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## Mating and education in Czechoslovakia

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### RESUMO

Os pais de mais 100 mil indivíduos situados entre os 0 e os 18 anos, seleccionados ao acaso (a partir) nos distritos checos, foram estudados quanto à sua idade, número de filhos, estatura, rendimento per capita, educação e profissão. A combinação de parceiros matrimoniais de acordo com o nível de instrução mostrou que aqueles com o mesmo nível ou semelhante casam mais do que os que possuem diferentes níveis de instrução. O segundo tipo de casamentos mais frequente corresponde aquele em que o marido possui um nível de educação um grau acima da mulher. Foi feita também uma tentativa para estudar o nível de instrução dos pais relacionado com a estatura e o número de filhos.

*Palavras-chave:* Demografia; Escolha do cônjuge; Educação; Estatura; Número de filhos por família.

### ABSTRACT

Parents of more than 100 thousand children from 0 to 18 years, selected at random from the Czech districts were, investigated from the point of view of their age, number of children, body height income per head in the family, education and profession. Combination of partners in marriages according to the level of education showed that those with similar or same level of education enter marriage significantly more often than those of different level theirs in marriages according of education. Next most frequent marriages were those in which the husband possessed one grade higher education than his wife. An attempt was also made to study education of the parents in relation to body height and number of children in the family.

*Key-words:* Demography; Assortive mating; Education; Stature; Number of children in the family

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## INTRODUCTION

In our paper we are going to introduce the current situation in the demographic structure of Czechoslovakian population and its changes since 1921. In industrial societies, the prolongation of life expectancy is going hand in hand with a prolongation of the time period necessary for the preparation of a professional career. This, as well as other factors, moves up the age of marriage at least in part of the population with all the consequences to the population structure. Special attention will be paid to problems of assortative mating, based on the level of education of both partners, their body height and the number of children in the family and the mutual interrelationship among these variables.

## MATERIAL AND METHODS

The data on the population structure and other characteristics of the population in Czechoslovakia were derived from the official sources (1, 2, 3, 4) published by the Federal Statistical Office, the data about parents of the children result from our own state-wide investigation in 1981 of 120 000 healthy children (aged 0-18 years) (5, 6, 7) in which information on the family background of each child was ascertained. The data on the education of parents were treated with analysis and a test of symmetry in the table of contingency. Together with the analysis of variance, F-test and Ducnantest were used for distinguishing different groups.

## RESULTS

Figure 1. The majority of the demographic characteristics has changed considerably in the course of the last 60 years from the end of the World War I until now. The main characteristics changed in the positive direction, i.e. the infant (inc. neo-natal) mortality diminished and the life expectancy was prolonged. The gross population structure reveals a deep depression at the time of the World War I, a slightly shallower notch is to be seen in the period of the Second World War with an increase in population numbers in the post war period until 1951. A decrease of population is then to be seen between 1951 and 1967. The population resumed growth after 1968. The population decreased slightly from 1975 to 1980. Generally speaking age groups from about the age 30 start to be more numerous on the female side including an absolute and relative prevalence of widows and divorced female in 1980. Another view of the population structure is shown in Figure 2.

Figure 3. The curve of infant mortality shows great changes after 1945 from over 140 per thousand live births to about 25 in 1964 with a steady prolonged decrease to approximately 20 per thousand live births in 1984. The neo-natal mortality was close to 75 per thousand live births in 1921 and

