Coll. Antropol. **44** (2020) 2: 63–72
Original scientific paper

Secular Changes in Male Body Height in the European Part of Russia during the 20th Century

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ABSTRACT

Significant political and economic transformations took place on the territory of contemporary Russia in the first part of the 20th century. We hypothesized that they would have affected male growth curve negatively. To test this idea, the dataset was collected to present the graph, which illustrates the changes in male body height during the 20th century. We searched for bibliographic sources with information about body height of men and women born during the 20th century, with full description of measurement methodology, sample design and significant geographical distribution of the dataset covering more than 15 territories of the country – cities or regions. Such criteria were met only for men. We found only 8 sources that could be considered reliable in the research. The observed graph confirms positive changes in male body height on the territory of the European part of contemporary Russia: for those, who were born in 1900's it was 166.1 cm, in 1920s – 166.5 cm, in 1940s – 171 cm, in 1960s – 174.8 cm and in 1980s the indicator reached 176.1 cm. No significant negative changes in this indicator have been found during the studied period. The primary hypothesis that political and socio-economic transformations affect male growth curve negatively was confirmed only partly. We concluded that unfavorable political and socio-economic events (such as revolutions, World War I and World War II, purges and famines) influenced the pace of body height increase in men. While the main period of secular trend was fixed in the first decades of the 20th century in Germany, Netherlands and France, in this part of Russia it occurred later, in 1930–1960s. However, the total increase in male height was very similar for all mentioned territories (9–11 cm) during 1900–1980's.

Key words: *anthropology, height, men, Russia, 20th century, continuous curve of secular changes*

Introduction

A lot of political and socio-economic transformations, such as revolutions, World War I and World War II, purges and famines tormented the territory of contemporary Russian Federation in the first part of the 20th century. Total population loss during the World War II is widely-known and it equals 26.6 millions of people (15.6% of population before the war at 1939)[a]. In the 1920–1940's the evaluations of victims of political repressions differ from 4.06 to 6.98 millions of people[b]. At the same time about 10 millions of people departed from the place of their birth[c]. Moreover, the severe famines in 1921–1922, 1932–1933 and 1946–1947 caused deaths of approximately 5.3 and 1.5 millions[d]. We could only imagine the number of people, who suffered from malnutrition and starvation during all mentioned events. The point of discussion is whether these miseries and losses in Russia in the first part of the 20th century affected the body height of the population.

Firstly, we need to understand in what ways body height changes. This question seems to be easy, if there are official published datasets available. Unfortunately, after the year 1927 anthropometric measurements of conscripts in the USSR became a military secret[1]. No officially published statistical information is available for

[a]https://ru.wikipedia.org/wiki/Потери_во_Второй_мировой_войне
[b]https://www.politpros.com/journal/read/?ID=783
https://www.memo.ru/media/uploads/2017/08/22/masshtaby-sovetskogo-politicheskogo-terrora.pdf
[c]http://www.demoscope.ru/weekly/2007/0313/analit04.php

[d]https://ru.wikipedia.org/wiki/Голод_в_Поволжье_(1921—1922)#Масштаб_и_последствия_голода; https://ru.wikipedia.org/wiki/Голод_в_СССР_(1946—1947); https://ru.wikipedia.org/wiki/Голод_в_СССР_(1932—1933)

Received for publication December 15, 2019

adults born after 1909. This kind of information is not aggregated by the statistical committee in contemporary Russia. As a result, some researchers implement the procedure of modeling this indicator for the 20th century in our country[2]. However, secular trends were convincingly proved in plenty scientific works for different Russian cities and regions based on the measurements of children and adolescents[3–5]. No research has been made yet concerning the changes of adult body height for the whole territory of Russia in the 20th century. This is a rather complicated task, because ethnicity of the participants, place of living, geographical distribution of the research samples influenced body height and its differentiation on the territory of Russia.

In our study we will use mostly data on men's height. The reason for that is that there is lack of measurements of female height in the bibliographic sources. It is impossible to create a continuous line from the beginning of the century for women.

The main goal of the article is to illustrate the changes in male body height during the 20th century. To do so we clarified the methodology for making this graph. On the assumption of the well-known Tanner's statement about the growth as a mirror of the condition of society, we hypothesized that political and social transformations that happened in Russia during the first half of the 20th century could affect male growth curve negatively, because the society endured a lot of unfavorable social events and people were deeply involved into them physically and physiologically[6].

