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Socio-economic differences in health among Slovak adolescents

Summary

Objectives: To explore socio-economic health differences among Slovak adolescents.

Methods: Socio-economic differences in health (psychological health: GHQ-12, vitality and mental health scale of RAND, experienced health complaints, chronic illness, use of medicines, self-reported health, self-perceived vulnerability to illness) were explored among Slovak adolescents (n = 2 616, 1 370 boys, 1 246 girls; mean age 15 years).

Results: Adolescents from lower socio-economic groups (parents' occupation, parents' education, type of school) experienced more health complaints; less frequently experienced their health as excellent or very good, more frequently reported to fall ill easier and less frequently use non-prescribed drugs in comparison with adolescents from higher socio-economic groups. Moreover, adolescents from lower occupational group of parents and lower type of school score significantly lower in mental health and in vitality and used prescribed drugs more frequently. We did not confirm any socio-economic differences in psychological health or prevalence of chronic illness. Our findings confirmed poorer health of girls in comparison to boys. There are no gender differences with regard to socio-economic differences in health.

Conclusion: There are significant socio-economic health differences among Slovak adolescents.

Keywords: Socio-economic health differences – Socio-economic status – Adolescents – Slovakia.

Socio-economic differences in health (SEHD) have attracted a lot of attention since the Black Report was published (Townsend & Davidson 1982). A number of studies demonstrate the association of health with socio-economic status (SES), i.e., lower SES individuals or groups tend to have poorer health. Equity in health is one of the main aims of the WHO programme on health policy "Health for all" (1999). A review of the relevant literature is offered by Mackenbach (1992), Mackenbach & Kunst (1997) and West (1997). In 1990 (Wnuk-Lipinski & Illsley 1990) the findings about SEHD from non-market economies were published. Bulgaria, Czechoslovakia, Hungary, Poland and the U.S.S.R. were included in this project. Kunst (1997) also focused on the West-Central comparison of SEHD. SEHD in the former Czechoslovakia, that is in the Slovak and Czech Republics, were explored by Sobotik (1992), Sobotik and Drbal (1992), Sobotik and Rychtarikova (1992), Urban and Horná (1992), Bobák et al. (1994) and Ginter et al. (1995). The surveys were concerned with SEHD in adulthood. The findings about SEHD in adulthood in Central or East Europe, particularly in Slovakia, in comparison to West Europe can be summarised as follows: SEHD are similar or larger in Eastern and Central European countries in comparison with Western European countries. Lower socio-economic groups are more affected (Kunst 1997).

In the discussion about SEHD, adolescence seems to be a very interesting issue. It seems to be that youth, in contrast to childhood (Bor et al. 1993, van der Lucht & Groothoff 1995) or adulthood (Lahelma & Valkonen 1990; Ford et al. 1994; Kaplan et al. 1996; Kunst 1997; Power & Matthews 1997), is characterised more by the absence than presence of class gradients in health. Social class differentials re-emerge quite dramatically after this relative equalisation in youth (West 1988; 1990; Bor et al. 1993; Rahkonen et al. 1995; Tuinstra 1998). The several explanations of SEHD, particularly the absence of SEHD in adolescence (social causation, health selection, artefact/buffer, latent differences) are discussed by West (1991; 1997), MacIntyre (1997), Stronks (1997) and Tuinstra (1998). In contrast, Halldorsson et al. (2000) confirmed inequalities in health according to SES, as reported by parents, among adolescents in all the Nordic

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countries. Findings from United States (Call & Nonnemaker 2000), Hungary (Piko & Fitzpatrik 2001) also support the presence of SEHD among adolescents. It can be supposed, that SEHD are generally deeper in Central Europe due to transformation crisis and it can mean also that they are visible also in a period of relative equalisation, like for example adolescence or late age.

