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SOCIAL INEQUALITIES IN SELF-PERCEIVED HEALTH

Comparing Hungarian and Ethnic Minority Adolescents from Transylvania, Rumania

(Received: 5 February 2012; accepted: 25 April 2012)

The aim of this study is to analyse the relationship between parental socioeconomic status (SES) (both objective and subjective) and perceived health in two samples of Eastern European adolescents and to detect gender differences in the background variables. The data used in this study came from two cross-sectional surveys of high school students' health in Southern Hungary (Szeged and its metropolitan area, N = 881, mean age = 16.6 years, S.D. = 1.3 years) and Middle Transylvania, Rumania (Sfântu Gheorghe/Sepsiszentgyörgy and its metropolitan area, N = 1,977, mean age = 16.8 years, S.D. = 1.0 years). Both objective and subjective social status measures were utilized. SES self-assessment is a strong, universal and gradient-like predictor of adolescents' self-perceived health. Objective socioeconomic variables are weaker and appear to have a nongradient-like relationship with self-perceived health. The greatest sample difference was that parents' unemployment status played a greater role in self-perceived health among Transylvanian youth. The role of socioeconomic factors appears to be more salient in girls. Social inequalities in self-perceived health may be detected among adolescents but in seemingly different ways than among adults.

Keywords: subjective SES, health inequalities, culture, unemployment, family structure, self-perceived health, adolescence, parents

Gesellschaftliche Ungleichheiten in der Selbsteinschätzung des Gesundheitszustandes: In Ungarn lebende und der siebenbürgischen Minderheit in Rumänien angehörende Pubertierende im Vergleich: Die Zielsetzung der Untersuchung bestand in der Erfassung der objektiven und der subjektiven sozialen Situation der Eltern und der Analyse der Selbsteinschätzung des Gesundheitszustandes an zwei Strichprobengruppen von Pubertierenden in Osteuropa sowie der Ermittlung von geschlechtsspezifischen Unterschieden mit Hilfe von Hintergrundvariablen. Die Ergebnisse stam-

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men aus zwei Querschnittsuntersuchungen, die in der Region Südungarn (Szeged und Umgebung, N = 881, Durchschnittsalter 16,6 Jahre, Streuung 1,3 Jahre) und aus im mittleren Siebenbürgen in Rumänien (Sfântu Gheorghe/Sepsiszentgyörgy und Umgebung, N = 1977, Durchschnittsalter 16,8 Jahre, Streuung 1,0 Jahre) durchgeführt worden sind. Gegenstand der Erhebung waren sowohl die objektive als auch die subjektive soziale Situation. Die Selbsteinschätzung der sozialen Situation erwies sich als starker universeller und sukzessiver Prädiktor für die Selbsteinschätzung des Gesundheitszustandes durch die Pubertierenden. Der größte Unterschied zwischen den Gruppen bestand darin, dass der Arbeitslosenstatus auf die Selbsteinschätzung des Gesundheitszustands durch Pubertierende in Siebenbürgen einen größeren Einfluss hatte. Sozio-ökonomische Variablen spielten bei Mädchen eine wichtigere Rolle. Auch in der Selbsteinschätzung des Gesundheitszustandes bei Pubertierenden zeigen sich gesellschaftliche Ungleichheiten, jedoch anders als bei Erwachsenen.

Schlüsselbegriffe: subjektive soziale Situation, Ungleichheiten im Gesundheitszustand, Kultur, Arbeitslosigkeit, Familienstruktur, selbst eingeschätzter Gesundheitszustand, Pubertät, Eltern

1. Introduction

Self-perceived health is a commonly used outcome measure in health surveys since it has been found to be a good predictor of mortality and morbidity (ADLER & OSTROVE 1999; BURSTRÖM & FREDLUND 2001). It also has been established as a valid health measure in general adolescent health surveys (BREIDABLIK et al. 2008, 2009). This global health indicator is often used, for example, in studies of social inequalities in health. Analyses demonstrate a graded relation between socioeconomic status (SES) and self-perceived health (GALLO et al. 2006; COHEN et al. 1999). Interestingly, subjective social class seems to be a better indicator of self-perceived health and other measures of health status than objective social class (KOPP et al. 2004; SINGH-MANOUX et al. 2005). In addition, it is worth noting that there are important differences between countries (for example, between post-socialist countries and other parts of the European Union) in social inequalities in self-perceived health, in part due to significant variations in income distributions (BORELLI et al. 2009; ŠUČUR & ZRINŠČAK 2007).

