8 INFLUENCE OF SOCIAL SUPPORT ON HEALTH AMONG GENDER AND SOCIO-ECONOMIC GROUPS OF ADOLESCENTS

ABSTRACT

We explored the influence of social support on health among gender and socio-economic groups with the aim of contributing to the explanation of socio-economic health differences among Slovak adolescents. The sample consisted of 2616 Slovak adolescents (52,4% male, 47,6% female, mean age 15 years). The data were assessed by a self-reported questionnaire including measures of social support, socio-economic status and health. There are significant gender differences in social support which are unfavourable for males. On the other hand, there are significant gender differences in health, unfavourable for females. Low social support is significantly related to worse health. There are significant socio-economic differences in both health and social support which are unfavourable for lower socio-economic groups. Three groups, females, adolescents from lower socio-economic groups, and also adolescents reporting low social support, less frequently consider their health as excellent or very good, suffer from more health complaints, report worse psychological health, vitality and mental health in comparison to males, to adolescents from higher socio-economic groups, and to adolescents reporting high social support. Males and adolescents from lower socio-economic groups more frequently reported low social support in comparison to females and adolescents from higher socio-economic groups. We did not confirm any significant differences in the influence of social support on health among gender and socio-economic groups of adolescents. Social support is related to health, and it is unequally distributed among gender and socio-economic groups. There are no significant differences in the influence of social support on health among gender and socio-economic groups.

Key words:

social support, socio-economic status, gender, health

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Introduction

Influence of social support on health attracts considerable research attention. Social support may have both direct and indirect effect on health.

Social support, including emotional, instrumental, informational and appraisal support may influence the health irrespective of exposure to stressors. According to Pratt *(1991)*, there are several ways in which types of social support may protect the health of adolescents. Emotional support may reinforce self-esteem, a sense that one's person and body are worth caring for and protecting, and thereby encourage people to take control of their health and well-being by developing a health-promoting regimen. Instrumental support may facilitate health practices by helping to change intentions into actions. Informational support also comprises health education, providing guidelines for health behaviour, developing a coping style of seeking information and applying it in decisions on health care. Appraisal support may be behavioural guidance and may enhance people's motivation to protect their health.

The buffer hypothesis states that social support is especially important when the individual is exposed to life stress. Social support may buffer undesirable effects of stress on health *(Koubekova 1997, Stronks et al. 1998, Peek and Lin 1999, Ystgaard et al. 1999)*.

Several authors have confirmed the health-protective influence of social support. Boyce et al. *(1988)* found that adolescent mothers reporting a richer, more differentiated social network were characterised by better outcomes in the field of lifestyle, school, promiscuity, role adaptation, and care for the baby. Cheever and Hardin *(1999)* supported the role of social support in preventing decline in adolescents' health assessment after traumatic events: when social support decreased, adolescents' health assessments worsened. Social support and psychological coping skills are statistically independent psychosocial resources, and they operate in a conjunctive manner to influence the relation between life stress and subseque nt athletic injury among adolescents *(Smith et al. 1990b)*. Life stress and low social support from the baseline level influenced subsequent health symptom scores *(Ystgaard et al. 1999)*. Adolescents who reported not talking to anyone when they were upset, revealed higher levels of depressive symptoms than did adolescents who disclosed when upset *(Schraedley et al. 1999)*. Parental social support influences the physical health of rural adolescents *(Wickrama et al. 1997)*. Feelings of depression are lower among adolescents who feel involved at school and report warm and supportive relationships with family members; and feeling involved at school is

