

Assessment of differences in psychosocial resources and state of health of rural and urban residents – based on studies carried out on students during examination stress

Danuta Zarzycka¹, Barbara Ślusarska², Ludmiła Marcinowicz³, Irena Wrońska², Maria Kózka⁴

¹ Department of Pediatric Nursing, Faculty of Nursing and Health Sciences, Medical University of Lublin, Poland

² Chair of Development of Nursing, Faculty of Nursing and Health Sciences, Medical University of Lublin, Poland

³ Department of Family Medicine and Community Nursing, Medical University of Białystok, Poland

⁴ Faculty of Health Sciences, Medical College, Jagiellonian University, Poland

Zarzycka D, Ślusarska B, Marcinowicz L, Wrońska I, Kózka M. Assessment of differences in psychosocial resources and state of health of rural and urban residents – based on studies carried out on students during examination stress. *Ann Agric Environ Med*. 2014; 21(4): 882–887. doi: 10.5604/12321966.1129952

Abstract

Introduction. Civilization changes of the environment shaping the psychosocial resources from rural to urban influence human health.

Aim. The study aimed to identify the differences due to the place of residence (rural, urban) as far as health resources are concerned (social support, sense of coherence, dehydroepiandrosterone sulfate concentration in plasma) and health in examination stress situations. The study also determined the concentration of dehydroepiandrosterone sulfate (health resource) and cortisol (stress indicator).

Material and methods. The psychosocial variables were assessed using the scales: ISEL-48v. Coll., SOC-29, SF-36v.2™ and analogue scale (perception of examination stress). The study included, based on a stratified sampling (year of study) and purposive sampling (written examination, major), 731 students representing the six universities in Lublin, south-east Poland. Among the respondents, 130 students were rural residents.

Results. Health resources of students living in rural and urban areas generally differ statistically significantly in social support and the subscales of availability of tangible support, availability of appreciative support, the availability of cognitive-evaluative support and a sense of resourcefulness. The study recorded a statistically significantly larger network of family ties among students living in rural areas. The demonstrated diversity of resources did not substantially affect the perceived health, with the exception of pain sensation. Examination stress assessed by subjective opinion of the respondents and plasma cortisol levels vary relative to the place of residence. Students residing in rural areas showed significantly lower cortisol levels values, but subjectively perceived the situation of examination as more stressful.

Conclusions. Differences in health resources and their mechanism of impact on health, to a limited extent, were conditioned by the place of residence, but they are so important in the light of human choices that they require further analysis.

Key words

village, town, psychosocial resources, health, exam stress

INTRODUCTION

Personal human resources are generally defined as characteristics of humans and their surroundings. These features are owned and used constructively by humans for their own development, biopsychosocial balance and optimal quality of life [1]. As the definition of the term 'personal resources' indicates, it is holistic in nature and has been functioning for a long time on a macro-scale (multi-disciplinary), for example, in macro-economics, ecology, raw material economy, more often in psychology, sociology, public health and health sciences. The resources are usually divided into external resources connected with their cultural heritage, religion, tradition, social environment, availability of utilitarian goods, and internal resources related to properties of biological and mental functioning of human.

Another significant detail in the process of defining the resources is indicating the justification for using them in

satisfying temporary needs or implementing long-term goals. Each resource can be used by a subject if it is in his actual possession, or the particular subject has knowledge about it.

In some situations, the availability of the internal resources is beyond-conscious [2]. Nowadays, the personal resources term occurs quite often in the context of coping with stress [3] or health determinants [4]. Today, it could be difficult to define the set of basic personal resources because they have a relative nature conditioned by socio-cultural context, where, for one culture, a particular resource would enable satisfying the basic needs, whereas for another culture it would be an expression of luxury [2].

It was therefore decided to show the differences in selected young adults in situations of examination stress resulting from the permanent urban or rural residency. Exploration of these differences, on the one hand, is seeking justification for the sources of the larger aspirations of rural youth at the university, compared to urban youth, but also the search for sources of coping with examination stress [5].

