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The Myth of Increasing Life Expectancy and Its Social Policy Implications

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Abstract

This paper concerns official "average life expectancy" data, and their use by demographers in a way that appears common-sensical and valid, but are neither. The notion that Americans have, and continue to experience ever-increasing life expectancy is a widely held myth in U.S. society. The Census Bureau states Americans' life expectancy advanced 30 years between 1900 and 2013. Accompanying this myth is the idea that Americans are generally working longer while experiencing an extended lifespan. But these commonly shared assumptions about American life are dubious. The increase in average life expectancy among Americans has been achieved by reducing the infant mortality rate, not by increasing additional years at the end of the life cycle. An examination of age-specific death rates combined with an understanding of the importance of the infant mortality rate makes the "life expectancy myth" transparent. Upon considering these aspects of official life expectancy, the implications of this misunderstanding, specifically as it pertains to Social Security, will be examined.

Keywords: demography, life expectancy, infant mortality rate, social inequality, official statistics, Social Security, retirement

1. Introduction

This paper surrounds the issue of official life expectancy data, its uses, mis-uses, and the implications that stem from commonly held misunderstandings about the concept. An important, and perhaps obvious public policy consequence of mis-understanding life expectancy data concerns the widely perceived need for Social Security and private pension reform, as Americans' life expectancy continues rising.

But as this paper reveals, that policy concern is complicated by the fact that official statistics show there is a rapidly widening life expectancy gap between the poor and well-to-do in U.S. society. Moreover, the implications of misleading official life expectancy data are a factor in the everyday decisions people make regarding key personal matters, including those involving marriage, divorce and child-rearing.

Before discussing the social implications surrounding dubious life expectancy data, we will define our terms, and ground the issues raised here by documenting some of the more germane current trends in life expectancy, with a particular emphasis on life expectancy disparities by gender, race, class, region, and nation.

2. Defining Life Expectancy: "Period" vs. "Cohort" Life Expectancy at Birth

In this discussion of the myth of life expectancy and its social and personal implications, it is important to outline some key concepts, beginning with "myth" and "life expectancy". By myth, we mean to invoke the popular view of a myth as a widely held belief, one that often connotes a false idea; in this case that our life expectancy has increased by more than 30 years since 1900.

Typically, "life expectancy" refers to life expectancy at birth or (LEB). This concept, in turn, can be operationalized in two ways, "cohort" life expectancy at birth, and "period" life expectancy at birth. Cohort LEB is the average length of life of a cohort of individuals (all born in the same year), and thus can only be calculated after all the members have died. For example, if we were interested in knowing the cohort life expectancy of those born in 1920, we would simply average the lifespans of everyone born in that year, something we cannot presently do, as some of the members of that cohort remain alive today.

In short, because cohort LEB relies upon data that is incomplete, outdated, or unavailable, it is seldom used. In its place, the "period" life expectancy concept is used, which refers to the average length of life a hypothetical cohort could expect to live if they were to pass through life subject to the age-specific mortality rates of the period in which they were born. A period life table reflects a snapshot of a population's mortality pattern and provides information about the dying out of a birth cohort. Period life tables are constructed by applying the age-specific death rates of a given population for a given year divided by a hypothetical cohort of 100,000 newborns.

3. Misconceptions Surrounding Popular Notions of Life Expectancy

3.1 Life Expectancy at Birth vs. Life Span

Several issues contribute to the confusion surrounding life expectancy data, factors that lead to data being misunderstood and mis-used. To begin, many people confuse the concept of life expectancy with that of lifespan. The latter term refers to the average maximum length of time a species can be expected to survive. Although there is disagreement, for humans, the maximum human lifespan appears to have peaked in the 1990s at around 115 years.

