Research Article

Realism and Illusion in Americans' Temporal Views of Their Life Satisfaction

Age Differences in Reconstructing the Past and Anticipating the Future

Margie E. Lachman,[1] Christina Röcke,[1] Christopher Rosnick,[1] and Carol D. Ryff[2]

[1]Brandeis University and [2]University of Wisconsin

ABSTRACT—*We examined actual and perceived trajectories of change in life satisfaction in a national sample of 3,793 adults, ages 24 to 74 at baseline, who provided retrospective, present, and prospective ratings on two occasions 8 to 10 years apart. There was little actual change in satisfaction ratings, but there were age differences in anticipated change, with young adults expecting things to improve and older adults expecting decline. When we compared the actual (present) ratings with corresponding past or future ratings, older adults showed more temporal realism (retrospective and anticipatory ratings matched actual levels) than did young and middle-aged adults; in other words, young and middle-aged adults showed greater illusion (retrospective and prospective ratings overestimated or underestimated actual levels). At all ages, however, temporal realism was associated with more adaptive current functioning than was illusion. We discuss these findings from a life-span developmental perspective on motivational shifts from growth to maintenance and consider the implications of accuracy in evaluating the past and future.*

Life satisfaction, one facet of subjective well-being, is usually rated in the moderate to high range (Diener & Diener, 1996). Despite typical age-related losses in the social, cognitive, and physical domains, life satisfaction shows remarkable stability throughout adulthood (Costa & McCrae, 1994; Diener & Suh, 1998). Yet, when individuals are asked to evaluate their past or to project their future, they often convey perceived or expected changes in subjective well-being (Fleeson & Heckhausen, 1997; Ryff, 1984, 1989; Woodruff & Birren, 1972). Although psychologists have invested a great deal in investigating the extent to which people are content with their present lives, it is also the case that people look to the past and the future in gauging how things are going. Assessments of current well-being have different meanings depending on whether they are higher or lower than recalled past well-being or anticipated future well-being (Bortner & Hultsch, 1974; Fleeson & Heckhausen, 1997). Such subjective temporal assessments of past and future provide unique insights into psychological adaptation and account for additional variance in adaptive outcomes above and beyond that accounted for by concurrent ratings (Fleeson & Baltes, 1998; Keyes & Ryff, 2000; Lachman & Firth, 2004; Pavot, Diener, & Suh, 1998; Ryff, 1984).

In the present study, we examined actual changes in life satisfaction over a 9-year period in relation to perceived and anticipated changes. Our data came from a national sample of adults ranging from 24 to 85 years old. We addressed four questions: (a) Are there age differences in actual changes in life satisfaction over 9 years? (b) Are there age differences in the perceived and anticipated trajectories of life satisfaction? (c) Are there age differences in the extent of concordance between actual and projected (anticipated future) ratings and between actual and retrospective (reconstructed past) ratings; that is, do individuals of different ages differ in their tendency to over- or underestimate their past and future life satisfaction? (d) Is more

Christina Röcke is now at the University of Zurich, and Christopher Rosnick is now at Southern Illinois University at Edwardsville. Address correspondence to Margie E. Lachman, MS062, Psychology Department, Brandeis University, Waltham, MA 02454, e-mail: lachman@brandeis.edu.

adaptive functioning associated with being more or less realistic about past and future satisfaction?

MOTIVATED PERCEPTIONS OF CHANGE: A LIFE-SPAN PERSPECTIVE

Adults hold implicit theories of developmental pathways (Ross, 1989; Ryff, 1991) and are motivated to envision different trajectories as they age (e.g., growth in early adulthood, stability in later adulthood). A life-span developmental perspective on motivation (Baltes, Lindenberger, & Staudinger, 2006; Freund, 2006) suggests that young adults are primarily focused on continued identity formation and growth and want to see self-improvement over time (McFarland, Ross, & Giltrow, 1992; Woodruff & Birren, 1972), whereas with aging, individuals' focus shifts to maintenance and avoidance of losses, with accompanying adjustments in goals and standards (Lachman, 2004).

Indeed, past work on age differences in perceived life satisfaction has shown that future self-enhancement and discrepancies between the actual and the ideal are greater for younger adults than for middle-aged and older persons (Okun, Dittburner, & Huff, 2006; Ryff, 1991). Younger adults are less accurate in predicting their future affective states than are middle-aged and older adults, perhaps because they do not take into account contextual factors, intervening events, or emotion-regulation capacities (e.g., Wilson & Gilbert, 2005; Wirtz, Kruger, Scollon, & Diener, 2003).