The literature about SEHD in West Europe is rich on findings, but less is known about inequalities in health among adolescents coming from Central and Eastern Europe. Our study is more or less a "pioneer" study. The importance of the data, generated by such type of study is enormous for at least two reasons: 1. SEHD among Central European adolescents are "unexplored area", 2. Consequence of ongoing transitional crisis in Central European countries can be a deepening of inequalities with health consequences for whole population. Our attention will be focused on following issues:

1. Are there any SEHD among Slovak adolescents?
2. Are there any gender differences in SEHD?

Methods

Procedure and respondents

Data was collected in September and October 1998. The sample consists of 2 616 first grade students of 31 secondary schools located in Kosice (a city in the eastern part of Slovakia; 300 000 inhabitants). The secondary schools are mostly centralised but students come from the whole wide region area. The Kosice region includes 14% of Slovak population and does not differ a lot from the rest of Slovakia with regard to SES and health indicators (for more details see Geckova 2002). One exception may be the capital city, Bratislava, located at the border to Austria, and therefore characterised with a low unemployment rate etc. We did not expect significant difference of our sample in comparison to Slovak adolescent population. The sample (52.4% boys, 47.6% girls, and mean age 15 years) was stratified according to gender and types of secondary schools; the proportion of the five educational levels of the regular Slovak school system was maintained as shown in Table 1.

Individual schools were selected at random. Respondents completed the questionnaire at school, in their classrooms under the guidance of the field workers. The response rate was 96.3%; the non-response was due to illness and other types of absence. The average occurrence of missing values was 1.1%.

The data was gathered using self-reported questionnaires, which included several measures of SES and health.

Measures of SES

In our survey of SEHD we used two types of socio-economic indicators. The first one is based on parents: the highest occupational class of parents and the highest education of parents. The second one is based on adolescents: the type of school they attend.

Highest occupational class of parents: This measure is based on asking adolescents about their father's and mother's current occupation, or their last occupation if they are currently unemployed. The obtained information was transformed into 9 categories of ISCO (1992; 1993). Finally, some categories were combined. According to the classification used, 27.7% adolescents came from families belonging to occupational classes I. Legislators, senior officials and managers and II. Professionals; 50.1% adolescents came from families belonging to occupational classes III. Technicians and associate professionals, and IV. Clerks and V. Service workers and shop and market sales workers; and 22.3% adolescents came from families belonging to occupational classes VI. Skilled agricultural and fishery workers, and VII Craft and related trades workers, and VIII. Plant and machine operators and assemblers and IX. Elementary occupations.

Highest education of parents: This measure is based on asking adolescents about their father's and mother's successfully completed levels of education. The parents' educational level was classified as: I. university (21.8%), II. secondary high school (50.4%), III. vocational or primary school only (25.4%). We have combined the categories vocational education (24.1%) and primary school (1.2%).

Table 1 The sample

In %	Population*			Sample		
	male	female	total	male	female	total
Grammar school	19.4	28.3	23.9	19.4	24.5	21.8
Secondary school	31.3	45.6	38.6	38.0	47.3	42.4
Apprentice school	49.3	26.1	37.5	42.6	28.3	35.7

* Distribution of students in first grade of post-eliminary schools in Slovakia 1998 (Based on official statistical data – Ustav informacii a prognoz skolstva, Bratislava)

Type of school: Adolescents were divided according to the type of school they attended into the three groups: grammar school students (21.8%), specialised secondary school students (42.4%), and apprentice school students (35.7%).
Children start attending school at 6 (+/–1) years, and the general elementary programmes lasted eight years. The year of data collection was the last one before transformation from 8-year into 9-year general elementary programmes. There are three main types of secondary education: apprentice programmes (2- or 3-year apprentice education without school leaving-examination and 4 or 5-year apprentice education with school-leaving examination), specialised secondary schools (4-year programmes consisting of professional education with school-leaving examination) and grammar schools (4-year programmes preparing for university study, ending with school-leaving examination). The school-leaving examination is necessary for university study.