While we have come to understand the general relationship between social inequalities and self-perceived health among adults, far less is known about this relationship among adolescents. This is particularly important since, compared to adults, there is a certain level of 'equalisation' during adolescence and young adulthood (WEST 1997). Despite this equalisation, however, there are still important differences in psychosocial variables or health-related behaviours – often very subtle and sometimes difficult to measure (PIKÓ & FITZPATRICK 2001; SALONNA et al. 2008; LENTHE et al. 2009). Even in adolescence, when there is a certain level of equalisation, psychosocial variables may reflect SES inequalities or sometimes may generate SES differences in health. Among others, adolescents from lower SES groups usually report lower levels of self-perceived health (ERGINOZ et al. 2004; GECKOVA et al. 2004; TORSHEIM et al. 2004), more psychosomatic health complaints (BERNTSSON & KÖHLER 2001; PIKÓ & FITZPATRICK 2001) or depressive symptomatology (PIKÓ

& FITZPATRICK 2007). A cross-national report of Health Behaviour in School-Aged Children (HBSC) indicates consistent inequalities in self-reported health, psychosomatic symptoms, eating habits and physical activity at both the individual and country level (CURRIE et al. 2008).

Certainly, further research is needed to better understand the role of social class measures in 'predicting' adolescents' self-perceived health. For example, the theory of 'relative equalisation' is in concordance with the developmental change when parental influence is decreasing while at the same time the quest for personal autonomy is increasing and youth make efforts to develop independent lifestyles and habits. The result is a reversal of social class differences from those experienced during childhood (WEST 1997). Findings, however, support the concept that although adolescents tend to spend more time with peers and less time with parents (PIKÓ 1998), the parent-adolescent relationship continues to serve as an adaptive and protective mechanism by providing a secure base for adolescents' well-being (HAIR et al. 2008).

On the other hand, youth during this age period are extremely vulnerable to external stressors, even economic ones since they have the cognitive ability to recognise and experience socioeconomic disadvantage (GOODMAN et al. 2005; PIKÓ & PICZIL 2004). A prior study among Swedish adolescents found that economic stress in the family was an important correlate of perceived health primarily because of experiences like the inability to afford recreational activities (HAGQUIST 1998). Often negative emotions and pessimism play a role as mediators between socioeconomic status and health in which the subjective (relative) evaluation becomes an important aspect (FINKELSTEIN et al. 2007; GALLO & MATTHEWS 2003; GALLO et al. 2006). This may help explain inconsistent findings in the relationship between 'classical' SES indicators (e.g. parents' occupation or schooling) and adolescents' health outcomes, whereas the subjective SES measurement appears to play an important role. For example, high school students who evaluated themselves as middle or lower class (as compared to those from upper/upper middle classes) reported higher levels of depressive and psychosomatic symptoms and poorer self-perceived health in a gradient-like way (PIKÓ & FITZPATRICK 2001, 2007). It seems that subjective SES evaluations are a better indicator of adolescents' health and health behaviour than objective social class. This may be particularly true in the case of self-perceived health (GOODMAN et al. 2007). Objective SES indicators – if they do play a role at all – are inconsistently related to adolescents' health outcomes (PIKÓ & FITZPATRICK 2001; SIAHPUSH & SING 2000; WEST 1997; WEST & SWEETING 2004). As compared to subjective SES measures, parents' employment status and schooling usually have a limited influence on their children's health outcomes; for example, instead of gradient-like relationships, certain types of parents' unemployed status may contribute to their children's developing depressive and psychosomatic symptoms or a poorer evaluation of their own health (PIKÓ & FITZPATRICK 2007). Parents' work-related stress may lead to negative changes in parenting practices and mental well-being that may also have an impact on children's health (CROUTER & BUMPUS 2001). Subjective feelings and cognitive evaluations again can be found in the background mechanisms (PIKÓ & FITZPATRICK

2001). Relative to employment status, it seems that education often appears a better indicator of health inequalities (LAHELMA et al. 2004) because education is perceived as more determinant of quality of life in modern society (ROSS & WILLIGEN 1997). In terms of social inequalities in adolescent health, low parental education has been found to result in a decreased health-related quality of life (RUEDEN et al. 2006) and self-perceived health (PIKÓ & FITZPATRICK 2007).