For example, utilizing demographic analyses, Olshansky (2016) in an article published in Nature, corroborated the work of many researchers in suggesting that increases in life expectancy are likely to stagnate or stop over the coming years. Additional support for this idea can be found in Dong, Mulholland and Vijg (2016), who's global demographic data show that improvement in survival with age tends to decline after age 100. Noting that the age of the world's oldest person has not increased since the 1990s, the authors conclude that the maximum lifespan of humans is fixed and subject to natural constraints.

3.2 Underestimating the Life Span of People in the Developing World and Ancient Ancestors

Much popular and professional literature on life expectancy tends to underestimate the lifespans of people in the developing world and those who lived long before us. It is the nearly universal approach of using life expectancy at birth when discussing life expectancy that tends to distort our thinking about the lifespans of our ancient ancestors or of contemporary people living in the developing world.

Research by Kanazawa (2008)—cited in Holloway—of contemporary hunter-gatherer societies, shows that once infant mortality rates are controlled for, life span was calculated to be between 70 and 80 years, comparable to the industrialized west. As Holloway sums up, "our ancient ancestors were not dropping dead at age 35, and some would have even been blessed with long and healthy lives" (Holloway, 2014).

Adding support for this view is a study by Gurven and Kaplan (2014) that looked at the human life span in several different cultures. They concluded that "there is a characteristic life span for our species, in which mortality decreases sharply from infancy through childhood, followed by a period in which mortality rates remain essentially constant to about age 40 years….modal age of adult deaths is about seven decades….we hypothesize that human bodies are designed to function well for about seven decades in the environment in which our species evolved.

Our perception of the lifespan of people living in contemporary developing societies is confused by notions based on the traditional way of measuring and discussing life expectancy. For example, citing UN data, journalist Barbara Crossette observed, as cited by Gorman (2011), that the global population is not getting older everywhere…."the UN calculates that life expectancy at birth is being slashed in countries hardest hit by AIDS." She then states, AIDS has cut (the life of a baby) from 66 to 47 years ….in Zimbabwe from 69 to 43 years and in Botswana, it is down to 36 years from 70. As Kanazawa notes….most adults, both in

our ancestral past and in many developing nations today, live to be about as old as people in western industrialized nations (Kanazawa, 2008).

A major determinant of life expectancy at birth, especially in our ancestral past and in many developing nations today, is the infant and child mortality rate. Professor Anthony Volk of Brock University estimates that as many as half the children during our evolutionary history, and as recently as the 18th century, may have died before the age of 12 (Volk, 2008). Volk shows that while life expectancy at birth is much lower in our evolutionary history and in many developing countries today than in contemporary industrialized nations, life expectancy at 15 years and at 30 years in the former are not that different from the latter…adults everywhere and at all times, live to be about the same age.

According to Radford (2009), the idea that our ancestors routinely died young (say, at age 40) has no basis in scientific fact. Similarly, Laden (2011) notes many people simply underestimate the life expectancy of many past populations. According to Condensed Science, the lifespan of hunter-gatherers is not as low as commonly thought and in many respects rivals that of the industrialized world (Condensed Science, 2011).

3.3 The Impact of Reducing Infant Mortality on Life Expectancy

The single most significant reason the concept of life expectancy is mis-understood is that the methodological impact of reducing the infant mortality rate on creating "advances" in life expectancy are widely unknown or underestimated. Life expectancy at birth is an unhelpful statistic if the goal is to compare the health and longevity of adults. A major determinant of life expectancy at birth is the child mortality rate, which historically was much higher than today.

To illustrate the problematic nature of using LEB, consider the case of a hypothetical couple that has two children and one dies during year one, while the other survives to year 80. It would be empirically accurate to state that the average age of their children was 40, but it would also be substantively meaningless. What makes more sense, of course, is to examine life expectancy at age 5, 12, or some other later year, say, 50, 60, 70 or 80. As we show below, this more informed view of life-expectancy is revealed by examining age-specific death and life data.