Measures of health
Psychological health was measured by the Slovak version of the 12-item version of the General Health Questionnaire (GHQ) (Goldberg & Williams 1988). The GHQ is a self-reported questionnaire consisting of statements about aspects of well-being such as worries, tension or sleeplessness. With each statement, the current status of the respondent over the past four weeks is compared with his or her normal status by one of four response categories. Two methods of scoring are used: a Likert score (range 0–36) and a binary score (range 0–12). A higher score indicates worse psychological health. The latter score permits the identification of "cases", or in other words a level of symptomatology of potential clinical relevance. According to Banks (1983), a cut-off point of 2/3 should be used as a criterion for identification of "cases" in adolescence.
Two subscales of the Slovak version of the RAND-36 (van der Zee & Sanderman 1993) were used to measure vitality and mental health. The four items of the vitality scale focus on feelings of energy and fatigue. The scale of mental health has five items representing feelings of depression and nervousness. The respondents were asked to evaluate their feelings over the past four weeks. The scores were transformed following the prescribed formula (range 0–100). A higher score indicates better health status.
Experienced health complaints were measured by the Slovak version of shortened 13-item version of the VOEG (Dirken 1967; Jansen & Sikkel 1994). This questionnaire shows a valid and reliable picture of the current health status (Furer et al. 1995), expressed in following physical health complaints: stomach feel full and bloated, get short of breath easily, have pains in the chest or heart region, bones and muscles ever ache, feel tired, headache, backache, upset stomach, feel dead legs, get tired sooner, feel dizzy, feel listless, get up feeling tired and unrest. A 5-anchor scale expressing the frequency of suffering from the included health complaints during the last month were used in the Slovak version. A cut-off point of three times and more was used for dichotomisation. The sum score of the VOEG, varying from 0-13, was examined. A higher score indicates an occurrence of more types of health complaints.
Chronic diseases were assessed by means of a questionnaire based on the Health Interview Survey of the Dutch Central Bureau for Statistics (1994), the questionnaire used in the Dutch study (Tuinstra 1998). This questionnaire was improved in accordance with the results of a pilot study and accessible data about the prevalence of chronic diseases in adolescence (Sobotik et al. 1994). The questionnaire in the present study provides a selection of 14 chronic diseases which are most prevalent in adolescence. The respondents were asked whether or not they had suffered from any of these chronic diseases longer than three months. Adolescents were divided into two groups: no chronic diseases/at least one chronic disease suffered.
The questionnaire of medicines use was created specially for the purposes of this study and was based on the questionnaire used in the Dutch sample (Tuinstra 1998). In this paper we examined only whether or not adolescents had used prescribed and non-prescribed drugs during the last two weeks.
Self-reported health was measured by asking the respondents to describe their health as excellent, very good, good, fairly good or bad. The variable was dichotomised (excellent, very good/good, fairly good or bad). There are many studies confirming the relation between this scale and mortality and morbidity (Appels et al. 1996). Despite criticism of subjective health measures, in prospective studies self-assessed health has proved to be a powerful predictor of mortality, whereby the mortality of those who perceived their health as poor is higher than those who perceived their health as excellent or sample (Mossey & Shapiro 1982; Kaplan & Camacho 1983).
Self-perceived vulnerability to illness was measured by asking adolescents if they fall ill easier or not in comparison with others. This question allows us to describe adolescents' perception of their vulnerability to illness based on their own experience, but also their health concept or attitudes to health and illness.
The questionnaires are precise translations of the English and in particular the Dutch versions. The validity of the health indicators used was discussed by Geckova et al. (1998), Pudelsky et al. (1999) and Javorsky et al. (2000).

Analysis

The analyses were done using the statistical software package SPSS, version 7.5.2. Two different analyses were used to test the distribution of the health measures between the socio-economic groups for both male and female adolescents. Logistic regression was done for the dichotomised health measures and the analysis of variance was used for continuous health measures. The analysis was computed separately for each SES and health indicator. SES and gender variables were entered simultaneously. We fitted two models: one exploring the main effect of SES, gender on health and the effect interactions between gender and socio-economic status on health and one without the effect of interactions on health.

Although the distribution of the continuous health measures is slightly skew, its difference from normal distribution is not serious. That is why we decided to use classical ANOVA procedure, which is robust to small deviations from normality rather than use non-parametric methods, which are much less sensitive. Then true significance levels can be slightly different.

