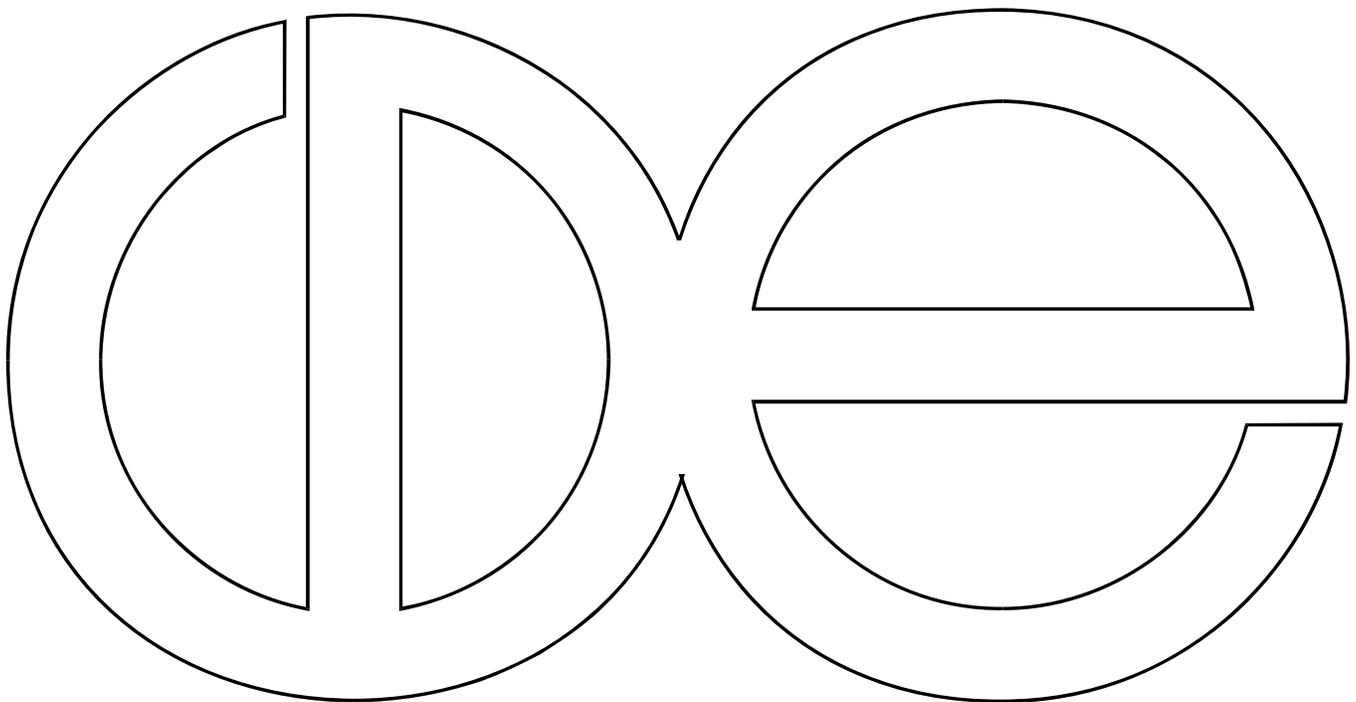


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## **Does Psychological Well-Being Change with Age?**

### **ABSTRACT**

Using three large surveys, we: (1) assess the structure of Ryff's scales of psychological well-being (RPWB) by examining the extent to which the six RPWB dimensions are differentially related to age, and (2) distinguish cohort differences in RPWB observed in a cross-section from true life-course changes associated with the transition from midlife to early old age for a cohort born in 1939. Several RPWB dimensions in our study exhibit distinct age profiles; yet, cross-sectional and longitudinal age variations are minor, accounting for less than one percent of the variance. Moreover, heterogeneity among individual scale items should be taken into account because scales comprising different items yield different age patterns. Finally, we suggest that cross-sectional findings do not accurately reflect maturational changes in some RPWB dimensions. We discuss our findings within the frameworks of dynamic equilibrium and emotional regulation.

## Does Psychological Well-Being Change with Age?

### INTRODUCTION

Current research on well-being has been guided by two general perspectives: the *hedonic* approach that defines well-being in terms of pleasure and happiness; and the *eudaimonic* approach, which focuses on self-realization, personal expressiveness, and actualization of one's abilities (Ryan & Deci, 2001; Waterman, 1993). Drawing from the eudaimonic perspective, Ryff (1995) has described well-being as "the striving for perfection that represents the realization of one's true potential" (p. 100) and suggested a multidimensional model of psychological well-being that comprises six distinct dimensions: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance (Ryff, 1989a,b).

Using three large social surveys, we examine the extent to which eudaimonic psychological well-being changes with age. We contrast cross-sectional age variation in the six dimensions of Ryff's scales of psychological well-being (RPWB) with true life-course changes associated with the transition from late midlife to early old age for a cohort of men and women born in 1939. The purpose of our study is twofold. First, we assess the structure of RPWB (Kafka & Kozma, 2002; Ryff & Keyes, 1995; Ryff & Singer, 2006; Springer & Hauser 2006; Springer, Hauser, & Freese 2006) by examining the extent to which the six dimensions are differentially related to age. Second, relying on both cross-sectional and longitudinal data, we distinguish cohort differences in RPWB observed in a cross-section from life-course changes related to aging and maturational processes; thus, our analysis contributes to understanding psychological functioning in later life.

#### *The Structure of Ryff's Model of Psychological Well-Being*

The six dimensions of RPWB have been theoretically proposed to measure distinct aspects of well-being. Moreover, structural analysis conducted by Ryff and Keyes (1995) on a national sample of young, midlife, and older adults supported a six-factor model of RPWB with a single

higher-order factor. In contrast, Springer and Hauser (2006) found little empirical support for the multidimensionality of RPWB. They observed that across three large data sets, latent variable correlations among personal growth, purpose in life, environmental mastery, and self-acceptance approached 1.00, indicating almost complete overlap in these sub-dimensions. Based on these findings, Springer and Hauser (2006) conclude that the RPWB scales do not measure six distinct dimensions. Different conclusions of Ryff and Keyes (1995) and Springer and Hauser (2006) reflect differences in methodological approaches. Specifically, Springer and Hauser's factorial analysis is based on polychoric correlations and weighted least squares estimations, whereas Ryff and Keyes did not use polychoric correlation matrices. In addition, Springer and Hauser take into account the effect of the mode of data collection and show that telephone RPWB items, like those analyzed by Ryff and Keyes produce *lower* correlations than self-administered mail items.

