moreover, the fact that the age differences on the two latter factors most likely reflect aging rather than cohort effects implies that the part of the age-satisfaction relationship that they explain also reflects an aging effect. Age differences on the first two explanations, on the other hand, less clearly reflect aging effects; therefore no guess about their part of the explanation will be attempted.

In contrast to these variables, which appear to provide a partial explanation for the age-related increase in satisfaction, several factors were identified that worsen with age and operate to conceal even more pronounced age-related increases. Such factors are declining health, lower educational level, and lower family income.

Explanations were sorted into objective-situational and subjective factors in order to test the validity of two basic contentions: (a) that higher satisfaction among older respondents is caused by their objectively better situation, and (b) that higher satisfaction among older respondents results from a psychological adaptation process. Although few truly objective measures were available, since most of the data at hand were collected by self-report, and although the number of measures was limited, it became quite clear that the objective quality of life does not uniformly improve across the life span. While some of the factors that do improve, such as the lessening of burdens and constraints, seem to account for some of the increased satisfaction, other conditions that are in fact worsening serve to suppress the tendency of the older respondents to report even higher satisfactions.

Admittedly, none of the tested explanations in and of itself is able to provide a sufficient explanation for the entire relationship between age and satisfactions; rather, they all form part of the explanation. The moderateness of these effects is, however, counterbalanced by their consistency across domains and data sets: A small effect such as that of income, education, and health always produces a slight increase in strength of the relationship, and conversely, the small effect of religiosity is consistent in producing a slight reduction in the relationship. Moreover, the size of the effects needs to be judged in the light of the operationalization of particular explanations, which are frequently in the form of one-item measures with attendant reliability problems, and which are sometimes only approximations to the concept in question. Since we performed secondary data analysis, the questions were not always optimal for our project purposes.

Nevertheless, although none of the tested variables provides a sufficient explanation of the relationship in and of itself, the entire set goes a good part of the way towards accounting for the relationship. This has been demonstrated by the multivariate regression analyses in which all explanatory variables are controlled simultaneously (Table 2, column 9; Table 3, column 9): Most of the regression coefficients between age and satisfaction are reduced by a substantial amount of the variance and many of them become actually statistically nonsignificant.

NOTES

1. Some critics have pointed out that the typical lists of life events are predominantly probing for events of young adulthood and therefore the decrease by age may be an artifact of the measurement device (Rabkin and Struening, 1976). Also, the decline appears particularly marked for positive and ambiguous events but much less clear for negative events (Duncan and Morgan, 1980).
2. The seven surveys were used in pooled form, since the correlations of the satisfaction measures with age were similar across years.
3. About 20% of the respondents in the 1978 Quality of Life Survey were reinterviews from the 1971 survey.
4. A more recent paper by the same authors (Herzog and Rodgers, forthcoming), completed after this paper had been submitted and reviewed, suggests that caution should be used in comparing the satisfaction levels of young adults (under age 25) with those of other adults, especially with regard to overall life satisfaction. Analyses shown in Table 1 for life satisfaction and happiness were repeated with only those aged 25 through 90 included, with no important differences from those shown for the broader age range.
5. We use "explanation" in its popular meaning, as opposed to "description." It deserves mentioning that in the scientific community the term "explanation" is often used for the situation in which a causally prior variable accounts for the association between two variables, while the term "interpretation" refers to the instance where a causally intervening variable accounts for the association of the two variables (Rosenberg, 1968). The explanations to be tested here are all of the interpretative form.
6. Since the number of positive and ambiguous events is related much more strongly to age than to the number of negative events, we also conducted the regression just for these events. Overall this resulted in lesser reduction of the age-satisfaction coefficients.

REFERENCES

- Andrews, F. M., and S. B. Withey
- 1972 Development and measurement of social indicators, Spring 1972-Summer 1973 [machine-readable data file; first ICPSR edition, 1975]. Ann Arbor, MI: Survey Research Center, Institute for Social Research. (Distributed by Inter-University Consortium for Political and Social Research, Ann Arbor, Michigan.)
- 1976 Social Indicators of Well-Being in America: The Development and Measurement of Perceptual Indicators. New York: Plenum.
- Balamuth, E.
- 1965 Health Interview Responses Compared with Medical Records. National Center for Health Statistics, Series 2, No. 7. Washington, DC: Government Printing Office.
- Bradburn, N.
- 1969 The Structure of Psychological Well-Being. Chicago: AVC.
- Campbell, A. and P. E. Converse
- 1978 Quality of Life 1978 [machine-readable data file]. Ann Arbor, MI: Survey Research Center, Institute for Social Research.
- Campbell, A., P. E. Converse, and W. L. Rodgers
- 1971 The quality of American life [machine-readable data file; First ICPSR edition, 1975]. Ann Arbor, MI: Survey Research Center, Institute for Social Research. (Distributed by Inter-University Consortium for Political and Social Research, Ann Arbor, Michigan.)
- 1976 The Quality of American Life: Perceptions, Evaluations, and Satisfactions. New York: Russell Sage.

