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PLACE OF RESIDENCE AS A DETERMINANT OF ADOLESCENTS' PRO-HEALTHY LIFESTYLE*

Introduction: The environment in which a person lives is important in shaping their well-being. The place of residence, which is one of the social determinants of health, is at the forefront of health determinants. It therefore seems important to analyse the relationship between the sense of quality of life and lifestyle taking into account social factors in the group of adolescents.
Research Aim: In the presented article the relations between the sense of quality of life and healthy lifestyle and significant differences in the range of analysed variables between youth living in urban and rural areas were searched for.
Method: The research was conducted by means of a diagnostic survey with the use of the following research tools: KINDSCREEN-52, Cumulated Fatigue Questionnaire (QFIQ), Adolescent Lifestyle Questionnaire (ALQ) and Health Behaviour Inventory (IZZ).
Results: The research showed that the place of residence is not important in shaping the sense of quality of life and modelling the type of health behaviours of youth.
Conclusions: There is a need for more extensive research into the analysed variables in the context of the participants' social status with some additional variables.

Keywords: place of residence, sense of quality of life, healthy lifestyle, youth.

INTRODUCTION

Maintaining positive health activities and a sense of a high level of the quality of life are some of the basic determinants of a good health (Ostrowska, 2011; Duda, 2016). Sense of the quality of life is a multi-dimensional construal encompassing physical, emotional, mental, social, and behavioural aspects of well-being and functioning (Duda, 2016). Understood this way, the quality of life may be determined by the place of residence. Restrictions experienced while looking for a job or seeking assis-

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tance from healthcare institutions negatively affect the sense of the quality of life of individuals living in rural areas compared to those living in urban areas (Laskowska, 2015; Bernard, 2018). Women living in rural areas and those living in urban areas tend to differ in their subjective assessment of the quality of life. The former rate the quality of their lives less favourably than the latter (Badani et al., 2017). Numerous studies have confirmed a potentially negative impact that living in rural areas has on the quality of life (Zagozdzon et al., 2011; Sampaio et al., 2013; Sudera et al., 2015). Taking into consideration the quality of life in the light of the quality of convalescence, the percentage of individuals who regained their health was higher in rural compared to urban areas (Thomas et al., 2014). Healthy lifestyle constitutes a multi-dimensional model of voluntary, daily activities and young people's attitudes towards life, which may have easily observable repercussions in the form of their health (Gillis, 1997). Therefore, the place of residence seems to be related to health-promoting factors (Chillón et al., 2011) and to the incidence of diseases of affluence such as obesity caused by bad eating habits (Wood et al., 2016).

Socio-demographic factors constitute the main determining factor of an individual's health (Viner et al., 2012). Behaviour patterns (including those related to health) are, to a considerable extent, shaped as part of the process of socialisation, in contacts with the parents, peer groups, other persons important in an individual's life or by the influence exerted by the school or by the mass media (Majchrowska, 2008). Due to a rapid urban sprawl, small towns and villages lose their rural characteristics while retaining significantly healthier environment. Urban areas have higher-quality recreational facilities than rural areas so the urban sprawl should modify health behavioural patterns in a positive way. On the other hand, rural areas offset the lack of recreational infrastructure by offering greater opportunities for contact with nature.

The place of residence is still the main factor in shaping everyday choices. Therefore, is still necessary to monitor the conditions shaping the sense of the quality of life and health-promoting behaviours (cf. Fahs et al., 1999). Thus, the aim of the present study was to define the relationships between the quality of life and young people's lifestyles, taking into consideration their place of residence.

RESEARCH AIM AND QUESTION

Therefore, the aim of the research work was to define the character of relationships between the sense of the quality of life and young people's health-promoting lifestyles, with the focus on comparing upper-secondary school students living in urban areas with those living in rural areas. Considering the above, the research question was: Are there any significant differences in the sense of the quality of life, subjective fatigue, health-promoting lifestyle, and in the declared health-promoting behaviours between students living in rural areas and those living in urban areas?,

and: What is the relationship, if any, between the sense of the quality of life and the health-promoting lifestyles of young inhabitants of urban and rural areas? General hypotheses assume differences in the analysed variables between students from urban areas and those from rural areas as well as assume the existence of the relationship between the sense of the quality of life and health-related behavioural patterns.

RESEARCH METHOD AND SAMPLE CHARACTERISTIC

The aim of the study and the adopted research assumptions influenced the choice of the method and research techniques. The diagnostic survey method and questionnaires were used in the research procedure. The sense of the quality of life was evaluated using the KINDSCREEN-52 health-related Quality of Life Screening Instrument for Children and Adolescents, and the sense of fatigue was evaluated using the Cumulated Fatigue Questionnaire (QFIQ) by Kosugo. Health-promoting lifestyle was researched into by means of the Adolescent Lifestyle Questionnaire (ALQ) by Gillis. These are the first experimental studies using this tool in the Polish context. Adolescents' health-related behaviour was examined using the Health Behaviour Inventory (IZZ) by Juczyński. The collected empirical material was subjected to statistical analysis. The first stage consisted in comparing the mean variables between students living in urban areas and those living in rural areas. The correlation analysis was used in the next stage. The aim was to determine relationships between the set of independent variables (health-promoting lifestyle and health behaviours) and the dependent variable (dimensions of the sense of the quality of life and fatigue). Canonical analysis, consisting in estimating the relationships between the sets of variables, was used. The results of the undertaken research was presented in the subsequent parts of this study.

The study involved 603 upper-secondary school students. Eventually, the study included 379 participants living in rural areas, which constituted 62.9% of all the participants. Other 224 (37.1%) persons lived in urban areas. Girls constituted 46% of the entire study group. The boys group consisted of 323 persons. The age distribution of the participants looked as follows: 367 students aged 16–17 and 236 students aged 18–19.

STATISTICAL DATA ANALYSIS PROCEDURE

The collected empirical material was subjected to statistical analysis according to the adopted research hypotheses. Differentiation of particular dimensions of the sense of quality of life and pro-healthy lifestyle in groups of adolescents from different living environments was tested using *t* significance tests for independent

pairs, significant relationships between the variables tested were estimated using *r*-Pearson correlation test and canonical analysis.