Our study attempts to further pursue the question of the interrelationship among the dimensions of RPWB by focusing on their age-related differences and similarities. For example, Ryff and Keyes' (1995) examination of the factorial structure of RPWB showed that self-acceptance and environmental mastery were highly correlated. Yet, their analysis of age patterns revealed distinct age profiles of self-acceptance and environmental mastery, suggesting that the two dimensions might reflect distinct aspects of eudaimonic well-being. Our approach is based on a similar premise. If we find that four dimensions identified by Springer and Hauser (2006) exhibit virtually indistinguishable age patterns, this will provide further support for Springer and Hauser's conclusion that the RPWB subscales do not measure six distinct dimensions. Conversely, if we observe that each dimension is uniquely associated with age, this will be additional evidence for the multidimensionality of RPWB. Moreover, exploring the structure and interrelationships between the RPWB dimensions via their age profiles can contribute to understanding the trajectories of eudaimonic well-being over the life course.

### *Age Variation in Psychological Well-being: Cohort Differences or Maturation Processes?*

Extant research on age-related changes in RPWB has been largely based on cross-sectional data. Cross-sectional studies document that autonomy and environmental mastery are higher in older age groups relative to younger people; personal growth and purpose in life are lower in older age groups; positive relations with others and self-acceptance exhibit little age variation (Clarke, Marshal, Ryff, & Rosenthal, 2000; Ryff, 1989b; Ryff & Keyes, 1995; Ryff, Keyes, & Hughes, 2003).

Interest in age differences in well-being is related to psychological theories of life-span development (Neugarten, 1973), which emphasize the significance of particular life challenges in the move from young adulthood through middle age into late life (Keyes, Shmotkin, & Ryff, 2002). Yet, studies of age variation in RPWB have largely been based on synthetic cohorts and, thus, tended to confound *inter-* and *intra-*cohort variation. Therefore, it is not clear whether age differences observed in cross-sectional analyses reflect maturational processes or, alternatively, represent stable differences among birth cohorts. Ryff & Keyes (1995) suggest that “longitudinal data are obviously needed to clarify whether these age profiles represent maturational changes, or cohort differences” (p. 724).

To our knowledge, no study has contrasted cross-sectional and longitudinal age variation in *eudaimonic* well-being. Research on *hedonic* well-being points to the importance of distinguishing between aging and cohort effects, and suggests that cross-sectional studies can obscure true intra-individual changes. For example, cross-sectional analyses revealed that hedonic well-being increased in older adulthood (Mroczek & Kolarz, 1998). However, using longitudinal data, Mroczek and Spiro (2005) documented a curvilinear relationship between age and life satisfaction: life satisfaction increased to approximately age 65-79 and then declined. Because hedonic and eudaimonic outcomes reflect different aspects of positive psychological functioning, it is important

to explore whether a divergence between cross-sectional and longitudinal age patterns in eudaimonic well-being is also observed.

### *Stability and Change in Psychological Well-being over the Life Course*

Researchers have accumulated vast evidence supporting both stability and change in emotional and behavioral patterns over the life course. Proponents of the Five-Factor Model of personality argue that personality traits tend to remain stable after early adulthood (Costa & McCrae, 1988; Costa & McCrae, 1997). If, as some argue, personality is a primary determinant of psychological functioning (Costa & McCrae, 1980; DeNeve & Cooper, 1998), levels of well-being should remain stable after maturity is reached. The notion of “hedonic treadmill” has been evoked to describe the relative stability of levels of subjective well-being (SWB). People tend to adapt to changes in life circumstances and return to an initial level of SWB after a temporary increase or decline in life satisfaction (Headey & Wearing, 1989; Mroczek & Spiro, 2005).

In contrast, a life-span developmental perspective emphasizes the importance of life changes and role transitions in personality development and suggests that developmental changes can occur at any point in the life course, even long after young adulthood (Helson & Wink, 1992; Helson et al., 2002; Whitbourne, Zuschlag, Elliott, & Waterman, 1992). In this case, plasticity of personality (Baltes, Reese, & Lipsitt, 1980) and the observed close link between personality traits and well-being imply that various aspects of well-being may change as individuals grow older (Mroczek, 2001).

Guided by these competing theoretical considerations, our study examines whether eudaimonic well-being as measured by the RPWB subscales can be regarded as persistent personal traits, largely unresponsive to the joys and vicissitudes of life, or whether eudaimonic psychological well-being is a more dynamic product of changing circumstances, including one’s location in the life course.

In sum, our goals are: (1) to explore the extent to which the six RPWB subscales exhibit distinct age profiles and, thus, potentially reflect distinct dimensions of eudaimonic well-being, and (2) to examine the degree of change and continuity in RPWB as a real cohort of men and women born in 1939 transitions from midlife to early old age.

## METHODS

### *Data*

*WLS.* The WLS is a long-term study of a random sample of 10,317 men and women who graduated from Wisconsin high schools in 1957 (and, thus, are referred to as “graduates”). The respondents were first surveyed in 1957, during their senior year in high school. Subsequent interviews were completed at ages 36 (in 1975), 53-54 (in 1993), and 64-65 (in 2004-2005). In 1993-1994, four surveys were conducted: telephone and mail surveys of the WLS graduates and similar surveys of randomly selected siblings of the graduates. For the cross-sectional analysis, we use the 1993 graduate data and 1994 sibling data, whereas our longitudinal analysis is based on the 1993 and 2004-2005 data for the WLS graduates.

The 1993 mail survey contained seven items for each RPWB subscale, yielding a total of 42 items (described in detail in Springer & Hauser, 2006). The mail survey in 2004-2005 included 32 RPWB items. The 1993 and 2004-05 mail surveys have 19 items in common, which are the basis of our longitudinal intracohort analysis of the WLS sample.