In the presented study, the internal resource is social support and the external resource is the sense of coherence.

Address for correspondence: Danuta Zarzycka, Nursing and Health Sciences Faculty, Department of Pediatric Nursing, Medical University of Lublin, W. Chodźki 2 (UHP), 20-093 Lublin, Poland
E-mail: danuta.zarzycka@umlub.pl

Received: 29 March 2013; accepted: 26 September 2013



Social support as a resource derived from the relationship network has an impact on the subject, recipient of support, through the variety of experiences of people creating the relationships network. At the same time, it is also the source of resources which are cognitive-educational and instrumental in nature, or the most important from the health promotion, health prevention and recovery perspective – emotional resource enabling emotions expression. Shaping the competences of possessing and using the resources is very varied individually and situationally. The study results enable indication of the dependency of resources on gender. Females attach greater importance to close interpersonal relationships, whereas men find the possibility of active problem solving more significant [6, 7, 8, 9].

The internal resource of humans is a sense of coherence defined by its author, A. Antonovsky, as:

a global man's orientation expressing the stage in which this man has dominating, permanent, yet dynamic feeling of certainty that (1) stimuli coming over the life time from the external and internal environment are structured, predictable and explainable; (2) there are resources available that help to meet the demands posed by these stimuli; (3) these demands are a challenge worth effort and engagement [4, p.34].

The term proposed for sense of coherence suggests that the conceptual construct is ternary and it includes the following components: comprehensibility, manageability and meaningfulness. The sense of coherence fulfilling the role of complex and general characteristic and health resource of the subject, allows strengthening the positive view of the world and interaction with the environment where the stressors exist, and such interactions increase healthy behaviours which consequently lead to an increase in the level of health [4].

A factor that has an impact on shaping the sense of coherence is the experience of social support.

In connection with the adoption in the studies of the holistic foundation of a person's perception in the area of internal resources, the neurohormonal resource is distinguished as being the dehydroepiandrosterone concentration.

Dehydroepiandrosterone, belonging to the steroid hormones group, is synthesized in the reticularis layer of the adrenal cortex of the pregnenolone resulting from cholesterol.

Dehydroepiandrosterone is present in human blood plasma as the steroid DHEA, with low stability of plasma and sulphate saturation (DHEA-S); its half-life is 10–12 hours. The systemic function of DHEA is to decrease anxiety, increase mood and cognitive possibilities and general welfare [10, 11]. The dynamics of changes in the saturation of DHEA-S are related to age: maximum saturation is obtained at the age of 20–30-years-old; and gender: females are said to have a lower saturation of DHEA-S than men [6, 12].

The significant factor for shaping the resources, especially the psychosocial resources, which are of high importance in this study, is the rural and urban culture. Less significant, but worth noting, is the conditioning of using the resources is current experience in dealing with difficult situations [12]. Summing up, each individual not only obtains resources and competences for using them throughout the whole life in the process of daily events, but also in a conscious way by the process of learning.

The search for differences in human psychosocial resources conditioned by the place of residence enables proving that the human organism, especially the brain, has evolved particularly during contact with nature (in a rural environment project), which is reflected in certain behavioural and psychosocial tendencies [13].

The aim of the presented study is to define differences due to the place of residence (rural, urban) in the area of health resources (social support, sense of coherence, dehydroepiandrosterone sulphate level in plasma) and health in the examination stress situation.

In connection with the study of empirical variables in the examination stress situation, the term 'stress' was defined according to the assumptions of Lazarus and Folkman, which assessed the subjective perception of stress by the respondents, and the objective assessment of stress through the cortisol concentration.

The study was carried out under Research Project No. N N 404 153 8340, financed by the Ministry of Science and Higher Education in Warsaw from the education means in 2008–2011. The research concept received positive acceptance from the Bioethics Committee at the Medical University in Lublin, Poland – No. KE-0254/7/2006 of 19 January 2006.

The study was carried out by the method of a diagnostic survey in the examination situation, using the results of biochemical studies which allowed the measurement of DHEA-S and cortisol concentrations in the blood plasma of respondents.