Materials and Methods

Sources of information

To achieve our goal, we searched for all available sources of information. Data about body height of men who were born before 1960 were found in the library of the Anuchin Research Institute and Museum of Anthropology, Lomonosov Moscow State University. Criteria for research were defined. We were interested in bibliographic sources with information about body height of men and women born in the 20th century, with full description of methodology of measurement and sample design. Moreover, geographical distribution of the dataset had to be significant (covering more than 15 territories – cities or regions). These criteria were met only in 6 sources[7–12] and contained information only about men's body height (Table 1).

Sources of the information about body height of men and women born after the year 1970 which would meet above criteria were not found in the library. Hence, we analyzed several datasets that had body height indicators and information about sex, year and place of birth and place of residence. A dataset from Health Centers was provided by the team of scientists[e]. Unfortunately, in this dataset ethnicity of the participants was not recorded. Due to this fact the value of standard deviation is higher than in the other samples[13].

Another dataset that contains all necessary information about body height and personal characteristics was Russian Longitudinal Monitoring Survey made by a research group at the Higher School of Economics (RLMS HSE). This dataset also contains information about ethnicity of the participants. We used the methodology of aggregation of self-reported data on body height in order to use information only from those participants who knew their exact body height. We used information about personal height of the participant only if one was involved in the survey twice or more times during 1994–2016 and specified one's height with precision of 1 cm.

Taking into account geographical distribution of the survey samples we have found suitable datasets before 1960 (Table 1)[7–11], that were collected in the regions and cities situated in the European part of Russia. Information from this dataset forms a significant part of all analyzed information. Thus, all other datasets were recalculated according to geographical position of the sample. The decision was made to create a graph only for the European part of contemporary Russia with some exceptions. We included in our analyses the information about Ekaterinburg and Kurgan, which are normally considered as a part of non-European territory of Russia.

Full description of the survey samples, age and years of birth of the participants, as well as information about ethnicity are provided in Table 1. Geographical distribution of the places where samples were collected is shown on the maps (Figures 1a–c).

Data presented in the table are based on the abovementioned criteria. In a whole, we analyzed and compared datasets with the body height measurements of young or middle-aged men, after the completion of their growth process (exception row 6 in Table 1). The height limitation was canceled in the 1917. Thus, samples consisted of recruits, who were measured in 1927, and could be compared to other samples that included non-recruits. Every sample has a sufficient number of cases. The only dataset without the information on the number of measured individuals was published by V. Bunak in 1932 with the reference to officially printed statistical materials with data for all regions[7]. However, standard deviation value indicates that the size of this sample was rather significant.

According to Bunak's methodology body height remained stable till the age of 55 for men[14]. Contemporary studies have shown that changes in body height could be observed after the age of 35[15]. In our survey there were only two sources, where the middle-aged men's data were used. In the Bunak's work the height values were given for the exact age group (25–49 years old)[8]. Thus, we used it as it was given by the author. Other authors (row 3 in Table 1) provided the information of the sample through the age of the participants. Due to this, it was possible to recalculate the data for the birth decades.

[e]Led by V.I. Starodubov at the Central Scientific Research Institute for Hygiene of the Russian Ministry of Health with the support of the Russian Science Foundation (grant No. 14–15–01085).

TABLE 1

THE SOURCES OF INFORMATION FOR FIGURE 2 AND THEIR DESCRIPTION

	The source of the dataset	Year of the survey	Participants' category	Sample size by geographical distribution of used data	SD	Age of the participants	Approximate years of birth	Rural, urban, or both	Ethnicity
1	Bunak V.V. About the changes in the growth of the male population in 50 years.[7]	1927	Recruits	NA	3.7	18–22	1906–1909	Both	Russian
2	Bunak V.V. Origin and ethnic history of the Russian people (based on anthropological data)[8]	1955–1959	Men	5 898	6.2	25–49	1906–1934	Both	Russian
3	Zenkevich P.I., Almazova N.Y. About the change in the size of the body of the adult male population in the Central part of Soviet Union for the last 100 years.[9]	1974–1975	Men	10 931	5.8	18–56	1919–1956	Urban	Russian
4	Purundzhan A.L. Geographic variability of anthropometric features in Soviet Union. [10]	1973–1974	Men	1 500	5.6	18–22	1952–1956	Both	Russian
5	Deryabin V.Y., Purundzhan A.L. About the geographical features of body composition in the Soviet Union[11]	1980–1981	Men	2 694	NA	18–20	1960–1963	Both	Russian
6	Physical development of children and adolescents of urban and rural areas in Soviet Union, IV (Pt. I and II), 1988[12]	1971–1981	Adolescents	5 221	6.5	17	1954–1964	Both	Russian
7	Dataset from Health centers	2012	Men	16 823	7.4	22–35	1977–1990	Urban	NA
8	Aggregated dataset based on RLMS HSE survey	1994–2016	Men	6163	6.2	22–35	1961–1996	Both	Russian