As age-specific life expectancy data published by the CDC reveal, in 1850, a 60 year-old white male could anticipate living another 15.6 years. By 2011, that number had advanced less than six years to 21.5 years. Similarly, 60 year-old females in 1850 could expect to live another 17 years and by 2011, a 60 year-old female could expect to live another 24.5 years. If we look at similar parameters for 1900, we see that the improvement remains at less than 6 years for white men compared with 2011, and for white females, the improvement over 110 years was less than a decade. Although the official data on age-specific death rates do show improvement, it is considerably less than the 30 year average suggested by LEB data as reported in many popular and professional outlets.

Further complicating the picture and adding to the confusion for many trying to understand trends in life expectancy are mis-placed beliefs surrounding the (true) versus the "mythical"

reasons life expectancy has increased in the industrial and post-industrial era. Specifically, as we will show below, the extra 6 or 7 years of additional life gained over the years are not attributable to medical advancements, but in large part to better public health measures.

3.4 Overestimating the Contribution of Medical Science to Gains in Life Expectancy

Many Americans have the common sense view that much of the officially stated gain in life expectancy comes from medical interventions, especially high-technology medicine, and pharmaceutical products. However, the evidence suggests that most of the gain in life expectancy took place before the medical-industrial-complex was established, before major research and teaching medical universities had been created, and before most advanced medical interventions were available. The disease epidemics that wreaked havoc in the Middle Ages were not quelled by the introduction of vaccines. Rather, it has been through enhanced hygiene, the impact of an environment characterized by clean air and water, rather than industrial pollutants, that has permitted the population, especially those youngest among us, to survive.

According to John and Sonya McKinlay, medical intervention accounted for less than five percent of the increase in the average life span in the United States since 1900 (McKinlay and McKinlay, 1977). Likewise, Taylor (1979) states that "almost 80 percent of the reduction in infant mortality between the 1880s and the 1970s, occurred prior to the 1930s. Survival rates for infants steadily advanced long before the widespread use of pharmaceutical drugs or vaccines were widely used. Further, Sharpe (1988) asserts "mortality for virtually all the infections was declining before, and in most cases long before specific therapies became available…The impetus to better health from the mid-19th century onwards can therefore be directly traced to public health measures and social legislation that improved the living standards of working people. Higher wages and welfare benefits made it possible for the poor to eat properly and public health measures radically improved conditions in densely-populated urban areas, particularly with the provision of clean water supplies, sanitation, sewerage and new housing. Susceptibility to infections diminished radically as nutrition, housing, hygiene and general liberal living conditions improved. Also, Ramsay and Edmond (1967) maintain that it is a widely held fallacy that mortality from infectious disease only commenced to fall with the advent of modern pharmaceutical agents".

The notion that public health measures are key to insuring longevity can be seen in analyses of Japan's life expectancy rate, which is typically ranked first in the world. According to a 2011 article published in Lancet, (Murray, 2011) the rise of 30 years in expected lifespan from 1947 began with the rapid economic growth of the nation in the late 1950s and 1960s. During this period, the government invested heavily in public health, introducing universal health insurance in 1961, free treatment for tuberculosis and programs designed to address childhood diseases related to intestinal and respiratory infections. In addition to public health measures, the Lancet article emphasizes factors such as the attention Japanese pay to hygiene in all aspects of their daily lives, diet, and being health conscious.

4. Life Expectancy: Increasing or Declining?

According to data published in 2016 by the Centers for Disease Control (CDC), life expectancy fell slightly in 2014 for white Americans and was unchanged for all population groups as a whole for a third consecutive year. At the same time, the agency reported a drop in the infant mortality rate in 2014, to a historic-low rate of 5.8 deaths per 1,000 births among children aged 1 year or less. The number of years a white American born in 2014 could be expected to live fell to 78.8 years from 78.9 years. Non-hispanic white women live longer than men and African Americans of both sexes in the U.S., with a life expectancy at birth of 81.1 years in 2014. This was a slight decline from 2013, when it was 81.2 years (and the second drop for this group since 2008).