Results

Several socio-economic indicators based on both adolescents (type of school) and their parents (highest education of parents, highest occupational group of parents), were used to explore SEHD of Slovak adolescents. Gender differences in health and SEHD will also be discussed.

Socio-economic differences in health

There are several findings confirming SEHD among Slovak adolescents, as depicted in Table 2.

The highest occupational group of parents significantly contributes to the differences in vitality, mental health, experienced health complaints, use of prescribed and non-prescribed drugs, self-reported health and self-perceived vulnerability to illness. The highest education level of parents significantly contributes to the differences in experienced health complaints, use of non-prescribed drugs, self-reported health and self-perceived vulnerability to illness. The type of school significantly contributes to the differences in mental health, experienced health complaints, use of prescribed and non-prescribed drugs, self-reported health and self-perceived vulnerability to illness. We did not confirm any socio-economic differences in psychological health and prevalence of chronic diseases.

As can be seen in Table 3, our findings are more unfavourable for lower socio-economic groups, except for the use of non-prescribed drugs. Adolescents of lower SES (lower occupational group of parents, lower educational level of parents, lower type of school attend by adolescents) are characterised by significantly lower vitality and poorer mental health. They suffer from significantly more health complaints

Table 2 Health by SES and gender – main effects, model without interaction effect (ANOVA for continuous health measures, logistic regression for dichotomous measures)

	Main effect	Highest occupational group of parents p-values	Highest education of parents p-values	Type of school p-values
Mean GHQ	SES	0.228	0.061	0.058
	gender	0.000	0.000	0.000
% of "cases" (GHQ)	SES	0.323	0.098	0.588
	gender	0.000	0.000	0.000
Mean vitality (RAND)	SES	0.009	0.084	0.114
	gender	0.000	0.000	0.000
Mean mental health (RAND)	SES	0.007	0.204	0.007
	gender	0.000	0.000	0.000
Mean sum of health complaints	SES	0.009	0.019	0.003
	gender	0.000	0.000	0.000
% reporting chronic diseases	SES	0.657	0.976	0.553
	gender	0.000	0.000	0.000
% reporting use of prescribed drugs	SES	0.010	0.204	0.000
	gender	0.028	0.018	0.002
% reporting use of non-prescribed drugs	SES	0.000	0.003	0.000
	gender	0.000	0.000	0.000
% reporting health "good", "fairly good" or "bad"	SES	0.000	0.000	0.000
	gender	0.000	0.000	0.000
% reporting "to fall ill easier"	SES	0.000	0.001	0.000
	gender	0.000	0.000	0.000