RESULTS

An individual's living conditions affect his/her health and quality of life. Place of residence is a very important determinant of well-being and joy of life. Favourable conditions for rest, low levels of noise and pollution are conducive to the preservation of health and to the prevention of diseases of affluence and fatigue. Nowadays, the differences between rural and urban areas are becoming more and more insignificant as people tend to settle in suburban locations and commute to work or school in larger cities. Therefore, there is the need for assessing whether there is now any difference in the perceived health-dependent quality of life depending on whether one lives in a rural or in an urban area. Table 1 presents mean results with statistical significance $^*p < 0.05$, obtained in the course of the examination of students from urban and rural areas.

Table 1.
Comparison of mean results of the health-dependent sense of the quality of life according to the place of residence

Dimensions of the quality of life dependent on health	Urban area ($N = 244$)		Rural area ($N = 379$)		Significance of differences		
	M	*SD*	*M*	*SD*	*t*	*df*	*p*
Physical health	11.11	3.75	11.80	3.61	2.236	601	0.026*
Mental well-being	13.79	5.11	13.95	4.71	0.394	601	0.694
Mood and emotions	17.94	5.04	18.39	5.11	1.041	601	0.298
Perception of self	11.65	3.98	12.23	3.92	1.743	601	0.082
Independence	12.35	4.07	11.76	4.17	–1.693	601	0.091
Family	14.99	5.12	15.21	4.99	0.524	601	0.600
Financial resources	6.44	3.09	6.65	2.85	0.836	601	0.403
Social support	14.69	5.19	14.60	4.69	–0.213	601	0.831
School environment	10.50	4.49	10.60	4.37	0.266	601	0.791
Social acceptance	10.12	2.41	9.99	2.35	–0.629	601	0.530
TOTAL (global result)	123.58	26.18	125.19	26.43	0.722	601	0.471

*$p < 0.05$.

Having taken into account the variable of the upper-secondary school students' place of residence, the statistically significant difference ($^*p < 0.05$) between the inhabitants of urban areas and those living in rural areas occurred only in case of the level of physical health, in favour of adolescents coming from rural areas (Table 1). The aspect of adolescents' sense of independence was at a level close to significant

while in all other aspects the differences were random or remarkably random. Out of the participating students, those from urban areas are characterised by a higher sense of independence than their peers from rural areas. The higher result among the adolescents living in rural areas, as compared to their peers from urban areas, may indicate a better self-reported general health, well-being, and a higher level of willingness to take up physical activity. Adolescents living in urban areas have lower demand for activity. This may indicate persisting differences in the ways of spending spare time by people living in urban areas and those living in rural areas. Higher rates of physical activity and spending time outdoors in the group of students living in rural areas may indicate a lower frequency of sedentary activities, e.g. watching TV or using the computer. Limited access to the Internet in rural areas may have a beneficial influence on adolescents' activity by making adolescents spend less time at the screen and more time outdoors, e.g. riding a bicycle. In case of other aspects, there are no significant differences in the sense of health-dependent quality of life between adolescents from rural and from urban areas.

The sensation of fatigue, so characteristic for contemporary reality, is related mainly to the change in the conditions of life, and, in turn, to the increase in the intensity of humans' everyday activities. This causes a constantly increasing fatigue among adults, children, and adolescents. Until recently, urban areas were perceived as locations most likely to cause chronic fatigue. It is a frequent occurrence that issues related to the progressing urbanization, fast-paced life as well as the polluted environment and unfavourable conditions (noise pollution, temperature, contamination, carbon dioxide concentration) may contribute to the intensification of the sensation of fatigue (cf. Markus, 1993). Hitherto there have been no studies analysing how the place of residence affects people's sensation of fatigue. Table 2 presents arithmetic means, standard deviations for the compared groups according to the place of residence variable, and values obtained from the significance test.

Table 2.
Comparison of mean results concerning the sensation of fatigue of the adolescents participating in the study, according to their place of residence, obtained using the Cumulative Fatigue Questionnaire (CFIQ)

Group Fatigue	Urban area (N = 244)		Rural area (N = 379)		Significance of differences		
	M	*SD*	*M*	*SD*	*t*	*df*	*p*
General fatigue	8.63	4.00	8.41	4.30	–0.636	601	0.525
Deterioration in vitality	7.46	4.04	7.15	4.06	–0.891	600	0.373
Mental overload	8.62	3.83	8.29	4.36	–0.920	601	0.358
Physical symptoms	5.80	3.43	5.24	3.58	–1.875	601	0.061
Concern about one's own capabilities	8.29	3.79	7.74	4.00	–1.654	601	0.099
Being discouraged with education	8.54	3.87	7.98	4.23	–1.610	601	0.108

*$p < 0.05$.

The data obtained unambiguously indicate the lack of statistically significant differences between the adolescents from urban areas and those from rural areas. The tendency for students from urban areas to experience greater physical fatigue manifesting itself as somatic symptoms was the only tendency observed (cf. Pułtorak et al., 2000). In all other aspects of fatigue the differences were random and remarkably random, which provides the grounds for the conclusion that the place of residence does not affect the level of fatigue in a differentiating way (Table 2). The results obtained do not confirm the reports from the studies by Jodkowska and Wrocławska (2000), in which the sensation of morning fatigue was twice as frequent in the population of adolescents living in urban areas compared to those living in rural areas.

The absence of significant differences in the study groups of adolescents from urban and from rural areas may be explained by currently disappearing differences between those two places of residence. Nowadays, many people work in cities and commute to work or school from small towns or villages. The adolescents participating in the study, being second-grade students of upper-secondary schools coming from rural areas, probably live in boarding houses or in dormitories. This way, despite the fact that they come from rural areas, those adolescents spend most of their spare time in cities and return home to their rural areas only for holidays. This blurs the line between rural and urban areas in terms of the sensations experienced by the adolescents participating in the study. The absence of the differences which would significantly differentiate the adolescents between the ones living in rural areas and those living in urban areas is contrary to stereotypical perception of rural areas as being quiet and conducive to rest.

Table 3 presents the summary of results regarding health-promoting lifestyle of the adolescents participating in the study, taking into account the variable of the place of residence.