The Interpersonal Support Evaluation List – College version ISEL-48v. Coll. by S. Cohen for assessment of health resources allowing assessment of social support availability, and The Sense of Coherence Questionnaire (SOC-29) were used. The Sense of Coherence Questionnaire (SOC-29) was created by A. Antonovsky to assess the sense of coherence [4, p.82].

Scale ISEL-48v. Coll. is allocated for examining the availability of social support for students. It consists of 48 items which create thematic subscales:

- T-ISEL – 12 v. Coll. – Tangible support subscale
- A-ISEL – 12 v. Coll. – Appraisal support subscale
- B-ISEL – 12 v. Coll. – Belonging support subscale
- S-ISEL – 12 v. Coll. – Self-esteem support subscale [14].

The study also used the SF-36v.2™ Health Survey scale which allows recognizing the subjective opinion of respondents about their health related to the quality of life. Additionally, an own questionnaire consisting of 15 questions of socio-demographic and medical nature was applied.

The SF-36v.2™ Health Survey concerns changes in the definition of health, and has a place for behaviours promoting health, preventing diseases, providing welfare and a more effective life. It consists of 36 items organized into 8 subscales: Physical Functioning (PF), Role Physical (RP), Bodily Pain (BP), General Health (GH), Vitality (VT), Social Functioning (SF), Role Emotional (RE), Mental Health (MH). The total score of subscales allows obtaining an insight into the Physical Component Summary (PCS) and Mental Component Summary (MCS) [15, pp.193–204]. The scale was used for studies with the consent of the Health Assessment Laboratory, The Medical Outcomes Trust and Quality Metric Inc., under License No. R1–112807–33740. Examination stress was assessed with the use of an analogue scale, which is in accordance with methodological assumption of this form of measurement, and earlier experiences of other authors [16].



The biological material used for the designation of DHEA-S and cortisol concentrations was venous blood, collected once individually from the students, in a volume of 5ml, 30–10 minutes before entering the examination hall. The biochemical analyses were conducted in the Laboratory of Analytical Diagnostics at Independent Public Hospital No.1 in Lublin.

The study results were analysed by means of statistical tests and mathematical analyses. The Mann-Whitney U Test was used to assess significant differences between students living in a rural and urban environments. The significance level of at least 0.05 ($p \leq 0.05$) was adopted in the study.

In order to study the process of using the resources for health and coping in a difficult situation (an examination), as well as to define the sources of changes and rationally plan the intensification of resources, this phenomenon must be studied in the breakthrough periods for this development [12]. In presented studies, the breakthrough period was the phase from adolescence to early adulthood, where the respondents changed their natural social surrounding (rural) and undertook the role of a student at a university located in the city.

There were 731 students taking part in the study. They represented the 6 universities in the city of Lublin: Maria Curie-Skłodowska University, John Paul II Catholic University, University of Technology, University of Life Sciences, Medical University, and the University of Economy and Innovation. In the population of respondents, the biggest group of 275 (37.6%) was represented by the students of The John Paul II Catholic University, and the smallest group of 39 (5.3 %) was represented by students of the Medical University. The selection of students for the study was based on stratified sampling.

Designations of DHEA-S and cortisol concentrations were made in 270 students, which constituted 36.94% of the population examined.

The average age in the group of respondents was 22.8 (SD=4.0) years. Among the examined students, females were insignificantly in the majority – 391 (53.49%); the number of male students was 340 (46.5%). Students living in the rural environment during the study constituted 130 (17.78%) people: 601 respondents lived in the urban environment, which is 82.22% of the whole population number. The students were classified into rural or urban areas on the basis of their permanent address. Lack of proportion among separate study groups resulted from the structure of the students, developed according to the criterion of residence in which 78% of the students come from the urban and 22% from the rural environment [17].

RESULTS

In accordance with adopted study assumptions, the differences in the area of selected health resources related to the place of living were searched.

The value of Mann-Whitney U Test in the group of respondents indicated that the medians of dehydroepiandrosterone sulphate concentration of the rural and urban dwelling students did not differ ($U=5172.00$) significantly statistically.