Table 3 Description data of health indicators

		Highest occupational group of parents			Highest education of parents			Type of school			Total
		I+II	III-V	VI-IX	univer.	second.	vocat.	gramm.	second.	appren.	
Mean GHQ	m	9.6	9.3	9.2	9.7	9.4	8.8	9.6	9.6	9.0	9.3
	f	11.9	11.4	11.5	11.6	11.5	11.5	11.9	11.5	11.3	11.6
% of "cases"	m	27.3	20.6	26.3	29.7	21.4	23.1	22.2	24.8	23.9	23.9
(GHQ)	f	39.6	41.5	41.5	41.4	40.6	41.9	39.7	40.9	43.4	41.3
Mean vitality	m	**65.1**	**65.1**	**61.2**	64.2	64.9	62.8	65.3	64.7	63.2	64.2
(RAND)	f	**57.8**	**58.0**	**56.7**	57.7	58.3	56.6	59.2	57.0	57.5	57.7
Mean mental	m	**67.9**	**68.4**	**65.5**	67.5	67.9	67.3	**68.2**	**68.7**	**66.3**	67.6
health (RAND)	f	60.8	**61.1**	**58.5**	**60.9**	61.1	58.7	61.7	**60.6**	**58.8**	**60.4**
Mean sum of	m	**1.6**	**1.8**	**2.1**	**1.7**	**1.7**	**1.9**	**1.7**	**1.6**	**1.9**	1.8
physical complaints	f	**2.7**	**2.8**	**3.0**	**2.7**	**2.8**	**3.1**	**2.7**	**2.8**	**3.1**	2.9
% reporting	m	44.4	43.5	42.5	46.7	41.6	43.4	46.2	43.4	41.8	43.3
chronic diseases	f	49.8	54.8	51.8	48.9	54.7	51.8	49.2	50.8	58.7	52.6
% reporting use of	m	**15.4**	**15.8**	**22.6**	14.5	17.4	18.8	**13.2**	**13.2**	**22.5**	17.2
prescribed drugs	f	**18.6**	**20.3**	**23.9**	18.6	21.3	21.3	**17.4**	**19.2**	**26.3**	20.8
% reporting use of	m	**24.2**	**20.9**	**16.4**	**24.3**	**20.5**	**18.0**	**27.8**	**23.5**	**15.2**	20.8
non-prescribed drugs	f	**36.6**	**36.5**	**25.7**	**38.7**	**34.6**	**28.4**	**37.4**	**35.8**	**27.1**	33.7
% reporting health	m	**26.7**	**31.6**	**33.6**	**26.2**	**30.2**	**38.0**	**24.2**	**28.6**	**36.6**	31.1
"good", "fairly good" or "bad"	f	**35.1**	**45.9**	**53.5**	**34.8**	**42.9**	**56.6**	**36.5**	**43.0**	**55.6**	44.9
% reporting	m	**12.6**	**13.0**	**17.1**	**12.9**	**12.1**	**17.3**	**9.8**	**11.9**	**17.0**	13.6
"to fall ill easier"	f	**12.9**	**19.7**	**27.8**	**15.6**	**18.3**	**25.4**	**13.2**	**18.2**	**27.8**	19.7

m = male
f = female

and use prescribed drugs significantly more frequently. They also described significantly less frequently their health as excellent or very good and significantly more frequently reported that they fall ill easier than others. On the other hand, adolescents from lower SES use non-prescribed drugs significantly less frequently.

Gender differences in SEHD

Our findings confirmed the poorer health of girls in comparison with boys. Girls scored higher in GHQ and they are also more frequently detected as a "case". Scores on the vitality and mental health scale are lower among girls. Girls reported more physical complaints than boys. Prevalence of chronic diseases, use of prescribed and non-prescribed drugs are higher among girls. Finally, girls less frequently describe their health as excellent or very good and more frequently consider they fall ill easier than others. The mentioned differences are statistically significant.

Significant interaction effects of SES and gender were not present, except for prevalence of chronic diseases. This means that the investigated SEHD are similar in male and female, or rather did not differ. However, there are significant interactions between gender and type of school in case of chronic diseases. The SEHD are adverse in male in comparison to female. As can be seen in Figure 1, prevalence of chronic diseases tends to decrease in lower types of schools in males, while in females it tends to increase.

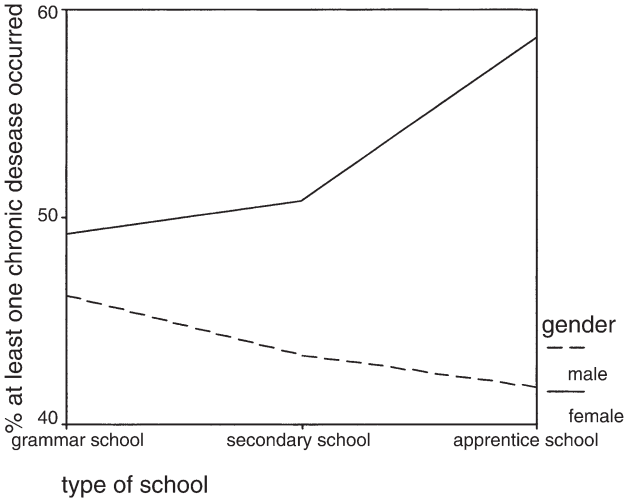

Figure 1 Interaction effect of type of school and gender on prevalence of chronic diseases

Conclusion and discussion

In our paper we investigated SEHD and gender differences in SEHD among Slovak adolescents. Our findings confirmed socio-economic differences in health among Slovak adolescents using several indicators of SES (parents' occupation, parents' education, type of school) and health (vitality, mental health, physical health complaints, use of prescribed and non-prescribed drugs, self-rated health, self-perceived vulnerability to illness). We did not confirm any socio-economic differences in psychological health and prevalence of chronic illness.