We suggested that the aggregated data recorded in 1988, row 6 in Table 1, where the age of investigated males was 17 years, might be below the true values, as the growth process in this group had not been finished at the moment of measurement[12].

Methods

The graph (Figure 2) was constructed based on the data described above in the sources of information. On the graph, the data was provided by the years or decades of birth of the participants. Grey rectangles are illustrating the approximate period of birth of the participants (OX) and the value of the standard deviation coefficient (OY) for each dataset. Grey line is a median value of all used measurements of male body height.

Results

According to the line of the median value of male body height, positive changes in male body height could be observed in 1906 – 1996 birth decades. Thus, the indicator of body height for men born in 1900s was 166.1 cm, in 1920s – 166.5 cm, in 1940s – 171 cm, in 1960s – 174.8 cm and in 1980s – 176.1 cm (Figure 2).

The difference between RLMS HSE indicators (9) and source from 5 till 8 (points in the graph) could be explained by the data collecting methodology. In the RLMS HSE dataset indicators are based on self-reported values. Other sources contained real measurements. Despite of implemented verification procedure the differences in values are still obvious. The most significant difference is observed between RLMS HSE values of men's body height

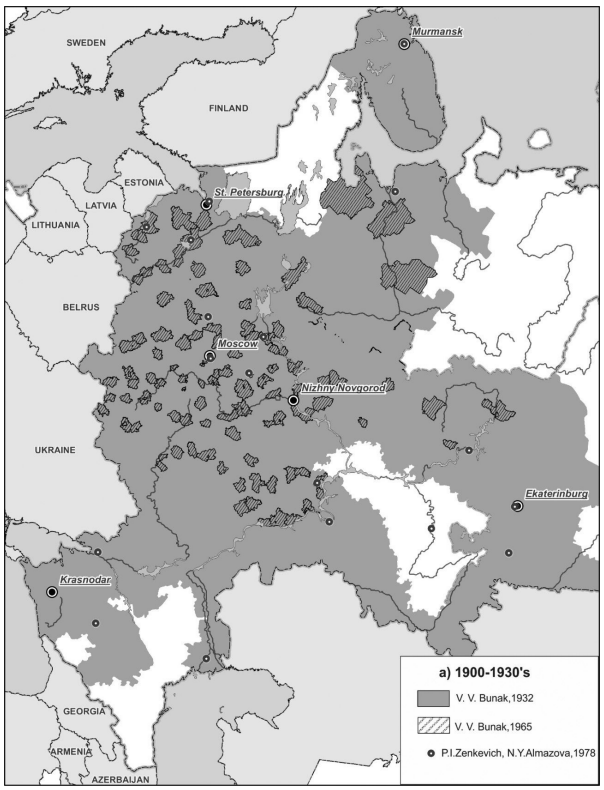

Fig. 1a. Geographical distribution of used datasets samples according to birth decades: 1900–1930's.