- Chiriboga, D. A.
1978 "Life event weighting systems: a comparative analysis." *J. of Psychosomatic Research* 21: 415-422.
- Crowne, D. and D. Marlowe.
1964 *The Approval Motive*. New York: John Wiley.
- Davis, J. A., T. W. Smith, and C. B. Stephenson
1978 *General Social Surveys, 1972-1978* [machine-readable data file; first Roper edition, 1978]. Chicago: National Opinion Research Center. (Distributed by Roper Public Opinion Research Center, Storrs, Connecticut.)
- Dekker, D. J. and J. T. Webb
1974 "Relationships of the Social Readjustment Rating Scale to psychiatric patient status, anxiety and social desirability." *J. of Psychosomatic Research* 18: 125-130.
- Deutscher, I.
1964 "The quality of postparental life: definitions of the situation." *J. of Marriage and the Family* 26: 52-59.
- Duncan, G. J. and J. N. Morgan
1980 "The incidence and some consequences of major life events," pp. 183-240 in G. J. Duncan and J. N. Morgan (eds.) *Five Thousand American Families, Volume VIII*. Ann Arbor, MI: Institute for Social Research.
- Gibson, L. and S. M. Klein
1970 "Employee attitudes as a function of age and length of service: a reconceptualization." *Academy of Management J.* 13: 411-425.
- Gilford, R. and V. Bengtson
1979 "Measuring marital satisfaction in three generations: positive and negative dimensions." *J. of Marriage and the Family* 41: 387-398.
- Glenn, N. D., P. A. Taylor, and C. N. Weaver
1977 "Age and job satisfaction among males and females: a multivariate, multi-survey study." *J. of Applied Psychology* 62: 189-193.
- Gurin, G., J. Veroff, and S. Feld
1960 *Americans View Their Mental Health*. Ann Arbor: Univ. of Michigan Press.
- Hadaway, C. K.
1978 "Life satisfaction and religion: an analysis." *Social Forces* 57: 636-643.
- Harris, L. et al.
1976 *The Myth and Reality of Aging in America*. Washington, DC: National Council on the Aging.
- Herzberg, F., B. Mausner, R. O. Peterson, and D. F. Capwell
1957 *Job Attitudes: Review of Research and Opinion*. Pittsburgh: Psychological Service of Pittsburgh.
- Herzog, A. R. and W. L. Rodgers
forthcoming "The structure of subjective well-being in different age groups." *J. of Gerontology*.
- Holmes, T. H. and R. H. Rahe
1967 "The Social Readjustment Rating Scale." *J. of Psychosomatic Research* 11: 213-218.
- Hultsch, D. F. and J. K. Plemons
1979 "Life events and life span development," pp. 1-36 in P. B. Baltes and O. G. Brim (eds.) *Life Span Development and Behavior, Volume 2*. New York: Academic.
- Hunt, J. W. and P. N. Saul
1975 "The relationship of age, tenure, and job satisfaction in males and females." *Academy of Management J.* 18: 690-702.

