# The Social Determinants of the Decline of Life Expectancy in Russia and Eastern Europe: A Lifestyle Explanation*

WILLIAM C. COCKERHAM
*University of Alabama at Birmingham*

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*This paper examines the social origins of the rise in adult mortality in Russia and selected Eastern European countries. Three explanations for this trend are considered: (1) Soviet health policy, (2) social stress, and (3) health lifestyles. The socialist states were generally characterized by a persistently poor mortality performance as part of a long-term process of deterioration, with particularly negative outcomes for the life expectancy of middle-aged, male manual workers. Soviet-style health policy was ineffective in dealing with the crisis, and stress per se does not seem to be the primary cause of the rise in mortality. Although more research is needed, the suggestion is made that poor health lifestyles—reflected especially in heavy alcohol consumption, and also in smoking, lack of exercise, and high-fat diets—are the major social determinant of the upturn in deaths.*

One of the most striking developments in world health is the decline of life expectancy in Russia and Eastern Europe. This situation is without precedent in modern history. Nowhere else has health generally worsened—instead of improved—among industrialized nations. To date, however, it is not fully understood why such a pattern emerged in this region in the late 20th century, nor has an extensive literature developed about this phenomenon in Western medical sociology. This circumstance is not only a health disaster for the societies and individuals involved, but it is also sociologically provocative because these nations officially espoused a socialist ideology which, theoretically, should have promoted health for all. Yet the reverse happened and adult mortality significantly increased.

This paper investigates current patterns in longevity in Russia and selected Eastern European countries. The purpose is to identify the major social determinant of the downturn in life expectancy in a global region once claiming to be a superpower and officially oriented toward achieving an egalitarian classless society. The focus will be on the persistent poor mortality performance between the mid-1960s and 1980s and its acceleration in the 1990s as a long-term process of deterioration. The evidence for a social basis for the rise in mortality will first be reviewed and three potential explanations will be explored: (1) Soviet health policy, (2) social stress, and (3) health lifestyles.

It should be noted that the rise in adult mortality in Russia and Eastern Europe is real and not a statistical artifact as the result of improvements in vital registration systems (Eberstadt 1994; Field 1994). Whereas infant mortality rates may be untrustworthy because of incomplete reporting (Anderson and Silver 1990; Keep 1995), infants are not the cohort whose death rates are reported as increasing. Rather, Eberstadt (1994) finds adult mortality rates in the region to be generally reliable and characterized by nearly universal coverage

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since at least the mid-1960s. Field (1994) questions Russian morbidity statistics, but likewise suggests that the mortality data are generally accurate and straightforward.

## SOCIAL CAUSES OF THE RISE IN ADULT MORTALITY

The first question that must be answered is whether or not a social basis exists for the drop in life expectancy. Secondly, if there is a social basis, what is it? Several factors support the thesis that the downturn primarily resulted from social rather than biomedical causes. First, the rise in mortality was not universal; rather, there were distinct differences in gender, age, urban-rural locale, education, and region. The people most affected in the former Soviet Union were middle-aged males in manual occupations (Godek 1995; Haub 1994; Knaus 1981; Mezentseva and Rimachevskaya 1992; Shkolnikov 1995; Tulchinsky and Varavikova 1996). Other data show a similar pattern in Bulgaria (Carlson and Tsvetarsky 1992), the Czech Republic (Carlson and Rychtaříková 1996; Rychtaříková 1996), Hungary (Carlson 1989; Hungarian Central Statistical Office 1996; Józan 1989, 1996), Poland (National Centre for Health System Management 1996; Okólski 1993; Wnuk-Lipinski 1990), and the Soviet Bloc generally, with the exception of East Germany (Bojan, Hajdu, and Belicza 1993; Eberstadt 1994; Okólski 1993).

The mortality situation is depicted in Table 1 for the former Soviet Union and Russia for selected years between 1960 and 1994. Table 1 shows that male life expectancy in the former Soviet Union stood at a high of 65.3 years in 1960, declined to 61.9 by 1980, but improved to 65.1 in 1987. As will be discussed, Russian demographers credit this brief rise in male longevity to Gorbachev's anti-alcohol campaign in the mid-1980s (Andreev 1990; Ponarin 1996; Shkolnikov and Nemtsov 1994). But the campaign was discontinued in late 1987 and by 1989 average life expectancy for Soviet men had declined to 64.2 years.

**TABLE 1. Life Expectancy at Birth in the Former Soviet Union and Russian Federation, Selected Years, 1960–1994**

| Year | Male | Female |
|---|---|---|
| Soviet Union | | |
| 1960 | 65.3 | 72.7 |
| 1980 | 61.9 | 73.5 |
| 1987 | 65.1 | 73.9 |
| 1989 | 64.2 | 73.9 |
| Russia | | |
| 1991 | 63.5 | 74.3 |
| 1992 | 62.0 | 73.8 |
| 1993 | 59.0 | 72.0 |
| 1994 | 57.5 | 71.1 |

*Source: Population of the USSR* 1962; U.S. National Center for Health Statistics 1991, 1994; Shkolnikov 1995.