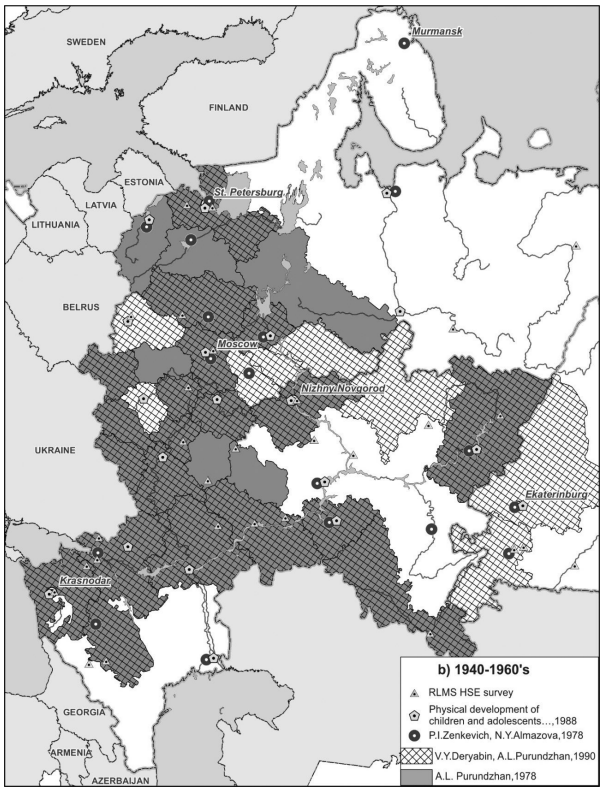

Fig. 1b. Geographical distribution of used datasets samples according to birth decades: 1940–1960's,

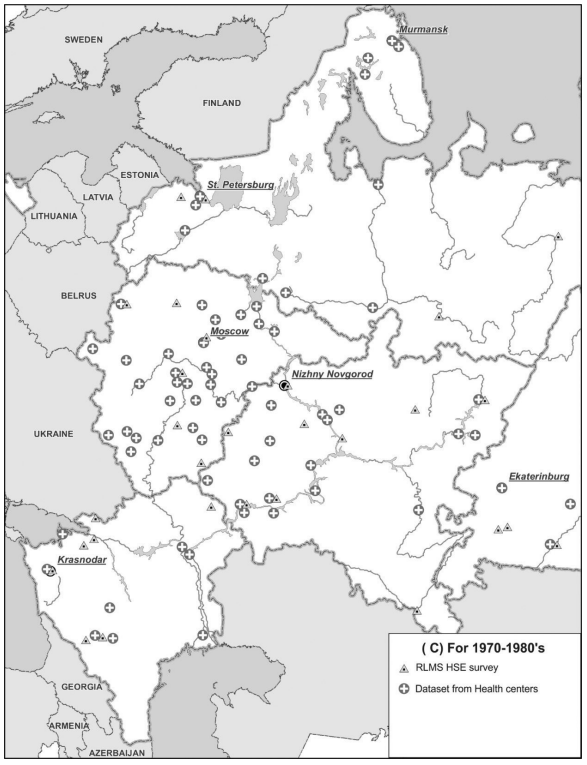

Fig. 1c. Geographical distribution of used datasets samples according to birth decades: 1970–1980's.

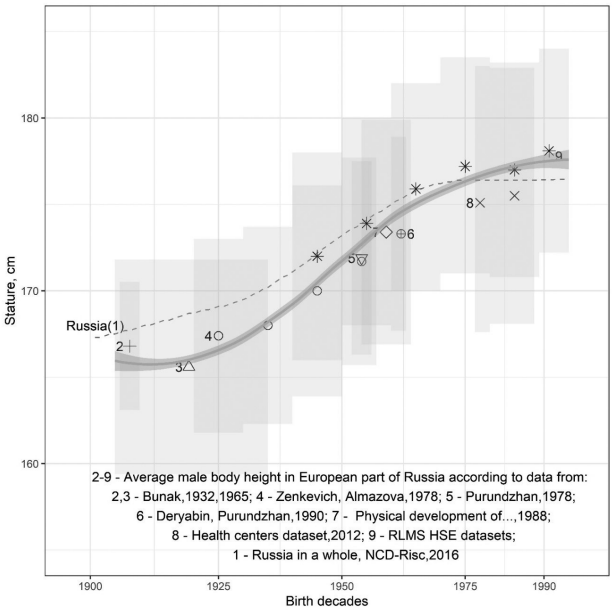

Fig. 2. Changes in male height on the territory of European part of Russia during the 20th century.

and values from health centers (up to 3 cm). The differences in values might be due to the exclusion of the ethnicity factor during the process of measurement in one of the datasets. It was shown that the differentiation between the Slavic and non-Slavic ethnic groups, living in Russia, could be up to 2–3 cm[16].

Discussion

According to Figure 2 and Table 2 positive changes are evident in male body height on the territory of the European part of contemporary Russia during the 20th century. No significant negative changes in this indictor have been found. This result is corresponding with the researches made in Germany, Italy, Sweden and Norway[17].