Values of medians of social support assessed with ISEL-48v.Coll. scale differed in terms of place of residence of the

respondents; the differences were significant statistically on the level of $p < 0.01$. The place of residence was also a factor differentiating the values of subscales of social support on the level of $p < 0.01$ for the availability of affiliative social support of students (B-ISEL-48v. Coll.). Moreover, the median differences in the area of availability of factual social support of students ($p < 0.05$) (T-ISEL-48v.Coll.) and availability of cognitive-evaluative social support of students ($p < 0.05$) (A-ISEL-48v.Coll.) were also significant statistically. Values of Mann-Whitney U Test also indicated median differences in the area of sense of resourcefulness (RS) of rural and urban students, which were significant statistically on the level of $p < 0.05$.

The range of values Q_1 - Q_3 , resources in which significant statistically differences were found, adopted higher values in the urban dwelling students (Tab. 1).

Table 1. Differences between students living in a village and in a city in the range of health resources (median values, range Q_1 - Q_3): DHEA-S, ISEL-48v.Coll., T-ISEL-12v.Coll., A-ISEL-12v.Coll., B-ISEL-12v.Coll., S-ISEL-12v.Coll.

Variables	Village	City	Significance	
DHEA-S $\mu\text{mol/L}$	7.301 (5.754 – 9.635)	7.680 (5.808-9.825)	U=5172.00 Z=0.8441	p=0.3986
ISEL-48v.Coll.	96.00 (77.00-108.00)	101.00 (87.00– 112.00)	U=29328.00 Z=3.1026	p=0.0019
T-ISEL-12v.Coll.	29.00 (22.00-32.00)	29.00 (25.00-33.00)	U=30677.00 Z=2.4518	p=0.0140
A-ISEL-12v.Coll.	24.00 (19.00-30.00)	26.00 (21.00-31.00)	U=31431.50 Z=2.0878	p=0.0366
B-ISEL-12v.Coll.	23.00 (17.00-26.00)	24.00 (20.00-29.00)	U=29132.50 Z=3.1969	p=0.0013
S-ISEL-12v.Coll.	19.00 (16.00-23.00)	20.00 (17.00-23.00)	U=31818.50 Z=1.9012	p=0.0568
SOC-29	123.00 (113.00-136.00)	126.00 (116.00-141.00)	U=31865.50 Z=1.6900	p=0.0909
US	46.00 (40.00-52.00)	47.00 (42.00-53.00)	U=31684.00 Z=1.2089	p=0.2263
RS	39.00 (35.00-45.00)	41.00 (37.00-47.00)	U=30719.50 Z=2.0428	p=0.0409
RNS	39.00 (34.00-44.00)	40.00 (34.00-45.00)	U=32361.00 Z=1.0400	p=0.2980

DHEA-S dehydroepiandrosterone sulphate, ISEL-48v. Coll. – availability of social support of students, T-ISEL-12v. Coll.- availability of factual social support of students, A-ISEL-12v. Coll.- availability of cognitive-evaluative social support of students, B-ISEL-12v. Coll.- availability of affiliative social support of students, S-ISEL-12v. Coll.- availability of appreciative social support of students, SOC-29 – global life orientation, US – understanding sense, RS – resourcefulness sense, RNS – reasonableness sense

The assessment of social support of students in the functional approach of the respondent with the scale ISEL-48v. Coll. was completed with the assessment of a number of people forming the network of supportive relationships (structural support).

Value of statistics Z in the Mann-Whitney U Test in a group charged with examination stress ($z = -2.9277$) indicates that the medians of structural support dimension in the range of number of family members with whom the respondent has close relationships (NF), differ in terms of place of residence of the examined students; differences were significant statistically on the level of $p < 0.01$.

Median differences were not significant statistically for the rest of the correlations of the relationships network of urban and rural dwelling students (Tab. 2).