Following the collapse of the former Soviet Union in 1991, Table 1 shows that life expectancy for Russian males accelerated downward from 63.5 years to a low of 57.5 in 1994. For females, Table 1 shows a slow but consistent upward trend between 1960 and 1987 in life expectancy from 72.7 years to 73.9 years; by 1989, however, life expectancy for Soviet women had stabilized at 73.9 years. In 1991, in the new Russian Federation, females lived 74.3 years on average, but by 1994 life expectancy for women had fallen to 71.1 years. Consequently, both Russian men and women had a lower life expectancy in 1994 than their Soviet counterparts in 1960, and since the breakup of the former Soviet Union, mortality for both sexes has increased.

Age-specific contributions to the downturn in life expectancy have been concentrated in middle-aged males throughout the period of decline (Field 1995; Knaus 1981; Mezentseva and Rimachevskaya 1992; Shkolnikov 1995). For example, the greatest increase in death rates for Russian men between 1975 and 1993 is found in the 15–64-year-old age group, with the most pronounced rise occurring at ages 30–34 (Shkolnikov and Nemtsov 1994). By 1991–1992, 54 percent of all age-specific mortality increases for males were associated with 15–44-year-olds and 40 percent with 45–64-year-olds. However, for 1993–1994, the most recent years data are available, 53 percent of the increase in death rates for Russian men was due to excess mortality among 45–64-year-olds, 34 percent to that among 15–44-year-olds, and only 13 percent to that among males age 65 and over. Excess mortality in adult males may be shifting to late middle-age, but continues to be a middle-age phenomenon nevertheless (Shkolnikov 1995).

Not only can a social causation argument be supported by the fact that the downturn has been generally caused by early deaths among

middle-aged males, but the accelerated decline in life expectancy for both Russian women and men in the 1990s can be linked to a definitive social event: the demise of the Soviet Union. That is, already poor health conditions worsened with the collapse of the Soviet state. And like their male counterparts, it is late middle-aged (45–64 years) Russian women who have contributed the most to the rise in female mortality since 1992 (Shkolnikov 1995).

Life expectancy has also declined for both urban and rural Russian males, but urban males show the greatest decrease. In 1979, urban males had outlived rural males 3.0 years on average (62.3 years vs. 59.3 years) but, by 1994, urban males showed an advantage of only .8 years (57.7 years vs. 56.9 years) over rural males (Shkolnikov 1995). Between 1979 and 1994, life expectancy for urban males declined 4.6 years compared to 2.4 years for rural males, which is shrinking the urban-rural difference. Data are lacking on social class differences in mortality, but death rates by level of education in Russia between 1975 and 1994 for males show increases for all educational groups—with the steepest rise among those with the lowest education (Shkolnikov, Adamets, and Deev 1996).

The rise in adult mortality in the former Soviet Union is also related to region. Table 2 compares life expectancy at birth in the former Soviet republics between 1979 and 1980 and either 1991, 1992, or 1993, depending on the availability of data. Surprisingly, Table 2 shows that the most developed republics in the former Soviet Union's European areas showed the greatest declines in life expectancy, while those in the Caucasus and Central Asia generally experienced increases in longevity. The exceptions were Armenia in the Caucasus where life expectancy fell during this period for both males and females, and Uzbekistan in Central Asia where a steep decline occurred for females. As shown in Table 2, the greatest decrease in life expectancy for males was in Russia (2.5 years), followed by Belarus (2.1), Latvia (2.0), Estonia (1.8), Armenia (1.6), and the Ukraine (.6). For females, the decline was greatest in Uzbekistan (3.6 years), with Armenia (1.3), Belarus (1.2), Russia (1.0), Estonia (.4), and Latvia (.1) also showing declines.

The general pattern of the rise in mortality from its inception is therefore centered on middle-aged, urban males in manual occupations in the most developed republics of the former Soviet Union. Exclusively biomedical causes of morbidity would not likely be con-

**TABLE 2. Life Expectancy at Birth in the Former Soviet Republics, 1979–1980 and 1991/92/93**

| | Male | | | Female | | |
|---|---|---|---|---|---|---|
| Country | 1979–80 | 1991/92/93[a] | Change | 1979–80 | 1991/92/93[a] | Change |
| Slavic and Moldova | | | | | | |
| Belarus | 65.9 | 63.8 | –2.1 | 75.6 | 74.4 | –1.2 |
| Moldova | 62.4 | 63.9 | 1.5 | 68.8 | 71.9 | 3.1 |
| Russia | 61.5 | 59.0 | –2.5 | 73.0 | 72.0 | –1.0 |
| Ukraine | 64.6 | 64.0 | –0.6 | 74.0 | 74.0 | 0.0 |
| Baltic States | | | | | | |
| Estonia | 64.2 | 62.4 | –1.8 | 74.2 | 73.8 | –0.4 |
| Latvia | 63.6 | 61.6 | –2.0 | 73.9 | 73.8 | –0.1 |
| Lithuania | 65.5 | 64.9 | –0.6 | 75.4 | 76.0 | 0.6 |
| Caucasus | | | | | | |
| Armenia | 69.5 | 67.9 | –1.6 | 75.7 | 74.4 | –1.3 |
| Azerbaijan | 64.2 | 66.3 | 2.1 | 71.8 | 74.5 | 2.4 |
| Georgia | 67.1 | 68.7 | 1.6 | 74.8 | 76.1 | 1.3 |
| Central Asia | | | | | | |
| Kazakhstan | 61.6 | 63.8 | 2.2 | 71.9 | 73.1 | 1.2 |
| Kyrgyzstan | 61.1 | 64.2 | 3.1 | 70.1 | 72.2 | 2.1 |
| Tajikistan | 63.7 | 67.6 | 3.9 | 68.6 | 71.9 | 3.3 |
| Turkmenistan | 61.1 | 62.9 | 1.8 | 67.8 | 69.7 | 1.9 |
| Uzbekistan | 65.9 | 66.1 | 0.2 | 75.6 | 72.4 | –3.2 |

*Source:* Haub 1994; Kaasik, Hörte, and Andersson 1996; Shkolnikov 1995.