In contrast, middle-aged and older adults' greater focus on maintenance and avoidance of loss may manifest itself in less perceived change in well-being. Such a view may more accurately reflect actual changes and lead to greater concordance between perceptions and reality. If older adults' reflections and projections are more convergent with reality than younger adults', this could be attributed to their greater acquired experience, self-knowledge about contextual influences, and emotion-regulation capacities (Gross, Carstensen, Tsai, Skorpen, & Hsu, 1997; Labouvie-Vief, DeVoe, & Bulka, 1989). For older adults faced with a limited future time horizon (Carstensen, Isaacowitz, & Charles, 1999), it may be adaptive to come to terms with how things are in the present and acknowledge that they may not get better, which may serve to reduce differences between older adults' present and desired self-related characteristics (Robinson & Ryff, 1999). Younger adults are more likely to recall negative information than are older adults, and young adults also remember more negative events than positive events. Moreover, older adults recall more positive than negative information (e.g., Charles, Mather, & Carstensen, 2003). Such findings are consistent with the hypothesis that older adults see the past as better than or similar to the present, whereas the young are prone to recall negative information and see the past as worse than it was.

THE ADAPTIVE VALUE OF REALISM AND ILLUSION: ARE THERE AGE DIFFERENCES?

There are different approaches to operationalizing realism and illusion, and contradictory findings about which is more adaptive (Colvin, Block, & Funder, 1995; Paulhus, 1998; Taylor, Lerner, Sherman, Sage, & McDowell, 2003). Positive illusions, such as self-enhancement of personal characteristics, may be valuable motivating forces that help people set high goals for themselves and persist in their life tasks (Paulhus, 1998; Taylor, Kemeny, Reed, Bower, & Gruenewald, 2000). Alternatively, having inflated self-views or unrealistic optimism about the future may be a risk factor for depression and maladjustment (Colvin et al., 1995; Paulhus, 1998). Whereas much of the previous research on realism and illusion has examined social comparisons or raters' agreement about personality, in the present study we examined temporal realism by comparing evaluations of past and future life satisfaction with ratings actually made at the corresponding time points.

Previous research has paid little attention to life-course variation in such evaluations. Given age differences in how individuals construe themselves through time, we predicted that illusions (e.g., inflated views of one's future life satisfaction relative to what the future actually brings, or conceptions of the past that are more negative than what actually occurred) would be adaptive for younger adults, in the sense of helping them to mobilize and maintain efforts to make life go well. In contrast, we expected that realism would be the more adaptive strategy for older adults, whose challenge or developmental task is to brace themselves for an uncertain future, as well as to accept the past and recognize that it is unlikely to be surpassed (Baltes et al., 2006).

THE PRESENT STUDY

In this study, we expanded on previous work by including ratings of past, present, and future life satisfaction in a large, age-diverse national sample of Americans who were assessed with the same measures on two occasions 9 years apart, on average. First, we examined changes in actual levels of life satisfaction. Life satisfaction remains relatively stable in adulthood, with some decline occurring in very old age, particularly as functional health declines (Isaacowitz & Smith, 2003; Kunzmann, Little, & Smith, 2000; Mroczek & Spiro, 2005). Thus, we predicted that over the 9 years, there would be little actual change in life satisfaction in all age groups except the oldest (who moved from their mid-70s to their mid-80s), for whom some decline was expected (Kunzmann et al., 2000; Mroczek & Spiro, 2005).

We also examined perceived and anticipated change in life satisfaction by using retrospective and prospective ratings obtained at both times of measurement. On the basis of life-span theory's formulation that perceptions of change are differentially motivated depending on one's location in the life course, we

expected that younger adults would rate their past well-being as significantly lower than their present well-being (thereby implying improvement over time), whereas older adults would show no difference between their retrospective and their present ratings. With regard to anticipation of the future, we hypothesized that younger adults would rate their anticipated levels of well-being (10 years in the future) significantly higher than their present well-being, which would again reflect the motive of improvement and growth, whereas older adults would show no difference between their prospective and present ratings.

Last, because our design allowed us to directly compare actual with perceived and anticipated change trajectories, we predicted that younger adults would show greater illusion in their perceptions of well-being (i.e., greater discrepancy between actual and perceived trajectories) than would older adults; or, put differently, we predicted that older adults would show greater realism (i.e., greater concordance between actual and perceived trajectories) than would younger adults. We further predicted that these age differences in realism and illusion would be adaptive. In testing this prediction, we adopted a comprehensive, integrative view of what adaptive functioning entails (Baltes et al., 2006; Biswas-Diener, Diener, & Tamir, 2004), operationalizing adaptive functioning as including good health, a well-adjusted personality, supportive social relationships, high well-being and control, and the absence of depression.

METHOD

Participants

Participants were from the Midlife in the United States (MIDUS) survey, conducted in 1995–1996 and 2004–2006. A national sample from the 48 contiguous states was selected by using random-digit dialing of telephone numbers and obtaining information about the household composition (Brim, Ryff, & Kessler, 2004). The sample of 7,120 noninstitutionalized adults was selected by using prespecified eligibility criteria to achieve equal numbers of men and women and an age distribution with the greatest number of individuals between 40 and 60. An average of 9 years (range of 8 to 10 years) later, 75% of the survivors from the original sample agreed to participate. The 3,793 participants who completed all three life-satisfaction ratings at each of the two occasions of measurement were included in analyses. At Occasion 1, the ages of these participants ranged from 24 to 74 years. At Occasion 2, their ages ranged from 32 to 84 years (M = 56.09 years, SD = 12.25). Women made up 55.1% of the sample, and 39% of the participants had at least a 4-year college degree. The average health rating on a 5-point scale from *poor* to *excellent* was 3.57 (SD = 0.99).