*MIDUS.* MIDUS is a national, multistage probability sample of 3,032 non-institutionalized English-speaking American adults between the ages of 25 and 74 years old. In 1994-1995, respondents completed a 30-minute telephone interview and a two-part self-administered mail questionnaire. One of the mail questionnaires contained 18 RPWB items.

*NSFH.* The NSFH began in 1987-1988 with a national sample of more than 10,000 American households. In each household, a randomly selected adult was interviewed. The five-year follow-up was conducted in 1992 to 1994 and included data collection from 10,000 main

respondents and their families. The third wave of the NSFH was conducted in 2001-2003. We restricted our analysis to main respondents who participated in NSFH II and NSFH III. RPWB items were included in the self-administered health module and contained the same 18 items as MIDUS, though arranged in a different order.

It is worth noting that the three surveys were conducted in roughly the same period—the early to mid-1990s; therefore, differences in age variation in RPWB among the surveys are unlikely to be driven by period effects.

### *Variables*

*Psychological well-being.* NSFH and MIDUS contain the same 18 items with slight wording differences (see Springer & Hauser [2006] for detailed description of these items). The WLS mail instruments include 6 of the 18 NSFH/MIDUS items in addition to 36 other items.

Response categories differ across the surveys. The most problematic difference for the purposes of our analysis was between the two waves of the NSFH. In NSFH II, there were six response categories, whereas in NSFH III, there were five. Because of this discrepancy, it is not possible to report intracohort comparisons between NSFH II and NSFH III.

Each dimension of the RPWB subscales was measured with both positively and negatively worded items. Positively worded items are those to which individuals should respond “strongly agree” to indicate the highest level of well-being, e.g., “I have confidence in my opinions even if they are contrary to the general consensus.” “Negatively worded items are those to which individuals should respond “strongly disagree” to indicate the highest level of well-being, e.g., “I have not experienced many warm and trusting relationships.” To create a scale for each of the six dimensions, scores for responses were averaged across items. All *positively worded items* were *reverse coded*, so that higher scores always correspond to higher levels of reported psychological well-being.

*Age, cross-sectional analysis.* We pooled the 1993 sample of the WLS graduates (most of whom were 53-54 years old at the time of the interview) and the 1994 sample of the WLS siblings (whose age at the interview ranged from 29 to 80 years old). The pooled sample comprised 10,914 siblings and graduates who were categorized into the following age groups: 29-44 years (n=375); 45-51 years (n=1,163); 52-56 years, containing mostly graduates (n=7, 764); 57-64 years (n=1,286); and 65-80 years (n=326).

NSFH II respondents were subdivided into the following five age categories: 29-38 years (n=752); 39-48 years (n=1,580); 49-58 years (n=879); 59-68 years (n=582); 69 years or older (n=376). The cross-sectional analysis of the NSFH III sample is based on the same groups of respondents who became approximately 10 years older: 39-48 years (n=752); 49-58 years (n=1,580); 59-68 years (n=879); 69-78 years (n=582); 79 years or older (n=376).

Among MIDUS respondents, five age groups were compared to each other: 29-38 (n=823); 39-48 (n=884); 49-58 (n=761); 59-68 (n=560); 69 or older (n=252). We excluded individuals under age 29 to maintain comparability with the NSFH age categories.

Our choice of the specific boundaries of age intervals was driven by our motivation to maximize comparability across surveys. The middle age group in MIDUS (49-58 years), NSFH II (49-58 years), and NSFH III (59-68 years) is centered on the age of the WLS graduates who were 53-54 in 1992-1993 and 64-65 in the 2003-05. Older and younger age categories were constructed as 10-year intervals to the right and to the left from the respective middle group in each sample.

*Age, longitudinal analysis.* The longitudinal analysis of the WLS graduates compares their RPWB scores measured first in 1992-1993 when they were 53-54 years old and then in 2003-2005 when they were 64 or 65 years old (n=5,217).

## *Analytic Strategy*

Our results are based on cross-sectional and longitudinal comparisons of mean values of the RPWB subscales (two-tailed t-tests and one-way ANOVA). For the WLS sample, we conducted three types of longitudinal analysis. First, we used all items (both positively and negatively worded) to create the six subscales of RPWB. Second, we excluded negatively worded items and created the subscales based only on the positively worded items. Third, we used only the negatively worded items to create subscales.

To compare *between-year* changes in the WLS across subscales comprising all items, positively worded items only, and negatively worded items only, all mean scores and standard deviations were standardized. First, within each of the six dimensions, we calculated overall means and standard deviations based on both years. Then, for every wave, we obtained individual means and standard deviations, subtracted overall means, and divided the difference by their respective overall standard deviations. We used the following formula for standardization:

$$M_i^{std} = \frac{M_i - M_o}{S_o}; \quad S_i^{std} = \frac{S_i}{S_o}, \text{ where}$$

$M_o$  is the overall mean for each sample;

$S_o$  is the overall standard deviation for each sample;

$M_i$  is an individual mean (for every wave);

$S_i$  is an individual standard deviation;

$M_i^{std}$  is a standardized individual mean;

$S_i^{std}$  is a standardized individual standard deviation

## RESULTS

### *Cross-Sectional Findings*

The cross-sectional findings, summarized in Table 1, are that, overall, *personal growth* and *purpose in life* tend to be lower among older age groups relative to younger ages. In MIDUS,

NSFH II, and NSFH III, personal growth and purpose in life decline in each successive age category, and they are lowest among the oldest respondents. Yet, in the WLS sample, personal growth and purpose in life are slightly greater for the 52-56 age group (containing predominantly graduates) than at other ages. The oldest age group (those aged 65 to 80 years) reported the lowest levels of personal growth and purpose in life.

[INSERT Table 1 about here]

In the MIDUS and WLS data *environmental mastery* and *positive relations with others* are higher in older age groups relative to younger ones. Similarly, the levels of environmental mastery are higher for the two oldest NSFH II age categories (59-68 years and 69+ years) than for younger respondents. However, in NSFH III, this dimension of RPWB does not exhibit significant age differences. In the NSFH II sample, positive relations with others increase for each successive age group up to age 69 but decline for the oldest respondents. Yet, for the same sample 10 years later (NSFH III) positive relations with others show little age variation up to age 69 and become lower among the oldest age groups (69-78 years and 79+ years).