[a]Refers to 1991, 1992, *or* 1993.

strained by these social parameters, thereby suggesting that the determinants of the downturn in life expectancy are primarily social.

Second, the increased mortality was not caused by a rise in infectious diseases, but primarily resulted from an increase in chronic illnesses having significant ties to specific forms of social behavior—especially heart disease and its connection to unhealthy lifestyles, stress, smoking, and alcohol abuse, along with accidents. Third, a genetic explanation does not seem to apply because the limited time period involved is not enough for large-scale genetic change to have occurred (Adler et al. 1994), nor is there evidence of genetic change.

Fourth, inferior medical care does not appear to be the cause since there is no evidence that the health care system, either by design or inadvertently, promoted early deaths —especially from heart disease among large numbers of middle-aged males. Even though Soviet medicine did not have an overall reputation for high quality, it nevertheless provided a basic, no-frills service to the general population (Cassileth, Vlassov, and Chapman 1995; Davis 1989; Knaus 1981). Furthermore, Soviet medicine claimed to have played an important role in reducing rates of infectious diseases and infant mortality which had also risen in the late 1960s and the 1970s.

And fifth, while extensive environmental pollution has been documented in heavily industrialized areas in Russia and Eastern Europe and there is evidence of an increase in respiratory diseases, hepatitis, lead contamination, and low birth weights in these particular regions (Hertzman 1995; Keep 1995; Potrykowska 1995), the effects of this pollution to date do not seem to be of such a magnitude as to have caused the massive, nationwide decreases in adult male life expectancy (Kulin and Skakkeback 1995; Watson 1995).

For example, in Russia, pollution-related illnesses like cancer and respiratory diseases were responsible for less than 12 percent of the increase in deaths in 1992–1993 (Haub 1994). Cancer deaths caused only 1.7 percent of the increased mortality and respiratory diseases caused an additional 8.9 percent. The leading cause of death was circulatory diseases (48.3%), followed by accidents (13.5%), murder/suicide (7.5%), alcohol (6.1%), and digestive/infectious diseases (4.6%). Other diseases caused the remaining 9.9 percent of the increased mortality. Another problem with the environmental explanation is that the regions that suffered from particularly high levels of pollution did not necessarily have the highest mortality rates (Watson 1995). East Bohemia in the Czech Republic, for instance, has relatively high life expectancy despite poor air quality, while parts of Slovakia with clean air have low life expectancy (Hertzman 1995). Results such as these suggest that environmental pollution, while important, is not the principal cause of the downturn in life expectancy (Kulin and Skakkeback 1995).

It therefore appears that the major causes of rising mortality are largely social in origin, which suggests that Soviet health policy, societal stress, or health lifestyle is the major culprit. Although it can be argued that each explanation represents an important causal factor, the next section will consider each possibility individually in order to locate the likely primary social determinant.

## SOVIET HEALTH POLICY

Health care delivery systems and policies are acts of political philosophy; consequently, social and political values influence the choices made, institutions formed, and levels of funding provided for health (Light 1986). Prior to the collapse of communism in the former Soviet Union and Eastern Europe in 1989–1991, the health care delivery systems in the region were philosophically guided by Marxist-Leninist programs for reshaping capitalism into socialism. The ultimate goal of Marxism-Leninism was the establishment of a classless society, featuring an end to class oppression, private property, worker alienation, and economic scarcity (Bell 1991; Zotov 1985). However, Marxist-Leninist ideology pertaining to health was never developed in depth (Deacon 1984; Marx and Engels 1973; Waitzkin 1983, 1989).

The new Soviet state established in the aftermath of the 1917 Revolution nevertheless faced serious health problems, including large-scale epidemics and famine. More out of practical than theoretical necessity, the Fifth All-Russian Congress of Soviets outlined some fundamental principles of Marxist-Leninist health policy in 1918. The Congress mandated that health care would be (1) the responsibility of the state, (2) provided without direct cost to the user, and (3) controlled by a central

authority. Moreover, providing health care for workers, with an emphasis on preventive care, was a top priority. (Cassileth et al. 1995; Light 1986). Because of the critical need for doctors and a shortage of manpower due to industrial and military demands, large numbers of women, especially nurses with a proletariat background, were ordered into medical schools where they were given cram courses and certified as physicians (Knaus 1981). Today, Russia has more doctors per capita than any major nation (about one physician for every 259 people) and some 76 percent are women (Cassileth et al. 1995). However, medical professionalism was not rewarded, nor encouraged. The Soviet government provided low wages (about $24 a month, less than what a bus driver would make) and status (the equivalent of a high school teacher) for the great majority of its medical practitioners (Cassileth et al. 1995; Field 1991, 1993, 1994; Knaus 1981). In 1987, the average salary for health care providers was 71 percent of the national average (Mezentseva and Rimachevskaya 1992).