Measures and Design

Respondents completed a 45-min telephone interview and a self-administered (about 2 hr in length) mailed questionnaire.

Life Satisfaction

At both occasions, the following life-satisfaction question (with three temporal variations) was administered in the mailed questionnaire:

> Using a scale from 0 to 10, where 0 means "*the worst possible life overall*" and 10 means "*the best possible life overall*," how would you rate your life overall: these days, 10 years ago, and 10 years from now?

We assessed actual and perceived changes using the past ("10 years ago"), present ("these days"), and future ("10 years from now") ratings of satisfaction at the two occasions. Our measure of temporal accuracy, or realism, was the extent to which ratings of the future matched actual satisfaction 8 to 10 years later and ratings of the past matched actual satisfaction 8 to 10 years earlier.

Adaptive Functioning

Biopsychosocial variables, selected on the basis of theories and empirical findings regarding successful adult development and aging (Baltes et al., 2006) and well-being (Biswas-Diener et al., 2004), were assessed at both occasions.

Health. The health measure was a composite of three indicators: the number of functional limitations, chronic conditions, and acute conditions (α = .70). The three z scores were averaged. The composite scores had a range from −4.56 to 1.28, and a higher score reflects better health.

Personality Traits. Personality was measured with a list of 30 attributes derived from existing Big Five trait-rating inventories (see Lachman & Firth, 2004). Respondents indicated how well each attribute described themselves, using a scale from 1 to 4 (1 = *not at all*, 2 = *a little*, 3 = *some*, 4 = *a lot*). A one-factor composite (Musek, 2007) was computed (α = .84) as the average of scores for extraversion, openness, agreeableness, conscientiousness, and neuroticism (reverse-scored). Higher scores (range: 1–4) are indicative of a more adaptive personality (i.e., higher extraversion, agreeableness, openness, and conscientiousness, and lower neuroticism).

Quality of Social Support. Participants responded to items assessing the social support and strain they experienced in their relationships with friends and family, including their spouse. Ratings were averaged (with strain reverse-scored), yielding a composite score that could range from 1 (*not at all* or *never*) to 4 (*a lot* or *often*). Internal consistency for the composite score was high (α = .87).

Perceived Control. A composite measure was created by averaging scores on personal-mastery and perceived-constraints (reverse-scored) subscales from the MIDUS sense-of-control scale (Lachman & Firth, 2004). Scores ranged from 1 (*strongly disagree*) to 7 (*strongly agree*; α = .85).

TABLE 1

Mean Ratings of Past (10 Years Ago), Present, and Future (10 Years From Now) Life Satisfaction by Age Group

	Ratings at Occasion 1			Ratings at Occasion 2			
Age at Occasion 2	Past	Present	Future	Past	Present	Future	η_p^2
32–44 (n = 765)	6.72 (2.02)	7.70[ab] (1.43)	8.76 (1.14)	6.81 (1.95)	7.62[ab] (1.53)	8.52 (1.35)	.23
45–54 (n = 1,024)	6.88 (1.93)	7.60[ab] (1.49)	8.41 (1.40)	7.06 (1.79)	7.67[ab] (1.53)	8.27 (1.53)	.18
55–64 (n = 986)	7.34 (1.85)	7.82[ab] (1.61)	8.35 (1.57)	7.51 (1.75)	8.00[ab]* (1.54)	8.14 (1.79)	.08
65–74 (n = 689)	7.85 (1.69)	8.19[a] (1.46)	8.18 (1.65)	8.13 (1.54)	8.21[b] (1.40)	7.69 (2.01)	.04
75–84 (n = 329)	8.32 (1.52)	8.46[b] (1.31)	7.94 (1.88)	8.35 (1.66)	8.18[b]* (1.49)	6.85 (2.67)	.09

Note. Standard deviations are given in parentheses. The effect sizes are for differences in temporal ratings across occasions of measurement within each age group. Within each occasion and age group, superscript "a" indicates a significant difference between past and present life satisfaction, and superscript "b" indicates a significant difference between present and future life satisfaction, $p < .01$. Asterisks indicate significant longitudinal change from Occasion 1 to 2 within age group.

Psychological Well-Being. Scores on the short forms (three items each) of six well-being scales (Brim et al., 2004; Ryff, 1989) were averaged to form a well-being composite score, which could range from 1 (*strongly disagree*) to 7 (*strongly agree*; $\alpha = .77$).

