

The aging of America: culture, stress, and sex

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Yet one person in his or her time plays many parts . . . hurt with weapons . . . subject to diseases . . . healed . . . warmed and cooled by winter and summer. All are born; some give birth. Some succumb to a hostile environment; the rest survive to be old (1).

According to Dr. Michael DeBakey:

For more than half a century, stress has been a subject of interest to medical investigators. In the 1920s, Walter Cannon, one of the most distinguished American physiologists, first called attention to stress as the “fight or flight” response, and Wilhelm Raab subsequently demonstrated the risk effects of excess adrenaline and cortisol. It was Hans Selye, however, whose lifetime of research gave new meaning to the term *stress* and who proved, in his animal investigations, that it contributed significantly to the development of disease. This disease, he discovered, could be fatal and could occur in man. Although others subsequently studied stress in human beings, much of this research was concerned with behavioral and psychological issues. These studies lacked good scientific methods of measuring in a uniform manner the effects of stress on the body; a stressful environment for one person may be an exhilarating experience for another. The consequence of these approaches was scientific controversy. Now, however, the problem has been approached by PhD and MD researchers, using well-established scientific methods to measure the physiologic, biochemical, and clinical responses to stress. These measurements could be standardized and thus provide a uniform and scientifically valid basis for determining the response of any person’s body to a stress test (2).

This paper provides a brief discussion of some physiological and social stresses that are peculiar to old people who live in industrial societies (also referred to as modern societies) and those who live in traditional societies (also referred to as undeveloped societies). While research shows that variation occurs in the typical view of elders everywhere in terms of their authority, control, power, and treatment, the discussion in this paper will be limited to a comparison between industrial and traditional societies. Albeit its scope is limited to these cultures, the body of literature dealing with elderly people suggests that specific cultural views of old age in any particular society influence these differences.

On the one hand, variation in external physical appearance, such as hair color, eye color, and skin tones, occurs among all human phenotypes—the result of both the mixed bags of alleles that produce human genotypes and the impact and stress of specific environmental advantages and insults. On the other hand, social variation (that is, behavioral standards and norms) is cul-

ture-specific among, as well as within, different societies. For example, albeit old people in most traditional societies are subject to the same age-related variation in physical changes, they are typically accorded social respect and honor, as well as a significant degree of power and control within their societies. This view of elders in traditional societies is true for both women and men. Conversely, in industrial societies, old age is not generally a revered status and elders may not always be honored within their families or among their friends and other associates, as well as in society at large. This is, however, more often the case of female elders. The exception to this often occurs among those elders who are wealthy enough to capture the attention of their potential heirs or beneficiaries.

It is a fact that most old women outlive most old men, both in traditional societies and in industrial nations. In industrial societies, according to Hazzard:

A visit to almost any long-term facility (excepting those of the Veterans Administration) will prompt the same question from even the most casual observer: “Where are the men?” The sex differential for longevity at birth in contemporary American society is between seven and eight years. This can be contrasted with that in this country at the beginning of the 20th century, when the nation was largely undeveloped, and in developing nations today, with expected longevity at birth being almost equal between the sexes in both circumstances. Thus the sex differential in longevity has arisen historically as a by-product of socioeconomic and industrial development together with increasing longevity of both sexes attributable to improved educational levels, nutrition, housing, sanitation, public health, etc. Except for a dip at the time of the influenza epidemic in 1918, the sex ratio in mortality figures in the United States has risen progressively throughout the 20th century, only recently appearing to reach a plateau. To a certain extent, this reflects the improved status of females that accompanies socioeconomic development (less sex discrimination in access to food and health care during childhood, better prenatal and obstetrical care, increased employment opportunities, etc.). Thus, a greater proportion of girls born escape the hazards of growth, development, and childbearing to survive into middle and old age, when the chronic diseases that preferentially afflict men progressively dominate the list of causes of death (3).

Hence, old men everywhere, especially the very old, are scarcer than all old women. Physiological, biological, and social

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differences play a role in the issue of longevity between the sexes (1, 3–8). In addition, the behavioral literature of other academic disciplines, such as anthropology, psychology, sociology, and physiology, has confirmed that, besides the stress of the workplace, a major reason more men than women tend to die at younger ages is the proclivity toward risk-taking behavior among men (5, 9–11).

In the 20th century and throughout their lives in this present cohort of old people, the expanded role of risk-taking behavior of the men over the women includes

1. Typically more alcohol and tobacco use
2. More public exposure to microbes because preponderantly more of them were in the marketplace
3. More sports injuries
4. The cultural ideation that “real” men were not supposed to be sick; thus, many of them avoided appropriate treatment of illnesses and injuries.