A hierarchical system of health care delivery facilities provided services, with local polyclinics being the initial point of entry for primary care and the source of referrals to higher-level services. The general public did not have a choice of physicians, but were assigned to a medical practitioner on the basis of residence. Treatment for infectious diseases, immunizations, maternal and child care, and other primary services were widely available (Knaus 1981; Rowland and Telyukov 1991; Tulchinsky and Varavikova 1996). Although quality was uneven and services in some rural areas were provided by physician assistants (feldshers) instead of doctors, the Soviets nonetheless established a nationwide health care delivery system providing free treatment. The initial results were impressive. Between 1928 and 1941, an enormous expansion in numbers of physicians and health facilities took place (Field 1967; Sidel and Sidel 1983). Western medical observers like Sigerist (1947:32) found the early development of the Soviet health care delivery system to be "stupendous." "The chief impression of the visitor in 1938," states Sigerist (1947:32), "was that not only was there more of everything but that everything there had been greatly improved." Medical measures, along with some improvement in living standards, were credited with substantially reducing infant mortality and the incidence of many communicable diseases like typhus, cholera, and syphilis (Knaus 1981).

From the end of World War II until the mid-1960s, health progress in the Soviet Union was rapid, steady, and general (Eberstadt 1994; Mezentseva and Rimachevskaya 1990). For example, in the Russian Soviet Federated Socialist Republic, life expectancy for males was 40.4 years in 1938 but reached 64.0 in 1965; for females, life expectancy increased from 46.7 years to 72.1 during the same period (Shkolnikov 1995). A similar situation occurred in Eastern Europe where Soviet-style health care delivery systems had been installed after 1945 (Eberstadt 1994; Okólski 1993). In Hungary, for instance, male life expectancy rose from 54.9 years in 1941 to 67.5 in 1966—the highest ever recorded (Hungarian Central Statistical Office 1996). Life expectancy for Hungarian females increased from 58.2 years to 72.2 during the same time.

However, in the mid-1960s, life expectancy for males began a downward trend throughout the Soviet Bloc and a review of the literature suggests four major shortcomings in the Soviet health care system: funding, quality, access, and strategy. First, health care was not a national priority and was therefore seriously underfunded. In 1989, two years before the Soviet Union collapsed, only 3.4 percent of the GDP—a percentage lower than in any other major industrialized nation—was spent on health care. Turkey (3.9%) and Greece (5.1%) spent larger proportions of their GDP on health that year than the Soviet Union. According to Mezentseva and Rimachevskaya (1992), health care in the Soviet Union was typically financed on the basis of the "residue principle," that is, from funds left over after providing for the needs of the sectors of the economy given a higher priority: defense, heavy industry, and agriculture.

Second, Soviet health care was not generally of a high quality in comparison to the West. Although modern facilities and well-trained physicians existed, the great majority of doctors lacked the training of Western physicians and most hospitals were poorly equipped and had inadequate supplies (Cassileth et al. 1995; Curtis, Petukhova, and Taket 1995; Davis 1989; Keep 1995; Knaus 1981; Light 1992). Rural areas, as noted, were often served by physician assistants in rela-

tively primitive health stations. Soviet medical technology reportedly lagged behind that of the West by several years (Makara 1994). Therefore, as Light (1992) points out, the widespread availability of competent physicians with the medical supplies needed for their work has been a fundamental problem.

Third, despite socialist ideology, access to quality health care was inherently unequal in the Soviet system. According to Mezentseva and Rimachevskaya (1992), the existence of social inequality in health was never described by the government as a problem that needed solving, nor widely recognized as a problem by the general public until only late in the final years of the Soviet regime. What Soviet health policy provided was a universal and equal right to health protection, not an end to socially determined differences in health or in the quality of medical care provided (Mezentseva and Rimachevskaya 1990, 1992). There was, for example, a complex, stratified arrangement of clinics and hospitals, with separate closed systems for elite groups, such as top government officials, miners, and other industrial workers, and open systems for residents of Moscow, provincial cities, and rural areas (Davis 1989). In order to receive personal attention and access to better care, patients typically provided gifts or bribes to health care personnel which evolved into a second economy within the overall health care system (Cassileth et al. 1995; Davis 1989; Knaus 1981). Field (1993:167) referred to the bribery system as the "commercialization of Soviet medicine" and noted that it was paradoxical that payments by patients were reintroduced in a system designed to remove financial incentives from the patient-physician relationship.

Fourth, the strategy emphasizing prevention was not a complete success. Until the 1990s, it was generally effective in controlling the major infectious diseases (Tulchinsky and Varavikova 1996). There was also some improvement in infant mortality as previously noted, and in deaths from cancer and respiratory diseases between 1970 and 1986 (Mezentseva and Rimachevskaya 1990, 1992). However, mortality from heart disease rose significantly, with age-standardized death rates from circulatory diseases increasing in Russia from 814.3 per 100,000 in 1970 to 1,089.3 in 1993 (Shkolnikov and Nemtsov 1994).