POPULATION STRUCTURE by age and marital status /1980/

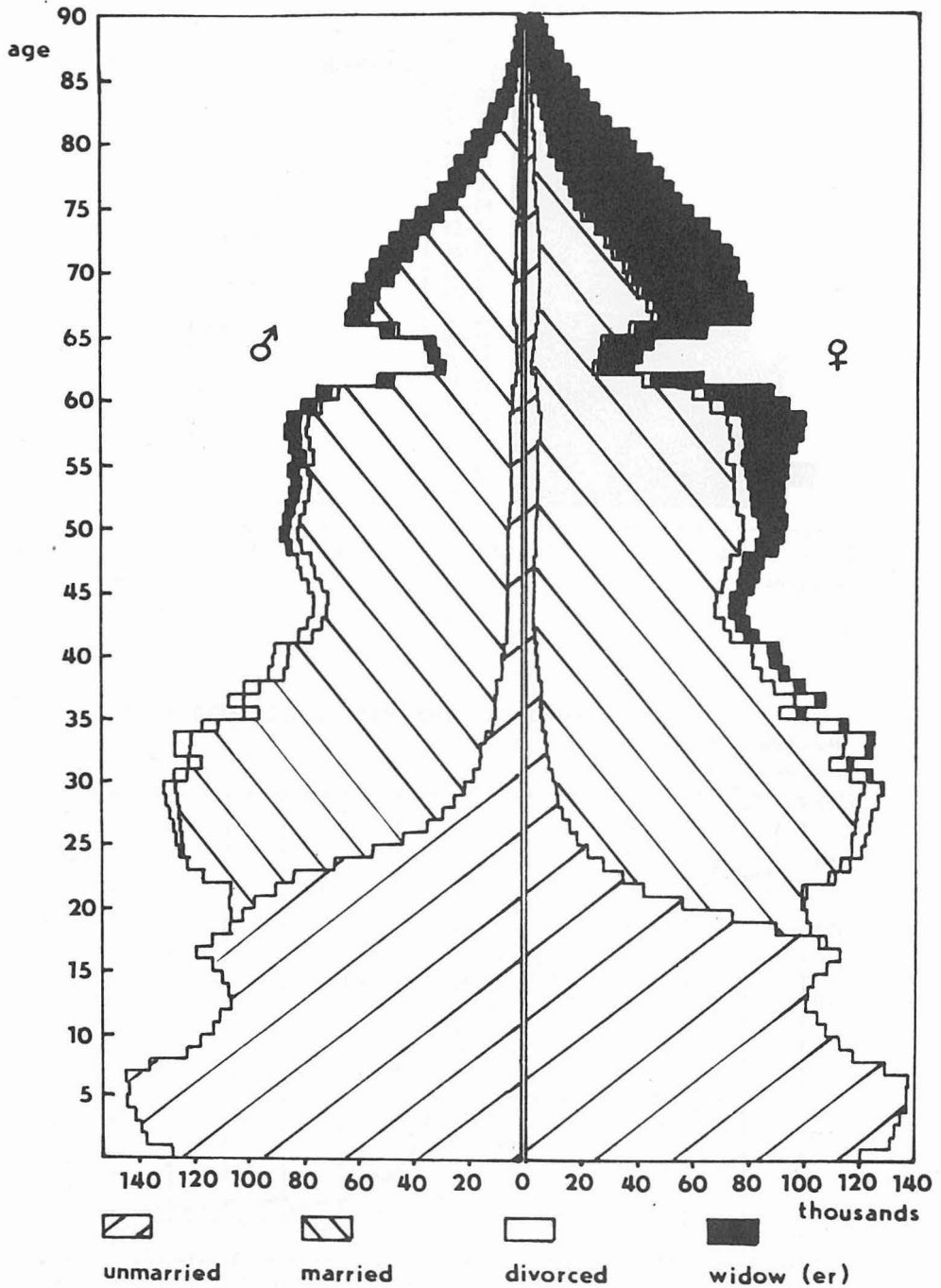


Figure 1

Population age structure  
CSSR 1982

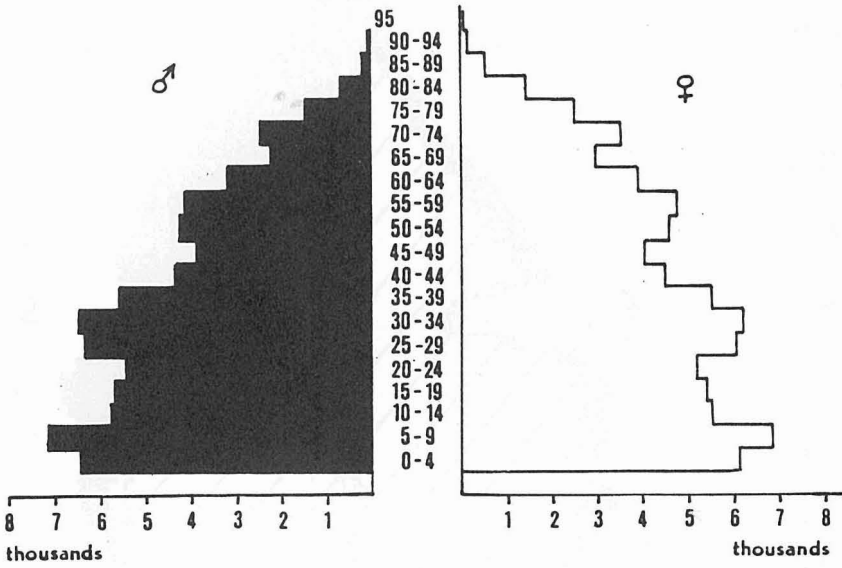


Figure 2

INFANT AND NEONATAL MORTALITY

No of dead children  
per 1000 born alive

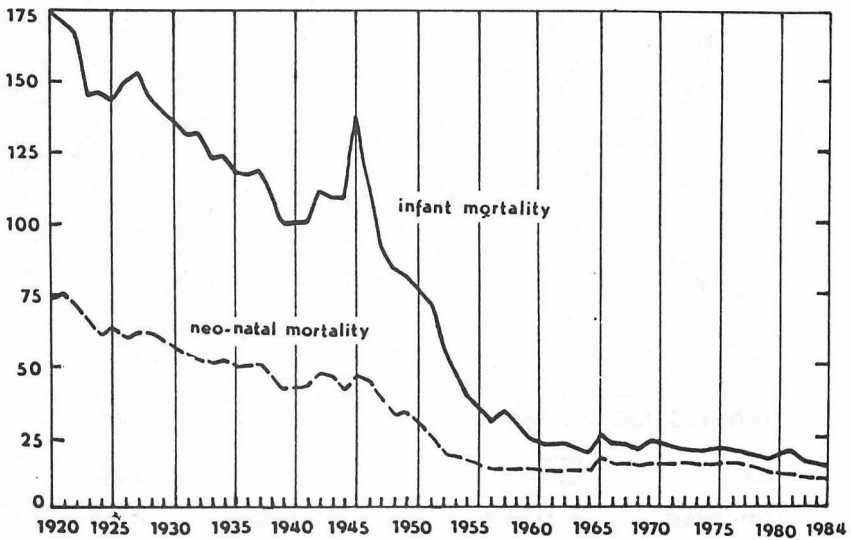


Figure 3

decreased to approximately 46 per thousand live births in 1945. It then decreased rapidly to a 1955 level of approximately 14 per thousand live births and continued to drop to around 10 per thousand born alive in 1984.

Figure 4. Three peaks are to be seen on the live birth curve. The first in 1921, second in 1947, and third in 1974. The values from the low birth period between 1960 and 1970 (with a temporary increase of birth around 1964) were even lower than the depression in 1937 after the economic crisis of the 1930s. The years between 1967 to 1984 represented a period of increased childbirth with a peak in 1974 which might reflect the steps taken by the government toward population increase. The curve of marriages between 1920 and 1984 oscillates from 7 to nearly 14 per thousand inhabitants. The highest peak was in 1920, then 1939, 1947 and 1950. From 1957 until today, the highest number of marriages was in 1973 (nearly 10 per thousand inhabitants). The lowest number of marriages coincides with the year 1955. That course of the curve reveals a similarity with the live birth curve. The number of divorces has increased since 1921 more than five times — from 0.5 per thousand inhabitants in 1921 to 2.7 per thousand inhabitants in 1981. This is the highest incidence in the last sixty years. One and more divorces per thousand inhabitants appeared first in 1946 and two and more divorces per thousand inhabitants occurred for the first time in 1969.

On the background of the above characteristics we want to show the results of our own state-wide research of 120 000 pairs of parents of children investigated in 1981.

### *A. Stature of parents*

From our earlier investigations and according to findings of other authors (8, 9), the stature of parents represents one of the most important predictors of the growth of their children. To check up on their height and weight well in advance of the study the stature and weight of the parents were recorded in a questionnaire. The results were checked up on a sample of 200 families to find out whether the results were accurate enough for the purpose of our study. The mean heights of the parents in a subsample of children from 2 to 18 years since 1981 are shown in Table 1. There are practically no differences between the mean heights and standard deviations of fathers and mothers of boys and girls. Therefore, we can consider it a reliable source of the data. There is no reason why parents of boys should have different mean stature than those of girls. The stature plays an important role in mating in Czechoslovakia today. Correlation between the stature of father of the investigated children is shown on Figure 5. The mean height of fathers with small spouses (under 158 cm) is 172.3 cm, with spouses of medium height (159-169 cm) is 175.4, and with tall spouses (above 170 cm) is 179.2. The fathers of the children were divided according to stature into three groups (Figure 6.): under 169 cm, 176-183 cm and 184 cm and above. The mean heights of their wives in these groups were 161.1 cm, 163.8 cm and 167.2 cm.