In addition, while some estimates are as high as 100 million, the major worldwide influenza pandemic of 1918 killed at least 50 million men, women, children, and infants worldwide, 600,000 of whom lived in the USA (personal communication, US Centers for Disease Control and Prevention). Influenza is thus known as the most violent disease in history (12). Because in the USA, these data were gathered primarily in military service quarters and in civilian prisons, the results do not delineate the biological sex of influenza victims, due to the overwhelming majority of men in these locations (personal communication, US Centers for Disease Control and Prevention). Therefore, sex-specific information concerning the numbers of women and men who were victims of this epidemic are unavailable. Furthermore, in industrial nations, the regularity of major wars during the 20th century took much larger tolls of both stress and death on men than on women. This fact is especially true of the cohorts who reached adulthood at or near the first half of the 20th century, before the so-called general liberation of women. A ubiquitous truth is that whatever is scarce in the world—whether animal, mineral, or plant—is more highly praised, prized, revered, and sought. As a consequence of these factors in developed countries, the social hierarchy of old men is increased and culturally promoted.

In the latter part of the 20th century and now in this 21st century, the so-called liberation of women has resulted in their involving themselves in behaviors that formerly have been primarily those of men. Data gathered in this 21st century are expected to reflect this change in terms of both stress on and death of women. Nonetheless, in this current cohort of old people, the 20th century was a man’s world.

However, ethnographic accounts show that, in traditional societies, women and men have definite divisions of labor, which tend to attenuate somewhat, but not eliminate, both the essentially equal differential between the biological sexes and the stress of ambiguous roles often present in the industrial world. For example, in hunting and gathering societies, where divisions of labor are societal norms, men are hunters and women are gatherers. These hunters tend to suffer wounds that are subject to infections, amputations, and death. Women gather the crops and, of course, are at less risk of injuries in this role. They are, nevertheless, at risk during childbirth. Because, however, laboring is

a social as well as a physical event, the deleterious mental components of labor and delivery are lessened, and it follows that the physical response is also attenuated (11).

Research shows that, in the past 2 decades of the 20th century, the gap between the sexes has become somewhat less conspicuous in traditional societies. Reasons for this include differential mortality and the introduction of contagious diseases of the industrial world into the traditional world through the mechanism of social contact with the West. This contact is increasingly causing changes in mortality rates in undeveloped societies (personal communication, World Health Organization). Because men in traditional societies are more at risk for these diseases due to their associations beyond their immediate families, one primary result is that their women are often left alone, by absences from home or accidental death, to tend to the care and the feeding of their families, thus imposing an increased dimension of stress on them (13).

It remains, nevertheless, that in both industrialized and traditional social structures, women have decreased chances of death compared with those of men. Thus, the scarcity of old men (and men in general) in both Western and traditional societies contributes to the cultural view of their enhanced societal importance, rank, and status.

The differences in belief systems that are discussed above in industrial and traditional societies result in variation in the treatment and housing between Western and traditional elders. Nevertheless, most industrial societies substitute—even replace—the high status attributed to elders in traditional societies with social programs of entitlement for their old people. In the USA, these include but are not limited to Social Security, old-age pensions, Medicaid, and Medicare health insurance. These programs, which are often the focus of political controversy, are not just so-called Band-Aids. In many situations in which old people—especially old women—find themselves, these social programs provide the only financial resources upon which they can survive. *America is aging.*

According to data from the US Bureau of the Census, the total US population in 1900 was 32,352,000, with 3,099,000 being at least 65 years of age. By 1920, it was 105,700,000, and 5,074,000 were 65 years of age or older. In 1950, the total US population numbered 150,697,000, and 12,206,000 of these people were at least 65 years old. It became evident among US government officials and demographers that Americans were living longer. This, of course, meant that the population was aging. These data led to the White House Conferences on Aging of 1961 and 1971, which were held for the purpose of addressing the problems and needs of this escalating population of US elders (14). By means of The Older Americans Act of 1965, some of the recommendations from these conferences created broadly based and increased awareness of the plight of old people and resulted in legislation to help them. *America continues to age.*

Current data from the Bureau of Statistics show that the general population of the USA is 281,421,906 (personal communication, US Bureau of Statistics). Of these, 34,991,753 are 65 years old and older. Moreover, 4,239,587 women and men are 85 years old and older, representing 1.5% of the total general population of the USA. An interesting note is that the current population of US elders who are at least 85 years old has

1,140,587 more members than the total of this cohort in the year 1900. *Clearly, then, America is aging.*

In sum, while much diversity exists between, as well as within, modern and traditional societies, the bottom line is that home is putatively where the heart is. Therefore, cross-cultural research shows that most old people everywhere prefer to live out their lives in the familiarity of their own various lifestyles and in whatever society they call home (9, 15, 16).

Finally, in his 1978 hit Broadway musical, *Pippen*, Stephen Schwarz addressed the issue of growing old in an environment that is as stress free as possible when he offered his audiences this caveat:

*Oh, it's time to start livin'
Time to take time from the world we're given
Time to take time, for spring will turn to fall
In just no time at all.*

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