Of course, cause-of-death data, especially international comparisons, need to be interpreted with care because of the unavoidable subjectivity in diagnosis and coding for death certificates (Ruzicka and Lopez 1990). While the formerly communist countries of Europe may not have had a higher standard than the West in this regard, Eberstadt (1994) nevertheless observes that these data offer a view of the proximate causes of the region's health problems. Virtually all sources maintain that circulatory diseases (ischemic heart disease, stroke, and hypertension) and trauma (accidents, homicide, suicide, and poisonings) dominate the region's mortality patterns (cf. Eberstadt 1994; Haub 1994; Kaasik, Hörte, and Andersson 1996; Shkolnikov 1995; Shkolnikov and Nemtsov 1994; Tulchinsky and Varavikova 1996).

Whereas Soviet health policy was oriented toward the prevention of infectious diseases, it was ineffective in adjusting to the increased prevalence of heart disease and trauma as chronic, noncommunicable causes of death in the former Soviet Union and elsewhere in countries like the former Czechoslovakia and Hungary (Bojan, Hajdu, and Belicza 1991; Makara 1994). This leads to the paradoxical conclusion that the centralized egalitarianism that succeeded in addressing epidemics and contagious diseases in the early period of Soviet health care delivery functioned poorly when confronted with chronic illnesses and their causes in the late 20th century. Thus, the Soviet-style health policy did not cause the increase in mortality in the region but rather was unable to address the surge in circulatory problems and traumatic episodes. The social stress and health lifestyle explanations seem to be more promising lines of inquiry in the search for the major cause of increased mortality.

## SOCIAL STRESS

A social stress explanation maintains that differences in health and life expectancy are based on the different capabilities of the various social classes in buffering the effects of stress. Socioeconomic distinctions in mortality and morbidity are found for practically

all diseases and occur at every level of a social hierarchy, not just between the upper and lower class (Adler et al. 1994; Illsley and Baker 1991). Therefore, something more than poverty is operative in determining health differences between social classes, since the upper class lives longer than the upper middle class even though both classes are affluent. Thus, the critical factor in health, according to a social stress explanation, is a person's location in a social hierarchy, with higher socioeconomic status (SES) providing less exposure to negative events and more social and psychological resources in coping with such events when they occur (Adler et al. 1994).

Building on previous research, Evans, Barer, and Marmor (1994) identify stress as the single most important variable in the health of large populations. The basis for this conclusion is largely derived from Marmot's (Marmot et al. 1991; Marmot, Shipley, and Rose 1984) influential Whitehall studies which document a clear social gradient in life expectancy across occupational ranks of British male civil servants. Evans (1994) suggests that the social gradient in life expectancy from high to low is generally caused by differing "microenvironments" (defined as relations at home or work) that facilitate the transfer of strain from stressful life events. The lower one is on the social ladder, the less able one is to transfer stress, and the greater the harm to the individual's health. Evans claims that it is this ability to transfer or buffer the effects of stress, rather than some mechanical connection to wealth, that ultimately determines the effects of stress on the body. Increasing prosperity and success are also cited by Evans and colleagues as a major source of self-esteem and empowerment which reflects positively on an individual's physical and mental health.

Applying this perspective to macro-level processes, Evans and colleagues (Hertzman, Frank, and Evans 1994) note that as Japan moved into the upper hierarchy of nations, Japanese life expectancy became the highest in the world. Russia and Eastern Europe, in contrast, moved downward in the world's hierarchy and life expectancy decreased as well, thereby suggesting that changes in status can be translated into changes in mortality as societal stress is either reduced or increased.

However, while this conclusion has a certain logical appeal, it is not at all clear how the relationship between stress and macro-level social change enhances or lessens the life expectancy of large populations, or particular individuals within those populations. Specific stressors and specific disease outcomes as a result of these stressors have not been identified, which makes it difficult to prove a precise cause and effect. Furthermore, among the Japanese, Okinawans have the highest longevity, but have historically been accorded lower social status by Japanese in the home islands (Lebra 1980). While it might be argued that Okinawan longevity in relation to status is atypical, the fact remains that they are a major exception to any hierarchical theory of human life expectancy.

It is apparent that Russia and Eastern Europe comprise societies experiencing considerable stress as a result of fundamental economic, political, and social changes in the wake of communism's downfall (Keep 1995; Stokes 1993). Yet it is not evident that this macro-level stress is the primary cause of increased mortality. Consider for example, the Czech Republic, which, like the other former communist nations, experienced an increase in male mortality beginning in the mid-1960s. But unlike the others, this trend was reversed in the mid-1980s—prior to the end of Soviet domination and the difficulties associated with the transition out of communism—and continues today after a one-year interruption in 1990. Between 1989 and 1994, life expectancy in the Czech Republic increased 1.4 years for males and 1.1 years for females, thereby demonstrating that the Czechs are escaping the general Eastern European trend in mortality (Rychtaříková 1996).

Thus, it can be argued that the Czech Republic has experienced stressful events like its neighbors, but has seen male mortality generally fall instead of rise in the last decade. Declines in deaths from heart disease, stroke, and cirrhosis of the liver for 25- to 44-year-old males and in heart and respiratory diseases for 45- to 59-year-old males are the principal causes of the Czech downturn in mortality. Consequently, Carlson and Rychtaříková (1996:9) reject a stress hypothesis for the Czech Republic by pointing out that "rapid declines in nearly all causes of death for all age groups after 1990 has coincided with rapid social transformation, economic insecurity, stress, unemployment, new freedom in the marketplace to buy and sell an unprecedented

variety of foodstuffs, and in general, an acceleration of the sort of 'westernization' that was supposed to be producing rising death rates."