- Kerlinger, F. N., and E. J. Pedhazur
1973 *Multiple Regression in Behavioral Research*. New York: Holt, Rinehart & Winston.
- Klein, R. L.
1972 "Age, sex, and task difficulty as predictors of social conformity." *J. of Gerontology* 27: 229-236.
- Klein, R. L. and J. E. Birren
1972 "Age differences in social conformity on a task of auditory signal detection," pp. 661-662 in *Proceedings of the 80th Annual Convention, American Psychological Association*.
- Larson, R.
1978 "Thirty years of research on the subjective well-being of older Americans." *J. of Gerontology* 33: 109-125.
- Lorimor, R. J., B. Justice, G. W. McBee, and M. Weinman
1979 "Weighting events in life-events research." *J. of Health and Social Behavior* 20: 306-307.
- Maddox, G. L.
1962 "Some correlates of differences in self-assessments of health status among the elderly." *J. of Gerontology* 17: 180-185.
- Maddox, G. L. and E. B. Douglas
1973 "Self-assessment of health: a longitudinal study of elderly subjects." *J. of Health and Social Behavior* 14: 87-93.
- Moberg, D. O.
1965 "Religiosity in old age." *Gerontologist* 5: 78-87.
- Myers, J. K., J. J. Lindenthal, M. P. Pepper, and D. R. Ostrander
1972 "Life events and mental status: a longitudinal study." *J. of Health and Social Behavior* 13: 398-406.
- Pykel, E. S.
1974 "Life stress and psychiatric disorder: applications of the clinical approach," pp. 135-149 in B. S. Dohrenwend and B. P. Dohrenwend (eds.) *Stressful Life Events: Their Nature and Effects*. New York: John Wiley.
- Quinn, R. P., G. L. Staines, and M. R. McCullough
1974 "Job satisfaction: Is there a trend?" in *Manpower Research Monograph 30*. Washington, DC: Government Printing Office.
- Rabkin, J. G. and E. L. Struening
1976 "Life events, stress, and illness." *Science* 194: 1013-1020.
- Rodgers, W. L., R. W. Marans, S. D. Nelson, S. J. Newman, and O. Worden
1975 *The Quality of life in the Detroit metropolitan area* [machine-readable data file]. Ann Arbor, MI: Survey Research Center, Institute for Social Research.
- Rollins, B. C. and K. Cannon
1974 "Marital satisfaction over the family life cycle: a reevaluation." *J. of Marriage and the Family* 36: 271-283.
- Rollins, B. C. and H. Feldman
1970 "Marital satisfaction over the family life cycle." *J. of Marriage and the Family* 32: 20-28.
- Rosenberg, M.
1968 *The Logic of Survey Analysis*. New York: Basic Books.
- Schram, R. W.
1979 "Marital satisfaction over the family life cycle: a critique and proposal." *J. of Marriage and the Family* 41: 7-12.

- Schwab, D. P. and H. G. Heneman III
 1977 "Age and satisfaction with dimensions of work." J. of Vocational Behavior 10: 212-220.
- Shanas, E. and G. L. Maddox
 1976 "Aging, health, and the organization of health resources," pp. 592-618 in R. H. Binstock and E. Shanas (eds.) Handbook of Aging and the Social Sciences. New York: Litton.
- Spanier, G. B., R. A. Lewis, and C. L. Cole
 1975 "Marital adjustment over the family life cycle: the issue of curvilinearity." J. of Marriage and the Family 37: 263-275.
- Spreitzer, E. and E. E. Snyder
 1974 "Correlates of life satisfaction among the aged." J. of Gerontology 29: 454-458.
- Survey Research Center
 1973 Omnibus survey [machine-readable data file]. Ann Arbor, MI: Survey Research Center, Institute for Social Research.
 1974 Omnibus survey [machine-readable data file]. Ann Arbor, MI: Survey Research Center, Institute for Social Research.
 1975 Omnibus survey [machine-readable data file]. Ann Arbor, MI: Survey Research Center, Institute for Social Research.
 1976 Omnibus Survey [machine-readable data file]. Ann Arbor, MI: Survey Research Center, Institute for Social Research.
- Tissue, T.
 1972 "Another look at self-rated health." J. of Gerontology 27: 91-97.
- Uhlenhuth, E. M., R. S. Lipman, M. B. Balter, and M. Stern
 1974 "Symptom intensity and life stress in the city." Archives of General Psychiatry 31: 759-764.
- U.S. Bureau of the Census
 1976 Current Population Reports, Series P-60, No. 101. Washington, DC: Government Printing Office.
 1979 Current Population Reports, Series P-60, No. 119. Washington, DC: Government Printing Office.
- U.S. Department of Health, Education, and Welfare
 1979 Vital and Health Statistics, Series 10, No. 126. Washington, DC: Government Printing Office.
- Wright, J. D. and R. F. Hamilton
 1978 "Work satisfaction and age: some evidence for the 'job change' hypothesis." Social Forces 56: 1140-1158.
- Zajonc, R. B.
 1968 "The attitudinal effect of mere exposure." J. of Personality and Social Psychology, Monograph Supplement 9: 1-27.

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