Beyond the questions of which indicators of class are better determinants of health outcomes, there is also an ongoing debate regarding the role of gender in determining health inequalities (BATES et al. 2009; MACINTYRE & HUNT 1997). This question is particularly relevant here since gender differences in self-perceived health often appear as central to the research questions (BENYAMINI et al. 2000; KOPP et al. 2004). Results are rather inconsistent in this field both among adults and adolescents; some of the studies report greater inequalities among women that can be explained by women's less secure social status (e.g., due to family relatedness) and consequently a greater need for stability and security (BATES et al. 2009). Among adolescents this may be less apparent and therefore there may be few or no gender differences in social inequalities in health (GECKOVA et al. 2004). Other studies, however, report that differences in well-being (and less in health) according to SES group are more pronounced among girls (HALLDÓRSSON et al. 1999). Another gender issue is the relative role of mother and father in generating social inequalities in their children's health. In dual-earning families both parents may play a role, in addition, the role of mother (particularly her educational level) sometimes may be even more important (HALLDÓRSSON et al. 1999; PIKÓ & FITZPATRICK 2001, 2007). Based on this literature review, the main goal of the present paper is to examine the role of parental background in understanding adolescents' self-perceived health within the broader 'social inequalities in health' framework. More precisely, we analyse the relationship between parental socioeconomic status (both objective and subjective) and adolescents' perceived health in two samples of Eastern European adolescents – a sample from Southern Hungary and another one from Central Transylvania, Rumania (Hungarian ethnic minority).

The following hypotheses are proposed:

1. We expect that, overall, subjective SES measures will be better predictors of adolescent health outcomes than more objective social class indicators. Nevertheless, we do expect to observe a significant relationship between self-perceived health and objective SES indicators (particularly parents' schooling), though in a nongradient-like way.

2. Since previous studies report that cultural and political traditions may influence social inequalities in health (BORELLI et al. 2009; KOPP et al. 2004; ŠUĆUR & ZRINŠČAK 2007), we expect to find differences in the structure of socioeconomic background variables of adolescents' health evaluations. Previous studies characterised Hungarian youth – compared with nine Eastern European countries – by a medium level of egalitarianism and conservatism; although the level of egalitarianism was lower and the level of conservatism was higher compared to levels of Western

European university students (SCHWARTZ & BARDI 1997). Another study found that among Hungarian adolescents levels of preferring family and collective values were much lower than in Western societies (FLANAGAN et al. 1998). Youth living in the Transylvanian region of Rumania, on the other hand, have been recognised as more traditional (PIKÓ & BRASSAI 2007).

3. As a result, we expect that social inequalities in self-perceived health are more likely to appear among adolescents in a Transylvanian sample than in a sample from Hungary.

4. Finally, as a possible contribution to the debate on gender differences in social inequalities in health among adolescents, we expect that adolescent boys and girls may differ in the structure of social background variables in self-perceived health.

2. Subjects and method

The data used in this study were derived from two cross-sectional surveys of high school students' health in Southern Hungary (Szeged and its metropolitan area) and Central Transylvania, Rumania (Sfântu Gheorghe/Sepsiszentgyörgy and its metropolitan area).

Data in Southern Hungary were collected in the spring of 2008. This representative sample consisted of 881 high school students (14–20 years of age) in Szeged and its metropolitan area in the Southeastern region of Hungary. Of the sampled students, 44.6% were female and the median age of the sample was 16 years of age (Mean = 16.6 years; SD = 1.3 years). Of the 900 questionnaires sent out, 881 were returned. This final sample count gave us a response rate of approximately 97.9%. The remaining students likely consisted of youth absent or those youth whose parents did not want them to participate in the study. Parents were informed about the study, and their consent was obtained prior to the data collection. A standardised procedure of administration was followed. Trained graduate students distributed the questionnaires to students in each class, after briefly explaining the study objectives and giving the necessary instructions. Students completed the questionnaires during the class period. Student participation was voluntary, and confidentiality was emphasised, noting that data were being collected for research purposes only.

The other data collection included Hungarian ethnic minority students enrolled in the secondary schools of the Central Transylvanian Region, Sfântu Gheorghe (Sepsiszentgyörgy) and its metropolitan area, Rumania in 2006. This representative sample consisted of 2,152 students. Of the 2,152 questionnaires sent out, 1,977 were returned, yielding a response rate of 91.9%. Due to age limits for the purposes of this study (15–19 years of age), 1,617 questionnaires were analysed (Mean = 16.8 years, SD = 1.0), and 48.1% of the sample consisted of males.