Among the WLS participants, *autonomy* increases for each successive age group up to age 65 and then declines for adults aged 65 to 80 years. In the MIDUS sample, the level of autonomy increases for each successive age group. The NSFH II and NSFH III analyses do not yield consistent patterns: whereas in the NSFH II sample the levels of autonomy are the highest in the 59-68 age group relative to younger and older ages, autonomy declines for each successive age category in the NSFH III sample when the same respondents grew 10 years older.

In the WLS sample, *self-acceptance* tends to increase with age, and the highest levels of self-acceptance are observed in the oldest age group (65-80 years old). In the MIDUS and NSFH II data sets, self-acceptance does not differ significantly by age, whereas in the NSFH III sample, this dimension of RPWB is lower for the two oldest age groups relative to younger ages.

In sum, our cross-sectional findings show that personal growth and purpose in life are lower in older age groups compared to younger ages, whereas environmental mastery tends to be higher among older adults relative to their younger peers. However, we observe *no* consistent cross-sectional age trends in autonomy, positive relatedness, and self-acceptance: the patterns of age variation in each of these three RPWB dimensions are different in our four cross-sectional samples (WLS, MIDUS, NSFH II, and NSFH III). However, no cross-sectional age differentials appear consistently and significantly in all four samples.

Moreover, as shown in Table 2, in most of the six subscales of RPWB, cross-sectional age variation is very modest. With four notable exceptions—cross-sectional variation in personal growth and purpose in life in the two NSFH surveys—there is only one case in which age accounts for as much as two percent of the variance in a RPWB subscale. In most of the remaining cases, age explains less than one percent of the variance in RPWB.

[INSERT Table 2 about here]

However, the exceptions in the two NSFH surveys are striking. In NSFH II, age accounts for two percent of the variance in personal growth and four percent of the variance in purpose in life. In NSFH III, age accounts for 8.5 percent of the variance in personal growth and 10.5 percent of the variance in purpose in life. We have looked more closely at the items in the two exceptional subscales.

Personal growth in NSFH is assessed using two positively worded items and one negatively worded item: “It’s important to have new experiences that challenge how I think about myself and the world;” “I gave up trying to make big improvements or changes in my life a long time ago;” and “For me, life has been a continuous process of learning, changing, and growth.” Figures 1a, 1b, and 1c show age variation in NSFH II and NSFH III in the *overall* subscale (1a), in a scale based only on *positive* items (1b), and in the single *negative* item (1c). As shown in Figure 1a, personal growth declines regularly in both NSFH surveys, but more steeply in NSFH III than in

NSFH II. However, the one negatively worded item drives the decline across ages in NSFH II (Figure 1c); there is no decline in the positively worded items in this sample (Figure 1b). In NSFH III, there are similar declines in both the positively and negatively worded items.

[INSERT Figures 1a, 1b, and 1c about here]

Purpose in life is assessed using one positively worded and two negatively worded items: “I live life one day at a time and don’t really think about the future;” “I sometimes feel as if I’ve done all there is to do in life;” and “Some people wander aimlessly through life, but I’m not one of them.” Figures 2a, 2b, and 2c illustrate age variation in NSFH II and NSFH III in the *overall* subscale, in a scale based only the *positive* item, and in the *negatively* worded items. As shown in Figure 2a, purpose in life declines regularly in both NSFH surveys for the three oldest age groups. Yet, the positively worded item actually increases in NSFH II (Figure 2b), and the overall change in both years is dominated by a sharp decline with age in the average of the two negatively worded items (Figure 2c).

[INSERT Figures 2a, 2b, and 2c about here]

In the other four dimensions of RPWB, the cross-sectional differences by age in the NSFH data are reasonably consistent across positive and negative items; there is very little variation. Thus, it is difficult to associate the age gradients in personal growth and purpose in life with negative items *per se*, which would be a possibility if older persons were less likely to notice and understand the reverse-scored items. At the same time, we hesitate to draw firm conclusions about age variation in scales whose constituent items behave quite differently.

### *Longitudinal Findings*

The results from the longitudinal analysis of the WLS cohort are summarized in Table 3. To anticipate, because the sample size is quite large, very small changes in mean subscale values are statistically significant.

[INSERT Table 3 about here]

Longitudinal comparisons of means reveal that the WLS graduates report lower levels of *purpose in life* and *personal growth* at ages 64-65 than at ages 53-54, regardless of whether the scales comprise all items, positively worded or negatively worded items only. In contrast, *environmental mastery* has increased for the WLS graduates over the 10-year period. The WLS longitudinal analysis reveals heterogeneity among the items in *positive relations with others*. The comparison of scales including all items suggests that positive relations with others slightly *increased* between graduates' mid-50s and mid-60s. When only positively worded items are considered, the age-related increment in this dimension becomes more pronounced, yet a scale consisting only of negatively phrased items shows a *decline* in positive relatedness over time. Finally, the WLS data suggest declines in *autonomy* and in *self-acceptance* across the decade between respondents' mid-50s and mid-60s.

To sum up, longitudinal comparisons of RPWB subscales including *both positively and negatively worded items* indicate that personal growth, purpose in life, autonomy, and self-acceptance decline with age for the WLS cohort, whereas environmental mastery slightly increases in the period between respondents' mid-50s and mid-60s. Positive relations with others do not show a significant change over a decade. However, when either *positively worded* or *negatively worded items* are excluded from analysis, the longitudinal age trajectories in positive relations with others change in *opposite* directions. This pattern emphasizes the potentially confounding effects of heterogeneity among individual items.

Moreover, as shown in Table 3, we observe overwhelmingly greater variation *within* ages than *between* ages across time. Despite the nominal statistical significance of temporal changes in the RPWB subscales among WLS graduates, between-year changes explain a very small percentage of variance in RPWB dimensions (from 0.00% for positive relations to 0.66% for personal growth).

Finally, Table 4 contrasts cross-sectional and longitudinal age variation in RPWB for the age intervals comprising late midlife and early old age. That is, we compare aging and cohort effects observed in each sample for this specific life-course stage. Personal growth and purpose in life consistently decline between late midlife and early old age in cross-sectional and longitudinal findings, whereas environmental mastery consistently rises with age. In contrast, cohort patterns do not adequately reflect the effects of aging for autonomy, self-acceptance, and positive relations with others. Adjusted  $R^2$  given in parentheses show that age explains less than one percent of the variance in RPWB in most cases, even for statistically significant changes.