Pattern of SEHD among Slovak adolescents

Our findings show that there is considerable evidence of SEHD among Slovak adolescents and the trends in these differences are, except for the use of non-prescribed drugs, more unfavourable for adolescents of lower SES. The choice of use of non-prescribed drugs is mostly up to adolescents ourselves and they use mostly painkillers, vitamins, minerals and supportive symptomatic treatments of respiratory diseases (Geckova et al. 2001). Maybe higher SES adolescents use more non-prescribed drugs to treat their health problems (painkillers, supportive symptomatic treatments of respiratory diseases), but also to maintain their health (vitamins, minerals), while lower SES ignore or use self-treatment less frequently due to more limited health education, poorer interest in their own health, or lack of money. From this point of view our findings confirm our hypothesis, but we are aware that this issue requires additional research.

Possible explanation of presence/absence of SEHD among adolescence

Based on most of the prevailing European literature, an absence of SEHD among adolescents might be presumed. We have confirmed SEHD among Slovak adolescents in seven from 10 health indicators using three different socio-economic indicators. There are several possible explanations for differences in findings related to socio-economic differences between Slovak and West Europe, particularly Dutch (Tuinstra 1998) and Scottish (West 1990) studies.

Firstly, there is a 10-years gap between Scottish and Slovak data collection and a three-years gap between Dutch and Slovak data collection. This time gap can be the source of differences, if the hypothesis of widening socio-economic health differences in Europe is correct. The findings of Halldorsson et al. (2000) are more recent in comparison to cited Finish (Rahkonen & Lahelma 1992) and Scottish findings.

Secondly, there are differences in way how SES was measured between studies. It is a question how to measure SES in countries differing so much in socio-economic stratification characteristics and if used SES indicators are comparable. Main health measures (psychological health, self-reported health, chronic diseases) used in Slovak, Dutch, Scottish and Finish studies are comparable.

Thirdly, we should consider differences between West and Central European countries. Rahkonen and Lahelma (1992) suppose that a "developed welfare state may have had an equalising effect on the health of young people" (free school meals, check-ups by school nurses and physicians). And also West et al. (1990) and Tuinstra (1998) suppose that absence of SEHD among Western European adolescents is caused by the effect of some protective, equalising factors: this is known as the buffer hypothesis. We can hypothesise that such factors either have no influence in Slovakia, or that they are not strong enough to diminish SEHD. Many of the changes which have happened in Central Europe during the last ten years are related to such a possible "buffer" mechanism. Previous "buffer mechanisms" do not work anymore and new ones are just establishing themselves, which means they do not work sufficiently yet. Decreasing living standards may cause undesirable changes in lifestyle including poor nutrition or risky behaviour. The youth can suffer not only from the lack of amenities, but also from experiences related to the gap between class groups. The consequence of such experiences can be stress, worse mental health or somatic symptoms.

What health indicators are more sensitive to social disadvantage in adolescence?

SES influences more general vulnerability or general resilience than specific illnesses (Hertzman 1999; MacIntyre 1986). Besides this, some of the health indicators are related more strongly and some of them less strongly to SES. The best known is height, as the only one indicator which remains unequally distributed also in studies indicating absence of health inequalities in adolescence (West 1997). In a study performed by Halldorssson et al. (1999), well-being was more influenced by SES than somatic health (chronic illness, physical health complaints). We have confirmed SEHD in self-reported health, experienced health complaints, vitality and mental health, but not in the occurrence of chronic illness. The absence of SEHD in the occurrence of limiting long-standing illness is also confirmed by Rahkonen and Lahelma (1992) among 15–24 years old Finns. The effects caused by undesirable living conditions, and lifestyle on health, in terms of chronic illness, require a certain period. Because of this delay, we expected in adolescence that well-being, self-reported health and experienced health complaints will be the most affected by socio-economic disadvantage.