Thus, the question remains unanswered: Were significant numbers of people in the former Soviet Union and Eastern Europe, primarily middle-aged men, so stressed by their social and psychological circumstances that increasingly higher proportions of them succumbed to heart attacks over a period of 20 years? The stress explanation of increased mortality needs stronger evidence to support its role as the primary social determinant. It may be that stress has a more indirect effect and influences life expectancy by promoting unhealthy lifestyles.

## HEALTH LIFESTYLES

The health lifestyles explanation lays the blame for poor health upon unhealthy practices and social conditions. Health lifestyles are collective patterns of health-related behavior based on choices from options available to people according to their life chances (Cockerham, Rütten, and Abel 1997). These life chances include the effects of age, gender, race/ethnicity, and other variables that affect lifestyle choices. The behaviors that are generated from these choices can have either positive or negative consequences on body and mind, but nonetheless form an overall pattern of health practices that constitute a lifestyle.

Sociological thinking on lifestyles generally remains guided by the insight of Max Weber (1978). Weber's work suggests that lifestyles have two major components: (1) life choices (self-direction) and (2) life chances (the structural probabilities of finding satisfaction). Weber's most important contribution to conceptualizing lifestyles is identification of the dialectical interplay between choice and chance in lifestyle determination (Cockerham, Abel, and Lüschen 1993). People therefore have a range of freedom, but not complete freedom, in choosing a lifestyle; that is, they have the freedom to choose within the social constraints that apply to their situation in life.

While this perspective suggests that participation in a healthy lifestyle—which typically involves decisions about food, exercise, coping with stress, smoking, alcohol and drug use, risk of infection and accidents, and physical appearance—is largely up to the individual, Cockerham et al. (1997) indicate this may not necessarily be the case. Structural constraints embedded in life chances may be the dominant factor in the operationalization of health lifestyles. Bourdieu (1984), for example, notes that categories of perception—the basis for self-direction—are largely determined by socialization, experience, and the reality of class circumstances. The habitus which guides social action is limited by its perceptual boundaries. The dispositions produced are typically compatible with the constraints imposed by the larger social order and set the individual on a stable and consistent course of action. These constraints may, in fact, leave people with little or no choice in exposing themselves to unhealthy conditions and practices.

In societies, like those in Eastern Europe, where people lacked information about health and had little or no control over their diet, ecological pollution, or a social environment where smoking and heavy drinking was normative, poor health lifestyles were likely. Nagorski (1993) reports that Eastern Europeans are among the world's heaviest drinkers and smokers, and their diet is loaded with fat. Vodka and cigarettes were cheap and easily available in large quantities to workers, and the average citizen had little choice about which foods to purchase and consume. Nagorski (1993:189) states: "If Eastern Europeans seemed less concerned about maintaining healthy habits, if they shrugged off warnings about the dangers of drinking, smoking, and lack of exercise more easily than their Western counterparts, if they seemed to take ecological devastation more fatalistically, this was a natural result of the sense of powerlessness the communist system encouraged at every turn."

The major argument against the lifestyle explanation is that it places responsibility for health directly on the individual and his or her lifestyle choices. When people develop poor health or die prematurely, it is their fault because of these choices. This allows the capitalist system and its health care sector to escape blame for unhealthy social conditions or medical mistakes (Navarro 1986; Waitzkin 1983). Consequently, the lifestyle explanation is depicted as a form of "blaming the victim," which permits the state and powerful groups to evade responsibility. There is some justifica-

tion for this view if lifestyles are considered to be more or less exclusively based on individual choice; however, there is little empirical evidence that lifestyles are merely a deliberate product of independent individuals. As Bourdieu (Bourdieu and Wacquant 1992:183) explains: "Autonomy does not come without the social conditions of autonomy and these conditions cannot be obtained on an individual basis." Therefore, as noted, life chances and the parameters they set for choice selection play an especially powerful role in determining lifestyles (Cockerham et al. 1997).

If life chances constrain life choices in the more consumption-oriented and individualistic West, they are likely to impose even greater limits on lifestyle choices in the East. During the Soviet era, for example, high-quality foodstuffs were not widely available in Russia (Chamberlain 1982). The food consumed was determined more by what was available than by personal choice over a range of options. Although the diet was nutritionally adequate, it was unbalanced by an excess of carbohydrates and fatty meats, shortages in fresh fruits and vegetables in winter months, and a lack of variety (Keep 1995; Knaus 1981; Tulchinsky and Varavikova 1996). We would argue that such external constraints (life chances) dominate choices and result in relatively unhealthy lifestyle patterns and rising mortality.