Table 2. Differences between students living in a village and in a city in the range of the relationships network (median values, range Q_1 - Q_3): social support (structural) NCP, NF, NC, NOS

Variables	Village	City	Significance	
NCP	12.00 (6.00–20.00)	10.00 (7.00–20.00)	U=26772.00 Z=0.2638	p=0.7912
NF	5.00 (3.00–7.00)	4.00 (2.00–6.00)	U=20822.00 Z=-2.9277	p= 0.0032
NC	6.00 (3.00–9.00)	6.00 (3.00–10.00)	U=23858.50 Z=0.6432	p=0.5186
NOS	1.00 (00.00–5.00)	1.00 (00.00–4.00)	U=16746.50 Z=-0.1391	p=0.2265

NCP – number of close persons in general with whom the respondent had social relationships; NF – number of family members with whom the respondents had close relationships; NC – number of colleagues/friends with whom the respondent had close relationships; NOS – number of other significant persons

Analysis of the median differences in the area of students' health resulting from the place of residence is shown in Table 3. According to the current study, it should be compared with the differences in the area of health resources.

The value of statistics Z of the Mann-Whitney U Test in the group of respondents charged with examination stress, indicated that the median of pain as the health indicator related to quality of life of rural and urban dwelling respondents differ ($Z=1.9311$); the differences are significant statistically on the level of $p=0.05$. Values of medians of respondents living in an urban environment was 81.50, and in a rural environment – 69.50. However, the differences of medians are not significant statistically for the rest of the health indicators related to the quality of life of the respondents living in rural and urban environments..

Table 3. Characteristics of differences of health indicators: PCS, MCS, PF, RP, BP, GH, VT, SF, RE, MH (median values, range Q_1 - Q_3) according to place of living

Variables	Village	City	Significance	
PCS	71.60 (64.25–79.80)	74.40 (65.75–79.52)	U=34226.00 Z=0.7121	p=0.4763
MCS	48.00 (42.00–54.00)	50.00 (43.00–57.00)	U=33098.00 Z= 1.2839	p=0.1989
PF	95.00 (90.00–100.00)	95.00 (90.00–100.00)	U=34013.00 Z= 0.8425	p=0.3680
RP	75.00 (56.25–100.00)	75.00 (56.25–96.87)	U=33828.50 Z=-0.9042	p=0.3606
BP	69.50 (46.00–94.00)	81.50 (57.00–94.00)	U=31756.50 Z=1.9311	p=0.0517
GH	72.00 (52.00–82.00)	72.00 (52.00–82.00)	U=34456.00 Z=0.1464	p=0.8833
VT	56.25 (43.75–68.75)	56.25 (43.75–68.75)	U=34570.50 Z=0.5736	p=0.5641
SF	6250 (50.00–87.50)	75.00 (50.00–87.50)	U=32408.00 Z=1.6168	p=0.1014
RE	66.67 (50.00–100.00)	75.00 (50.00–100.00)	U=34714.50 Z=0.5041	p=0.6090
MH	60.00 (45.00–70.00)	60.00 (50.00–75.00)	U=33153.00 Z=1.2574	p=0.2071

MCS – mental component summary, PCS – physical component summary, PF – physical functioning, RP – role physical, BP – bodily pain, GH – general health, VT – vitality, SF – social functioning, RE – role emotional, MH – mental health

Examination stress was also assessed in the category of the state perceived subjectively, as well as assessed by the cortisol concentration. The value of statistics Z in the Mann-Whitney U Test indicated that the medians of cortisol concentration of rural and urban dwelling respondents differed ($Z=3.0170$); the differences were significant statistically on the level of 0.0025.

Values of medians of examination stress assessed with the analogue scale (ES) differed in terms of place of residence; the differences were significant statistically on the level of $p=0.0208$.