According to Elizabeth Arias (2016) the author of the CDC report, "basically, we're back to where it was in 2009". The decline in life expectancy for white women was the first since the CDC began keeping records nearly one hundred years ago. Arias found that unintentional injuries, suicide, and chronic liver disease were major causes of the increase for them. Another report, by Princeton economist Anne Case, called white people dying in middle age "deaths of despair". As Case related in an interview with National Public Radio, her research shows that those deaths are concentrated among white people with less education—high school dropouts and people who never went to college…It's possible working-class whites have lost the narrative of their lives" (Kodjak, 2016). The most recent CDC report did report improvement for some groups —African-Americans gained 0.4 year of life expectancy in 2014 to 72.2 years. The largest percentage gain in life expectancy at age 65 was among Hispanic males, whose expected increase in life expectancy advanced by 0.3 years.

According to Arias, reversals, even small ones, are unusual for wealthy nations. In the U.S., life expectancy overall has been stagnant since 2012, remaining below that of many European countries, as well as Canada, Australia and Japan. The stagnation follows decades of steady increases from 69.7 years in 1960 to 76.8 years in 2000 and 78.7 years in 2010. Although causes of the recent stagnation cannot be identified with precision, many demographers believe that deaths from illegal drug use, suicides, and obesity are factors contributing to the trend. A study published in November, 2015 by Anne Case and Nobel Prize laureate Angus Deaton, (2015) suggests that mortality among middle-aged white Americans has been on the rise for 15 years because of alcohol, drug abuse and suicides, particularly among the disadvantaged.

For some time, public officials and academicians have identified a trend toward a shortened lifespan, including Yvette Cooper, a former Public Health minister in the UK. In a speech in 2000, she explained that there was a risk that the recent gains in life expectancy might be lost due to increased mortality associated with childhood obesity, and diseases associated with obesity, (specifically heart disease and Type II diabetes). Similarly in March of 2004, Richard H. Carmona, then Surgeon-General of the United States, told a Senate subcommittee that because of increasing rates of obesity, unhealthy eating habits, and physical inactivity, we may see the first generation that will be less healthy and have a shorter life expectancy than their parents (Staropoli, 2015).

Further, an article in the New England Journal of Medicine (Olshansky, 2005) stated, that if left unchecked, obesity will have a negative effect on life expectancy. The article adds that the possibility of an infectious disease pandemic and only modest medical advances in coming decades could lead us towards a decline in life expectancy. In sum, many highly respected public and academic voices are outlining a narrative in which the long taken-for-granted increase in life expectancy, especially among those in the U.S., is being reversed; a trend—as we will relate below—is in large part due to the inordinate degree of social inequality by class, race, and gender that characterizes our society.

5. Life Expectancy Disparities

5.1 Life Expectancy Inequality by Race

From the time the government began collecting and disseminating official statistics on life expectancy, there has been a substantial gap between the life expectancies of black and white Americans. Although that gap has diminished since 1970, in 2010, white Americans could still expect to live 4 years longer on average than black Americans. Between 1970 and 2010, overall life expectancy at birth increased from 71 to 79 years. For whites, the advance during this period went from 71 to 78; among blacks, the increase went from 64 to 75 years, or a 17 percent improvement.

The difference in life expectancy can be attributed to higher death rates for the black population from disease, cancer, diabetes and perinatal conditions. Homicide was an additional factor contributing to shorter life expectancies for black males, who had a life expectancy on average 4.7 years lower than that of white males, while stroke was more common as a cause of death among black females, contributing to their 3.3 years of life expectancy compared with white females.