Positive Affect. Participants rated how often during the past 30 days they felt each of the following: cheerful, in good spirits, extremely happy, calm and peaceful, satisfied, and full of life (Brim et al., 2004). Ratings were made on a scale from 1 (*none of the time*) to 5 (*all of the time*), and the six ratings were averaged ($\alpha = .91$).

Depressive Symptoms. A binary scale was used to score each participant for no depression (0) versus depressed affect or anhedonia (1), as defined by standard diagnostic criteria (Brim et al., 2004).

Covariates

We included the following covariates in some of the regression models, as noted in the Results section: neuroticism (one of the personality-trait scales described earlier), negative affect (average of six adjectives rated on a 5-point scale from *none of the time* to *all of the time*, referring to the past 30 days), self-rated health (on a 5-point scale from 1, *poor*, to 5, *excellent*), sex, educational attainment in years, and total annual household income in dollars.

RESULTS

A 5 (age group) × 2 (measurement occasion) × 3 (temporal rating: past, present, future) analysis of variance with repeated measures on the last two factors was conducted on the life-satisfaction ratings. Age groups were based on age at Occasion 2: 32 to 44 years, 45 to 54 years, 55 to 64 years, 65 to 74 years, and 75 to 84 years. Significant main effects were found for age, $F(4, 3788) = 18.05$, $p_{rep} = .99$, $\eta_p^2 = .02$, and for measurement occasion, $F(1, 3788) = 21.075$, $p_{rep} = .99$, $\eta_p^2 = .00$, and temporal rating, $F(2, 3787) = 213.04$, $p_{rep} = .99$, $\eta_p^2 = .10$. The Occasion × Age interaction, $F(4, 3788) = 11.05$, $p_{rep} = .99$, $\eta_p^2 = .01$, and Occasion × Temporal Rating interaction, $F(2, 3787) = 135.83$, $p_{rep} = .99$, $\eta_p^2 = .07$, were also significant, as was the three-way interaction of age, occasion, and temporal rating, $F(8, 7576) = 8.429$, $p_{rep} = .99$, $\eta_p^2 = .009$. Bonferroni tests for post hoc comparisons of means were conducted to examine specific hypotheses. To examine whether the life-satisfaction results were influenced by individual differences in dispositional factors related to life satisfaction (Diener, Suh, Luca, & Smith, 1999), we conducted a second set of analyses that included covariates averaged across the two occasions: neuroticism, negative affect, self-rated health, sex, and education. All the covariates were significant predictors in the model, but the main results changed only slightly. Thus, we report the results of the analyses without covariates.

Actual Change in Life Satisfaction Over Time

As expected, the ratings of present life satisfaction were stable over the 9 years. Overall, present life satisfaction did not change significantly between Occasion 1 and Occasion 2. Two age groups, however, showed significant change (see Table 1). Among individuals ages 55 to 64 at Occasion 2, there was a significant increase in present life satisfaction; and among those ages 75 to 84 at Occasion 2, there was a significant decrease, although this change was not significant when both neuroticism and self-rated health were included in the model as covariates.

Perceived Trajectories of Life Satisfaction

The perceived trajectory of life satisfaction for each age group at each measurement occasion is illustrated in Figure 1 (see also Table 1). At Occasion 1, past life satisfaction was rated lower than present life satisfaction by all age groups except the oldest, whose ratings of past and present life satisfaction did not differ significantly. At Occasion 2, past life satisfaction was rated lower than present life satisfaction by all but the two oldest groups, whose ratings of past and present life satisfaction did not differ significantly.

At Occasion 1, the three youngest age groups rated future life satisfaction higher than present life satisfaction. However,

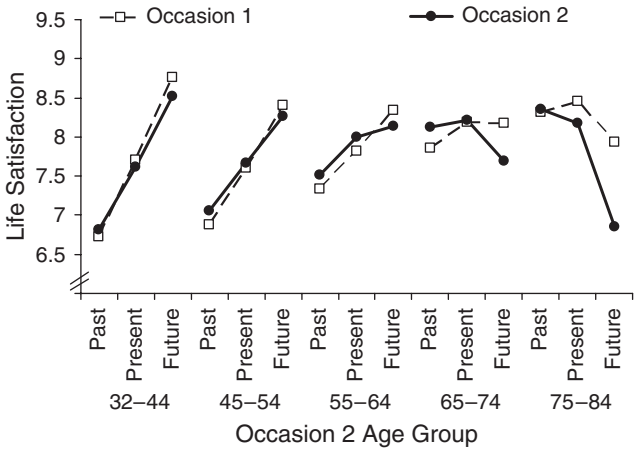

Fig. 1. Perceived trajectories of life satisfaction at Occasion 1 and Occasion 2. Mean ratings of past, present, and future life satisfaction are graphed as a function of age group (identified by ages at Occasion 2).

present and future ratings did not differ significantly among the 55- to 64-year-olds, and the oldest age group anticipated decline. At Occasion 2, the three youngest age groups again rated future life satisfaction as higher than present life satisfaction, and the two oldest age groups rated future life satisfaction as lower than present life satisfaction.