[INSERT Table 4 about here]

## DISCUSSION

Using three large surveys, we assessed the structure of RPWB by exploring the extent to which autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance exhibit different age profiles. Further, we examined change and continuity in RPWB during the transition from middle adulthood to early old age for a real cohort of men and women born in 1939.

By using both cross-sectional and longitudinal data, we made a first attempt to distinguish between *aging* and *cohort* effects on eudaimonic well-being. Our results suggest that cross-sectional findings may accurately reflect the effects of aging and maturational changes on some RPWB dimensions, notably, personal growth, purpose in life, and environmental mastery. Yet, cross-sectional analysis may obscure true life-course changes in other dimensions, specifically, autonomy, positive relations, and self-acceptance. Therefore, researchers should be careful not to draw firm conclusions about developmental maturational processes in late midlife and early old age from cohort differences in RPWB observed in a cross-section.

With respect to the *structure* of RPWB, our findings present a complex picture. Springer and Hauser (2006) showed that, in several cross-sectional surveys, personal growth, purpose in life, environmental mastery, and self-acceptance are virtually indistinguishable when corrected for errors of measurement. Our analysis reveals that, of these four dimensions, personal growth and purpose in life are consistently lower in early old age than in late midlife in cross-sectional and longitudinal analyses. This consistent decline in personal growth and purpose in life—combined with Springer and Hauser’s findings—suggests that these two dimensions may indeed measure a single underlying aspect of eudaimonic well-being. In contrast, the four other RPWB dimensions exhibit distinct age profiles, which may imply that autonomy, environmental mastery, positive relations with others, and self-acceptance reflect distinct domains of positive psychological functioning.

Yet, we hesitate to draw firm conclusions about the multidimensionality of RPWB from our findings. First, we observe the confounding effects of heterogeneity among individual items in RPWB subscales. For example, in NSFH II, the lower levels of personal growth and purpose in life in older cohorts relative to younger cohorts were driven by negatively worded items. When only positively worded items were considered, there was no downward change in these two dimensions with advancing age. Similarly, longitudinal age trajectories in positive relations with others varied, depending on whether the scales measuring this dimension included all available items, positively worded, or negatively worded items only. We suggest that heterogeneity among individual items should be taken into account in any analysis considering age variation in RPWB because subscales comprising different items might yield different patterns.

Moreover, almost all age-related changes revealed by our analysis are of a very small magnitude, despite their nominal statistical significance in large sample surveys. We observed far greater variation *within* ages or periods than *between* subscales across age or time. Therefore, it is not entirely clear to what extent age variation in RPWB reflects substantively meaningful

trajectories of emotional health in later life. While our findings are nominally consistent with theories that posit life-course trajectories of well-being, we also think it appropriate to ask whether the observed changes are large enough to support the theoretical attention that they have attracted. By the same token, we think that the present findings offer minimal support for the claimed multidimensionality of eudaimonic well-being.

It is possible that the very slight intra-individual changes in each dimension of RPWB imply that eudaimonic well-being is a relatively stable personal trait rather than a volatile state responsive to life events and transitions. This stability can reflect maturational accommodative processes, such as *emotional regulation*. Compared to younger people, older adults have a greater ability to “regulate” their emotions (Lawton, Kleban, Rajagopal, & Dean, 1992) and exhibit less variability in their emotional responses to environmental challenges (Mroczek & Kolarz, 1998; Stacey & Gatz, 1991). Older adults are also believed to have wisdom, which may be a source of equanimity and acceptance in the face of adverse life circumstances (Baltes, Smith, & Staudinger, 1992).

The *dynamic equilibrium model* proposed by Headey and Wearing (1989) is also consistent with the very slight changes in RPWB we observed in a cohort transitioning from late midlife to early old age. The model suggests that each person has a “normal” or equilibrium pattern of life events, and a “normal” or equilibrium level of subjective well-being, both of which are predictable on the basis of stable personality characteristics. No change in well-being occurs if the regular pattern of events is maintained. Only deviations from habitual events may change the normal level of well-being. Even then, the change is usually temporary because stable personality traits, which play a crucial equilibrating function, mean that people are likely to revert to their normal levels.

It is possible, however, that the life-course period covered by our longitudinal data—the decade from 53-54 years old to 64-65 years old—may be characterized by greater stability than other segments of the life course. According to Erikson (1950), each life stage involves a specific

developmental “crisis” that needs to be resolved successfully. The transitional period from late midlife to early old age is at the intersection of two critical personality challenges of adulthood. In Eriksonian view, midlife is a period of generativity, an important developmental task that requires individuals to move beyond the narrow focus on the self to broader concerns for others and to assume the roles of leadership and guidance in the family and community. Thus, middle age as the peak years of norm bearing, authority, and decision-making (Keyes, Shmotkin, & Ryff, 2002) may be associated with the stability of one’s expectations and experiences. As for older adults, the central psychological conflict in late life is ego integrity versus despair (Erikson, 1950). Maintaining continuity and stability may be an important strategy to achieve ego integrity and the optimal balance between one’s past and present.

Given the distinctive nature of late midlife, our next step will be to use longitudinal data for the siblings of the WLS main respondents to examine whether intra-individual stability of RPWB dimensions is evident during other life stages, such as the transition from young adulthood to midlife or in advanced old age. Further, because our purpose in this initial analysis was to establish general patterns of age variation in RPWB, our further research will examine whether similarities and differences among the six RPWB dimensions observed with respect to age will be replicated using other fundamental demographic and psychological variables, such as gender, marital status, socioeconomic status, and personality. Ryff & Keyes (1995) suggest that analyses of additional group differences in RPWB would provide further understanding of the structure of eudaimonic well-being. Moreover, research on hedonic well-being reveals that age and affect tend to be related only for certain groups; consequently it is important to ask for whom well-being rises or declines with age (Mroczek & Kolarz, 1998).