Most of the studies that showed negative consequences of unfavorable political or economic changes were based on longitudinal studies of people, who survived in these events and agreed to participate in follow-up observations, like in Netherlands after the Dutch hunger winter[18]. Apparently, the absence of such available datasets in Russia influenced the observed results. Hermanussen and Scheffler basing on large sets of height data of European conscripts born between 1856–1860 and 1976–1980 explained the observed absence of negative trend in terms of strategic growth adjustment of the population to the unfavorable changes in the societies "that have increasingly been opened to upward social mobility and concomitant readjustments of target heights". Thus, social and political turmoil could facilitate upward mobility of the lower social strata, which could accompany by a general increase in height of the population in a whole[19].

The line based on the dataset of NCD Risk Factor Collaboration differs from the provided median line[20]. Especially, the difference is evident for the first half of the 20th century. This could be the result of the type of primary sources taken into account in the NCD RisC research. They are shown in the Table 3. It is obvious that their evaluations were based on the resources, which could characterize the body height for men born after 1920. We could suggest that during the period before 1920 data was evaluated with the extrapolation method. Thus, the graph presented in this research is more accurate for the territory and period in question. The difference between the values of body height indicators in our dataset and in NCD RisC after 1940s coincides nearly to 1 cm.

Another significant dataset with the available values of male body height was published by Baten and Blum in the data hub "Heights and Biological Standard of Living" in 2012[21]. For Russia they took data mostly from the scientific publications presented in the list (Table 4). Their information also differs significantly from our evaluations till 1930s. Thus, Baten and Blum provided the value of male body height for those born in 1900s as 169.2 cm and duplicated it to those born in 1910s with the reference to the work of Jarcho[22]. Then, they used the value of 167,0 cm for those, who were born in 1920s with the reference to Mironov[23,24]. Thus, confirming the idea that political events in the 1920s had a negative influence on body height.

However, according to Mironov the indicator of final body height of men born in Russian Empire was 167.4 cm for 1900s[1]. According to Bunak's dataset the value was 166.8 cm for men born in 1906–1909. Unfortunately, there are no reliable sources of information about body height of young men, who were born in the 1910s, for the whole territory of Russia. The values in the Bunak's dataset that were printed in 1965, give the figure of 165.6 cm for men aged 25–49 born on the central plain of Russia. The indicator of male body height for those born in

TABLE 2

THE COMPARISON OF MALE BODY HEIGHT IN BIRTH DECADES IN DIFFERENT SOURCES OF INFORMATION FOR RUSSIA

Birth decades	1900's	1910's	1920's	1930's	1940's	1950's	1960's	1970's	1980's
Baten & Blum .21	169.2	169.2	167.0	167.9	169.0	172.0	173.6	177.0	177.0
NCD RiskC 20	167.6	168.3	169	170.2	172	174	175.7	176.4	176.4
Median line, Figure 2.	166.1	165.6	166.5	167.3	171	172.8	174.8	176.9	176.3