Table 3.
Comparison of mean results of the health-promoting lifestyle of the adolescents participating in the study, according to their place of residence

Group Dimensions of lifestyle	Urban area (N = 244)		Rural area (N = 379)		Significance of differences		
	M	*SD*	*M*	*SD*	*t*	*df*	*p*
Physical activity	13.29	4.20	13.63	3.89	1.021	601	0.308
Nutrition	22.95	7.76	23.00	6.08	0.094	601	0.925
Social support	27.31	4.96	27.04	4.86	–0.670	600	0.503
Coping with stress	34.88	2.44	34.94	2.38	0.322	601	0.748
Sense of identity	33.08	6.94	33.50	6.20	0.759	600	0.448
General health practices	9.50	3.70	9.80	3.38	1.033	601	0.302
Security	27.03	5.84	26.87	5.58	–0.347	600	0.729

*$p < 0.05$.

The above data indicate the absence of statistically significant differences between the adolescents depending on their place of residence. The presented results indicate that the place of residence is insignificant regarding the adolescents' health-promoting lifestyle (Table 3).

Table 4 presents the summary of results regarding health-promoting activities of the adolescents participating in the study, taking into account the variable of the place of residence.

Table 4.
Comparison of mean results of the health-promoting activities of the adolescents participating in the study, according to their place of residence

Group Dimensions according to the Health Behaviour Inventory	Urban area (N = 244)		Rural area (N = 379)		Significance of differences		
	M	*SD*	*M*	*SD*	*t*	*df*	*p*
Proper nutrition habits	18.22	4.84	18.09	4.15	–0.339	600	0.735
Preventive behaviours	18.15	4.78	18.42	4.44	0.688	601	0.492
Positive mental attitude	20.46	3.70	20.40	3.99	–0.166	601	0.868
Health practices	19.36	3.71	19.40	4.04	0.103	601	0.918

*$p < 0.05$

The presented results indicate that the place of residence does not matter in the case of the adolescents participating in the study. Interpreting the results one can conclude that there are no significant differences between the patterns of health behaviour of adolescents living in urban areas and those living in rural areas (Table 4).

Table 5 presents the coefficients of correlation between the sensation of the quality of life and fatigue and the adolescents' lifestyle. In the study group, the sensation of the quality of life shows significant correlation with the health-promoting lifestyle.

Table 5.
r-Pearson correlation coefficient between the analysed variables

Variables	PP	N	SS	SM	IA	GHPA	S	PNZ	ZP	PNP	PZ
ZF	0.55*	0.11*	0.11*	0.20*	0.47*	0.11*	–0.02	0.16*	0.06	0.21*	0.08
SP	0.19*	0.04	0.19*	0.25*	0.58*	0.10*	–0.02	0.13*	0.15*	0.37*	0.20*
NE	0.21*	0.11*	0.12*	0.19*	0.48*	0.08*	0.07	0.17*	0.10*	0.31*	0.19*
0S	0.20*	0.06	0.01	0.17*	0.47*	0.05	–0.03	0.12*	0.08*	0.18*	0.07
N	0.20*	0.03	0.18*	0.17*	0.32*	0.02	–0.10	0.07	0.00	0.21*	0.15*
RR	0.18*	0.15*	0.24*	0.26*	0.41*	0.15*	0.13	0.19*	0.15*	0.28*	0.18*

Variables	PP	N	SS	SM	IA	GHPA	S	PNZ	ZP	PNP	PZ
ZFI	0.19*	0.10*	0.12*	0.18*	0.32*	0.11*	0.01	0.14*	0.12*	0.21*	0.17*
WS	0.24*	0.04	0.44*	0.34*	0.40*	0.17*	–0.04	0.10*	0.09*	0.24*	0.11*
ŚS	0.19*	0.24*	0.19*	0.27*	0.35*	0.30*	0.29	0.25*	0.26*	0.33*	0.21*
AS	0.01	0.03	0.20*	0.05	0.16*	–0.08	0.04	0.06	0.01	0.06	0.01
TOTAL	0.35*	0.15*	0.30*	0.34*	0.65*	0.17*	0.06	0.23*	0.17*	0.40*	0.23*
ZO	–0.18*	–0.11*	–0.01	–0.05	–0.29*	–0.05	–0.08	–0.13*	–0.07	–0.19*	–0.18*
OW	–0.25*	–0.13*	–0.08	–0.14*	–0.42*	–0.02	–0.07	–0.16*	–0.08*	–0.22*	–0.15*
PP	–0.16*	–0.09*	0.01	–0.08	–0.34*	–0.02	–0.09	–0.11*	–0.08*	–0.27*	–0.17*
SS	–0.14*	–0.00	–0.07	–0.01	–0.20*	0.06	–0.14	–0.03	0.01	–0.11*	–0.14*
NSM	–0.20*	–0.05	0.05	–0.04	–0.39*	0.02	–0.00	–0.11*	–0.04	–0.22*	–0.16*
ZN	–0.18*	–0.15*	–0.07	–0.11*	–0.29*	–0.10*	–0.14	–0.17*	–0.15*	–0.18*	–0.17*

*$p < 0.05$.

Sense of a higher level of the quality of life was accompanied by better health-promoting eating habits, preventive actions, mental attitudes, which are, in turn, conducive to a healthy lifestyle. On the other hand, the sense of a high level of fatigue is accompanied by more unhealthy behaviours, in particular those related to physical activity and eating habits. The strong sense of fatigue is conducive to negative mental attitude. Moreover, tired young people have issues related to their sense of identity and independence.

Further analysis of the data aimed at searching for the determinants of healthy lifestyle. Tables 6 and 7 present the interdependencies between the sense of the quality of life and a healthy lifestyle of young people living in rural and in urban areas. These interdependencies indicate the existence of three pairs of canonical variables in the group of adolescents living in urban areas, and for canonical correlation coefficients in the group of adolescents living in rural areas.

The results of the canonical analysis, applied to examine the correlations between the sense of the quality of life and a health-promoting lifestyle, show that, in the group of adolescents living in urban areas, 25.01% of variances in the set of health-promoting lifestyle variables can be explained by 16 quality of life variables. 23.09% of the variances in the sense of the quality of life set can be explained based on 11 variables of the health-promoting lifestyle (R_c – 0.791; $p < 0.05$).

