

Symptoms of social inequality in Poland

Predetermined Fates



Dr. Alicja Szklarska studies the symptoms of social inequalities in the biological condition of men and women

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How has Poland's political transformation influenced the quality of life within individual social strata? Long-term surveys of 19-year-olds registering at military recruitment boards may provide an answer



Dr. Sławomir Koziel studies the biological results of socio-political changes and auxological epidemiology, in particular specific factors contributing to the growing incidence of obesity in Poland

Intergenerational changes in certain anthropological characteristics are defined as either secular trends or long-term tendencies of change. The nature of secular trends observed in human populations is complex, reflecting how the processes of growing up and maturation are sensitive to the environmental conditions in which children and young people are brought up. Based on much research, it has become widely accepted that biological processes are indeed influenced by such environmental factors, in particular by the quantity and quality of nutrition, physical stress, and the incidence of illness during childhood and puberty. These factors, in turn, are usually linked with the economic and social status of individuals and their families. The high degree of ethnic (and therefore genetic) homogeneity of the Polish population provides a unique opportunity to monitor the impact of such socioeconomic factors on certain biological features.

Post-industrial society

In mid-19th century Manchester, a huge industrial center at the time, the average life expectancy was just 15 years in working class families, compared to 45 years in middle class families. The study of old cem-

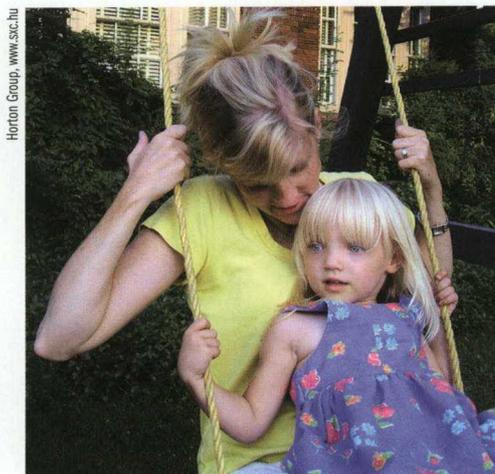
eteries confirms that people from wealthier societal groups have always been taller and had stronger, highly mineralized bone tissue. This is most likely because they enjoyed a higher standard of living. Although Europeans have been getting taller since the industrial revolution back in the 19th century, variations between extreme social groups remain, and today they are a characteristic feature of post-industrial societies. Therefore, as far as body height is concerned, changes in the average from generation to generation, as well as variations between the averages for individual social groups, provide a valuable source of information regarding changes in the standards of living over time, as well as the degree of social stratification of the population.

Conscripts called up

For the past 40 years the Institute of Anthropology of the Polish Academy of Sciences in Wrocław has been carrying out periodic studies of 19-year-olds summoned to appear before military recruitment boards. This research has made it possible to systematically monitor societal changes occurring in Poland on a grand scale, and especially their biological consequences. Major anthropological and sociological studies have been carried out at approximately 10-year intervals, re-



Prof. Tadeusz Bielicki is a full member of the Polish Academy of Sciences. His research concerns anthropological social stratification of the population, and intergenerational changes in the severity of such stratification



The introduction of a free market economy has mostly benefited the social class of private entrepreneurs. Children of parents who can be classified as "owners" have started to rapidly outgrow even children from big-city intelligentsia families



Patrycja Dobrow

In most industrialized societies, social stratification is reflected in the physical development of children and young people

sulting in an enormous archive of data on the condition of male Polish 19-year-olds. Across a 35 year long period (1965–2001) the average body height of 19-year-olds increased by as much as 7 cm. This is an enormous change, as it is greater than one standard deviation in this trait within the general population. If we assume that the trend towards greater body height stems from a fuller realization of the genetically-programmed growth potential of an individual, caused mainly (or purely) by improved standard of living, it follows that this trend is a reflection of the significant economic/educational advancement of our country's population in the post-war period. Such advances are indeed confirmed by statistical data. The number of conscripts' mothers who had attained at least a secondary level of education increased tenfold during the 35 year period, and the percentage of fathers with only a primary level of education decreased from 83% in 1965 to 12% in 2001. Such a major advance in the education of the parent generations, which goes hand-in-hand

with an improved understanding of their children's needs, increased consumption, and improved state of health, results in improved conditions essential to the correct development of children and young people.

In the wake of crisis

Unfortunately Polish society experienced periodic economic crises during the 35 years of the studies, notably in the late 1970s and early 1980s (food rationing). However, the positive secular trend of body height continued throughout the crisis period, showing it to be "immune" to economic fluctuations. This can be explained by a phenomenon known as *catch-up growth* – any slowing in an individual's growth rate that occurs during childhood or puberty will be quickly recompensed for as soon as the stress period passes. Another reason may be the buffering effect of the family – during times of crisis family resources are selectively allocated to satisfy children's needs (both nutritional and health) at the expense of the needs of

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Archive of the Air Force Training Center

other family members. In addition there are various other well-functioning social transfer mechanisms that protect children's living conditions, such as foreign food assistance during periods of greatest crisis.