TABLE 3

SOURCES OF INFORMATION FOR CONTEMPORARY RUSSIA IN NCD RISC DATASET FOR MEN20

Data years	Survey/study name	Level of representativeness	Rural, urban, or both	Age range as used for global analysis	Sample size
1984–1986	MONICA, Moscow (control) / Leninsky district/ Cheremushkinsky district	Community	Urban	35–64	774/553/584
1985	MONICA, Novosibirsk (intervention)	Community	Urban	25–64	797
1986	INTERSALT	Community	Urban	20–59	97
1985–1986	MONICA, Novosibirsk, Kirowsky district / Leninsky district	Community	Urban	25–64	758/624
1988	MONICA, Novosibirsk (intervention)	Community	Urban	25–64	837
1988–1989	MONICA, Moscow (control)/ Leninsky district	Community	Urban	35–64	620/597
1988–1989	MONICA, Novosibirsk, Kirowsky district	Community	Urban	25–64	872
1992–1995	MONICA, Moscow (control)/ Leninsky district	Community	Urban	35–64	556/538
1992–1993	Russia Longitudinal Monitoring Survey-Higher School of Economics Round II	National	Both	18+	4381
1993	Russia Longitudinal Monitoring Survey-Higher School of Economics Round III	National	Both	18+	4556
1993–1994	Russia Longitudinal Monitoring Survey-Higher School of Economics Round IV	National	Both	18+	4118
1994–1995	MONICA, Novosibirsk (intervention)	Community	Urban	25–64	821
1994	Russia Longitudinal Monitoring Survey-Higher School of Economics Round V	National	Both	18+	3586
1995	MONICA, Novosibirsk, Kirowsky district	Community	Urban	25–64	771
1995	Russia Longitudinal Monitoring Survey-Higher School of Economics Round VI	National	Both	18+	3371
1996	Russia Longitudinal Monitoring Survey-Higher School of Economics Round VII	National	Both	18+	3323
1998–1999	Russia Longitudinal Monitoring Survey-Higher School of Economics Round VIII	National	Both	18+	3436
2000	Russia Longitudinal Monitoring Survey-Higher School of Economics Round IX	National	Both	18+	3523
2001	Russia Longitudinal Monitoring Survey-Higher School of Economics Round X	National	Both	18+	3884
2002	Russia Longitudinal Monitoring Survey-Higher School of Economics Round XI	National	Both	18+	4076
2003	Russia Longitudinal Monitoring Survey-Higher School of Economics Round XII	National	Both	18+	4137
2002–2005	Health, Alcohol and Psychosocial factors In Eastern Europe	Community	Urban	45–69	4204
2004	Russia Longitudinal Monitoring Survey-Higher School of Economics Round XIII	National	Both	18+	4153
2005	Russia Longitudinal Monitoring Survey-Higher School of Economics Round XIV	National	Both	18+	4031
2007–2010	SAGE	National	Both	50+	1267

1920s was 167.4 cm according to Zenkevich and Almazova[9]. Thus, the indicator of body height of men born in 1930s might not have changed at all or changed very slightly compared to that of men born in the 1900s.

The obvious absence of the significant information for men born in the discussed period is the reason why we could not make a solid conclusion about a negative trend of body height.

TABLE 4

SOURCES OF INFORMATION FOR CONTEMPORARY RUSSIA IN BATEN & BLUM DATASET[21]

Birth decades	Full title of the article
1810–1830; 1870–1880; 1960	Mironov B. New Approaches to Old Problems: The Well-Being of the Population of Russia from 1821 to 1910 as Measured by Physical Stature.[25]
1840–1860	Erismann F. Studies on the physical development of factory workers in Central Russia (Untersuchungen über die körperliche Entwicklung der Arbeiterbevölkerung in Zentralrussland).[26]
1890–1900	Jarcho A. Die Altersveränderungen der Rassenmerkmale bei den Erwachsenen.[22]
1910; 1970–1980	Mironov B. Living Standards in Soviet Russia under Stalin: on the Data of the Stature of the Russian Population.[23]
1920–1950	Mironov B. The Nutrition Standard of Life in the Soviet Russia under Stalin on the Anthropometric Data.[24]
1990–2000	WHO/UNESCO

TABLE 5

SECULAR INCREASE IN HEIGHT DURING THE 20TH CENTURY FOR BIRTH DECADES ACCORDING TO TABLE 2 AND BATEN&BLUM DATASET[21], CM

	1900–1930	1930–1960	1960–1980	Average for 1900–1980
Netherlands	3.2	8.1	0.5	11.8
Germany	4.8	4.9	1.6	11.3
United Kingdom of Great Britain and Northern Ireland	4.5	3.0	–0.1	7.5
France	3.1	5.0	1.6	9.7
United States of America	3.4	3.9	1.7	9.0
European part of contemporary Russia	1.2	7.5	1.5	10.2

However, Baten and Blum[21] dataset provides comparable information about other countries. This comparison of height changes in Russia with some European countries and USA led to the suggestion that political and socio-economic transformations did have an adverse effect on pace of growth. Thus, the period of 1900–1930 for Germany, Netherlands, Great Britain, France and USA was characterized with rather significant secular changes in height (the increase equals from 3 to 5 cm). On the territory of Russia the observed changes were 1.2 cm.

At the same time, in most of the compared countries the increase in average male height either remained stable or slowed down during the period of 1930's–1960. However, for Russia 1930's–1960's it was the period of the most significant change in height (an increase up to 7.5 cm, half of which occurred in the period 1930–1940's). This result varies greatly from the observations on 15-yearsold children population in Russian cities. Due to them the main increase in height occurred later, in 1960's–1980's[3,27]. This tendency supports the idea of secular changes as a result of improving socioeconomic factors in the society.