Similar to the previous data collection, self-administered questionnaires were used as a method of data collection. Trained mental health educators distributed

the questionnaires to students prior to the start of class. Parental permissions were obtained prior to the start of the study. Students were given a brief explanation of the objectives of the study and instructions for filling out the questionnaire. Participation in the study was also voluntary. Confidentiality of the responses was emphasised and that aggregated data would be used for research purposes only. Completed questionnaires were placed in sealed envelopes and collected from each of the participating schools.

Self-perceived health as a global health indicator was measured by asking respondents how they compared their health status to that of their peers (BENYAMINI et al. 2000; GECKOVA et al. 2004; PIKÓ & FITZPATRICK 2001). The responses included: 1. poor; 2. fair; 3. good; and 4. excellent. The self-perceived health variable was dichotomised and expressed as either poor/fair or good/excellent perceptions of one's own health.

We selected variables reflecting the multidimensionality of socioeconomic status. This means that both 'objective' and 'subjective' social status measures were used in the analysis (GOODMAN et al. 2005, 2007; PIKÓ & FITZPATRICK 2001, 2007). The objective social status measures were based on employment (occupational) status and educational level (schooling) of the parents. Since social structure in both countries is based on a dual-earning system, both father's and mother's educational level and employment status were measured. Employment status was divided into four categories: 1. non-manual (including professional, managerial and skilled non-manual); 2. self-employed or entrepreneur; 3. manual (including skilled or unskilled manual); 4. unemployed. A four-level classification of education was used to measure father's and mother's schooling: 1. primary education; 2. apprenticeship; 3. General Certificate of Education, i.e. high school level; and 4. university or college degree. In the analyses, a dichotomised variable was applied: 1. high school level or below, and 2. college/university degree. In addition, a subjective evaluation of SES was used. The subjective SES indicator asked adolescents to respond to the following question: 'How would you rate your family's socioeconomic status?' The answer categories included: 1. lower; 2. lower middle; 3. middle; 4. upper middle; and 5. upper class. In the present analysis, a three-level classification was used: 1. low/lower middle; 2. middle; and 3. upper/upper middle. Finally, family structure was measured as a dichotomised (intact/non-intact family) variable in the analyses among the socioeconomic factors (PIKÓ & FITZPATRICK 2001, 2007).

The program SPSS for Microsoft Windows Release 15.0 was used in the calculations with a significance level of 0.05. The analysis begins with an examination of the descriptive statistics (frequencies or means) for both the dependent and independent variables. The primary focus of the analysis is a logistic regression where odds ratios are presented to detect the bivariate relationships between youth's self-perceived health and parental socioeconomic variables. The results of this logistic regression analysis are presented as a series of odds. The baseline odds are set to 1.0. An odds ratio > 1.0 indicates that there is a positive association between the factors

of interest to the baseline odds while a value < 1.0 indicates the inverse. Confidence intervals (95%) were also calculated for statistically significant relationships.

3. Results

Table 1 provides a detailed description of variables indicating differences between high school students from Southern Hungary and high school students from Central Transylvania, Rumania. There was no significant difference in self-perceived health; most of the adolescents in both samples (approximately 67%) evaluated their own health as good or excellent. In terms of parental socioeconomic indicators, students from Southern Hungary reported lower schooling of fathers but fewer unemployed fathers (5.2% vs. 10.3%) and more self-employed parents (28.8% vs. 13.1% for the fathers and 19.1% vs. 7.2% for the mothers). In addition, they tended to evaluate themselves less in the middle of the social rank (63.9% vs. 70.4% as middle class) and more in either lower or upper classes. In addition, more Transylvanian students reported living in an intact family than their counterparts from Hungary (80.6% vs. 62.3%).

The results of calculated odds ratios for the relationship between self-perceived health and parental variables are shown in *Table 2*. In both samples, father's and mother's schooling were significant predictors of high school students' self-perceived health; having a college or university degree elevated the likelihood of good/excellent self-perceived health as compared to having only a high school level or below – this was particularly true in case of the Transylvanian sample where odd ratios proved to be stronger. Likewise, in both samples, students from middle and upper middle/upper classes tended to report significantly better self-perception of their own health using a reference category of lower/lower middle classes. In addition, living in an intact family also contributed to good/excellent health perception. In the Southern Hungarian sample, father's employment status did not play a role in understanding perception, whereas mother's non-manual or self-employed status improved perception of one's own health. In the Central Transylvanian sample, both father's and mother's non-manual status were significant correlates of self-perceived health. In addition, father's unemployed status was related to a lower likelihood of good/excellent perception of health.