## REFERENCES:

- Baltes, P. B., Reese, H. W., & Lipsitt, P. (1980). Life-span developmental psychology. *Annual Review of Psychology, 31*, 65-110.
- Baltes, P.B., Smith, J., & Staudinger, U.M. (1992). Wisdom and successful aging. In T. B. Sonderegger (Ed.), *Psychology and aging*. (Nebraska Symposium on Motivation, 1991, vol. 39, pp. 123-167). Lincoln: University of Nebraska Press.
- Clarke, P. J., Marshal, V. W., Ryff, C. D., & Rosenthal, C. J. (2000). Well-being in Canadian seniors: Findings from the Canadian Study of Health and Aging. *Canadian Journal on Aging, 19*, 139-159.
- Costa, P. T., & McCrae, R. R. (1980). Influence of extraversion and neuroticism on subjective well-being. *Journal of Personality and Social Psychology, 38*, 668-678.
- \_\_\_\_\_. (1988). Personality in adulthood: A six year longitudinal study of self-reports and spouse ratings on the NEO Personality Inventory. *Journal of Personality and Social Psychology, 54*, 853-863.
- \_\_\_\_\_. (1997). Longitudinal Stability of Adult Personality. In R. Hogan, J. A. Johnson, and S. R. Briggs (Eds.), *Handbook of Personality Psychology* (pp. 269-290). San Diego, CA: Academic Press.
- DeNeve K. M., & Cooper H. (1998). The happy personality: A meta-analysis of 137 personality traits and subjective well-being. *Psychological Bulletin, 124*, 197-229.
- Erikson, E. (1950). *Childhood and society*. New York: W. W. Norton.
- Headey, B., & Wearing, A. (1989). Personality, life events, and subjective well-being: Toward a dynamic equilibrium model. *Journal of Personality and Social Psychology, 57*, 731-739.
- Helson, R., & Wink, P. (1992). Personality change in women from the early 40s to the early 50s. *Psychology and Aging, 7*, 46-55.

- Helson, R., Kwan, V.S.Y., John, O., & Jones, C. (2002). The growing evidence for personality change in adulthood: Findings from research with personality inventories. *Journal of Research in Personality, 36*, 287–306.
- Kafka, G. J., & Kozma, A. (2002). The construct validity of Ryff's scales of psychological well-being (SPWB) and their relationship to measures of subjective well-being. *Social Indicators Research, 57*, 171-190.
- Keyes, C. L. M., Shmotkin, D., & Ryff, C. D. (2002). Optimizing well-being: The empirical encounter of two traditions. *Journal of Personality and Social Psychology, 82*, 1007-1022.
- Lawton, M. P., Kleban, M. H., Rajagopal, D., & Dean, J. (1992). Dimensions of affective experience in three age groups. *Psychology and Aging, 7*, 171-184.
- Mroczek, D. K. (2001). Age and emotion in adulthood. *Current Directions in Psychological Science, 10*, 87–90.
- Mroczek, D. K., & Kolarz, C. M. (1998). The effect of age on positive and negative affect: A developmental perspective on happiness. *Journal of Personality and Social Psychology, 75*, 1333-1349.
- Mroczek, D. K., & Spiro, A. (2005). Change in life satisfaction during adulthood: Findings from the Veterans Affairs Normative Aging Study. *Journal of Personality and Social Psychology, 88*, 189-202.
- Neugarten, B. L. (1973). Personality change in late life: A developmental perspective. In C. Eisdorfer & M. P. Lawton (Eds.), *The Psychology of Adult Development and Aging* (pp. 311-335). Washington, DC: American Psychological Association.
- Ryan, R. M., & Deci, E. L. (2001). On happiness and human potential: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology, 52*, 141-166.
- Ryff, C. D. (1989a). Beyond Ponce de Leon and life satisfaction: New directions in quest of successful aging. *International Journal of Behavioral Development, 12*, 35-55.

- \_\_\_\_\_. (1989b). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, 1069-1081.
- \_\_\_\_\_. (1995). Psychological well-being in adult life. *Current Directions in Psychological Science*, 4, 99-104.
- Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69, 719-727.
- Ryff, C. D., Keyes, C. L. M. & Hughes, D. L. (2003). Status inequalities, perceived discrimination, and eudaimonic well-being: Do the challenges of minority life hone purpose and growth? *Journal of Health and Social Behavior*, 44, 275-291.
- Ryff, C. D., & Singer, B. H. (2006). Best news yet on the six-factor model of well-being. Forthcoming in *Social Science Research*.
- Springer, K. W., & Hauser, R. M. (2006). An assessment of the construct validity of Ryff's scales of psychological well-being: Method, mode, and measurement effects. Forthcoming in *Social Science Research*.
- Springer, K. W., Hauser, R. M., & Freese, J. (2006). Bad news indeed for Ryff's six-factor model of well-being. Forthcoming in *Social Science Research*.
- Stacey, C.A., & Gatz, M. (1991). Cross-sectional age differences and longitudinal change on the Bradburn Affect Balance Scale. *Journal of Gerontology: Psychological Sciences*, 46, P76–P78.
- Waterman, A. S. (1993). Two concepts of happiness: Contrasts of personal expressiveness (eudaimonia) and hedonic enjoyment. *Journal of Personality and Social Psychology*, 64, 678-691.
- Whitbourne, S. K., Zuschlag, M. K., Elliot, L.B., & Waterman, A. S. (1992). Psychosocial development in adulthood: A 22-year sequential study. *Journal of Personality and Social Psychology*, 63, 260-271.

Table 1. Cross-sectional Age Variation in the Six RPWB Dimensions: A Summary <sup>a</sup>

RPWB Dimension	Study			
	MIDUS	WLS 1993-94	NSFH II	NSFH III
Autonomy	↑***	∩***	∩**	↓***
Environmental mastery	↑***	↑***	↑***	—
Personal growth	↓***	∩***	↓***	↓***
Positive relations	↑***	↑***	∩**	↓***
Purpose in life	↓***	∩***	↓***	↓***
Self-acceptance	—	↑***	—	↓***

<sup>a</sup> Detailed tables available from first author.

Legend:

↑ – RPWB increases with age

↓ – RPWB declines with age

∩ – RPWB increases and then declines

— – RPWB shows no significant age variation

Note: Asterisks denote significant differences in means: \*\*p < .01; \*\*\*p < .001 (two-tailed t-tests).