Concordance Versus Discrepancy in Actual and Perceived Ratings

Our design afforded two opportunities to test whether actual ratings of life satisfaction were in accord with perceived (retrospective, prospective) ratings. The first involved comparing the levels of present life satisfaction that respondents reported at Occasion 1 with their recollection of past well-being given at Occasion 2. Post hoc comparisons within age groups showed that the discrepancy between the two ratings, as predicted, was significant for the three youngest age groups, but not for the two oldest groups (see Table 2). These results are depicted in Figure 2.

The second test involved comparing prospective assessments obtained at Occasion 1 with present assessments obtained at Occasion 2. Comparisons showed significant differences, as predicted, for the youngest three age groups, but not for the two oldest age groups (see Table 2 and Fig. 2). Thus, the results support the prediction of greater discrepancy (illusion) among young adults and greater concordance (realism) among older adults.

TABLE 2

Mean Retrospective and Prospective Concordance by Age Group

Age at Occasion 1	*n*	Retrospective concordance	Prospective concordance
32–44	765	−0.89 (1.99)*	1.14 (1.63)*
45–54	1,024	−0.54 (1.86)*	0.74 (1.69)*
55–64	986	−0.31 (1.87)*	0.35 (1.62)*
65–74	689	−0.07 (1.63)	−0.03 (1.71)
75–84	329	−0.11 (1.70)	−0.24 (1.86)
Overall sample	3,793	−0.43 (1.86)	0.49 (1.74)

Note. Standard deviations are given in parentheses. Retrospective concordance was calculated by subtracting present ratings at Occasion 1 from past ratings at Occasion 2. Prospective concordance was calculated by subtracting present ratings at Occasion 2 from future ratings at Occasion 1. Asterisks indicate difference scores that are significantly different from zero, $p < .001$.

The Adaptive Value of Realism and Illusion

We examined whether realism or illusion in retrospective and prospective ratings showed adaptive value and whether adaptiveness varied by age. To do this, we formed concordance groups based on the distribution of difference scores (−10 to +10) for retrospective and for prospective ratings. In each case, realism was defined as a difference score within 2 standard errors of zero (2 SE = 0.06). For retrospection, we subtracted the Occasion 1 rating of present life satisfaction from the Occasion 2 rating of past life satisfaction. We then used the resulting distribution to categorize participants into the accurate, or realistic, group (30%); the overestimation-illusion group, who thought the past was better than it actually was (26%); and the underestimation-illusion group, who thought the past was worse than it actually was (44%). For anticipation, we subtracted the Occasion 2 rating of present life satisfaction from the Occasion 1 rating of future life satisfaction. We then used the resulting distribution to categorize participants into the accurate group (30%); the overestimation-illusion group, who expected the future to be better than it turned out to be (48%); and the underestimation-illusion group, who expected the future to be worse than it turned out to be (22%).

We conducted multivariate analyses of variance, with education, sex, and household income as covariates, and age group and concordance group as the independent variables; the seven biopsychosocial constructs associated with successful adult development and well-being were the dependent variables (see Table 3). We matched the dependent variables to the time point when perceived life satisfaction was assessed; that is, we used Occasion 2 dependent variables for the retrospective analysis and Occasion 1 dependent variables for the prospective analysis. Both analyses showed main effects for age and concordance group, but no age-by-concordance-group interaction. We conducted post hoc tests to determine which of the three concordance groups differed. The analysis of retrospective concordance showed that accuracy was related to more adaptive psychological profiles than were illusions of under- and overestimation, Wilks's $\lambda = .980$, $F(14, 7406) = 5.42$, $p_{rep} = .99$, $\eta_p^2 = .01$; the only exception was that the underestimation and accurate groups did not differ in their scores for depression (see Table 3 and Fig. 3). The analysis of prospective concordance also showed that being accurate was the most adaptive pattern, Wilks's $\lambda = .973$, $F(14, 7434) = 7.59$, $p_{rep} = .99$, $\eta_p^2 = .01$, although the difference between the accurate and overestimation groups was not significant for social support, perceived control, and depression (see Table 3 and Fig. 4).