Table 6 presents specific data obtained from the canonical analysis of the pairs of outcome variables of the quality of life and health-promoting lifestyle in the group of students living in urban areas, with accompanied absolute loading values.

Table 6.
Matrix of coefficients of canonical correlation between the sense of the quality of life dependent on health and a health-promoting lifestyle of adolescents living in urban areas

Criteria / Independent variables		Canonical variables		
		R_cI	R_cII	R_cIII
QUALITY OF LIFE	Physical health	–0.430**	–0.176	0.394**
	Mental well–being	–0.273**	0.417**	–0.151
	Mood and emotions	–0.111	–0.184	–0.083
	Perception of self	–0.213	0.174	0.004
	Independence	0.070	–0.213	0.355**
	Family and family life	–0.140	0.175	–0.167
	Financial resources	–0.002	0.129	0.317**
	Social support	–0.289**	–0.938**	–0.406**
	School environment	–0.002	0.592**	–0.660**
	Social acceptance	–0.020	0.022	–0.192
	General fatigue	–0.053	0.146	0.133
	Deterioration in vitality	0.189	–0.202	0.035
	Mental overload	0.020	0.068	0.329**
	Physical symptoms	–0.156	–0.105	0.015
	Concern about one's own capabilities	–0.045	–0.417**	–0.652**
	Feeling discouraged with education and school	–0.102	0.379**	–0.079
R_c		0.606	0.552	0.463
p		0.000*	0.000*	0.002*
LIFESTYLE	Physical activity	–0.303**	–0.194	0.494**
	Nutrition	0.158	0.082	0.037
	Social support	–0.075	–0.863**	–0.209
	Coping with stress	0.068	–0.080	–0.428**
	Sense of identity	–0.767**	0.494**	0.098
	General health practices	–0.013	–0.314**	–0.357**
	Security	0.120	0.534**	–0.513**
	Proper nutrition habits	–0.102	0.119	0.213
	Preventive behaviours	0.073	0.212	–0.142
	Positive mental attitude	–0.223	0.091	–0.082
	Health practices	0.082	0.009	0.282**

*$p < 0.05$, **loads with absolute values greater than or equal to 0.250 are significant at $p < 0.05$ level

The first, strongest canonical pair, is composed of five variables: three criteria and two independent variables. The variables, both on the side of the criteria and on the side of independent variables, are unipolar. The structure of this correlation permits an assumption that students living in urban areas, characterised by a lowered level of mental well-being, exhaustion, and worse health as well as the sense of being rejected by their peers, significantly less frequently show willingness for physical activity and more frequently avoid the related efforts. At the same time, they exhibit a lower level of the sense of identity, and, thus, it is more difficult for them to pursue their personal plans, they have more doubts and it is harder for them to adapt to the surrounding reality.

In the other canonical pair the variables were bi-polar. They show that positive emotions, well-being, educational achievements and, at the same time, strong sense of loneliness and rejection by peers, discouragement towards learning and towards all kinds of intellectual effort are accompanied by significantly low sense of social support with concurrent stronger sense of identity. Those bi-polar variables also show that a lower level of activities aimed at raising one's health awareness are accompanied by the compliance with safety rules and avoidance of risky behaviours.

The third and weakest correlation coefficient shows that adolescents coming from urban areas and describing themselves as enjoying good health, being full of energy, independent, having enough money to cover their own needs but also having problems adapting to school environment and belonging in a group of friends, exhibit greater willingness to obey basic health-promoting behaviours such as keeping a proper amount of sleep, rest and physical activity. On the other hand, they are characterised by poorer stress coping capabilities and, consequently, are more prone to unhealthy behaviours. In case of the adolescents living in urban areas, the structure of the correlations shows that those adolescents are characterised by a lowered mental and physical well-being, are less likely to engage in physical activity and more likely to avoid making efforts.

Table 7 presents specific data obtained from the canonical analysis of the pairs of outcome variables of the quality of life and health-promoting lifestyle in the group of students living in rural areas, accompanied by absolute loading values.

The results of the canonical analysis, applied to examine the correlations between the sense of the quality of life and a health-promoting lifestyle, show that, in the group of adolescents living in rural areas, 22.18% of variances in the set of health-promoting lifestyle variables can be explained by 16 quality of life variables. 24.07% of the variances in the sense of the quality of life set can be explained based on 11 variables of the health-promoting lifestyle (R_c – 0.739; $p < 0.05$).

Table 7.
Matrix of coefficients of canonical correlation between the sense of the quality of life dependent on health and a health-promoting lifestyle of adolescents living in rural areas

	Criteria / independent variables	Canonical variables			
		R_cI	R_cII	R_cIII	R_cIV
QUALITY OF LIFE	Physical health	0.505**	0.018	–0.879**	–0.427**
	Mental well–being	0.194	0.203	0.820**	0.051
	Mood and emotions	0.175	–0.040	0.058	0.196
	Perception of self	0.282**	0.139	0.239	–0.241
	Independence	–0.058	0.203	0.029	–0.178
	Family and family life	–0.032	–0.272**	–0.084	0.365**
	Financial resources	0.046	0.098	–0.101	0.075
	Social support	0.107	–0.786**	0.267**	–0.370**
	School environment	0.172	–0.159	–0.380**	0.732**
	Social acceptance	–0.067	–0.266**	0.040	0.145
	General fatigue	0.034	–0.246	–0.032	–0.098
	Deterioration in vitality	0.058	0.270**	0.230	0.057
	Mental overload	–0.065	–0.303**	0.095	–0.493**
	Physical symptoms	0.082	0.237	–0.126	0.182
	Concern about one's own capabilities	–0.041	–0.421**	–0.253**	0.293**
	Feeling discouraged with education and school	–0.086	0.106	–0.027	–0.008
R_c		0.588	0.507	0.449	0.323
p		0.000*	0.000*	0.000*	0.001*
LIFESTYLE	Physical activity	0.472**	–0.031	–0.746**	–0.422**
	Nutrition	–0.107	0.349**	–0.369**	0.292**
	Social support	–0.127	–0.964**	0.167	–0.210
	Coping with stress	–0.060	–0.402**	0.016	0.074
	Sense of identity	0.736**	0.220	0.579**	–0.018
	General health practices	0.074	0.198	–0.163	–0.057
	Security	–0.205	–0.085	–0.216	0.633**
	Proper nutrition habits	0.101	–0.477**	0.058	0.089
	Preventive behaviours	–0.002	–0.028	0.045	–0.034
	Positive mental attitude	0.081	0.398**	0.010	0.524**
	Health practices	0.133	0.047	0.190	–0.073

