Long and happy living: Trends and patterns of happy life expectancy in the U.S., 1970–2000

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Abstract

This study assesses the trends and differentials in length of quality life in the U.S. population as measured by happy life expectancy in 1970, 1980, 1990, and 2000. The analysis combines age-specific prevalence rates of subjective well-being from a large nationally representative survey and life table estimates of mortality in decennial Census years. Employing the period prevalence-rate life table method—Sullivan method, the analysis finds evidence for improvement in quality of life in the U.S. Happy life expectancy largely increased in both absolute terms (number of years) and relative terms (proportion of life) over time at all adult ages examined. And increases in total life expectancy were mainly contributed by increases in expectancy in happy years rather than unhappy years. Happy life expectancy is longer than active life expectancy. And there has been greater compression of unhappiness than compression of morbidity. There are substantial differentials in happy life expectancy by sex and race because of differential prevalence rates of happiness. Women and whites had longer years of total and happy life expectancies at most ages and dates, while men and blacks had greater proportions of happy life expectancies across the three decades. Although race differentials generally decreased at older ages and with time, relative disadvantages of blacks persisted.
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Keywords: Quality of life; Subjective well-being; Happiness; Happy life expectancy; Active life expectancy; Longevity

1. Introduction

There were substantial mortality declines and sustained increases in life expectancies at birth and old ages in the United States during the last 100 years. The low mortality of older adults combined with the largest birth cohorts entering old age in history, the baby boomers, imply a continuation of the dramatic increase of the size of the aging population in the 21st century (Robine et al., 2003). A question of increasing interest in the demography of aging is whether Americans are living higher quality as well as longer lives. Whereas previous studies assessed healthy life expectancies in terms of negative and domain-specific health outcomes such as disabilities and chronic diseases, few have estimated trends in positive and global measures of subjective

well-being that are highly indicative of quality of life. We know little about whether Americans are living longer *and happier* and how men and women and blacks and whites differ in number of quality years.

This study aims to broaden the scope of healthy life expectancy research to include a key positive element of quality of life—subjective well-being, as measured by happiness. It seeks to develop a useful all-encompassing measure of perceived quality of life at the population level—happy life expectancy (HapLE) that is analogous and complimentary to active life expectancy (ALE). It is the first study to provide initial evidence of trends and sociodemographic differentials in HapLE in the U.S. population. It contributes to our knowledge about changes in quality of life as perceived by citizens in our nation as it faces ever-increasing challenges associated with increasing longevity. The study first constructs measures of HapLE by combining large nationally representative survey data on general happiness (the General Social Survey) and population life table estimates of mortality and employing the period prevalence-rate life table method—Sullivan method. It then examines temporal changes in HapLE in the U.S. from 1970 to 2000 and sex and race differences in changes of HapLE over time. It also discusses the implication of findings on compression of morbidity and unhappiness for overall population quality of life in the U.S.

2. Background

Concerns about life quality in old age have been a vital part of aging research in the social and behavioral sciences (George, 2006). Quality of life in the population can be assessed by the degree to which individuals thrive, as manifested in their health and perceived overall well-being. Since the introduction of the idea of a population health indicator combining mortality and disability by Sanders (1964) and the method of estimation by Sullivan (1971), a growing focus of research in the medical demography of aging has been on using healthy life expectancy measures to monitor changes in the length and proportion of healthy life that occurs with increases in total life expectancy. At present, healthy life expectancy in general has been synonymously referred to as and represented by active life expectancy (ALE), or the average number of years people are expected to live free from physical problems such as disabilities or chronic illness (Crimmins et al., 1989, 1997; Katz et al., 1983; Robine and Ritchie, 1991) and mental disorders such as dementia and depression (Robine et al., 2003) given the current age-specific rates of mortality and morbidity.

The advent of ALE measures largely enhanced our ability to test theories of consequences of the substantial decreases in mortality. Inconsistent with the *failure of success hypothesis* that predicts expansion of morbidity (Gruenberg, 1977; Kramer, 1980; Olshansky et al., 1991), accumulating evidence emerged for declining morbidity and disability in the old age that lends more support to *compression of morbidity hypothesis* (Fries, 1980; Nusselder, 1997). Findings on trends in ALE in the U.S. differ depending on the severity of disabilities examined, but both period estimates (Crimmins et al., 1997) and completed cohort estimates (Manton and Land, 2000) show that recent increases in life expectancy after 1980 were concentrated in increases in ALE. And the reduction in length of life with morbidity was unequally distributed among racial and educational groups, with African Americans and those of lower education status experiencing little compression of morbidity (Crimmins and Saito, 2001). Studies of mental health life expectancies were confined to European populations (Ritchie and Polge, 2003). The general trends corroborate with those of ALE.

At present, our understanding of quality of life (QoL) at the population level is largely confined to trends in ALE and can be extended both conceptually and empirically by taking into account global indicators of subjective well-being.

2.1. Quality of life and subjective well-being

Current research conceptualizes QoL as including both objective life conditions such as health status and subjective perceptions (The WHOQOL Group, 1998; Diener and Suh, 1997). This approach suggests clearly that objective status, although strongly related to QoL, is not synonymous with it. In previous research on ALE that focuses on specific domains of health problems such as functional disabilities and chronic illnesses, assessment of subjective well-being is conspicuously absent. It is incumbent for researchers to consider, however, the possibility that disability-free and physically and cognitively intact adults may rate the quality of their lives as poor, whereas disabled individuals have high levels of subjective quality of life. For example,