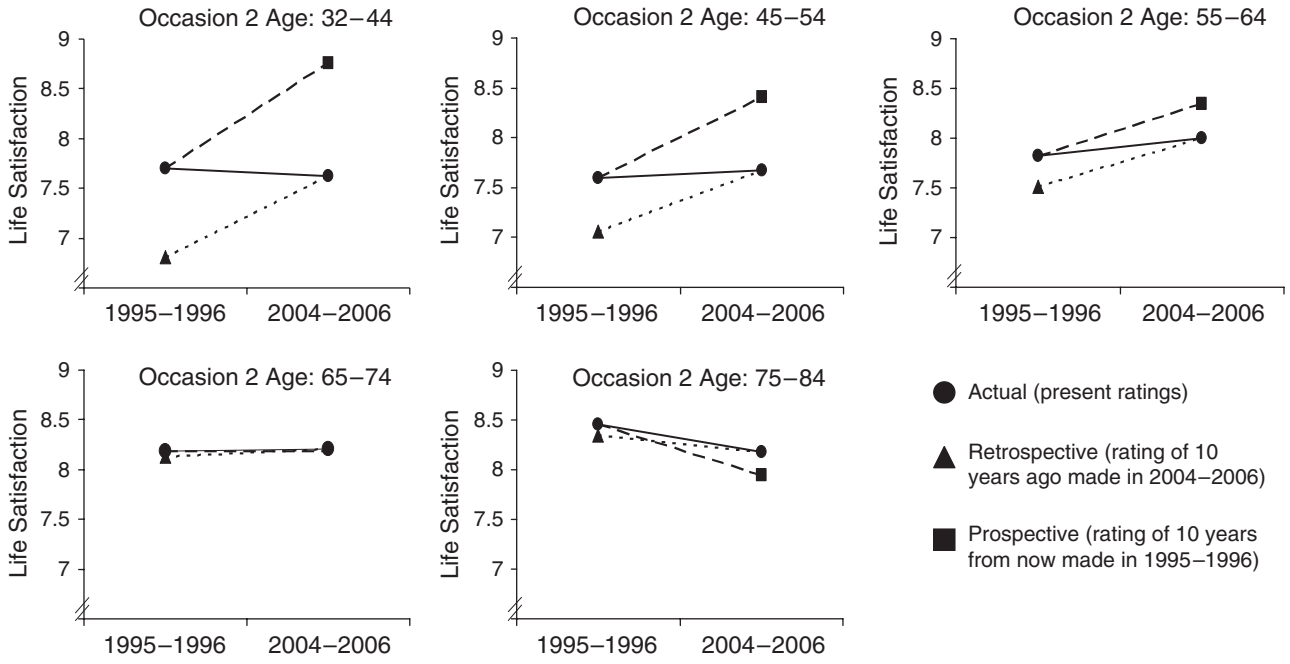

Fig. 2. Mean life-satisfaction ratings made in 1994–1995 for the present and future and in 2004–2006 for the past and present. Each graph presents the results for a different age group. Ratings are plotted according to the years they described; that is, ratings of the past, made in 2004–2006, are plotted for 1995–1996, as they described life satisfaction ''10 years ago,'' and ratings of the future, made in 1995–1996, are plotted for 2004–2006, as they predicted life satisfaction ''10 years from now.'' The lines connecting data points highlight trajectories of interest. The solid line shows the longitudinal trajectory for present ratings. The dashed line highlights the difference between present and future ratings made in 1995–1996; the dotted line highlights the difference between present and past ratings made in 2004–2006. The degree of concordance is illustrated by the vertical distance between the present rating and the retrospective or prospective rating for the same time period.

DISCUSSION

Our results are consistent with past work (Diener & Diener, 1996) in that the Americans in this national sample were generally satisfied with their lives, showing average ratings well above the scale midpoint and little actual change in life satisfaction across 9 years. In fact, we note that the pattern of decline found for the oldest group was nonsignificant after controlling for neuroticism and health.

As for subjective conceptions of change (Fleeson & Baltes, 1998; Ryff, 1991), all age groups younger than 65 saw the present as more satisfying than the past, but those older than 65 saw the past and present as equally satisfying. Beginning around age 65, older adults thought the future would be less satisfying

TABLE 3

Mean Scores for Biopsychosocial Adaptive Functioning for the Prospective and Retrospective Concordance Groups

	Retrospective concordance			Prospective concordance		
Dependent variable	Underestimation group	Accuracy group	Overestimation group	Underestimation group	Accuracy group	Overestimation group
Health	−0.05 (0.02)	0.06[ab] (0.02)	−0.12 (0.03)	−0.12 (0.03)	0.08[ab] (0.03)	−0.01 (0.02)
Personality	3.14 (0.01)	3.18[ab] (0.01)	3.12 (0.01)	3.11 (0.01)	3.23[ab] (0.01)	3.19[c] (0.01)
Social-support quality	3.26 (0.01)	3.31[ab] (0.01)	3.23 (0.01)	3.12 (0.02)	3.25[a] (0.01)	3.21[c] (0.01)
Perceived control	5.49 (0.03)	5.66[ab] (0.03)	5.38 (0.03)	5.33 (0.04)	5.67[a] (0.03)	5.59[c] (0.03)
Psychological well-being	5.58 (0.02)	5.68[ab] (0.02)	5.43[c] (0.03)	5.43 (0.03)	5.71[ab] (0.03)	5.63[c] (0.02)
Positive affect	3.45 (0.02)	3.55[ab] (0.02)	3.35[c] (0.02)	3.26 (0.03)	3.58[ab] (0.02)	3.45[c] (0.02)
Depressive symptoms	0.09 (0.01)	0.07[b] (0.01)	0.11 (0.01)	0.15 (0.01)	0.09[a] (0.01)	0.10[c] (0.01)