Table 1
Descriptive statistics for self-perceived health
and socioeconomic variables for the samples

<i>Variables</i>	<i>High school student sample from Southern Hungary (N = 881)</i>	<i>High school student sample from Central Transylvania, Rumania (N = 1977)</i>	<i>Significance</i>
	<i>% Mean (SD)</i>	<i>% Mean (SD)</i>	
<i>Self-perceived health</i>			
<i>Good/excellent</i>	66.9	66.6	Chi Square = 0.03 (DF = 1) p > 0.05
<i>Fair/poor</i>	33.1	33.4	
<i>Family structure</i>			
<i>Intact</i>	62.3	80.6	Chi Square = 108.2 (DF = 1) p < 0.001
<i>Non-intact</i>	37.7	19.4	
<i>Father's schooling</i>			
<i>High school level or below</i>	82.8	77.2	Chi Square = 10.73 (DF = 1) p < 0.01
<i>College/university degree</i>	17.2	22.8	
<i>Mother's schooling</i>			
<i>High school level or below</i>	78.2	78.5	Chi Square = 0.03 (DF = 1) p > 0.05
<i>College/university degree</i>	21.8	21.5	
<i>Father's employment status</i>			
<i>Non-manual</i>	19.5	18.9	Chi Square = 104.4 (DF = 3) p < 0.001
<i>Self-employed</i>	28.8	13.1	
<i>Unemployed</i>	5.2	10.3	
<i>Manual</i>	46.4	57.7	
<i>Mother's employment status</i>			
<i>Non-manual</i>	35.0	33.1	Chi Square = 76.4 (DF = 3) p < 0.001
<i>Self-employed</i>	19.1	7.2	
<i>Unemployed</i>	5.5	6.6	
<i>Manual</i>	40.4	53.2	
<i>Subjective SES self-assessment</i>			
<i>Lower/lower middle class</i>	17.9	13.3	Chi Square = 13.9 (DF = 2) p < 0.01
<i>Middle class</i>	63.9	70.4	
<i>Upper/upper middle class</i>	18.2	16.3	

Table 2

Logistic regression estimates (OR) for the effects of socioeconomic variables on the likelihood of good/excellent self-perceived health in the samples

<i>Independent variables</i>	<i>Self-perceived health (good/excellent)</i>	
	<i>OR^b (95% CI)^c</i>	<i>OR^b (95% CI)^c</i>
	<i>High school student sample from Szeged, Southern Hungary (N = 881)</i>	<i>High school student sample from Sfântu Gheorghe/ Sepsiszentgyörgy, Central Transylvania, Rumania (N = 1977)</i>
<i>Father's schooling</i>		
<i>High school level or below^a</i>	1.00	1.00
<i>College/university degree</i>	1.48 (1.08–2.24)*	2.06 (1.57–2.71)***
<i>Mother's schooling</i>		
<i>High school level or below^a</i>	1.00	1.00
<i>College/university degree</i>	1.65 (1.13–2.39)**	2.16 (1.64–2.86)***
<i>Father's employment status</i>		
<i>Manual^a</i>	1.00	1.00
<i>Non-manual</i>	1.33 (0.86–2.06)	1.74 (1.30–2.39)***
<i>Self-employed</i>	1.22 (0.83–1.81)	1.29 (0.93–1.79)
<i>Unemployed</i>	0.95 (0.41–3.42)	0.67 (0.48–0.93)*
<i>Mother's employment status</i>		
<i>Manual^a</i>	1.00	1.00
<i>Non-manual</i>	1.76 (1.11–3.03)*	1.67 (1.28–2.17)***
<i>Self-employed</i>	2.21 (1.22–4.00)**	1.49 (0.93–2.41)
<i>Unemployed</i>	1.42 (0.57–3.49)	0.85 (0.54–1.34)
<i>Subjective SES self-assessment</i>		
<i>Lower/lower middle class^a</i>	1.00	1.00
<i>Middle class</i>	1.70 (1.10–2.83)*	1.64 (1.26–2.15)***
<i>Upper/upper middle class</i>	2.88 (1.61–5.14)***	2.69 (1.88–3.84)***
<i>Family structure</i>		
<i>Non-intact^a</i>	1.00	1.00
<i>Intact (two parents)</i>	1.69 (1.18–2.42)**	1.45 (1.15–1.82)**