also associated with higher self-reported health status among adolescents *(Call and Nonnemaker 2000)*. Social support makes significant contributions to the prediction of subsequent psychological distress *(DuBois et al. 1992, DuBois et al. 1994)*. Using a cross-sectional design, DuBois et al. *(1992)* found social support from family members and friends to be correlated to lower levels of psychological distress, but support from school personnel not to be correlated significantly with psychological distress. Using a longitudinal design, they reported contrary findings. Higher initial reported levels of school personnel support were related to a reduced level of distress at follow-up, while social support from family members and friends was not *(DuBois et al. 1992)*. Additional analysis revealed the buffer and compensatory role of social support. The number of major events was more strongly related to ratings of psychological distress among youth reporting low levels of support from school personnel. Ratings of support from school personnel were more strongly related to reduced psychological distress among youths who reported a low level of support from family *(DuBois et al. 1992)*. Analysis of the reverse influence indicated a reciprocal pattern of stress and support linked to adaptation. Psychological distress was related significantly to increased daily hassles and reduced family support at follow-up, whereas grades were predictive of higher levels of support from friends *(DuBois et al. 1992)*. Social support received from family members was associated prospectively with reduced levels of psychological distress *(DuBois et al. 1994)*. Social support received from school personnel was particularly important for reducing psychological distress among socio-economic disadvantaged adolescents and adolescents who reported receiving relatively low levels of support from family members *(DuBois et al. 1994)*.

Social support appears to be a salient factor affecting health. With regard to the buffer role of social support, its influence on health may be stronger among disadvantaged groups, who are exposure to stress, life events and daily hassles more than the others. Social support can contribute considerably to the explanation of socio-economic health differences. Additionally, due to differences in socialisation and different gender roles we can suppose adverse gender differences in health and social support. There is a huge amount of literature confirming worse health in females, but in case of social support, females seem to be advantaged in comparison with males.

The main aim of our paper is to explore the influence of social support on health among gender and socio-economic groups of adolescents. To establish a basis for our main analysis (research), we explored gender and socio-economic differences in health and social support of adolescents. The research aims to find answers to

the following questions:

1. Is there any significant influence of social support on the health of adolescents?
2. Are there any differences in the influence of social support on health among gender and socio-economic groups of adolescents?

Material and methods

Procedure and respondents

The sample consisted of 2616 first grade students of 31 secondary schools located in Kosice (52,4% boys, 47,6% girls, and mean age 15 years). The sample 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 can be seen 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. Data were collected in September and October 1998. The response rate was 96,3%; the non-response was due to sick leave and other types of school absence. The average occurrence of missing values was 2,1%.

Measures of social support:

Testing for the measure of social support investigated adolescents´ perception of their opportunity for talking to somebody about the following five topics: school problems, relationship problems, decisions about the future, health problems, and psychological problems. Adolescents who reported that they have nobody to talk to about at least one of the five topics were indicated as having low social support. Using this criterion, 31% of the males and 22% of the females reported that they had low social support. In these groups, 14% of adolescents reported they have nobody to talk to about just one of the five topics and only 0,5% of adolescents reported they have nobody to talk to about all five topics. These adolescents mostly have nobody to talk to about psychological problems and relationship problems. A similar measure of social support was used by Peek and Lin *(1999)*, Schraedley et al. *(1999)*.

Measures of SES

Two types of socio-economic indicators were used. The first one is based on parents: father´s education, mother´s education, father´s occupational class, and mother´s occupational class. The second one is based on adolescents: the type of school they attend.

Adolescents reported about their **father's and mother's highest successfully-completed level of education**. Educational level was classified as: university (father 20,8%, mother 15,6%), secondary high school (father 36,6, mother 52,8%), vocational or primary school only (father 42,7%, mother 31,6%).

The measure of **occupational class of parents** is based on asking adolescents about their father's and mother's current occupation, or their last occupation if they were currently unemployed. The obtained information was transformed into 9 categories of ISCO *(1992, 1993)*. Finally, some categories were combined. The high SES group includes I. legislators, senior officials and managers and II. professionals (father 23,4%, mother 16,7%), the medium SES group includes III. technicians and associated professionals, and IV. Clerks and V. Service workers and shop and market sales workers (father 21,4%, mother 58,9%), and the low SES group includes 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 (father 55,2%, mother 24,4%).