Note. The means shown are adjusted for education, sex, and household income. Standard errors are given in parentheses. Within each concordance type and dependent variable, superscript ''a'' indicates a significant difference between the accuracy and underestimation groups, superscript ''b'' indicates a significant difference between the accuracy and overestimation groups, and superscript ''c'' indicates a significant difference between the underestimation and overestimation groups, $p < .05$. Occasion 1 biopsychosocial constructs were the dependent variables for prospective concordance. For retrospective concordance, Occasion 2 biopsychosocial constructs were the dependent variables. For all dependent measures except depressive symptoms, a higher score reflects better adjustment. See the Method section for more information on these measures.

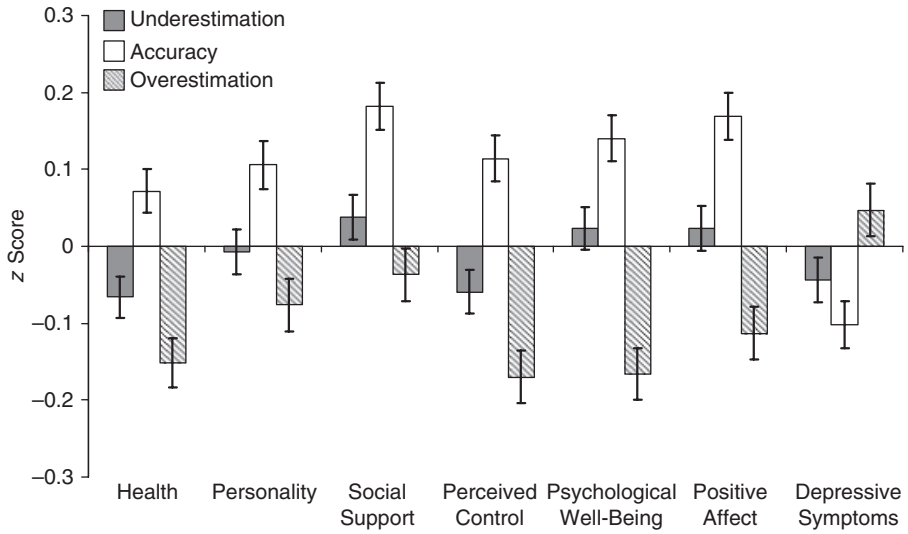

Fig. 3. Association between accuracy in retrospective ratings and adaptive function: The graph shows *z* scores for biopsychosocial measures of adaptive functioning at Occasion 2 for each of the three concordance groups.

than the present, whereas younger groups expected future gains. Thus, the pattern of results suggests that satisfaction is expected to increase throughout much of adulthood, to plateau in the 60s, and to decline thereafter.

The patterns of perceived change were unchanged when we controlled for episodic and semantic memory ability using a word-list recall test and a category-fluency test from the Brief Test of Adult Cognition by Telephone (Lachman & Tun, 2008). Thus, whereas other researchers have found a relation between memory and retrospective evaluations (see Robinson & Clore, 2002), we did not find evidence for this. Our findings may be different because participants were not specifically asked to remember their past ratings, but rather were asked to evaluate how their lives generally were 10 years in the past.

The age differences in perceived changes across time are consistent with a life-span motivational interpretation (Baltes et al., 2006; Freund, 2006). Younger adults are likely to be thinking about ideal and anticipated change when making their ratings. Thus, they typically assess the past more negatively than older adults do (Charles et al., 2003), and they expect the future to be better than it turns out to be. Older adults may be content and satisfied with how things are going, and perhaps this results in their perceived and actual ratings being closer than younger adults' (Robinson & Ryff, 1999). This pattern may also be a