Growing social inequalities

Social inequalities – defined as material inequalities in living standard among social groups in individual countries, as well as among different countries and geographical regions – are some of the most burning and potentially “explosive” issues of today's world. Their importance is comparable with problems such as global climate change or the spread of lifestyle diseases such as obesity, diabetes and circulatory problems. Particularly glaring symptoms of growing social inequalities are differences in levels and distribution of incomes between social groups, strata or classes, within regions, and in particular between different countries.

Intergenerational changes that occur in individual social and professional groups, rather than in the general population, are known as *stratum trends*. Such individual groups should be identified using the same set of social characteristics within each generation. Their detailed analysis allows us to follow changes in social stratification over a

given period of time and to trace the intensity of the biological impact of social inequalities.

Maintaining the gap

In most industrialized societies social stratification is reflected in the physical development of children and young people. Secular trends within particular social and professional groups, considered on an individual basis, exhibited very similar intensities during the 35 year period and followed strikingly parallel courses. During the last 15 years (1986–2001) the group that placed highest on the social scale, also being the tallest on average, exhibited a trend just as strong as the group from the opposite end of the social scale. Social gradients (group ranking) and social contrasts (distance between groups) have remained strikingly stable. The groups that were trailing behind did not catch up with the more advanced ones, therefore the advancement of the population as a whole did not occur as a result of decreasing social inequalities, but rather simply because the trailing groups constitute an ever decreasing fraction of the general population.

“Owners” on the rise

Research confirms the hypothesis that the introduction of a free market economy

in Poland has benefited the social class of private entrepreneurs the most. Groups of entrepreneurs with different educational backgrounds exhibit similar behavior: the positive trend here between 1985–2001 was so rapid that conscripts from this group were taller even than those from intelligentsia families from major cities – the group which had dominated in terms of body height throughout the communist era and until the mid 1990s.

The trends seen in both groups of entrepreneurs are inconsistent with the notion that the slowdown in the trend towards increased height was caused by the population approaching its “genetic ceiling.” According to this hypothesis, groups placed low on the scale of body height (farmers, workers from small towns) will slowly make up for their historical lag behind the societal elite (intelligentsia from large cities), who have already drawn closer to realizing the genetically determined opportunities in terms of body height for the Polish population. We have added a new social group in the studies carried out since the mid-1990s, which we have provisionally named “owners.” During the 1990s we observed the “old” elite being suddenly overtaken by a “new” elite of private entrepreneurs. This suggests the conclusion that large “genetic reserves” still lie inherent in the Polish population overall, which may allow for a further significant increase in average body height. The causes for the slowdown in secular trends should instead be sought in terms of relative pauperization, i.e. the ongoing improvement in quality of life in all social groups in Poland, which was slower in some social groups than others during the period of transformation.

Questions to be addressed

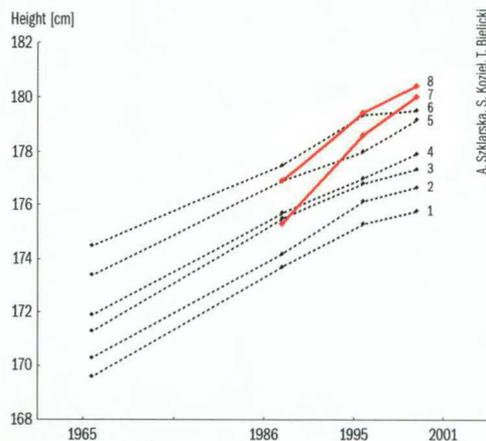
The Institute of Anthropology of the Polish Academy of Sciences is planning the next stage of population monitoring by studying the physical condition of today’s 19-year-olds. This study will be particularly important as these young men were born during the first year of the socio-political transformations, reaching puberty during the first decade of the 21st century while the transformation was in full swing.

We will try to answer several questions, important not just to anthropologists, but also

economists, sociologists and demographers. Does the intensity of intergenerational trends within individual social layers and professional groups vary? Have the differences in physical development (implying differences in quality of living) changed between individual social groups, and if so, to what degree? Is there a tendency for certain social contrasts to flatten out, or have they been growing? Are there tendencies for social inequalities to increase or decrease? Obtaining answers to those questions will allow us to define the directions and intensity of biological effects occurring as a result of the socioeconomic changes in the last twenty-year period, which has been so important for Poland. ■

Further reading:

- Bielicki T., Szklarska A., Kozieł S., Uliaszek S.J. (2005). Changing patterns of social variation in stature in Poland: effects of transition from a command economy to the free-market system? *Journal of Biosocial Science*, 37, 427–434.
- Szklarska A., Kozieł S., Bielicki T., Malina R.M. (2007). Influence of height on attained level of education in males of 19 years of age. *Journal of Biosocial Science*, 39 (4), 575–582.



Trends within individual social and professional groups:

- 1 – countryside, farmer, primary education; 2 – countryside, farmer, education above primary level; 3 – towns with 25,000–100,000 inhabitants, qualified blue-collar worker, vocational education; 4 – cities above 100,000 inhabitants, qualified blue-collar worker, vocational education; 5 – cities above 100,000 inhabitants, white-collar worker, secondary education; 6 – cities above 100,000 inhabitants, specialists, higher education; 7 – cities above 100,000 inhabitants, private owners, secondary education; 8 – cities above 100,000 inhabitants, private owners, higher education