*$p < 0.05$, **loads with absolute values greater than or equal to 0.250 are significant at $p < 0.05$ level

In case of the adolescents living in rural areas, there are four variants of interpretation of the correlations obtained. First canonical pair makes it possible to conclude that adolescents living in rural areas, characterised by good health and positive perception of self, show a significantly higher level of physical activity and the sense of identity. Second canonical pair presents a completely different picture of correlations. Low sense of support from their relatives and difficulties coping

with accumulated stress are characteristic of those participants who exhibited problems with interpersonal relationships with their peers but did not experience violence from them, felt lonely, rejected both by their peers and parents, tired and exhausted but those feelings did not affect their emotions or concentration. At the same time, those adolescents try to avoid unhealthy food but do not always follow a properly balanced died based on wholemeal bread, fruit and vegetables. They are also more likely to avoid negative emotions and despondence. The third canonical pair shows that those students living in rural areas who describe their health as very poor and experience physical exhaustion, problems at school but, at the same time, enjoy a network of peer support and do not feel mental tension, are characterised by a significantly lower level of physical activity and consumption of lower-quality food but a stronger sense of identity. The fourth canonical correlation coefficient seems to indicate that students from rural areas who are characterised by low energy levels, poorer health, problems with relations with their peers but, at the same time, receive support from their parents, are loved and understood, have positive relationships with their teachers and educational achievements, not experiencing tension but lacking self-confidence and having concerns regarding their capabilities, exhibit a lower level of willingness to take up physical efforts but, on the other hand, take care of the quality of their diet, avoid risky behaviours and can cope with depressive situations.

DISCUSSION

Research reports indicate a significant correlation between the level of the quality of life and tiredness and adolescents' health behaviour patterns depending on their place of residence. Thus, the aim of the present study was to search for significant differences in the levels of the variables between the groups and to assess the correlations between the selected variables.

The data collected show that the place of residence does not have a significant impact on the sense of the perception of the quality of life or on modelling the types of adolescents' health behaviours. Only the higher result in the aspect of physical health among the adolescents living in rural areas, as compared to their peers from urban areas, may indicate a better self-reported general health, well-being, and a higher level of willingness to take up physical activity than is the case for adolescents living in urban areas. Similar date were obtained in the study of Spanish adolescents living in rural areas (Chillón et al., 2011). This is an indication of a sense of a lower quality of life felt by the adolescents living in urban areas. In the conducted studies the researchers did not notice a statistically significant differences in the constituents of health-promoting lifestyle in adolescent participants from rural areas compared to those coming from urban areas. This indi-

cates that the place of residence does not affect the adolescents' health-promoting lifestyle, and that this variable does not differentiate health behaviours as much as does the level of health or gender. Place of residence is a significant variable in research on children's and adolescents' health and well-being. As a result of the industrial and economic growth of the country, cities undergo extensive transformations accompanied by urban sprawl. But, first of all, those transformations involve rural areas, causing major changes to the lifestyle of people living there. Social development of the rural environment offers better conditions for children's and adolescents' development (Wilczewski, 2012) but may also entail more risks. The subject-matter literature has long been interested in the aspects of children's and adolescents' healthy development (Zagórski and Skład, 2003; Saczuk, 2006; Wilczewski, 2012). However, it is only recently that special attention has been paid to the characteristics of health-promoting and risky behaviours in those groups of the population (Sygit, 2009a; 2009b; 2010a; 2010b; 2013; Szczepańska et al., 2010; Nawrocka et al., 2011; Nowak and Barcicka, 2013; Reichenberger et al., 2016). The interpretation of the statistical analysis of the author's own research does not show significant differences between the lifestyle of students living in rural areas and those living in urban areas. The absence of differences between health behaviour patterns of the inhabitants of rural areas and those of the inhabitants of urban areas is evidenced by the research by Nowak and Barcicka (2013), and by Topolska et al. (2010) who analysed the level of dairy products consumption. The result of that research also did not depend on the place of residence nor on the gender (cf. Hesketh et al., 2003). Similar results regarding nutrition were obtained by Słowińska and Wądołowska (2003). They did not show an environmental differentiation of the quality of food rations of the participating adolescents, dependent on the place of residence. The author's own research did not confirm the observations made by other authors (Raczyński et al., 2000; Suliga, 2003; Sygit, 2006; Przewęda and Dobosz, 2003) that the level of urbanisation was, supposedly, the factor differentiating the school-age people's level of physical development and eating habits. However, research by Hoffman et al. (2011) showed that persons living in urban areas were at a higher risk of obesity. Inhabitants of urban areas is a group of individuals characterised by overweight who, at the same time, declare following an active lifestyle. Brojek et al. (2006) were of a different opinion, who concluded that, in the case of upper-secondary school students (who continued their education at a faculty of physical education), the adolescents from urban areas were more interested in sports activities than those living in rural areas. Statistical analysis of the results has shown that the place of residence significantly differentiated the participants in terms of physical activity and sports practices before they began their higher education courses. This situation may be caused by different possibilities for taking part in extracurricular sports activities, with rural institutions having a poorer offer (cf. Danielewicz and Ratajczak, 2006). Those results correlate with the data