Evidence supporting a lifestyle explanation for the rise in mortality comes from at least four sources: (1) prior research, (2) the types of diseases most responsible for the increase, (3) Russia's anti-alcohol campaign, and (4) a recent Hungarian survey of health behavior. First, several studies and research reports suggest that unhealthy lifestyles may be the major cause of the rise in mortality in the former Soviet Union and Eastern Europe in general (Eberstadt 1990; Feachem 1994; Kulin and Skakkeback 1995) and in the former Czechoslovakia (Janecková and Hnilicová 1992) and Poland (World Bank 1992) in particular. Second, a particularly strong association exists between cardiovascular diseases and health lifestyle practices involving diet, exercise, smoking, and heavy drinking (Cockerham 1995), and, as previously discussed, the leading overall cause of the mortality increase in Russia and Eastern Europe is disease of the circulatory system. The increase in heart disease would suggest an increase in risk behavior; and this appears to be the case based on data showing a dramatic rise in the per capita consumption of cigarettes and hard liquor in Eastern Europe between the mid-1960s and 1980s (Eberstadt 1990), increasingly higher levels of alcohol consumption in Russia between 1971–1984 and 1987–1993 (Shkolnikov and Nemtsov 1994), and a rise in the percentage of regular smokers in Hungary between 1984 and 1994 (Antal 1994; Hungarian Central Statistical Office 1996). Moreover, in Hungary, deaths from cirrhosis of the liver and the estimated number of alcoholics doubled between 1987 and 1993 (Hungarian Ministry of Welfare 1995).

Third, while not conclusive, the relationship between a lifestyle involving heavy alcohol use and the rise in male mortality nevertheless appears especially important. As Okólski (1993:177) puts it: "It seems that of all plausible determinants of adult male mortality increase in Eastern Europe, the most widely accepted underlying factor is growing alcohol consumption." A strong relationship between alcohol consumption and decreased male life expectancy has been found in both Eastern Europe (Okólski 1993) and Russia (Anderson and Silver 1990; Meslé and Shkolnikov 1995; Meslé, Shkolnikov, and Vallin 1992; Ponarin 1996; Shkolnikov and Nemtsov 1994).

The magnitude of alcohol use in the former Soviet Union is illustrated by the fact that tax revenues from sales of vodka accounted for 35 percent of the Soviet budget in 1988. By 1995, vodka generated less than 5 percent of revenues, not because of decreased consumption, but because of the government's loss of the state monopoly on production and sales and inability to control the black market. In 1995, Russians consumed 4.1 gallons of hard liquor per capita—the highest in the world. In an extensive study of the alcohol-mortality relationship in Russia, Shkolnikov and Nemtsov (1994) investigated alcohol sales and consumption between 1971 and 1993. Their focus was on Gorbachev's 1984–1987 anti-alcohol campaign and they determined that both reported and real alcohol consumption declined during this period. Calculating the difference between observed and expected deaths by sex and age, Shkolnikov and Nemtsov found that longevity increased 3.2 years for males and 1.3 years for females during the campaign's duration, with the greatest advances occurring in 1986. Shkolnikov and

Nemtsov (1994:1) concluded that "the rapid mortality decrease in the years 1984 to 1987 can be assumed to reflect a pure effect of reduced alcohol abuse on mortality, because there were no other significant changes in conditions of the public health in that short period." The fact that alcohol abuse was very much a regional (or ethnic) problem (Keep 1995:269) may help explain why the rise in adult male mortality has been greater in Russia and the Baltic states (where consumption was highest) than in Central Asia.

According to Shkolnikov and Nemstov (1994), the mode of drinking common to middle-aged Slavic males is part of a Northern European lifestyle involving rapid group consumption of large doses of vodka with a light snack; the participant is expected to continue to drink with his fellows even when he feels he has had enough. Apparently little or no social stigma is associated with drunkenness. Earlier in the 20th century Russian workers typically drank large amounts of alcohol only on their days off (Sundays and Russian Orthodox Church holidays). However, during the Soviet period, heavy alcohol consumption became common throughout the year, which most likely fostered a lifestyle characterized by consistent binge drinking. This situation suggests that it is the normative demands of a particular lifestyle, rather than health policy or stress, that is primarily responsible for the pattern of male drinking in Russia.

Other evidence supporting a lifestyle explanation for rising mortality is found in Hungary's 1994 Health Behavior Survey (Hungarian Central Statistical Office 1995). This nationwide survey of 5,476 households (an 85% response rate) found that the percentage of smokers had increased to 35.0 percent from 31.9 percent in 1986. Some 72 percent of the sample drank alcohol regularly, with 11.6 percent characterized as "excessive drinkers." Only 21.4 percent of the men and 13.5 percent of the women reported regular physical exercise, while less than 10 percent of the men and 12.5 percent of the women ate vegetables almost every day in the winter. Furthermore, over half of all visits to physicians were made by just 10 percent of the respondents. Hungary's health profile is among the worst in Eastern Europe and these data help us to understand why. For example, Hungary's mortality rate rose from 10.2 deaths per 1,000 persons in 1960 to 14.3 in 1994 with the rise in heart disease among middle-aged men serving as the principal cause (Carlson 1989; Hungarian Central Statistical Office 1996; Józan 1989, 1996; Nagorski 1993).

Although Soviet-style health policy and social stress have likely contributed to the downturn in life expectancy in Russia and Eastern Europe, this review of the evidence suggests that unhealthy lifestyle is the primary social determinant of the higher death rates and currently offers the most promising line of inquiry for future research.