Table 4. Characteristics of stress differences: cortisol, ES (median values, range Q_1 - Q_3) in terms of place of living of respondents

Variables	Village	City	Significance	
Cortisol	0.464 (0.317-0.585)	0.538 (0.425-0.717)	U=4092.00 Z=3.0170	p=0.0025
ES	3.25 (0.70-6.60)	2.00 (0.40-5.10)	U=28491.00 Z=-2.3091	p=0.0208

ES – exam stress

DISCUSSION

The urban environment is in contrast to the natural environment as it is created by man in order to provide a sense of security and quality of life. This evolution is connected with the transition from direct interaction between man and environment, to interaction supported by human creations which has an impact on its course. The human organism is adapted to reaction on the metabolic, structural and perceptive level in the area of natural environmental conditions. This hypothesis is confirmed by the result of above-presented study which indicated a higher cortisol concentration among the urban students who, simultaneously, had a lower level of examination stress perception. Urban dwelling people need additional means for survival and stimulations exceeding previous regulatory possibilities [18]. Urban congestion has resulted in mental health disorders, as well as smaller, physical disorders, especially in young people, as well as older ones, with an additional factor: stress of daily life [18]. The architecture of the place of residence, whether house or university, is important, and if it is technicised without specific home elements (presence of decorations, plants, books, atmosphere, slight untidyness), it results in anxiety for the respondents [18]. In the concept of world resources, it was assumed that all elements of the natural surroundings are *de facto* the 'neutral matter' which can become a natural resource only after fulfilling a number of conditions, such as cultural tradition, appropriate technology, and also the surrounding's utility, and this opinion is created by a particular group – society [2].

A factor differentiating the variables, urban residence the students, allows indirect inclusion of the impact of spatial organization, shape, or density of people on man. The urban life of man indicates impoverishment of primary social interactions, lowering of the level of participation in groups providing man with significant reference context, and an emotional and moral base.

Change in social relationships determined by the place of residence is based on replacement in the urban environment of primary interactions, including stable, protective family



relationships, which are strongly present in rural areas with secondary ties [12].

Secondary relations are often impersonal, segmented, artificial and arbitrary. As a result of such effects, the urban dweller becomes anonymous, isolated, secular, rational and calculating. A student living in an urban environment has a lot of contacts, but many more will never be met, which consequently makes him feel lonely and surrounded by an anonymous crowd. The unrecognized, complex, urban environment generates many requirements which are a challenge – often impossible to take up. However, the increase in population density which is characteristic for the urban environment, results in health disorders. It has been shown that health is twice as bad if the space for one inhabitant is less than 8–10 m², or the identification with home – a block of flats – is distorted [19].

The respondents living in urban or rural environments did not show significant differences in the range of physical and mental health components, and the results obtained are above the norm for the sample in the age range of 18–29. Nevertheless, the medians and the range of two middle quartiles of bodily pain subscale values are different for urban and rural students. Comparison of these values with the norm values for healthy people with the examined students, both rural and urban dwellers, indicates a higher sense of pain in the group of respondents. This fact can be interpreted with the time of the examination period when there are many stressful factors, and the timing of evaluation in the questions regarding pain includes the previous 4 weeks [20]. Feeling pain is a very significant factor influencing life choices and 'learning from mistakes', which can be interpreted in the context of results obtained that the rural dwellers, thanks to the cause-effect nature of understanding the environment and its laws, were able to avoid painful stimuli.

The next explanation for the results obtained is the impact of physical environment on man's health, especially one of its elements – noise. Noise causes reduction of the body's immune defence system resulting in it being more prone to infections. Noise has an adverse impact through the stress mechanism on mucous membranes and blood vessels, leading to disorders in the function of the digestive tract, hypertension, or in pregnant women – offspring with lower weight. In some studies, the stress-like changes connected with noise were also shown, such as elevated levels of catecholamines, cortisol and cholesterol [13]. The study results indicate that the effect of loud noise can be a reason for headaches, nausea, anxiety and emotion fluctuations. However, a direct, individual impact of noise on mental disorders was not found [13].

The constant association with nature and small population density resulting from societies with a smaller number dominates in the rural community, which causes interpersonal relationships to be close and permanent. In rural societies, the smaller number of contacts of a direct and personal nature is the basis for relationships. All the factors listed form an integral whole creating the rural society. However, research conducted at the end of 20th century points to progressive changes in the concept of 'rusticity' [21]. The studies presented above are a contribution to the exemplification of these changes. In rural communities of 21st century, the importance of the rural family remains extremely important, regardless of the ongoing transformation processes [22]. The respondents living in villages indicated a bigger number of family and general ties than urban dwelling students.