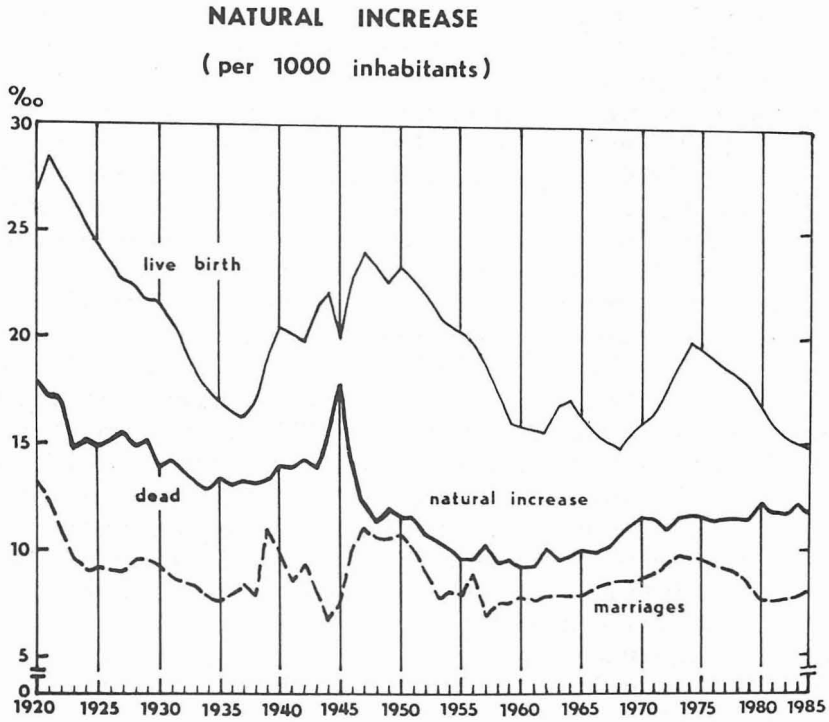


Figure 4

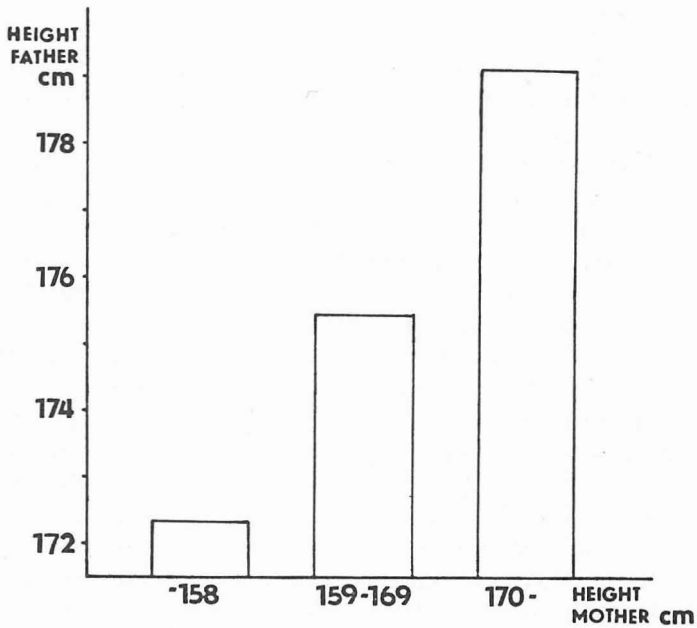


Figure 5

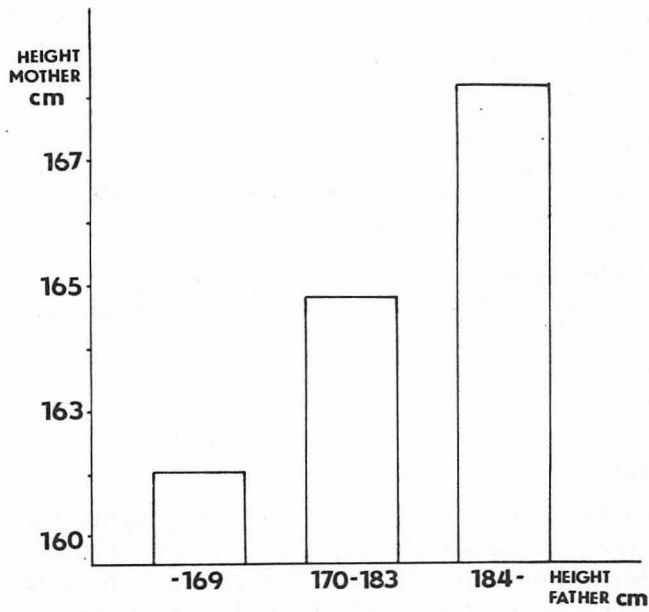


Figure 6

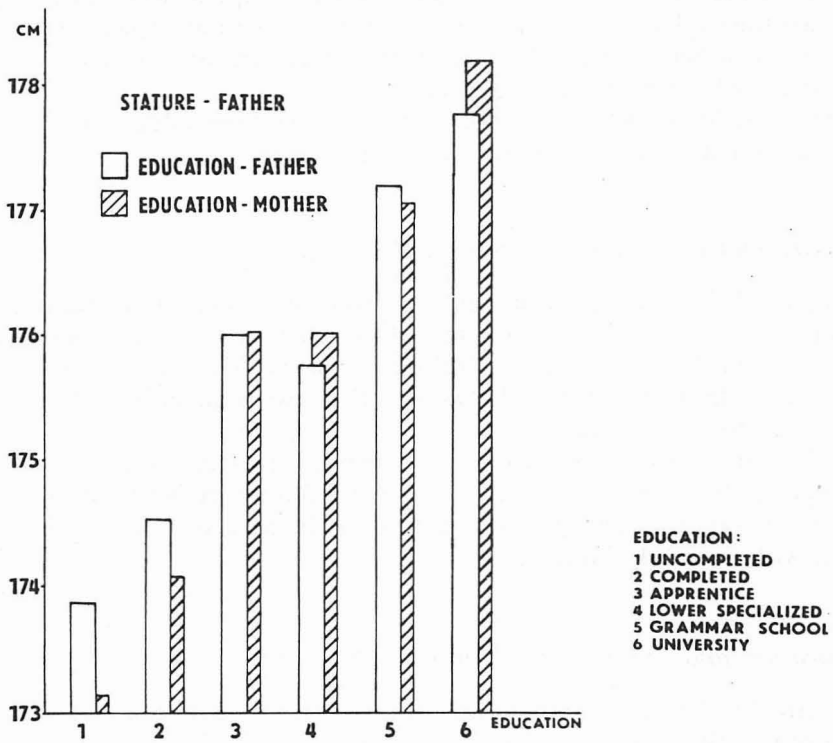


Figure 7



This is a good example of assortative mating based on stature. An analysis of the differences in stature between spouses in these groups is in progress.

### *B. Parents stature and their education*

Figure 7. The level of parent education was divided after consultation with psychologists and sociologists into 6 groups:

1. uncompleted basic education
2. completed basic education (compulsory basic education lasts 8 to 9 years)
3. apprentice
4. lower specialised education
5. high school
6. university.

On the whole the demands increase with the higher stages. Between 3 and 4 grades there is the smallest difference in intellectual demand. Mean heights of fathers of investigated children increase from educational level 1. to educational level 6. With the only exception in grade 4. The situation is similar in the man heights of fathers according to the educational level of children's mothers (Figure 7.). Fathers with incomplete basic education are on the average taller than fathers whose wives have incomplete basic education. On the other hand, fathers who graduated are on the average smaller than fathers whose wives have graduated.

Figure 8. Mean mother heights increase with their educational level and also with educational level of their husbands.

### *C. Stature and number of children in the family*

Figure 9. The mean stature of the father decreases with the number of children in the family. The greatest difference in fathers mean height is between 2 and 3, and 3 and 4 children in the family. There is about 4 cm difference in the mean stature between fathers with an only child and those with 5 and more children.

Figure 10. A similar picture can be seen in the case of mothers' heights. The height differences in mothers who have different numbers of children are less than in fathers. The greatest difference in mothers heights is between families with 3 and 4 children.