What SES indicators should be used when exploring SEHD among adolescents?

Single socio-economic indicators are related to different types of sources and rewards. The education level determines access to information and ability to benefit from this information, while occupation contains this dimension and moreover also determines access to amenities and also benefits from performing some occupations, such as privileges, power, social and technical abilities (Kunst 1997).

People's own education, but also the education of their parents and partners influence their health indirectly. More educated people have more knowledge about healthy/unhealthy lifestyles, use medical services more efficiently, and communicate with health staff better. In society a "good" education is a condition for obtaining a "better" job, and as a consequence of this, a "better" job is indeed also to obtain sufficient income to reach a certain quality level in somebody's life, including health.

The type of school indicates, but does not definitely determine at this age, socio-economic trajectory and future socio-economic position in society. It is one of the first selections, stratifying adolescents according to their abilities, knowledge, motivation and life orientation. To a certain extent, selection by school is determined also by social class of origin, including the education of the parents and SES of the family. The type of school is strongly correlated with the education of the father and mother.

The class structure of Slovak inhabitants from a representative sample in 1992 is as follows: 26.7% of I. Legislators, senior officials and managers and II. Professionals; 24.0% of III. Technicians and associate professionals, IV. Clerks and V. Service workers and shop and market sales workers; and 49.4% of VI. Skilled agricultural and fishery workers, VII. Craft and related trades workers, VIII. Plant and machine operators and assemblers and IX. Elementary occupations (Buncák & Harmadyová 1993). The proportions in the Slovak population according to education is as follows: 11.3% of the population completed university education, 38.9% secondary education and 49.8% primary or vocational education (Meseznikov & Ivantysyn 1999). Figures show social stratification in the Slovak Republic, which differ from our sample, because the parents in our sample represent a specific age group and not the population as a whole.

In our survey of SEHD among adolescents we try to use not only SES indicators based on the SES of parents but also socio-economic indicators based on the SES of adolescents themselves, as well as the type of school they attend. The type of school seems to be a very sensitive socio-economic indicator in adolescence. SEHD were confirmed in six out of 10 indicators of health used in this research, when type of school was used as socio-economic indicator. On the other hand it should be pointed out that the data collection was performed at the starting point of the adolescents' study. The type of school therefore indicates the direction and success or failure in the first socio-economic selection; the student was or was not accepted by such type of school, but the type of school does not present the influence of this school, or rather this type of education. In this case, type of school indicates life orientation (motivation), abilities, knowledge and traits important for a successful career, and predicts (but not definitely) the career of adolescents and their future position in the socio-economic stratification. Moreover the effect of health selection (healthier adolescents experience upward social mobility, less healthy ones downward mobility) should be considered. It is in the period after leaving school that immediate (conscious) health selection is most likely to occur. Equally, the effects of indirect health selection, via educational achievement for example, should be observable (West 1990).

Gender differences in health and SEHD

One very important issue seems to be that of gender differences in health and SEHD. West et al. (1999), and also others, emphasise that gender is a much more powerful discriminator than social class for health in its several dimensions. Socio-economic health differences in male and female should be studied separately (Rahkonen et al. 2000; Gijsbers van Wijk et al. 1995). The pattern of gender differences in SEHD is not clear, as the evidence is inconsistent across various health measures and life stages (Mathews et al. 1989). Koskinen and Martelin (1994), MacIntyre and Hunt (1997) and Valkonen et al. (2000) reported considerably smaller health inequalities among women than among men. On the other side, Balabanova (2000) reported greater health inequalities among women as a consequence of their increasingly vulnerable position in Bulgaria. Our findings confirm gender differences in health, but not in SEHD. Girls are characterised by significantly poorer health in comparison to boys, but SEHD are not different in girls and boys.