Adolescents were divided according to the **type of school** they attended into three groups: grammar school students (21,8%), secondary technical school students (42,4%) and apprentice school students (35,7%).

Measures of health

Self-reported health was measured by asking the respondents to describe their health as excellent (male 29,2%/ female 18,7%), very good (male 39,6%/ female 36,4%), good (male 27,1%/ female 40,1%), fairly good (male 3,1%/ female 4,1%) or bad (male 1,0%/ female 0,7%). We dichotomised the variable: (1) excellent, very good, (2) good, fairly good or bad health.

Experienced health complaints were measured by the Slovak version of the shortened 13-item version of the VOEG *(Dirken 1967, Jansen and Sikkel 1994)*. This questionnaire shows a valid and reliable picture of the current health status, expressed in physical health complaints *(Furer et al. 1995)*. We used a 5-anchor scale expressing the frequency of suffering from the included health complaints during the previous month in the Slovak version. A cut-off point of three times and more was used in our study for dichotomization. We examined the sum score of the VOEG, varying from 0-13. A higher score indicates more frequent occurrence of health complaints.

Psychological health was measured by the Slovak version of the 12-item version of the General Health Questionnaire (GHQ) *(Goldberg and 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 previous 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 binary score permits the identification of "cases", or in other words a level of symptomatology of potential clinical relevance. A cut-off point of 2/3 was used as a criterion for identification of "cases" in adolescence *(Banks 1983)*.

Two subscales of the Slovak version of the RAND-36 *(Van der Zee and 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 previous four weeks. The scores were transformed following the prescribed formula (range 0-100). A higher score indicates better health status.

Analysis

The analysis was done using the statistical software package SPSS, version 7.5.2. Firstly, we explored the main effects of SES and gender on health using logistic regression and ANOVA. Secondly, we explored the main effect of SES and gender on social support using logistic regression. Finally, we explored changes in the main effects of social support on health, comparing the following models: a model without gender and SES (only the main effect of social support on health is included), a model without SES (only the main effects of social support and gender on health are included), and models with SES (including the main effect of social support, gender and also SES on health). Logistic regression and ANOVA were used. Our intention was to explore if there are significant differences in the effect of social support on health among gender and socio-economic groups of adolescents. Analysis was done separately for each of five socio-economic indicators (father's education, mother's education, father's occupational group, mother's occupational group, type of school) and each of the six health indicators (self-reported health, health complaints, psychological health, occurrence of "cases", vitality, and mental health).

Results:

Table 22 presents the percentages of reported good, fairly good or bad health, the mean sum of health complaints, the mean sum of GHQ-12, the percentage

indicated as a “case”, the mean sum of the vitality scale, and the mental health scale of RAND-36 compared with gender, socio-economic, and social support groups of adolescents.

Table 23 presents the percentages of reported low social support in gender and socio-economic groups of adolescents. Several gender and socio-economic health differences were confirmed among adolescents as can be seen in Table 24.

There are significant gender differences in health which are unfavourable for females. More females than males reported bad, fairly good or good health. Females suffer from more health complaints in comparison to males. Females report worse psychological health than males; more females than males were indicated as a “case”. Females reported worse vitality and mental health in comparison with males.

More males than females perceived low social support, or in other words, reported that they could not talk to anybody about at least one subject. Gender differences are significant.

Significant socio-economic differences in self-reported health were confirmed using all five types of socio-economic indicators. There are significant socio-economic differences in health complaints experienced and in psychological health when the mother’s educational level is used, and in health complaints, vitality and mental health when the mother’s occupational group is used as a socio-economic indicator. The type of school influences the health complaints experienced and the mental health of adolescents. These differences are unfavourable for lower SES groups, as can be seen in Table 22. There is some inconsistency in the findings related to the effect of the mother’s occupation group on the vitality and mental health of adolescents. Additional analysis revealed a significant difference between medium and low SES groups only, which fits the pattern of health disadvantage of lower SES groups.