5.2 Life Expectancy Inequality by Class

According to research published by Stanford economics professor Raj Chetty (2016) in the Journal of the American Medical Association (JAMA), the richest one percent of American men live 14.6 years longer, on average, than the poorest one percent. For women, the average difference is just over ten years. Chetty's project, which involved an analysis of more than 1.4 billion federal tax returns, revealed that between 2001 and 2014, life expectancy rose by roughly three years for the richest five percent, while for the poorest five percent, there was no increase. To illustrate the gap, Chetty states that for the richest Americans, the longevity increases of the past fifteen years have been the equivalent of curing cancer (meaning that eliminating all cancer deaths would add 3 years to the average lifespan in the U.S.). Chetty adds that men in the bottom one percent have a life expectancy comparable to the average life expectancy in Pakistan or Sudan.

Additionally, Chetty's study sheds light on the impact of region or area, finding that the poorest citizens of some cities (New York, L.A., and Miami) lived nearly as long as the richest one percent in other areas (Las Vegas or Tulsa). Chetty notes that the study has clear

implications for Social Security and Medicare. The fact that people don't live as long means they are paying into the system without getting the same benefits, a fact that needs to be considered in any discussion about raising the retirement age, he said in an interview with National Public Radio (Zarroli, 2016).

According to a Governmental Accountability Office (GAO) report (2016) those who delay retirement – and collecting S.S.--are disproportionately well off and by age 70, begin earning larger checks than the less well-off, and over a lifetime receive more money from the government. Over time, a growing share of all Social Security benefits will go to people with higher incomes and a shrinking share will go to those with lower incomes. According to a study by economists at the National Academies of Sciences, Engineering and Medicine (NAS, 2015) the richest beneficiaries born in 1960 will accrue benefits worth $522,000 (in 2010 dollars). Among the poorest born in 1960, the benefits received over a lifetime was $391,000. The National Academies report also discusses raising the retirement age for Social Security, an idea advocated by several of the Republican candidates who sought their party's nomination for the U.S. Presidency in 2016.

According to the report, raising the normal retirement age by three years, from 67 to 70, would reduce the value of lifetime S.S. benefits for the wealthiest group of 50 year-olds by 20 percent, but for the poorest group, benefits would decrease by nearly 25 percent. Since the poorer group cannot expect to live as long, forcing them to wait to begin drawing their benefits in full would eliminate a larger portion of their retirement. As Peter Orszag, a chairman of the committee that wrote the report, and a former senior official in the Obama administration, told the Washington Post "It's a common refrain to say, 'life expectancy is increasing, so we should raise the normal retirement age under Social Security…the problem with that is, it's true that average life expectancy is increasing but that's disproportionately because high earner's life expectancies are increasing" (Ehrenfreund 2015).

Recent research undertaken by the Brookings Institution contributes to this view (Bosworth, Burtless and Zhang, 2016). Their study looked at life expectancy at age 50 from 1984 to 2012, and found that for men born in 1920, there was a six-year difference in life expectancy between the top 10 percent of earners and the bottom 10 percent; but for men born in 1950, that figure had more than doubled, to 14 years. Among women, the gap between the highest and lowest-income individuals grew to 13 years, from 4.7 years. Overall, according to the Brookings study, life expectancy for the bottom 10 percent of wage earners improved by just 3 percent for men born in 1950 compared with those born in 1920. Among the top 10 percent of wage earners, however, the increase was nearly 28 percent. As Elizabeth Bradley, a professor of public health at Yale, noted in the New York Times "at the heart of the disparity are economic and social inequities, and those are things that high-tech medicine cannot fix" (Tavernise, 2016).

5.3 Life Expectancy Inequality by Gender

According to the CDC, white women born in 1930 had a life expectancy of 61.4 years whereas for white men, the figure was 59.7 years. By 2010, life expectancy at birth for white females reached 81.3 years. Meanwhile, black women born in 1930 could expect to live 49.2

years and black men 47.3 years. By 2010, the black female life expectancy figure had reached 78 years, while the figure for black men extended to 71.8 years.