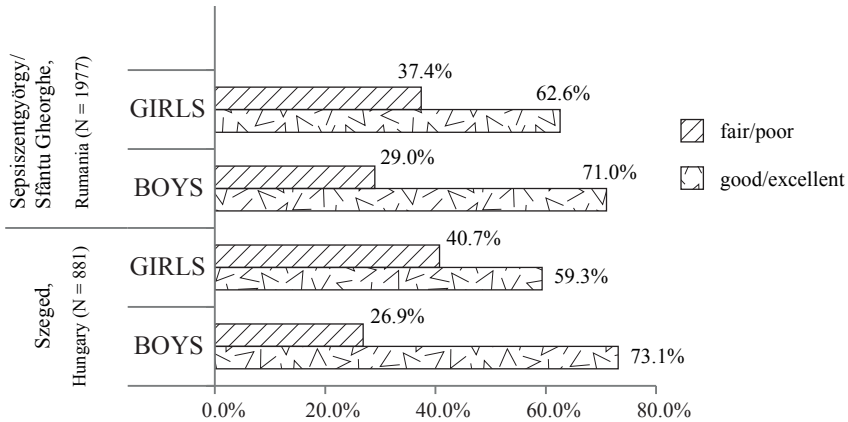
*p < 0.05 **p < 0.01 ***p < 0.001

^a Reference category

^b OR: Odds Ratio

^c CI: Confidence Intervals

As Chi Square tests revealed, there were significant gender differences in self-perceived health in both samples (Southern Hungary: Chi Square = 18.5, DF = 1, $p < 0.001$; Central Transylvania, Rumania: Chi Square = 15.4, DF = 1, $p < 0.001$).



Note: Chi Square tests revealed significant differences by gender in both samples (Szeged, Hungary: Chi Square = 18.5, DF = 1, $p < 0.001$; Sfântu Gheorghe/Sepsiszentgyörgy), Rumania: Chi Square = 15.4, DF = 1, $p < 0.001$)

Figure 1

Self-perceived health by gender for the samples

The next two tables present logistic regression estimates (OR) for the effects of socioeconomic variables on the likelihood of good/excellent self-perceived health by gender in the Southern Hungarian sample (*Table 3*) and the Central Transylvanian sample (*Table 4*) separately. In the sample from Hungary, only two variables were significant predictors: being upper/upper middle class and living in an intact family contributed to boys' good/excellent perception of health. Among girls, parents' schooling, mother's employment status, and subjective SES self-assessment proved to act in the same way.

In the Transylvanian sample, fewer gender differences were detected; parents' schooling, subjective SES self-assessment, and mother's employment status all seemed to be significant predictors. However, father's employment status played a role only for girls: non-manual status elevated but unemployed status decreased the likelihood of good/excellent perception of own health among girls. Likewise, living in an intact family was a predictor only for girls.

Table 3

Logistic regression estimates (OR) for the effects of socioeconomic variables on the likelihood of good/excellent self-perceived health in the Southern Hungarian sample

	Boys (N = 488)	Girls (N = 393)
	<i>Self-perceived health (good/excellent)</i>	
<i>Independent variables</i>	<i>OR^b (95% CI)^c</i>	<i>OR^b (95% CI)^c</i>
<i>Father's schooling</i>		
<i>High school level or below^a</i>	1.00	1.00
<i>College/university degree</i>	1.16 (0.70–1.94)	2.26 (1.14–4.51)*
<i>Mother's schooling</i>		
<i>High school level or below^a</i>	1.00	1.00
<i>College/university degree</i>	1.37 (0.86–2.18)	2.16 (1.14–4.09)**
<i>Father's employment status</i>		
<i>Manual^a</i>	1.00	1.00
<i>Non-manual</i>	1.35 (0.79–2.30)	1.17 (0.53–2.62)
<i>Self-employed</i>	1.32 (0.81–2.13)	1.02 (0.50–2.08)
<i>Unemployed</i>	0.52 (0.15–1.86)	1.86 (0.63–5.50)
<i>Mother's employment status</i>		
<i>Manual^a</i>	1.00	1.00
<i>Non-manual</i>	1.14 (0.68–1.92)	2.10 (1.06–4.37)*
<i>Self-employed</i>	1.51 (0.85–2.71)	2.20 (1.10–5.29)*
<i>Unemployed</i>	1.09 (0.43–2.81)	0.73 (0.08–5.97)
<i>Subjective SES self-assessment</i>		
<i>Lower/lower middle class^a</i>	1.00	1.00
<i>Middle class</i>	1.35 (0.74–2.42)	3.71 (1.11–12.42)**
<i>Upper/upper middle class</i>	2.89 (1.45–5.75)**	4.73 (1.30–17.25)**
<i>Family structure</i>		
<i>Non-intact^a</i>	1.00	1.00
<i>Intact (two parents)</i>	1.87 (1.18–2.95)**	1.26 (0.70–2.27)