Analysis of research publications indicates a certain ambiguity in the impact of interpersonal relations and accompanying ties. Some interpersonal relations are one of the conditions of man's welfare, but intensive contacts with immediate family (mother, father and adult children) result in a decrease in the quality of life. However, friendly, informal relationships are a significant predictor of health and the quality of life. The impact of friendship on welfare is conditioned by culture and, for example, in Polish culture the person who does not engage emotionally in the problems of a friend is perceived negatively [23]. The results of own studies indicate friends and colleagues as the main source of support for the respondents.

The place of residence determines the nature of values, beliefs, norms and life style preferred by the societies, and in the process of socialization it influences their members [24]. In this way, the pro-social behaviours, such as availability of social support, is revealed.

Students, regardless of their native culture (rural, urban), internalize the way of thinking and activities of the group to which they belong – the student community. However, as the study shows, this process is different for rural dwelling people and those living in an urban environment. The structural process of the socialization process permanently differentiates students from those two environments, which is revealed in the structure of family ties.

On the other hand, the second dimension of analysis of functional social support indicates the autonomy of the respondents, which is expressed in the perception of availability of social support and lack of differences conditioned by the place of residence, according to some authors [25].

In own studies, the students from rural areas perceived significantly statistically lower availability of friendly social support than urban dwelling students.

It is worth emphasizing that the availability of social support is of declarative nature, which does not always need to be a basis for real supportive activity.

The in-depth analysis of the mechanism of pro-social behaviour differences in the form of help and support was widely presented by the team of Aronson, Wilson and Alert. The basic conclusion, useful in the above-presented above analysis, is the hypothesis of urban overload which, due to an excess of stimuli in the urban community, causes people to present a closed posture to the stimuli [13,24]. However, Steblay questions the opinion that providing assistance is conditioned by the process of urban or rural upbringing, because as a consequence of such understanding, the people spending their childhood in a rural environment would be more willing to help than people brought up in an urban environment [25]. However, such dependencies on pro-social behaviours were not confirmed, leading to acceptance of the hypothesis of urban overload and diffusion of responsibility. In the urban community, the excess of working stimuli causes the man the filtering of less significant stimuli, e.g. a stranger needing help. Meta-analysis carried out by Steblay (1987) clearly indicates the differences in the area of supportive and pro-social behaviours on the rural-urban axis, which is conditioned by the population density [25].

On the other hand, the essence of Antonovsky's concept is that the sense of coherence is located inside humans, and is not influenced by the environment [4, 18]. The results of own studies confirm such a dependency regarding the sense

of coherence, although they also indicate the tendency to changes because the sense of resourcefulness (a component of the sense of coherence) differentiates the students from rural and urban environments, which requires further empirical analyses.

CONCLUSIONS

1. The health resources of rural and urban dwelling students differ significantly statistically. The study shows differences in the availability of social support in the general dimension, as well as in the subscales of availability of factual social support, availability of appreciative social support, availability of cognitive-evaluative social support, and sense of reasonableness.
2. Family ties forming a network of social support differentiate on a significant statistically level of the rural and urban dwelling students.
3. The place of living differentiates the subjective perception of the health of students, which is connected with the quality of life only on the level of assessment of bodily pain as its component.
4. Examination stress assessed by the subjective opinion of their respondents and cortisol concentration is differentiated in terms of place of residence. Students living in rural areas showed significant statistically lower values of cortisol and, at the same time, they perceived the examination situation as more stressful.