Across the globe, life expectancy is higher for women than for men, although there is much regional variation. The differences between the sexes are greater in developed nations than in the developing world. Generally, the life expectancy inequality gap between the sexes is greatest at birth and narrows significantly by age 65. For individual women, the importance of the life expectancy disparity often means outliving one's spouse, living alone, and poorer economic conditions as fewer resources are stretched out to cover additional years of life.

Lisa Berkman, professor of public policy and epidemiology at the Harvard School of Public Health told the Huffington Post "we (the U.S.) now ranks at the bottom of the OECD countries. This wasn't true 30 years ago; it wasn't true 50 years ago. What's happened is that every other country has improved substantially and we've improved a tiny bit. So life expectancy in the U.S. has improved over time, but it's improved so much less than all other countries that we're now behind". Berkman further states that "while the best off, most educated, wealthiest Americans have continued to experience increases in life expectancy, those at the bottom have not only stagnated, but in some cases have actually lost years of life expectancy over time" (Huffington Post, 2014).

As the U.S. National Academies of Sciences study makes plain, rich women will live more than 13 years longer and collect tens of thousands of dollars more in federal retirement benefits than poor women. Furthermore, despite gains in life expectancy among higher earning women, poor women are actually losing ground. The stress and social inequities associated with poverty manifest themselves in both mental and physical health disparities. Research has shown that the mental stress of being poor is a major reason that low-income people are more likely to have high blood pressure, elevated cholesterol, and become obese or diabetic.

Additional evidence suggests that countries with higher levels of economic inequality have significantly greater disparities in health outcomes ranging from life expectancy and premature death to infant mortality and obesity; even modest increases in wealth inequality are associated with more than double the cumulative risk of death over a 12-year period. These inequalities have significant implications for social policy as longer-living wealthy people collect more money over the course of their lives, even if they already have more than enough to live comfortably, pay for their health care, and provide for their families.

In contrast, poorer people who die early are increasingly paying for benefits they will never receive; instead, their money is redistributed to higher income individuals, reinforcing the pattern of income and wealth inequality. As PublicHealthWatch notes, the current life expectancy patterns may be of particular importance to young women just starting their careers who will see a growing part of their federal benefits redistributed from the lowest to the highest earners (PublicHealthWatch, 2015).

There is, however, some research to suggest that class is a more important variable than gender when it comes to understanding current trends in longevity. For example, the Office

for National Statistics (ONS) in England reported in 2015 that for the first time since official records began, affluent men in England and Wales are outliving the average woman. The report stated that "higher managerial and professional men" could expect to live for 82.5 years, one month longer than the average woman.

According to the ONS, the gap between the sexes has narrowed dramatically in the past 30 years. But the data also shows that social class differences are a complicating factor, with males in lower income occupations having a life expectancy roughly 6 years less than those in higher income jobs. According to the ONS data, since 1970, inequalities in life expectancy by income have widened for both sexes, with the biggest gains in benefits enjoyed by those earning the most. As reported by Collinson (2015) in 1997-2001, the poorest women lived, on average, 3.8 years less than the richest women, but that figure has since widened to 5.3 years, the biggest gap national statisticians have ever recorded. In all, as reported by the Daily Express, data from Public Health England on life expectancy in England show more than 100 areas, districts, or neighborhoods in which men are now outliving women, in some cases by as much as 5.5 years (Daily Express, 2014).

In sum, although women continue to outlive men throughout the world, it is becoming increasingly transparent that the role of social class is becoming the dominant factor in explaining disparities in life expectancy. Specifically, women have now begun to lose the historic advantage they held due to widening income and wealth inequality. The social policy implication is plain: over time, poor women will be burdened for paying for benefits received by wealthy recipients.