Table 2. Variance in the Six RPWB Dimensions Explained by Age: Cross-sectional Analysis

RPWB Dimension	Study			
	MIDUS	WLS 1993-94	NSFH II	NSFH III
Autonomy	0.014 <sup>a</sup> (0.000)	0.003 (0.000)	0.003 (0.006)	0.012 (0.000)
Environmental Mastery	0.014 (0.000)	0.012 (0.000)	0.011 (0.000)	-0.000 (0.519)
Personal Growth	0.007 (0.000)	0.006 (0.000)	0.021 (0.000)	0.085 (0.000)
Positive Relations	0.010 (0.000)	0.004 (0.000)	0.003 (0.005)	0.009 (0.000)
Purpose in Life	0.020 (0.000)	0.007 (0.000)	0.041 (0.000)	0.105 (0.000)
Self-Acceptance	0.003 (0.016)	0.006 (0.000)	-0.000 (0.667)	0.006 (0.000)
N	3,324	10,914	4,169	4,169

<sup>a</sup>Main entries are adjusted R<sup>2</sup> in the regression of the subscale on dummy variables for age categories, and parenthetic entries are levels of statistical significance.

Table 3. Longitudinal Intracohort Variation in the Six RPWB Dimensions: WLS Graduates (N=5,217)

RPWB Dimension (comprising <i>both</i> positively and negatively worded items) <sup>a</sup>	Mean (S.D.)		95% C.I. for the difference in means	Percentage of variance between 1993 and 2004 (based on adjusted R <sup>2</sup> )
	1993	2004-05		
Autonomy	4.64 (0.92)	4.60*** (0.88)	-0.06 – -0.02	0.04%
Environmental mastery	4.92 (0.84)	5.02*** (0.76)	0.07 – 0.11	0.32%
Personal growth	5.18 (0.77)	5.05*** (0.75)	-0.15 – -0.11	0.66%
Positive relations	4.77 (0.98)	4.79 (0.97)	-0.01 – 0.04	0.00%
Purpose in life	4.91 (0.84)	4.83*** (0.84)	-0.10 – -0.06	0.21%
Self-acceptance	5.01 (0.85)	4.90*** (0.82)	-0.13 – -0.09	0.42%

<sup>a</sup> Items were averaged to create a subscale. Positively worded were reverse coded such that higher scores indicate a greater amount of a quality (range 1-6).

Note: Asterisks denote significant differences in means: \*\*\*p < .001 (two-tailed t-tests).

Table 4. The Comparison of Cohort and Aging Effects on the RPWB Dimensions

RPWB Dimension	Cross-sectional				Longitudinal
	WLS 1993-1994	MIDUS	NSFH II	NSFH III	WLS 1993-2005
	52-56 years vs. 57-64 years	49-58 years vs. 59-68 years	49-58 years vs. 59-68 years	49-58 years vs. 59-68 years	53-54 years vs. 64-65 years
Autonomy	↑*** (0.002) <sup>a</sup>	↑ (0.000)	↑ (0.000)	↓ (0.000)	↓** (0.000)
Environmental mastery	↑*** (0.006)	↑*** (0.007)	↑*** (0.003)	↑ (0.000)	↑*** (0.003)
Personal growth	↓*** (0.003)	↓** (0.004)	↓* (0.002)	↓*** (0.016)	↓*** (0.007)
Positive relations	↑*** (0.002)	↓ (0.000)	↑ (0.001)	↓ (0.000)	↑ (0.000)
Purpose in life	↓*** (0.007)	↓*** (0.008)	↓*** (0.011)	↓*** (0.012)	↓*** (0.002)
Self-acceptance	↑*** (0.003)	↑ (0.000)	↑ (0.000)	↓* (0.001)	↓*** (0.004)
N	9,050	1,321	1,461	2,459	5,217

Legend:

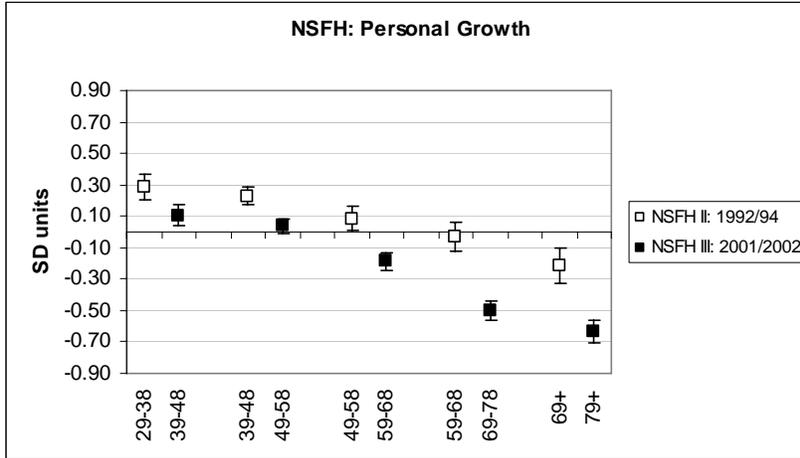
↑ – RPWB increases with age

↓ – RPWB declines with age

<sup>a</sup> Parenthetic entries are adjusted R<sup>2</sup> in the regression of the subscale on age or time.

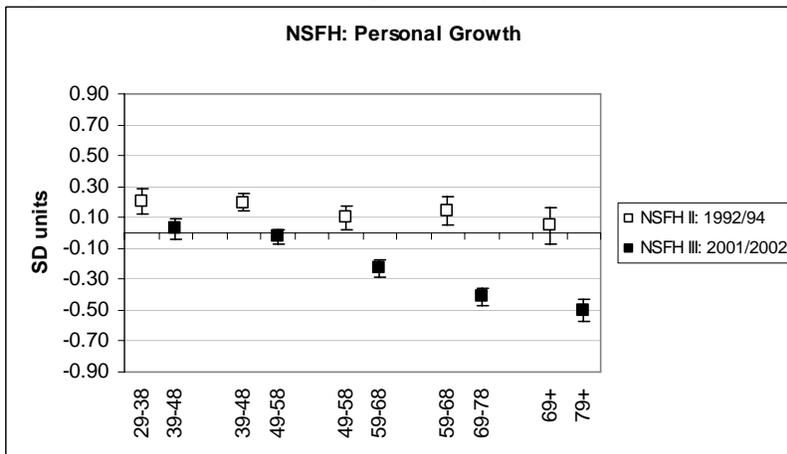
Note: Asterisks denote significant differences in means: \*p < .05; \*\*p < .01; \*\*\*p < .001 (two-tailed t-tests).