REFERENCES

1. Chodkiewicz J. Personal resources in human development. Part 1. *Remedium* 2005; 14–15.
2. Mudyń K. Can one have resources with no access to them? Problem of resources availability. In: Juczyński Z, Ogińska-Bulik N (eds.). *Personal and social resources promoting the health of individual*. University of Łódź Publishing, Łódź, 2003. pp.63–78.
3. Lazarus RS, Folkman S. Transactional theory and research on emotion and coping. *Eur J Pers*. 1987; 1(3): 141–170.
4. Antonovsky A. *Solving health secret. How to cope with stress and not to become ill*. IPiN, Warszawa, 2005 (in Polish).
5. Dryszel A. Student born bad. *Weekly Review* 2011; 21: <http://www.przegląd-tygodnik.pl/pl/artykul/student-zle-urodzony> (access: 27.03.2013) (in Polish).
6. Bardi M, Konne T, Mewaldt S, O'Connor K. Behavioral and physiological correlates of stress related to examination performance in collage chemistry students. *Stres* 2011; 14(5): 557–566.
7. Tam CL, Foo YC, Lee TH. The association between perceived social support, socio-economic status and mental health in young Malaysian adults. *East Asian Arch Psychiatry*. 2011; 21(2): 73–78.
8. Biró E, Balajti I, Dány RA, Kósa K. Determinants of mental well-being in medical students. *Soc Psychiatry Psychiatr Epidemiol*. 2010; 45(2): 253–258.
9. Łosiak W. Individual context of coherence sense. In: Brzeziński JM, Cierpiałkowska L (eds.). *Health and disease. Problems in theory, diagnosis and practice*. GWP, Gdańsk, 2008. pp.215–226.
10. Załuska M, Janota B. Dehydroepiandrosterone (DHEA) in stress and depression mechanisms. *Psychiatr Pol*. 2009; 3(43): 263–274.
11. Papierska L. Dehydroepiandrosterone – replacement therapy of old age. *Gerontol Pol*. 2004; 12(2): 63–67.
12. Karasek M. Dehydroepiandrosterone (DHEA) in postmenopausal women. *Przeg Menop*. 2005; 5(4): 8–13.
13. Bell PA, Greene TC, Fisher JD, Baum A. *Environmental psychology*. GWP, Gdańsk 2003.
14. Cohen S, Gottlieb BH, Underwood LG. Social Relationships and Health. In: Cohen S, Underwood LG, Gottlieb BH (Eds). *Social Support Measurement and Intervention. A Guide for Health and Social Scientists*. Oxford University Press, New York 2000. pp.3–25.
15. Ware JE, Kosinski M, Bjorner JB, Turner-Bowker DM, Gandek B, Maruish ME. *User's manual for the SF-36v.2™ Health Survey (2nd ed.)* RI: Quality Metric Incorporated. Lincoln, 2007.
16. Kudielka BM, Buske-Kirschbaum A, Hellhammer DH, Kirschbaum C. APA axis responses to laboratory psychosocial stress in healthy elderly adults, younger adults, and children: impact of age and gender. *Psychoneuroendocrinology* 2004; 29(1): 83–98.
17. *Education Development Strategy for 2007–2013*. The Ministry of Education, Warszawa 2005 (in Polish).
18. Bańka A. *Social environmental psychology*. Scientific Publishing Scholar, Warsaw 2002.
19. Jałowicki B, Szczepański MS. *City and space in the sociological perspective*. Scientific Publishing Scholar, Warsaw 2006.
20. Żołnierczyk-Zreda D, Wrześniewski K, Bugajska J, Jędryka-Góral A. Polish version of SF-36v2 questionnaire for assessing quality of life. *Central Institute of Work Protection – National Research Institute*, Warszawa, 2009.
21. Gorlach K. *Sociology of rural areas*. Scientific Publishing Scholar, Warszawa 2004.
22. Bukraba – Rylska I. *Sociology of Polish village*. Scientific Publishing PWN, Warsaw 2008.
23. Boski P. *Cultural frames of social behaviours*. Scientific Publishing PWN, Academica Publishing SWPS, Warszawa 2009.
24. Aronson E, Wilson T, Alert R. *Social psychology*. Zysk i S-ka Publishing, Poznań, 2012.
25. Steblay NM. Helping behavior in rural and urban environments. A meta-analysis. *Psychol Bull*. 1987; 102(3): 346–356.