### *D. Education and number of children in the family*

Figure 11. The higher the education of parents the smaller the number of children in the family. Those with educational level 1 and 2 have on the average 2.5 and more children, those parents who finished high school or

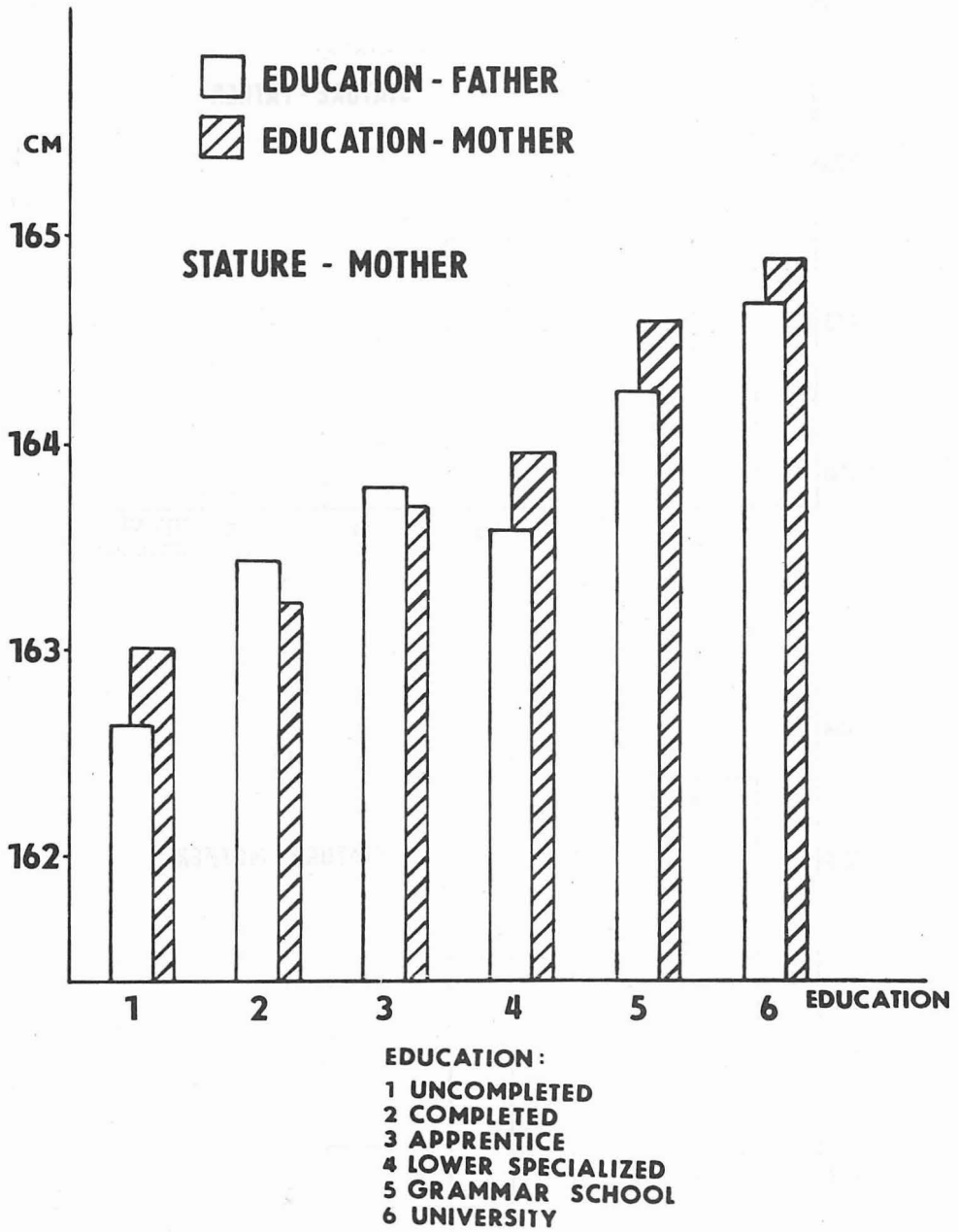


Figure 8

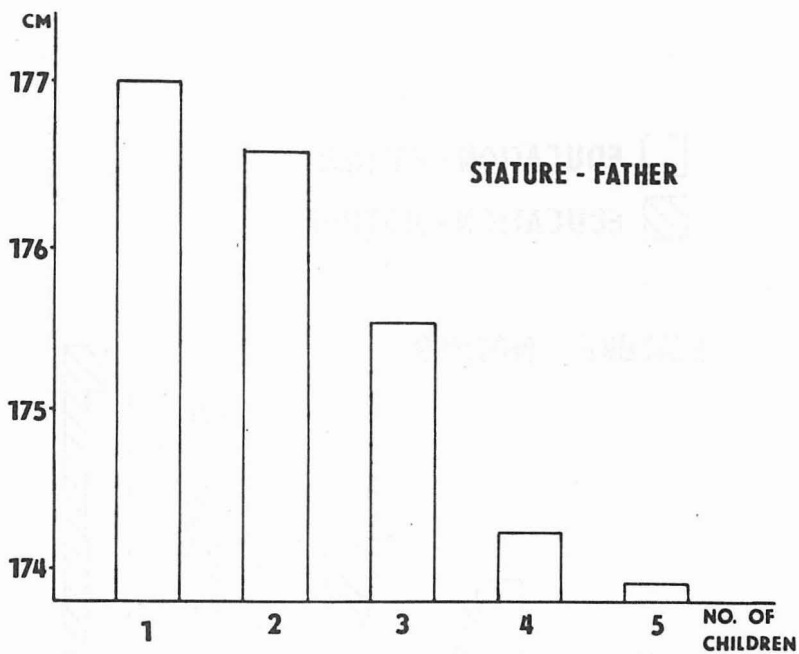


Figure 9

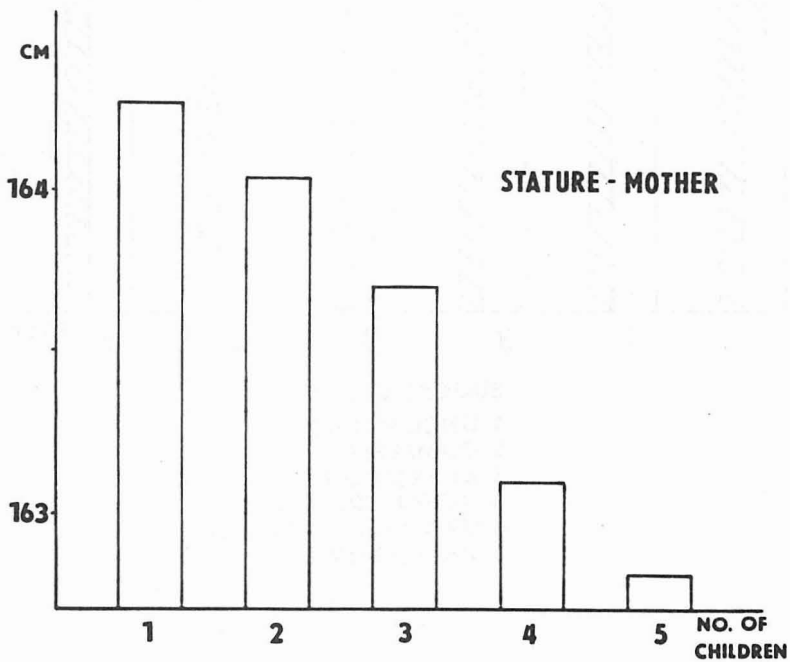


Figure 10

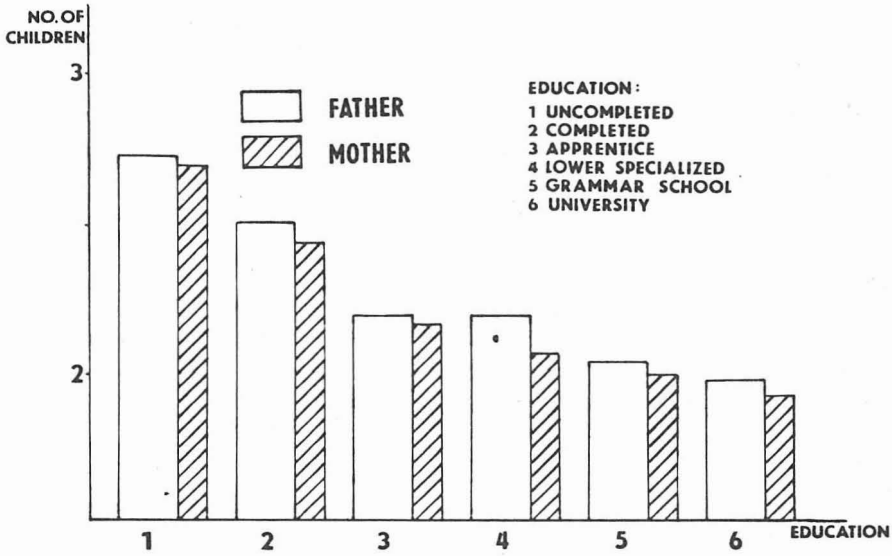


Figure 11

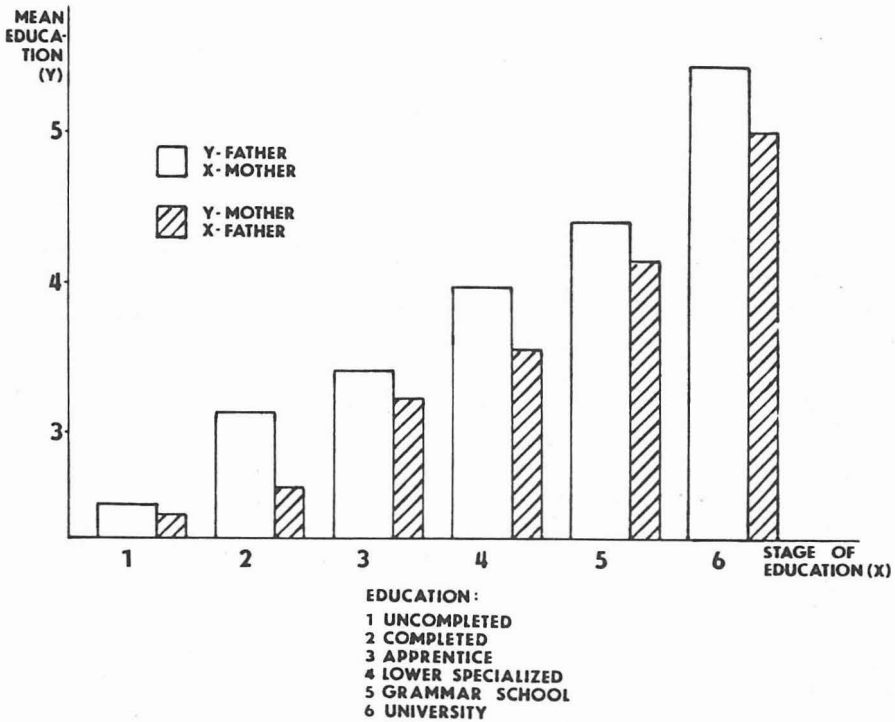


Figure 12

university have in the average less than 2 children. Results are almost the same for both parents. In each educational level fathers have more children on average than mothers. As the results could be influenced by the fact that younger parents could still have more children in future, we concentrated on parents with children older than 14 years. No substantial differences in the results were found.

#### *E. Mutual relation of fathers' and mothers' education*

This is shown in Figure 12. People entering marriage tend to choose spouses of a similar educational level, but mothers have on the average lower education