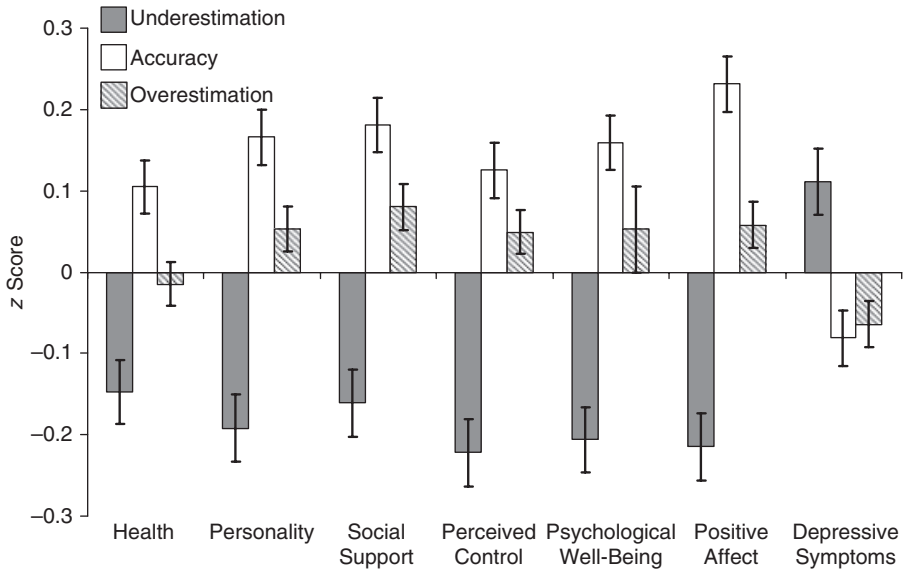

Fig. 4. Association between accuracy in prospective ratings and adaptive function: The graph shows *z* scores for biopsychosocial measures of adaptive functioning at Occasion 1 for each of the three concordance groups.

manifestation of age differences in self-acceptance and self-serving biases.

The realism versus illusion of perceived changes (retrospective, prospective) over time was also of interest. Discrepancies between perceived and actual change were greater for young and middle-aged adults than for the oldest groups, who showed notable concordance. Thus, younger adults were more likely to rewrite the past, perceiving themselves to have had less life satisfaction in the past than they actually reported at the time and simultaneously anticipating greater improvement in their future than actually occurred. Older adults, in contrast, showed high convergence between their recollections of their past well-being and what they actually reported 9 years earlier, as well as between their expectations for the future and what they actually reported 9 years later. Older adults may be more realistic and less motivated to imagine change than the young are, especially if they are quite satisfied with their present lives relative to their lives at earlier periods. Older adults may also have a closer correspondence between actual and perceived satisfaction because they have greater self- and emotional awareness or ego integrity (Gross et al., 1997; Ryff, 1984), which perhaps makes them more likely than younger adults to consider contextual factors, intervening events, and their own self-regulatory capabilities and positive emotions in evaluating their satisfaction at different times (Wilson & Gilbert, 2005).

A look at the adaptive value of accuracy showed that realism was associated with better functioning in key domains than was illusion, and the adaptive value of accuracy did not vary as a function of age. Thus, greater illusion, or more discrepancy between ratings of actual and perceived life satisfaction, was associated with more negative outcomes; this finding is consistent with findings on accuracy in rating personal attributes (Colvin et al., 1995). Our finding that participants who saw the past as it was were better adjusted than were those who viewed the past as better or worse than it was is consistent with the developmental task of increasing self-acceptance in adulthood (Ryff, 1991). Although downgrading the past makes the present seem better (Ross, 1989), this may not be necessary for individuals who are doing well in the present.

It is important to consider that our operational definition of illusion departed from the more traditional approaches (e.g., Taylor et al., 2003). Using an intraindividual framework, we focused on how well perceptions of the past and future matched actual assessments made at the corresponding time points. In contrast, previous studies have typically examined participants' assessments of themselves relative to other people or to objective performance, and the illusion that one is better than most others seems to hold adaptive value (Taylor et al., 2000). Consistent with our findings, work on ratings of personal attributes has demonstrated that individuals who are more accurate are better adjusted (Colvin et al., 1995). Based on a life-span framework, our study showed that being more realistic about where one has been and where one is going is associated with better functioning in multiple realms, and future work should investigate the implications of this finding for goal-setting and motivational processes.

Our study has some limitations. The longitudinal sample was positively selected, as participants who dropped out of the study had lower life satisfaction than those who remained, and this could affect the generalizability of the findings. Given the design and survey questions, we could not determine the basis on which the participants made their 10-year ratings, or what processes were operating when they perceived the past and anticipated the future. Some of the effect sizes in the analysis of adaptive functioning were small, and these results should be interpreted with caution.

In conclusion, although life satisfaction is generally high, it does not get as high as younger adults expect. Nevertheless, it is likely that this overestimation among younger and early-middle-aged adults serves a motivational function supporting a growth orientation. Moreover, in later life, actual and anticipated satisfaction do not continually increase, and there are limits to how high they get. The young have an illusion of continued improvement, seeing the past as worse than it really was and the future as better than it turns out to be, and this illusion is consistent with their motivational orientation toward continued growth and gains. These findings are consistent with research on younger adults' inaccurate forecasting of happiness evoked by specific events (Wilson & Gilbert, 2005) and inaccurate reconstructing of the past (Ross, 1989).

Older adults are more realistic in their retrospective and prospective ratings, a pattern consistent with a focus on accepting the past, maintaining functions, avoiding losses, and coming to terms with one's life course as lived. Older adults, especially in advanced old age, are less optimistic about the future than younger adults are; they recognize there are limits to how good things will get, but they think things will be worse than they actually are (see Fig. 2). These more negative expectations from the aged may be their way of bracing for an uncertain future, a perspective that can serve a protective function in the face of losses and that can have positive consequences if life circumstances turn out to be better than expected.

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