Figure 1a. Personal Growth (all items): NSFH, 1992/94-2001/02



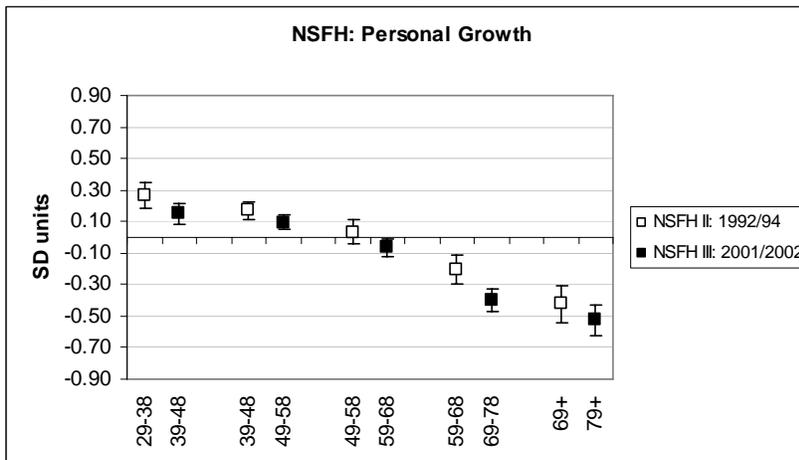
Note: Standardized means  $\pm$  2 standardized SE

Figure 1b. Personal Growth (positively worded items only): NSFH, 1992/94-2001/02



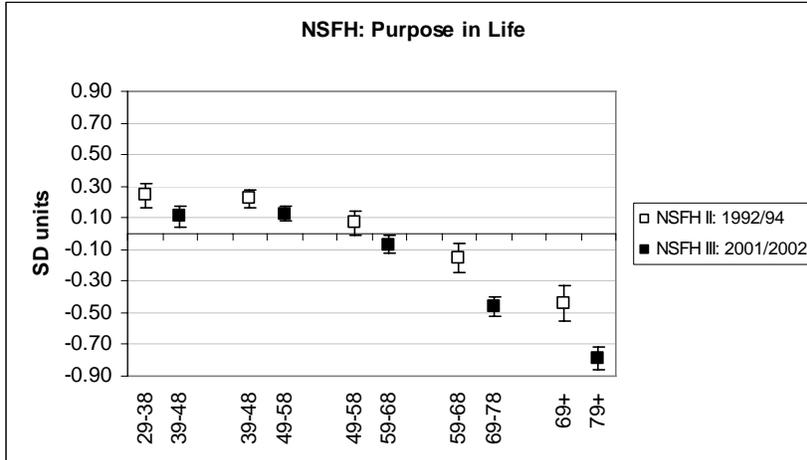
Note: Standardized means  $\pm$  2 standardized SE

Figure 1c. Personal Growth (negatively worded items only): NSFH, 1992/94-2001/02



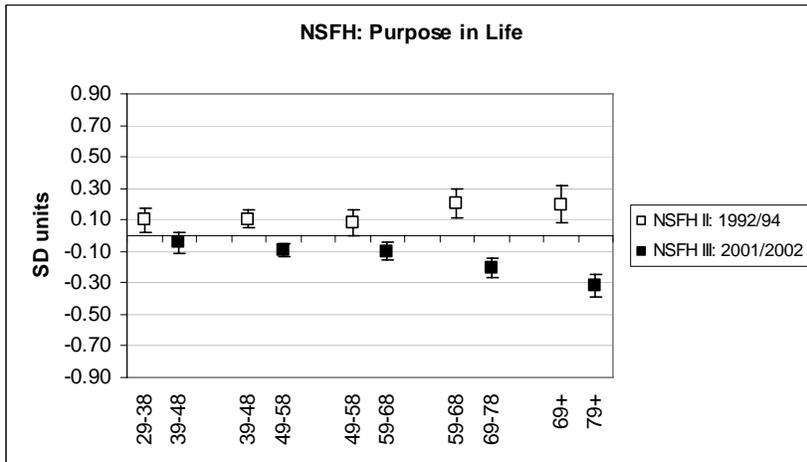
Note: Standardized means  $\pm$  2 standardized SE

Figure 2a. Purpose in Life (all items): NSFH, 1992/94-2001/02



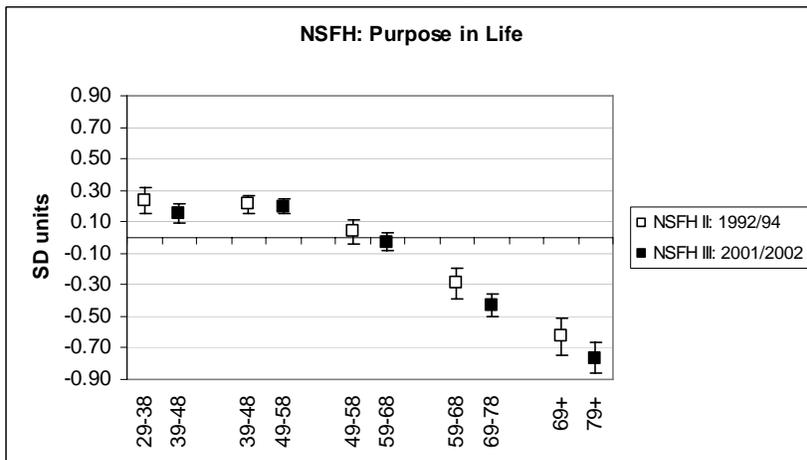
Note: Standardized means  $\pm$  2 standardized SE

Figure 2b. Purpose in Life (positively worded items only): NSFH, 1992/94-2001/02



Note: Standardized means  $\pm$  2 standardized SE

Figure 2c. Purpose in Life (negatively worded items only): NSFH, 1992/94-2001/02



Note: Standardized means  $\pm$  2 standardized SE

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