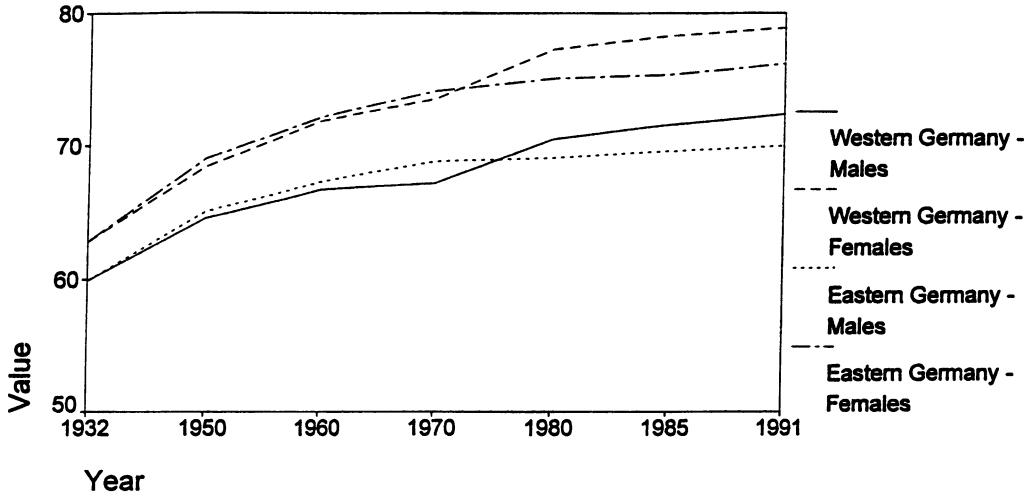
## EAST GERMANY: AN EXCEPTION?

Of all the Soviet Bloc countries, only East Germany avoided the downturn in male life expectancy. However, reliable statistics show that the East German state did not entirely escape regional trends, and increases in longevity were significantly slowing over time (Jahrbuch der Bundesrepublik Deutschland 1996; Statistisches Bundesamt 1995). Between 1970 and 1991, for example, male life expectancy increased only 1.1 years for East Germans compared to 5.2 years for West Germans. As seen in Figure 1, both East German men and women outlived their Western counterparts until the 1970s when the West Germans moved ahead. By unification in 1991, West German men lived 2.4 years more on average than East German males (72.4 years vs. 70.0 years) and West German women had 2.7 years greater longevity than women in East Germany (78.9 years compared to 76.2 years).

Had the health and life expectancy of East Germans been better than that of West Germans, the superiority of Soviet-style health care delivery could have been demonstrated. The division of Germany into distinct capitalist and communist states offered the opportunity to evaluate "a natural experiment in history" (Light and Schuller 1986; Volpp 1991). However, by unification, East Germany's health care system was judged a major failure and none of its features were retained (Apelt 1991; Knox 1993; Niehoff, Schneider, and Wetzstein 1992; Volpp 1991). Like Soviet-style health systems elsewhere in Eastern Europe, the East German approach was becoming increasingly ineffective in coping with heart disease (Knox 1993).

The role of stress in retarding life expect-

**FIGURE 1. Life Expectancy, Eastern and Western Germany, 1932–1991**




*Source:* United Nations *Demographic Yearbook* 1955, 1961, 1966, 1974, 1975; World Health Organization *World Health Statistics Annual* 1986, 1993; *Jahrbuch der Bundesrepublik Deutschland* 1996.

ancy in East Germany is not known because of a lack of data. But there is limited support for a health lifestyles argument in the few existing comparative studies. There are data, for example, that show that the incidence of cardiovascular disease was greater in East Germany than in West Germany, with East German males showing higher levels of cigarette smoking, hypertension, cholesterol, and obesity (Helmert, Mielck, and Classen 1992). East German females showed a similar pattern except for smoking. One result was an age-adjusted mortality rate from heart disease in 1988 that was 40 percent higher for males and 60 percent higher for females in East Germany as compared to West Germany (Knox 1993). Other research suggests that East Germans were less likely to exercise and more likely to consume hard liquor than West Germans (Lüschen, Apelt, and Kunz 1993). Consequently, a health lifestyles approach offers a basis for future comparisons of East and West Germany. While East Germany was an exception to the general Eastern European mortality pattern, its position was eroding by the time of unification.

## CONCLUSION

This paper has examined the rise of adult mortality in Russia and selected Eastern European countries during the late 20th century. A review of relevant data shows that the socialist states were generally characterized by a persistently poor mortality performance as part of a long-term process of deterioration. Soviet-style health policy was ineffective in dealing with the situation; thus, the centralized system that succeeded in addressing contagious diseases in the early Soviet period functioned poorly in coping with heart disease and trauma in the late 20th century. While social stress may also be an important factor in the rise in mortality, evidence is lacking that stress per se can account for the sharp rise in male deaths throughout the region. Although more research is needed, the strongest evidence to date suggests that unhealthy lifestyles are the principal social determinant of increased mortality in the region.

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**William C. Cockerham** is professor of sociology, medicine, and public health and Co-Director of the Program in Social Medicine at the University of Alabama at Birmingham. He is author of *Medical Sociology,* 6th ed. (Prentice-Hall, 1995) and is currently investigating the decline of adult mortality in Japan and its rise in the former Soviet Union and Eastern Europe.