Significant socio-economic differences in social support unfavourable for lower SES groups were also confirmed using all five types of SES indicators, as can be seen in Table 24. As Table 23 shows, adolescents reporting low social support more frequently considered their health as only good, fairly good or bad in comparison with adolescents reporting high social support. They suffer from more health complaints. “Low social support adolescents” reported worse psychological health, and they were also indicated as a “case” more frequently in comparison with adolescents reporting high social support. In addition, they reported lower vitality and worse mental health in comparison to “high social support adolescents”.

Table 22 Description of health indicators in compared gender, socio-economic and social support groups of adolescents.

	Percentage reporting bad, fairly or good health	Mean sum of health complaints (0-13)	Psychological health mean sum (0-12)	Psychological health percentage of "cases"	Mean sum of vitality scale (0-100)	Mean sum of mental health scale (0-100)
sum	37,7	2,29	10,40	32,2	61,08	64,14
gender						
male	31,1	1,76	9,34	23,9	64,19	67,58
female	44,9	2,86	11,57	41,3	57,71	60,39
father's education						
university	29,6	2,10	10,71	31,5	61,46	64,58
second, high school	35,7	2,22	10,38	34,6	61,71	64,53
vocat., primary only	43,0	2,42	10,26	31,0	60,20	63,53
mother's education						
university	27,6	2,10	10,62	32,0	61,70	65,00
second, high school	36,1	2,24	10,49	34,0	61,58	64,53
vocat., primary only	44,7	2,48	10,10	31,4	60,22	63,31
father's occup. group						
high SES	30,1	2,07	10,59	32,1	61,63	64,52
medium SES	37,7	2,32	10,65	34,8	61,13	63,44
low SES	39,5	2,35	10,27	31,7	60,58	61,10
mother's occup. group						
high SES	28,4	2,11	10,86	35,2	60,79	64,07
medium SES	37,3	2,26	10,33	30,4	62,01	65,01
low SES	44,6	2,51	10,36	32,9	59,29	62,24
type of school						
grammar school	30,8	2,22	10,81	31,5	62,00	64,75
technical school	36,2	2,24	10,63	33,3	60,63	64,39
apprentice school	43,8	2,39	9,88	31,4	61,05	63,42
social support						
low social support	44,7	2,72	11,46	42,6	56,99	60,15
high social support	35,1	2,14	10,03	28,6	62,68	65,57

Table 23 Description of social support in gender and socio-economic groups of adolescents

	% reported low social support
sum	26,8
male	31,1
female	22,3
father's education	
university	20,6
second. high school	24,0
vocat. or primary only	32,2
mother's education	
university	19,8
second. high school	24,2
vocat. or primary only	34,0
father's occupational group	
high SES	20,5
medium SES	20,9
low SES	30,4
mother's occupational group	
high SES	17,9
medium SES	24,9
low SES	33,3
type of school	
grammar school	17,7
technical school	22,2
apprentice school	38,1

Adolescents reporting that they have nobody to talk to about problems, are characterised by worse health: they less frequently consider their health as excellent or very good, suffer from more health complaints, and report worse psychological health, vitality and mental health (see Table 22). Differences are significant, as can be seen in Table 25.

Finally we explored if there are any differences in the effect of social support on health among gender and socio-economic groups of adolescents, comparing the main effect of social support on health in models including and not including the explored variables (gender, SES). Confidence intervals for beta were compared for continuous variables and confidence intervals for the odds ratio were compared for dichotomous variables. As Table 25 shows, we did not confirm any significant differences in the effect of social support on health among gender and socio-economic groups of adolescents. The effect of social support on health is independent of gender or SES.

Besides the main effect we also explored the interaction effect of social support and SES, all these interaction effects were not significant.