*p < 0.05 **p < 0.01 ***p < 0.001

^a Reference category

^b OR: Odds Ratio

^c CI: Confidence Intervals

Table 4

Logistic regression estimates (OR) for the effects of socioeconomic variables on the likelihood of good/excellent self-perceived health in the Central Transylvanian sample

	Boys (<i>N</i> = 950)	Girls (<i>N</i> = 1027)
<i>Self-perceived health (good/excellent)</i>		
<i>Independent variables</i>	<i>OR^b (95% CI)^c</i>	<i>OR^b (95% CI)^c</i>
<i>Father's schooling</i>		
<i>High school level or below^a</i>	1.00	1.00
<i>College/university degree</i>	1.81 (1.21–2.72)**	2.32 (1.61–3.34)**
<i>Mother's schooling</i>		
<i>High school level or below^a</i>	1.00	1.00
<i>College/university degree</i>	1.85 (1.23–2.80)**	2.45 (1.69–3.56)***
<i>Father's employment status</i>		
<i>Manual^a</i>	1.00	1.00
<i>Non-manual</i>	1.40 (0.90–2.16)	2.10 (1.40–3.16)***
<i>Self-employed</i>	1.42 (0.88–2.30)	1.14 (0.73–1.80)
<i>Unemployed</i>	1.17 (0.67–2.04)	0.47 (0.30–0.72)***
<i>Mother's employment status</i>		
<i>Manual^a</i>	1.00	1.00
<i>Non-manual</i>	1.84 (1.21–2.80)**	1.50 (1.08–2.11)*
<i>Self-employed</i>	1.30 (1.61–2.77)	1.66 (0.90–3.06)
<i>Unemployed</i>	1.20 (0.56–2.59)	0.68 (0.38–1.22)
<i>Subjective SES self-assessment</i>		
<i>Lower/lower middle class^a</i>	1.00	1.00
<i>Middle class</i>	1.62 (1.12–2.35)**	1.86 (1.25–2.76)***
<i>Upper/upper middle class</i>	2.50 (1.50–4.19)***	3.15 (1.91–5.23)***
<i>Family structure</i>		
<i>Non-intact^a</i>	1.00	1.00
<i>Intact (two parents)</i>	1.30 (0.92–1.81)	1.68 (1.21–2.31)**

p* < 0.05 *p* < 0.01 ****p* < 0.001

^a Reference category

^b OR: Odds Ratio

^c CI: Confidence Intervals

4. Discussion

Socioeconomic inequalities in health and self-perceived health is specifically well documented among adult populations (ADLER & OSTROVE 1999; BURSTRÖM & FREDLUND 2001; KOPP et al. 2004). However, we know much less about this phenomenon among adolescents. The 'equalisation' taking place during adolescence and young adulthood (WEST 1997) along with the restructuring of social networks (PIKÓ 1998) suggests that social inequalities in self-perceived health are less salient and gradient-like. Our findings add to the existing literature on social inequalities in adolescent health by analysing two different Eastern European samples of high school students. The results of this study confirm that, as we expected, there is a relationship between socioeconomic status indicators and adolescents' self-perceived health, that is, social inequalities may be detected among both samples of high school students (i.e. a sample from Southern Hungary and a Hungarian ethnic minority sample from Central Transylvania, Rumania). This finding is in concordance with previous research results (BERNTSSON & KÖHLER 2001; ERGINOZ et al. 2004; GECKOVA et al. 2004; SALONNA et al. 2008; TORSHEIM et al. 2004). However, there are some important differences not only between the samples but also in the role that objective and subjective social class indicators play in understanding health outcomes.