obtained by Suliga (2004) which showed that the lower level of physical activity was characteristic of upper-secondary school students from urban areas. The correlation in question was statistically significant. These conclusions are also reflected in the results obtained by Zawadzka (2007) which show that, both in the case of healthy adolescents and those suffering from diseases, physical exercises are taken up more frequently and last longer in case of adolescents, especially boys, living in urban areas, coming from moderately well-to-do or well-to-do families. Considering eating habits, the place of residence was statistically significant, differentiating the study group in favour of the inhabitants of rural areas (Sygit, 2009a; 2009b; Marcysiak et al., 2010; Nawrocka et al., 2011). Different tendencies were observed in research by Babicz-Zielińska et al. (2004), in which the place of residence significantly differentiated the consumption of some products. Inhabitants of rural areas consumed dairy products and vegetables less frequently and cereal products – more frequently (Suliga, 2004). In the study by Suder et al. (2015), children from rural areas, both boys and girls are characterised by a higher incidence of abdominal obesity. The incidence of risky behaviours among adolescents is higher in urban environments (Szczepańska et al., 2010; Kiciak et al., 2010). However, the analysis of the rural environment has shown significant correlations between the intensification of risky behaviours and gender, parents' education and material status of the adolescents. The above results may be surprising. Sygit (2013) pointed out that pathological behaviours in the form of the consumption of alcohol were more frequent in case of girls living in rural areas than in the case of boys, while boys smoked cigarettes significantly more frequently than girls. Furthermore, the parents' higher education degree and better financial status were significantly correlated with a higher consumption of alcohol among students living in rural areas. The results of research in the area of eating habits conducted by Ustymowicz-Farbiszewska et al. (2006) also indicate improper nutrition among adolescents from rural areas. On the other hand, there are no specific data regarding other aspects of the health behaviours inventory, which may be a premise for a closer look into those other aspects.

The role of environmental factors in determining the population's health was stressed on numerous occasions during the analyses of the data regarding the health of the society based on the so-called negative health parameters. Currently, with health defined by positive parameters and with the inclusion of specific health behaviours into research, the conclusions are not that unambiguous in favour of either urban or rural areas. Research by Pawka et al. (2010) showed that there are differences in the level of health between inhabitants of urban areas and inhabitants of rural areas. But are those differences reflected in health behaviours of people living in different economic regions? Taking into account the age of adolescence of the participants and the current development of urban and rural areas, and thus the disappearing divisions between the two, this subject should be ana-

lysed in more detail as it is now hard to explicitly state whether the place of residence has a significant effect on health-promoting behaviours. This result is not confirmed by previous studies. Data by Rogalska-Niedźwiedź et al. (2008) show that there are significant differences in eating habits between inhabitants of rural areas and those living in urban areas, in favour of the latter as it turns out that eating habits of adult members of rural families, and, in turn, of their children, may have adverse effects on their health in future. The conclusions from the research unambiguously indicated the diet followed by boys living in rural areas as a risk factor in developing cardiovascular diseases, while the diet followed by girls was a risk factor in developing iron deficiency-related diseases.

CONCLUSIONS

Adolescents' health significantly depends on social factors at a personal, family, and social level. The results show that, currently, in the light of the absence of significant differences, other variables may have significant predictive power.

> The differences in the health status of the population in the territorial perspective are an expression of both the complex combination of factors affecting health in various places of residence and of an environmental factor acting in an autonomic manner. This makes it harder to conduct research focussed on the separation of specific factors and endeavouring to explain which of those factors are more and which less responsible for the existence of inequalities. (Golinowska, 2011)

Some sources indicate that economic factors may constitute a significant variable modifying both the sense of the quality of life and health behaviours (Viner et al., 2012; Sampaio et al., 2013; Bell et al., 2016). Therefore, there is a need for more extensive research into the analysed variables in the context of the participants' material status.

STUDY LIMITATIONS

The study has its limitations. These data were collected by self-description tools, that have specific limitations. The cross-sectional research used makes it impossible to show the process of formation of the sense of quality of life and pro-health lifestyle. The result may be burdened with limitations in the form of lack of analysis of other variables having a significant impact on the analysed relation, hence there is a need to intensify research on the analysed variables using advanced statistical analysis including additional variables.

REFERENCES

Babicz-Zielińska, E., Schlegel-Zawadzka, M., Wądołowska, L. (2004). Wpływ miejsca zamieszkania na preferencje i spożycie żywności. *Bromatologia i Chemia Toksykologiczna*, *37*, supl. 2004, 51–57.

Badali, H., Hakimi, S., Mirghafourvand, M., Mohammad-Alizadeh Charandabi, S., Farahbakhsh, M. (2017). Comparison of Quality of Life Between Urban and Rural Menopause Women and its Predictors: A Population Base Study. *International Journal of Women's Health and Reproduction Sciences*, *5*(2), 137–142.

Bell, L., Ullah, S., Olds, T., Magarey, A., Leslie, E., Jones, M., Miller, M., Cobiac, L. (2016). Prevalence and Socio-Economic Distribution of Eating, Physical Activity and Sedentary Behavior among South Australian Children in Urban and Rural Communities: Baseline Findings from the OPAL Evaluation. *Public Health*, *140*, 196–205.

Bernard, J. (2018). Rural Quality of Life – Poverty, Satisfaction and Opportunity Deprivation in Different Types of Rural Territories. *European Countryside*, *10*(2), 191–209.

Brojek, A., Zajkowska-Magier, M., Włostowska, K. (2006). Miejsce zamieszkania jako czynnik różnicujący aktywność sportową kandydatów na studia wychowania fizycznego. In J. Szaczuk (Ed.), *Uwarunkowania rozwoju dzieci i młodzieży wiejskiej* (pp. 402–409). Wyd. AWF.

Chillón, P., Ortega, F.B., Ferrando, J.A., Casajus, J.A. (2011). Physical Fitness in Rural And Urban Children and Adolescents from Spain. *Journal of Science and Medicine in Sport*, *14*, 417–423.

Danielewicz, J., Ratajczak, D. (2006). Uczestnictwo młodzieży wiejskiej i miejskiej szkół gimnazjalnych w pozalekcyjnych zajęciach sportowych i rekreacyjnych. In J. Szaczuk (Ed.), *Uwarunkowania rozwoju dzieci i młodzieży wiejskiej* (pp. 410–417). Wyd. AWF.

Duda, M. (2016). *Poczucie jakości życia młodzieży z problemami zdrowotnymi*. Wyd. UMCS.