Table 24 Socio-economic and gender differences in health and social support among adolescents

		self-reported health 0/1	experienced health complaints 0-13	psycholog. health mean sum 0-36	psycholog. health "cases" 0/1	vitality 0-100	mental health 0-100	social support 0/1
father's educat.	SES	0,000	0,083	0,119	0,289	0,288	0,645	0,000
	gender	0,000	0,000	0,000	0,000	0,000	0,000	0,000
mother's educat.	SES	0,000	0,038	0,053	0,405	0,315	0,355	0,000
	gender	0,000	0,000	0,000	0,000	0,000	0,000	0,000
father's occup. group	SES	0,001	0,153	0,149	0,410	0,679	0,699	0,000
	gender	0,000	0,000	0,000	0,000	0,000	0,000	0,000
mother's occup. group	SES	0,000	0,040	0,153	0,147	0,011	0,008	0,000
	gender	0,000	0,000	0,000	0,000	0,000	0,000	0,000
type of school	SES	0,000	0,003	0,058	0,588	0,114	0,007	0,000
	gender	0,000	0,000	0,000	0,000	0,000	0,000	0,000

The significance of main effect of socio-economic status and gender on health. Models were fitted for each indicator of socio-economic status and each health indicator separately. ANOVA for continuous and logistic regression for dichotomous health indicators were used.

Discussion

Gender and socio-economic differences in health and social support and then the influence of social support on health were explored among gender and socio-economic groups of adolescents. Finally, differences in the influence of social support on health between these groups were explored.

Our findings reinforce evidence of gender differences in social support which are unfavourable for males in comparison with females. Females reported experiencing higher levels of social support *(Schraedley et al. 1999)*, and they were more likely seek help *(Rickwood and Braithwaite 1994)*, spend more time thinking and being with peers *(Richards et al. 1998)* than did males, and these differences cannot be attributed to gender differences in health which are unfavourable for females *(Rickwood and Braithwaite 1994)*.

As a result of socialisation and differences in gender roles we can find not only quantitative, but also qualitative differences in social support among adolescents *(Piko 1998, Felmlee 1999, Wilson et al. 1999, Bank and Hansford 2000)*. Piko *(1998)* finds that girls received more emotional, informational and practical support,

Table 25 Differences in influence of social support on health among gender and socio-economic groups of adolescents. Parameters of main effect of social support on health

	B	S.E.	OR	95% CI for OR/B* lower	upper
self-reported health					
model without gender and SES	-0,395	0,092	0,674	0,563	0,806
model without SES	-0,480	0,094	0,619	0,515	0,743
model with SES (father's education)	-0,450	0,096	0,638	0,528	0,770
experienced health complaints					
model without gender and SES	-0,562	0,109		-0,775	-0,349
model without SES	-0,689	0,106		-0,897	-0,481
model with SES (father's education)	-0,678	0,108		-0,890	-0,483
psychological health (mean sum)					
model without gender and SES	-1,420	0,238		-1,886	-0,954
model without SES	-1,694	0,232		-2,149	-1,238
model with SES (father's education)	-1,738	0,237		-2,203	-1,273
psychological health ("cases")					
model without gender and SES	-0,617	0,094	0,540	0,449	0,649
model without SES	-0,752	0,097	0,472	0,390	0,571
model with SES (father's education)	-0,767	0,100	0,464	0,382	0,564
vitality (mean sum)					
model without gender and SES	5,589	0,804		4,012	7,165
model without SES	6,395	0,792		4,843	7,947
model with SES (father's education)	6,429	0,809		4,843	8,014
mental health (mean sum)					
model without gender and SES	5,232	0,776		3,707	6,757
model without SES	6,129	0,760		4,638	7,620
model with SES (father's education)	6,031	0,778		4,506	7,556

* 95% CI for B were computed for continuous variables (ANOVA) and OR, and 95% CI for OR were computed for dichotomous variables (logistic regression)

Model without gender and SES: Main effect of social support on health

Model without SES: Main effect of social support and gender on health.

Model with SES: Main effect of social support, gender and SES on health.