Above all, the role of subjective SES is strong, evident and gradient-like in both samples. High school students who evaluated themselves middle and upper middle or upper class reported significantly better perceived health; this relationship was universal and was detected regardless of gender. Thus our first hypothesis has been confirmed. Previous studies also suggest that subjective social class indicators are stronger correlates of health than objective variables both among adults (KOPP et al. 2004; SINGH-MANOUX et al. 2005) and adolescents (PIKÓ & FITZPATRICK 2001, 2007). These findings support the notion that perceived socioeconomic status represents a new type of identity that influences adolescents' self-rated health (GOODMAN et al. 2007).

Objective socioeconomic variables showed weaker and nongradient-like relationships with self-perceived health, although some important associations should be highlighted. First, parental schooling, namely, college or university degree contributes to better self-perceived health in both samples. The association is even stronger here than in previous studies of Hungarian adolescents (PIKÓ & FITZPATRICK 2001, 2007). It seems that involvement in higher education and earning a college/university degree becomes particularly important among Eastern Europeans. This supports the noted role of education in generating social inequalities in health and quality of life, even more than current employment status (LAHELMA et al. 2004; PIKÓ & FITZPATRICK 2007; ROSS & WILLIGEN 1997; RUEDEN et al. 2006). Second, the relationship with parental employment is nongradient-like, but certain exceptions were detected. For example, non-manual status of both parents contributes to better self-perceived health among Transylvanian adolescents, whereas among adolescents from Hungary, only mother's employment status (mother's being non-manual or self-employed) makes a difference. This finding is similar to previous results about the elevated role

of mothers in generating social inequalities in health (PIKÓ & FITZPATRICK 2001, 2007). Likewise, living in an intact family is an important predictor of adolescents' perceived health (PIKÓ & FITZPATRICK 2007). Although we expected greater social inequalities in self-perceived health in the more traditional sample of Transylvanian youth (PIKÓ & BRASSAI 2007), this hypothesis has been only partially confirmed. The greatest difference found is the role of parents' unemployed status that predicted adolescents' perceived health only among Transylvanian high school students. In addition, the frequency of unemployment between the samples was higher in this sample, particularly among the fathers. This finding may partly be explained by the role of parents' work-related stress that negatively influences adolescent well-being and health (CROUTER & BUMPUS 2001; PIKÓ & FITZPATRICK 2007).

One of the main goals of our study was to examine possible gender differences in the role of socioeconomic variables in determining self-perceived health. Previous studies on women's greater socioeconomic instability and their need for security (BATES et al. 2009; BENYAMINI et al. 2000; MACINTYRE & HUNT 1997) may suggest a relationship between gender and socioeconomic inequalities in health already in youth (HALLDÓRSSON et al. 1999). Our findings confirm this and show that gender differences in social inequalities in self-perceived health are even more salient than differences between the two samples. Previous studies report that girls and boys may differ in their perceptions of their own health (GECKOVA et al. 2004) although this difference may be less marked than in the case of adults. It seems that levels of social inequalities in perceived health also differ by gender. In both samples, the role of socioeconomic factors appears to be more relevant in self-perceived health among girls. In the sample from Hungary, parents' employment status does not count at all for boys, only for girls. In the Transylvanian sample, father's employment status does not predict self-perceived health among boys at all. For girls, socioeconomic status variables are better predictors of self-perceived health compared to boys. Girls seem more sensitive to relative social disadvantages, which may be explained by their greater need for security (BATES et al. 2009). Clearly, more research is needed to clarify this issue since these results are not without some controversy in the literature.

As a summary, the findings from the current study suggest the following:

1. Subjective SES self-assessment is a strong, universal and gradient-like predictor of adolescents' self-perceived health;
2. Living in an intact family is also an important universal predictor;
3. Objective socioeconomic variables are weaker and nongradient with self-perceived health;
4. Certain tendencies may be identified regarding differences between the samples; the greatest difference was that parents' unemployment status played a greater role in self-perceived health among youth from Transylvania compared to youth from Hungary; and
5. In both samples, the role of socioeconomic factors appears to be more salient in self-perceived health among girls.

In a word, social inequalities in self-perceived health may be detected among adolescents but in a different way than they may be found among adults.

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