Real explanations for our findings require additional work. As far as we know, this is the first attempt to explore SEHD among Central European adolescents. Further analysis using different samples from different Central and East European countries, but also transcultural comparisons can contribute considerably to the explanation of the surprising presence of SEHD among Slovak adolescents. Attention should be also focused on factors, which can influence SEHD among adolescents, such as health-related behaviour (Geckova et al. 2002) and social support (Geckova et al. 2003, in press).

Zusammenfassung

Sozioökonomische Unterschiede in der Gesundheit slowakischer Jugendlicher

Fragestellung: Untersuchung der sozioökonomischen Unterschiede in der Gesundheit slowakischer Jugendlicher.

Methoden: Die sozioökonomischen Unterschiede in der Gesundheit (psychische Gesundheit: GHQ-12, Skala der Vitalität und der mentalen Gesundheit: RAND, empfundene Beschwerden, chronische Krankheiten, Medikamenteneinnahme, subjektive Gesundheit, subjektive Disposition zu Krankheiten) wurden bei slowakischen Jugendlichen (n = 2616, 1370 Jungen, 1246 Mädchen, Durchschnittsalter 15 Jahre) untersucht.

Resultate: Die Jugendlichen der unteren sozioökonomischen Schichten (Beschäftigung der Eltern, Ausbildung der Eltern, von den Jugendlichen besuchter Schultyp) empfanden im Vergleich mit Jugendlichen der oberen sozioökonomischen Schichten mehr Beschwerden, fassten seltener ihre Gesundheit als ausgezeichnet oder sehr gut auf, meinten häufiger, sie seien mehr geneigt zu Krankheiten, und nahmen seltener Medikamente ohne Verschreibung ein. Überdies schnitten die Jugendlichen der unteren sozioökonomischen Schichten in der Skala der mentalen Gesundheit und in der Vitalitätsskala statistisch bedeutend tiefer ab und nahmen häufiger Medikamente ohne Verschreibung ein. Wir konnten keine sozioökonomischen Unterschiede in der psychischen Gesundheit und im Vorkommen der chronischen Krankheiten feststellen. Unsere Feststellungen bestätigten den schlechteren Gesundheitszustand der Mädchen im Vergleich zu Jungen. Wir konnten auch keine geschlechtsspezifischen sozioökonomischen Unterschiede feststellen.

Schlussfolgerung: Die sozioökonomischen Unterschiede in der Gesundheit slowakischer Jugendlichen wurden festgestellt.

Résumé

Inégalités sociales et de santé parmi les adolescents slovaques

Objectif: Explorer les différences de santé en rapport avec le statut socio-économique parmi des adolescents slovaques.

Méthode: Les différences d'état de santé (santé psychologique: GHQ-12, l'échelle de vitalité et de santé mentale de RAND, le vécu de plaintes de santé, la maladie chronique, l'utilisation de médicaments, la santé subjective, la perception de la vulnérabilité à la maladie) et leurs rapports au statut socio-économique ont été étudiés parmi des adolescents slovaques (n = 2626, 1370 garçons, 1246 filles; âge moyen 15 ans).

Résultats: Les adolescents de bas niveau socio-économique (défini selon les cas par la profession ou l'éducation des parents et le type d'école) ont plus de plaintes de santé, perçoivent leur santé moins fréquemment comme étant excellente ou très bonne, rapportent qu'ils tombent malades plus facilement mais utilisent moins souvent des médicaments sans prescription médicale que les adolescents de niveau socio-économique plus élevé. De plus, les adolescents de bas niveau socio-économique ont des scores significativement plus bas en matière de santé mentale et de vitalité, et utilisent plus fréquemment des médicaments sur prescription médicale. Nous n'avons pas mis en évidence de différences de santé psychique ou de survenue de maladie chronique en fonction du statut socio-économique. Nos résultats confirment la moins bonne santé des filles par rapport aux garçons. Il n'y avait pas d'effet de genre dans les différences d'état de santé liés au statut socio-économique.

Conclusion: Il y a d'importantes inégalités de santé selon le statut socio-économique parmi les adolescents slovaques.

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