than fathers. For example: if the mother of the child has educational level 5, the father has the average education 4.4 and if the father of the child educational level 5, the average mothers education is 4.2.

TABLE 1. *Height of parents of investigated children in 1981 (selected age groups)*

Height of boys' fathers	13908	176.23	6.73
Height of girls' fathers	13334	176.26	6.70
Height of boys' mothers	14229	163.93	5.70
Height of girls' mothers	13605	163.90	5.75

## CONCLUSIONS

1. The basic demographic characteristics of the Czechoslovak population in the last sixty years developed in general similarly to other European countries (prolongation of life expectancy, lowering of neo-natal and infant mortality, etc.).

2. Some of the demographic characteristics developed differently in the Czech and Slovak socialist republics: in comparison with the Slovaks, the Czechs maintain a lower natality. The Slovaks on the other hand have persistently higher infant mortality. Mortality rate, which was higher in Slovaks has been lower than in Czedas since 1951. The difference in the life expectancy between the two nations diminished considerably around 1960 and since then is almost the same, though slightly higher in the Slovaks.

3. A remarkable change in the development of mortality and life expectancy happened in the sixties.

4. Parents of about 120,000 children were investigated from the point of view of educational level, stature and number of children in the family. Selection of the spouses was evidently done on the basis of educational level and to a lesser extent on the stature (stastically significant). Parents with a

higher education and with higher stature have fewer children than families of parents with smaller stature and lower educational level. Although we know that tall parents have on the average taller children than parents with small stature, this fact can not explain the secular trend of growth acceleration by itself because as we showed in the paper, tall parents have fewer children than parents of lower stature.

5. Higher education postpones the forming of a family which can not compete in number of children with those families of partners with lower education who began the family life at an earlier age.

### ACKNOWLEDGEMENT

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