5.4 Life Expectancy Inequality by Nation

According to the World Health Organization (WHO), based on global averages, a girl who was born in 2012 can expect to live to around 73 years, and a boy to the age of 68, an increase of six years over the worldwide average for a child born in 1990. According to the UN, life expectancy has increased, on average, nearly 3 months per year over the past 160 years. The WHO's Director-General, in a 2014 press release stated that: "An important reason why global life expectancy has improved so much is that fewer children are dying before their fifth birthday. But there remains a major rich-poor divide; people in high-income countries continue to have a much better chance of living longer than people in low-income countries" (WHO, 2014).

For 2015, Japan had an estimated life expectancy of 84.74 years; outside of Monaco—the highest in the world. Life expectancy at birth for a girl reached 86.8 years, and for a boy, 80.5 years. Although males fared slightly better in Switzerland with a life expectancy at birth of 81.3 years, for Japan, both sexes together ranked first at 83.7 years in 2015, according to World Health Organization data published in 2016 (2016). The WHO's report showed that in 2012, a boy born in a high-income country can expect to live to the age of around 76——16 years longer than a boy born in a low-income country. For girls, the difference is even wider; a gap of 19 years separates life expectancy in high-income countries (where the average age is 82 years) and low-income countries (where it is 63 years).

6. Conclusion: The Social and Personal Implications of Life Expectancy Statistics

Perhaps the most key social policy that is affected by the mis-understanding surrounding life expectancy data is the way such data are used in the political debate surrounding Social Security, and the way it helps to drive the planning of private pension and public sector retirement plans. As we have demonstrated, the average person in America today is living 6-8 years longer than they were more than 100 years ago, not 30 years as LEB data imply. So the insistent refrain that the retirement age should be elevated is not only based on numbers that are widely mis-understood by the public, but ones that make a poor basis for policy decisions. In short, it is plain we are not living as long as official LEB data suggest and thus the move to raise retirement and delay pension benefits is based on mistaken notions of life expectancy increases.

Nonetheless, the retirement age has already been changed once, to 67, and many pension plans are considering another option altogether. According to Kadlec, (2014), a typical pension has only 85 percent of the funds it needs based on the most recent mortality rates available. The majority of large companies have frozen or changed their pension plans in order to reduce their financial risk, while shifting workers to 401(k) plans. According to some, more and more employers will abolish their traditional pensions altogether and offer workers a lump sum settlement instead.

But even if the use of age-specific death/life rates were widely adopted, the current trends in social inequality, in which the wealthy are now greatly outliving the poor, means that the original progressive, redistributive intent of Social Security and other social welfare programs has been perverted. Because they are living longer, wealthy beneficiaries are increasingly accounting for a greater share of government expenditures for Social Security benefits.

Whatever the reason behind the widening gap in life expectancy by class, the policy implications are plain. If gains in expected life spans are increasingly concentrated among the well to do, we should not ask the less affluent to bear the main burden of an aging society. Lifting the retirement age only makes sense if the gains in life expectancy are enjoyed equally by the rich and the poor. It makes less sense to ask the poor to wait longer for retirement benefits when a disproportionate share of the life span improvement is concentrated among the affluent.

Finally, research shows there are other kinds of social implications from the use and mis-use of official life expectancy statistics. Consider the line of research within evolutionary theory, known as “life history” theory that predicts people’s beliefs about “life expectancy” influences major decisions in their life. According to research published in the Archives of Sexual Behavior, (Krupp, 2012) decisions such as marriage, divorce, abortion, having a child, and pursuing higher education may be sub-consciously influenced by how long people believe they will live.

According to the study’s author, “life expectancy might be driving all of these major decisions. The longer someone expects to live, the more time they will invest in education. If life expectancy is short, someone may decide to get married and have children sooner, or

stick with the partner they are currently with rather than seek a divorce." Due to the ubiquitous, un-critical use of the LEB concept, the personal and social implications of Krupp's research are far-reaching, particularly for the less affluent and less-educated who may be encouraged to make decisions, particularly with regard to retirement, that are not in their best economic self-interest.

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