Fahs, P.S., Smith, B.E., Atav, S., Britten, M.X, Collins, M.S., Morgan, L.C, Spencer, G.A. (1999). Integrative Research Review of Risk Behaviors among Adolescents in Rural, Suburban, and Urban Areas. *Journal of Adolescent Health*, *24*, 230–243.

Gillis, A.J. (1997). The Adolescent Lifestyle Questionnaire: Development and Psychometric Testing. *Canadian Journal of Nursing Research*, *29*(1), 29–46.

Golinowska, S. (2011). Przestrzenny wymiar nierówności zdrowia i polityka spójności, *Zdrowie Publiczne i Zarządzanie*, *9*(2), 38–54.

Hesketh, T., Ding, Q., Tomkins, A.M., (2003). Health and Health Care-Seeking Behavior of Adolescents in Urban and Rural China. *Journal of Adolescent Health*, *33*, 271–274.

Hoffmann, K., Bryl, W., Marcinkowski, J.T., Strażyńska, A., Pupek-Musialik, D. (2011). Estimation of Physical Activity and Prevalence of Excessive Body Mass in Rural and Urban Polish Adolescents. *Annals of Agricultural and Environmental Medicine*, *18*(2), 398–403.

Jodkowska, M., Wrocławska, M. (2000). Styl życia młodzieży z wieku 15–19 lat. In J. Szymborski, K. Szamotulska, A. Sito (Eds.), *Zdrowie naszych dzieci. Zróżnicowanie szans* (pp. 57–67). Instytut Matki i Dziecka.

Kiciak, A., Szczepańska, E., Tajeka, T., Kardas, M., Całyniuk, B. (2010). Zachowania zdrowotne młodzieży gimnazjalnej na przykładzie środowiska miejskiego i wiejskiego, cz. 2. Używanie substancji psychoaktywnych i spędzanie wolnego czasu. *Annales Academiae Medicae Silesiensis*, *64*(1–2), 48–59.

Laskowska, I. (2015). Availability of Health Services Vs. Health Condition of Residents of Rural Areas in Poland – Analysis Performed on the Basis of EHIS 2009. *Annals of Agricultural and Environmental Medicine*, *22*(4), 700–703.

Majchrowska, A. (2008). Społeczny wymiar zdrowia. In A. Andruszkiewicz, M. Banaszkiewicz (Eds.), *Promocja zdrowia dla studentów studiów licencjackich kierunku pielęgniarstwo i położnictwo* (pp. 50–69). Wyd. Czelej.

Marcysiak, M., Zagroba, M., Ostrowska, B., Wiśniewska, E., Marcysiak, M., Skotnicka-Klonowicz, G. (2010). Aktywność fizyczna a zachowania żywieniowe dzieci i młodzieży powiatu ciechanowskiego. *Problemy Pielęgniarstwa*, *18*(2), 176–183.

Markus, H. (1993). *Przewlekłe zmęczenie*. Wyd. Cedrus Publishing House.

Nawrocka, M., Kujawska-Łuczak, M., Bogdański, P., Pupek-Musialik, D. (2011). Analiza stylu życia uczniów szkół ponadpodstawowych pochodzących z terenów wiejskich. *Forum Zaburzeń Metabolicznych*, *2*(1), 43–49.

Nowak, P.F., Barcicka, P. (2013). Wybrane zachowania zdrowotne gimnazjalistów ze środowiska wiejskiego i miejskiego. *Polskie Przegląd Nauk o Zdrowiu*, *1*(31), 13–18.

Ostrowska, A. (2011). Psychospołeczne uwarunkowania nierówności w zdrowiu. *Zdrowie Publiczne i Zarządzanie*, *9*(2), 55–63.

Pawka, B., Dreher, P., Herda, J., Szwiec, I., Jałoza, M. (2010). Różnice w stanie zdrowia mieszkańców miast i wsi. *Medycyna Ogólna*, *16*(1), 91–99.

Przewęda, R., Dobosz, J. (2003). *Kondycja fizyczna polskiej młodzieży*. Wyd. AWF.

Pułtorak, M., Wrocławska, M., Oblacińska, A. (2000). Dolegliwości u młodzieży w wieku 15–19 lat. In J. Szymborski, K. Szamotulska, A. Sito (Eds.), *Zdrowie naszych dzieci. Zróżnicowanie szans* (pp. 95–99). Instytut Matki i Dziecka.

Raczyński, G., Czeczelewski, J., Huk-Wieliczuk, E., Michalska, A. (2000). Ocena sposobu żywienia dziewcząt i chłopców wiejskich. In M. Skład (Ed.). *Wybrane wskaźniki rozwoju biologicznego dziewcząt i chłopców wiejskich z Podlasia*. IWFiS.

Reichenberger, D.A., Hilmert, C.J., Irish, L.A., Secor-Turner, M., Randall, B.A. (2016). Associations Between Sleep and Health-Risk Behaviors in a Rural Adolescent Population. *Journal of Pediatric Health Care*, *30*, 317–322.

Rogalska-Niedźwiedź, M., Charzewska, J., Chabros, E., Chwojnowska, Z., Wajszczyk, B., Zacharewicz, E. (2008). Sposób żywienia dzieci czteroletnich ze wsi na tle dzieci z miast. *Problemy Higieny i Epidemiologii*, *89*(1), 80–84.

Saczuk, J. (2006) (Ed.). *Uwarunkowania rozwoju dzieci i młodzieży wiejskiej*. Wyd. AWF.

Sampaio, P.Y.S., Ito, E., Carvalho Sampaio, R.A. (2013). The Association of Activity and Participation with Quality of Life Between Japanese Older Adults Living in Rural and Urban Areas. *Journal of Clinical Gerontology & Geriatrics*, *4*, 51–56.

Słowińska, M.A., Wądołowska, L. (2003). Porównanie sposobu zacienia młodzieży pochodzącej z różnych środowisk. In J. Zagórny, M. Skład (Eds.). *Uwarunkowania rozwoju dzieci i młodzieży wiejskiej* (pp. 317–323). Wyd. Instytutu Medycyny Wsi.

Suder, A., Janusz, M., Jagielski, P., Głodzik, J., Pałka, T., Cison, T., Pilch, W. (2015). Prevalence and Risk Factors of Abdominal Obesity in Polish Rural Children. *Journal of Comparative Human Biology*, *66*, 357–368.