In the 1960's–1980's the average indicator of male body height stabilized. Observed changes in the indicator were equaled approximately 1.5 cm in all considered countries. As a result, the total increase in male height on the discussed territory of Russia slightly differs from the value of average change in height in Netherlands and Germany in 1900–1980 (Table 5).

Conclusions

Secular changes during growth process were examined carefully due to separate and continuous measurements of children and adolescents in different cities or some regions of contemporary Russia, but never before it was done for adults and with the attempt to thoroughly describe comparable materials. The primary hypothesis is that political and socio-economic transformations affect male growth curve negatively was partly confirmed. We concluded that unfavorable political and socio-economic events (such as revolutions, World War I and World War II, purges and famines) influenced the pace of body height increase in men. While the main period of secular trend was fixed in the first decades of the 20th century in Germany, Netherlands and France, in considered territory of Russia it occurred later, in 1930–1960s. However, the total increase in male height was very similar for all mentioned territories (9–11 cm) in 1900–1980's. The question about the reasons of positive changes in stature is still open and should be the point of further discussions based on wide variety of social and economic statistical materials.

Acknowledgements

This paper was partly supported by the Moscow State University Grant for Leading Scientific Schools "Depos-

itory of the Living Systems" in the framework of the MSU Development Program [EG]; Statistical analyses of data were conducted during the International Summer School "Child and Adolescent Growth and Nutrition" in Potsdam/Gülpe from the 1st to 7th of July in 2018. The Summer School was supported by the Auxological Society (Gesellschaft für Auxologie), and by the Society of Anthropology (Gesellschaft für Anthropologie). Dataset from Health Centers was provided by Central Scientific Research Institute for Hygiene of the Russian Ministry of Health with the support of the Russian Science Foundation (grant No. 14–15–01085).

Declaration of Interest

The authors have no conflicts of interest relevant to this article to disclose.

REFERENCES

1. MIRONOV BN, The welfare of the population and the revolution in imperial Russia: XVII and early XX centuries (Ves Mir Publ, Moscow, 2012). — 2. TIMONIN AN, BURLYAEVA EA, NIKITIN NS, KLOCHKOVA SV, NIKITYUK DB, J Anat, 8 (2019) 9. — 3. GODINA E, YAMPOLSKAYA Y, Anthrop Kozl, 45 (2004) 51. — 4. LEHMANN A, IVANOVA E, GODINA E, SCHEFFLER C, Moscow University Anthropology Bulletin, 3 (2014) 55. — 5. GODINA EZ, KHOMYAKOVA IA, ZADOROZHNAYA LV, Archaeology, Ethnology & Anthropology of Eurasia, 45 (2017) 146. — 6. TANNER JM, Growth as a mirror of the condition of society: secular trends and class distinctions. In: DEMIJIIAN A (Ed) Human Growth. A Multidisciplinary Review (Taylor & Francis, London, 1986). — 7. BUNAK VV, Anthropological Journal, 1 (1932), 24. — 8. BUNAK VV, Origin and ethnic history of the Russian people (Nauka Publ., Moscow, 1965). — 9. ZENKEVICH PI, ALMAZOVA NY, On the change in the size of the body of the adult male population in the Central part of Soviet Union for the last 100 years. In: KURSHAKOVA YS, DUNAYEVSKAYA TN, ZENKEVICH PI (Eds): Problems of the size of anthropological standardization for the textile design (Moscow, 1978). — 10. PURUNDZHAN AL, Geographic variability of anthropometric features in Soviet Union. In: KURSHAKOVA YS, DUNAYEVSKAYA TN, ZENKEVICH PI (Eds): Problems of the size of anthropological standardization for the textile design (Moscow, 1978). — 11. DERYABIN VY, PURUNDZHAN AL, On the geographical features of body composition in the Soviet Union (MSU Publ, Moscow, 1990). — 12. SEMASHKO INSTITUTE OF PUBLIC HYGIENE, Fizicheskoe razvitie detei i podrostkov gorodikh i sel'skikh mestnostei SSSR, Vypusk IV, Chast' II (Moscow 1988). — 13. STARUNOVA OA, RUDNEV SG, STARODUBOV VI, Rus. J. Num. Anal. Math. Model, 32 (2017) 315. — 14. Methods of morpho-physiological research in anthropology (MSU Publ, Moscow, 1981). — 15. BOGIN B, VAREA C, HERMANUSSEN M, SCHEFFLER C, Am J Phys Anthropol., 165 (2018), 834. — 16. LEBEDEVA LS, Moscow University Geography Bulletin, 4 (2019) 24. — 17. HERMANUSSEN M. (ed.) Auxology – Studying Human Growth and Development (Schweizerbart Science Publishers, Stuttgart, 2013). — 18. LUMEY LH, STEIN AD, KAHN HS, VAN DER PAL-DE BRUIN KM, BLAUW GJ, ZYBERT PA, SUSSER ES, Int J Epidemiol, 36 (2007) 1196. — 19. HERMANUSSEN M, SCHEFFLER C, Anthropol. Anz. 73 (2016) 265. — 20. NCD RISK FACTOR COLLABORATION, eLife, 5 (2016). DOI: 10.7554/eLife.13410. — 21. BATEN J, BLUM M, Economic History of Developing Regions, 27:sup1 (2012) S66. DOI: 10.1080/20780389.2012.657489. — 22. JARCHO A, Anthropol. Anz., XII (1935). — 23. MIRONOV B, Living Standards in Soviet Russia under Stalin: on the Data of the Stature of the Russian Population. In: Proceedings (Conference Paper Presented at the 2nd International Conference on Economics and Human Biology, Munich, 2004). — 24. MIRONOV B, The Nutrition Standard of Life in the Soviet Russia under Stalin by the Anthropometric Data. In: The Economic History. A Yearbook (ROSSPEN, Moscow, 2004). — 25. MIRONOV B, Slavic Review, 58 (1999) 1. — 26. ERISMANN F, Archiv für soziale Gesetzgebung 1 (1888) 98. - 27. GODINA EZ, Anthropol. Anz, 68 (2011) 367.