Only parameters related to main effect of social support on health are included into the table.

while boys received more rational-material support. While emotional and informational support was more supportive for health among girls, rational-material support proved to be a more influential factor among boys *(Piko 1998)*. According to Willson et al. *(1999)* females seek out, prefer, and are more receptive to emotional support, and males seek out, prefer, and are more receptive to instrumental support. Instrumental support was more beneficial to boys than emotional support

in reducing cardio-vascular reactivity.

Findings attracting attention are adverse gender differences in social support and health. Females are characterised by poorer health, but higher levels of social support in comparison with males. Similar findings were confirmed by Piko *(1998)*: Females got more emotional and informational support, and reported more psychosomatic symptoms and psychological problems in comparison with males. It can be supposed that the higher amount of received social support among females is due to their poorer health in comparison with males. Rickwood and Braithwaite *(1994)* do not support this, however: gender differences in social support remain significant after symptoms of psychological distress were controlled.

As we pointed out earlier, there is a huge amount of literature supporting the health-protective influence of social support *(Boyce et al. 1988, Smith et al. 1990b, DuBois et al. 1992, DuBois et al. 1994, Wickrama et al. 1997, Cheever and Hardin 1999, Schraedley et al. 1999, Call and Nonnemaker 2000)*. Ystgaard et al. *(1999)* found that males were protected by social support from family and peers when they were exposed to stressors, while females were not, and Schraedley et al. *(1999)* found that females' depressive symptoms were influenced by their level of social support, but males' were not. Piko *(1998)* reported that social support did not prove to be a strong correlate of health, either among boys or among girls. Our findings on the other hand confirm strong and consistent influence of social support on health among adolescents. Adolescents who reported low social support were characterised by worse health, e.g. worse self-reported health, more health complaints, worse psychological health, worse mental health, or higher incidence of depression.

More evidence offered by the literature supports absence *(West 1988, West et al. 1990, MacIntyre and West 1991, Glendinning et al. 1992, Ecob et al. 1993, Ford et al. 1994, West et al. 1994, Rahkonen et al. 1995, West 1997, Tuinstra 1998)* compared with presence *(Halldórsson et al. 1999, Call and Nonnemaker 2000, Geckova et al. 2001d)* of socio-economic health differences in adolescence. According to Stronks et al. *(1998)*, socio-economic health differences may be explained by an uneven distribution of psychosocial stressors (differential exposure) as well as their differential health impact (differential vulnerability). Support has been found for the hypothesis of differential exposure *(Stronks et al. 1998)*: There was higher exposure to stressors in lower socio-economic groups and this higher exposure contributed to the observed socio-economic inequalities in perceived health problems. Stronks et al. *(1998)* did not find consistent evidence for stressors having a stronger health impact in lower socio-economic groups, as is supposed in the differential vulnerability hypothesis.

In contrast to this, DuBois et al. *(1994)* reported that socio-economic disadvantage is related to higher vulnerability to life events and greater potential to benefit from social support received from adults in schools, which is more consistent with the hypothesis of differential vulnerability. Our findings do not confirm differential vulnerability in connection with social support, only varying distribution of social support among socio-economic groups of adolescents. We did not confirm any significant differences in the effect of social support on health among socio-economic groups of adolescents, but we confirmed strong and consistent socio-economic differences in social support among adolescents. Adolescents from lower socio-economic groups more frequently reported low social support.

In many studies of youth, only father's SES has been investigated. According to some studies *(van der Lucht and Groothoff 1995)*, socio-economic characteristics of the mother are of even more impact for health and health related behaviour of children and adolescents than those of the father. The social role of the mother includes monitoring health symptoms of the family members, taking care about health of the family members *(Gijsbers van Wijk and Kolk 1997)*. As we described elsewhere *(Geckova et al. 2000e)* adolescents most frequently talk about selected problems (school problems, relationship problems, decisions about future, health problems, psychological problems) with their mother. If mothers are an important source of social support, it can be supposed their socio-economic characteristic, particularly their educational level, including their health knowledge will be a more important factor influencing the adolescent's health in comparison with those of father. This issue requires additional work.