Suliga, E. (2003). Środowiskowe zróżnicowanie rozwoju fizycznego i sposobu żywienia uczniów szkół średnich. In J. Zagórny, M. Skład (Eds.), *Uwarunkowania rozwoju dzieci i młodzieży wiejskiej* (pp. 311–316). Wyd. Instytutu Medycyny Wsi.

Suliga, E. (2004). *Zachowania zdrowotne studentów kieleckich i uczniów szkół ponadgimnazjalnych z południowej i środkowo-wschodniej Polski*. Wyd. Akademii Świętokrzyskiej.

Sygit, K. (2006). Zwyczaje żywieniowe uczniów szkół ponadgimnazjalnych. *Zdrowie Publiczne*, *116*(1), 147–148.

Sygit, K. (2009a). Dietary Habits in Children from Rural Environments. *Polish Journal of Public Health*, *119*(3), 298–302.

Sygit, K. (2009b). Health Behaviour in Young People From Rural Environments. *Polish Journal of Public Health*, *119*(4), 387–390.

Sygit, K. (2010a). Bad Heating Habits – a Hazard to Health in the Population of Children and Youth. *Polish Journal of Public Health*, *120*(2), 132–135.

Sygit, K. (2010b). Lifestyle of Rural Children and Youth with Overweight and Obesity. *Polish Journal of Public Health*, *120*(1), 19–22.

Sygit, K. (2013). Risky Preservations with the Essentials Problem of the Youth from the Rural Environment. In S. Spisacka (Ed.), *Health Behaviors of Adolescents and Adults* (pp. 22–33). Wyd. Państwowej Wyższej Szkoły im. Papieża Jana Pawła II w Białej Podlasce.

Szczepańska, E., Matjeka, T., Bielaszka, A., Niedworok, E. (2010). Zachowania zdrowotne młodzieży gimnazjalnej na przykładzie środowiska miejskiego i wiejskiego, cz. 1: Palenie tytoniu i spożywanie napojów alkoholowych. *Annales Academiae Medicae Silesiensis*, *64*(1–2), 35–47.

Thomas, A.A., Timmons, A., Molcho, M., Pearce, A., Gallagher, P., Butow, P., O'Sullivan, E., Gooberman-Hill, R., O'Neill, C., Sharp, L. (2014). Quality of Life in Urban and Rural Settings: A Study of Head and Neck Cancer Survivors. *Oral Oncology*, *50*, 676–682.

Topolska, K., Cieślik, E., Bodzioch, A., Grzych-Tuleja, E. (2010). Preferencje młodzieży gimnazjalnej z terenu województwa małopolskiego w zakresie spożycia mleka i produktów mlecznych. *Żywność. Nauka. Technologia. Jakość*, *2*(69), 76–84.

Ustymowicz-Farbiszewska, J., Smorczewska-Czupryńska, B., Karczewski, J.K., Lach, J. (2006). Żywieniowe zachowania zdrowotne młodzieży gimnazjalnej zamieszkałej w Białymstoku i okolicach. *Nowiny Lekarskie*, *75*(1), 31–36.

Viner, R.M., Ozer, E.M., Denny, S., Marmot, M., Resnick, M., Fatusi, A., Currie, C. (2012). Adolescence and the Social Determinants of Health. *Lancet*, *379*, 1641–1652.

Wilczewski, A. (2012) (Red.). *Uwarunkowania rozwoju dzieci i młodzieży wiejskiej*. Wyd. AWF.

Wood, S.L, Demougin, P.R., Higgins, S., Husk, K., Wheeler, B.W., White, M. (2016). Exploring the Relationship Between Childhood Obesity and Proximity to the Coast: A Rural/Urban Perspective. *Health & Place*, *40*, 129–136.

Zagozdzon, P., Kolarzyk, E., Marcinkowski, J.T. (2011). Quality of Life and Rural Place of Residence in Polish Women – Population Based Study. *Annals of Agricultural and Environmental Medicine*, *18*, 429–432.

Zagórski, J., Skład, M. (2003) (Eds.). *Uwarunkowania rozwoju dzieci i młodzieży wiejskiej: praca zbiorowa.* Wyd. Instytutu Medycyny Wsi.

Zawadzka, B. (2007). *Dorastająca młodzież wobec problemu własnego zdrowia*. Wyd. Akademii Wychowania Fizycznego im. Bronisława Czecha w Krakowie.

MIEJSCE ZAMIESZKANIA JAKO DETERMINANTA PROZDROWOTNEGO STYLU ŻYCIA MŁODZIEŻY

Wprowadzenie: Środowisko, w którym żyje człowiek, ma istotne znaczenie w kształtowaniu jego dobrostanu. Miejsce zamieszkania, należące do społecznych determinantów zdrowia, znajduje się w czołówce czynników mających największe znaczenie dla zachowania zdrowia. Istotna zatem wydaje się analiza związku poczucia jakości życia oraz prowadzonego stylu życia z uwzględnieniem czynników społecznych w grupie badanej młodzieży.
Cel badań: W prezentowanym artykule poszukiwano związków między poczuciem jakości życia a prozdrowotnym stylem życia oraz istotnych różnic w zakresie analizowanych zmiennych między młodzieżą zamieszkującą tereny miejskie i wiejskie.
Metoda badań: Badania zostały przeprowadzone metodą sondażu diagnostycznego z wykorzystaniem następujących narzędzi badawczych: KIDSCREEN, Kwestionariusz Skumulowanego Zmęczenia, Kwestionariusz do badania Prozdrowotnego Stylu Życia oraz Inwentarza Zachowań Zdrowotnych.
Wyniki: Badania wykazały, że miejsce zamieszkania nie ma istotnego znaczenia w kształtowaniu poczucia jakości życia i modelowaniu rodzaju zachowań zdrowotnych młodzieży.
Wnioski: Istnieje potrzeba przeprowadzenia szerszych badań nad analizowanymi zmiennymi w kontekście statusu społecznego uczestników z uwzględnieniem dodatkowych zmiennych.

Słowa kluczowe: miejsce zamieszkania, poczucie jakości życia, prozdrowotny styl życia, młodzież.