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SEKULARNE PROMJENE U VISINI MUŠKOG TIJELA U EUROPSKOM DIJELU RUSIJE TIJEKOM 20. STOLJEĆA

S A Ž E T A K

Na prostoru suvremene Rusije u prvom dijelu 20. stoljeća dogodile su se značajne političke i ekonomske promjene. Naša je pretpostavka bila da su one negativno utjecale na krivulju rasta kod muškaraca. Za testiranje ove ideje, prikupljeni su podaci kako bi se izradio grafikon, koji ilustrira promjene u visini muškog tijela tijekom 20. stoljeća. Pretražili smo bibliografske izvore s podacima o tjelesnoj visini muškaraca i žena rođenih tijekom 20. stoljeća, s potpunim opisom mjerne metodologije, određivanja uzorka i značajnom geografskom raspodjelom podataka koji pokrivaju više od 15 teritorija zemlje – gradova ili regija. Takvi su kriteriji zadovoljeni su samo za muškarce. Pronašli smo samo 8 izvora koji bi se mogli smatrati pouzdanim u istraživanju. Dobiveni grafikon potvrđuje pozitivne promjene u visini muškog tijela na teritoriju europskog dijela suvremene Rusije: za one koji su rođeni 1900-ih to je bilo 166,1 cm, 1920-ih – 166,5 cm, 1940–ih – 171 cm, 1960-ih – 174,8 cm, a 1980-ih visina je dosegla 176,1 cm. U istraživanome razdoblju nisu utvrđene značajne negativne promjene ovog pokazatelja. Primarne hipoteze da političke i društveno-ekonomske transformacije negativno utječu na krivulju rasta muškaraca potvrđene su dijelom. Zaključili smo da nepovoljni politički i društveno-ekonomski događaji (poput revolucija, Prvog i Drugog svjetskog rata, čistki i gladi) utječu na tempo povećanja tjelesne visine kod muškaraca. Dok je glavno razdoblje sekularnog trenda bilo određeno u prvim desetljećima 20. stoljeća u Njemačkoj, Nizozemskoj i Francuskoj, na promatranom području Rusije nastupilo je kasnije, u 1930–1960-im. Međutim, ukupni porast muške visine bio je vrlo sličan za sva spomenuta područja (9–11 cm) u razdoblju od 1900–1980.